

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 20-F

Registration statement pursuant to Section 12(b) or (g) of the Securities Exchange Act of 1934
or

Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended December 31, 2019

or
 Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the transition period from _____ to _____

or
 Shell company report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of event requiring this shell company report: _____

Commission file number: 1-14832

CELESTICA INC.

(Exact name of registrant as specified in its charter)

Ontario, Canada

(Jurisdiction of incorporation or organization)

5140 Yonge Street, Suite 1900

Toronto, Ontario, Canada M2N 6L7

(Address of principal executive offices)

Craig Oberg

416-448-2211

clsir@celestica.com

5140 Yonge Street, Suite 1900

Toronto, Ontario, Canada M2N 6L7

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

**SECURITIES REGISTERED OR TO BE REGISTERED
PURSUANT TO SECTION 12(b) OF THE ACT:**

<i>Title of each class:</i>	<i>Trading Symbol</i>	<i>Name of each exchange on which registered:</i>
Subordinate Voting Shares	CLS	The Toronto Stock Exchange New York Stock Exchange

**SECURITIES REGISTERED OR TO BE REGISTERED
PURSUANT TO SECTION 12(g) OF THE ACT:**

N/A

**SECURITIES FOR WHICH THERE IS A REPORTING OBLIGATION
PURSUANT TO SECTION 15(d) OF THE ACT:**

N/A

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

110,192,682 Subordinate Voting Shares	0 Preference Shares
18,600,193 Multiple Voting Shares	

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards[†] provided pursuant to Section 13(a) of the Exchange Act.

[†]The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

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Part I.

In this Annual Report on Form 20-F for the year ended December 31, 2019 (referred to herein as "this Annual Report"), "Celestica," the "Corporation," the "Company," "we," "us" and "our" refer to Celestica Inc. and its subsidiaries.

In this Annual Report, all dollar amounts are expressed in United States dollars, except where we state otherwise. All references to "U.S.\$" or "\$" are to United States dollars and all references to "C\$" are to Canadian dollars. Unless we indicate otherwise, any reference in this Annual Report to a conversion between U.S.\$ and C\$ is a conversion at the average of the exchange rates in effect for the year ended December 31, 2019. During that period, based on the relevant noon buying rates in New York City for cable transfers in Canadian dollars, as certified for customs purposes by the Board of Governors of the U.S. Federal Reserve Bank, the average daily exchange rate was U.S.\$1.00 = C\$1.3269.

Unless we indicate otherwise, all information in this Annual Report is stated as of February 19, 2020.

Forward-Looking Statements

Item 3(D), "Key Information — Risk Factors," Item 4, "Information on the Company," Item 5, "Operating and Financial Review and Prospects" and other sections of this Annual Report contain forward-looking statements within the meaning of Section 27A of the U.S. Securities Act of 1933, as amended, or the U.S. Securities Act, Section 21E of the U.S. Securities Exchange Act of 1934, as amended, or the U.S. Exchange Act, and forward-looking information within the meaning of applicable Canadian securities laws (collectively, forward-looking statements), including, without limitation, statements related to: our priorities, intended areas of focus, objectives, targets and goals (including, but not limited to, those set forth under the caption "Celestica's Strategy" in Item 4(B), and the caption "Operating Goals and Priorities" (including "*Our Strategy*") in Item 5); trends in the electronics manufacturing services (EMS) industry and our segments (including the components thereof), and their anticipated impact on our business; the anticipated impact of specified adverse market conditions in each of our segments (and/or component businesses) and near-term expectations; anticipated improvements in backlog; the anticipated range and timing of restructuring charges associated primarily with the phased non-renewal of our programs with Cisco Systems, Inc. (Cisco Disengagement); the anticipated impact, range and timing of actions associated with our comprehensive Connectivity & Cloud Solutions (CCS) segment portfolio review (CCS Review), including the Cisco Disengagement; our anticipated financial and/or operating results; our growth and diversification strategies and plans (and potential hindrances thereto); materials constraints; the anticipated impact of completed acquisitions and program wins, transfers, losses or disengagements on our business; anticipated expenses, restructuring actions, capital expenditures, and other anticipated working capital requirements, including the anticipated amounts, timing, impact and funding thereof; the anticipated repatriation of undistributed earnings from foreign subsidiaries; the potential impact of tax and litigation outcomes; our anticipated ability to use certain net operating losses; intended investments in our business and associated risks; the potential impact of the pace of technological changes, customer outsourcing, program transfers, and the global economic environment on our business; raw materials prices; the timing of the commencement of, and amount of payments under, a lease for our new corporate headquarters; our expectations with respect to days in cash deposits; the impact of outstanding indebtedness under our credit facility on our business; the sufficiency of our capital resources; our intention (when in our discretion) to settle outstanding equity awards with subordinate voting shares (SVS); the anticipated impact of recent U.S. tax reform on our business; the potential impact of price reductions, longer payment terms and longer-term contracts on our business; our compliance with covenants under our credit facility; the potential use and effect of cash, securities issuances and further increases in third-party indebtedness to fund our operations or acquisitions; the potential adverse impacts of events outside of our control, including, among others, Britain's departure from the European Union (Brexit), policies or legislation proposed or instituted by the current administration in the U.S., the potential impact of significant tariffs on items imported into the U.S. and related countermeasures, and/or coronavirus disease 2019 (COVID-19) or other widespread illness or disease (External Events); potential true-up premiums under our U.K. main pension plan; the amount, method of funding, and impact of mandatory 2020 prepayments under our credit facility based on 2019 excess cash flow; pension plan funding requirements; the anticipated impact of the expiration of certain income tax incentives in Thailand; our future warranty obligations; our expectations with respect to cybersecurity threats; our intentions with respect to environmental assessments for newly-leased or acquired properties; our expectations with respect to expiring leases; anticipated insignificant hedge ineffectiveness of our interest rate swap agreements; the pay-for-performance alignment of our executive compensation program; our intention to retain earnings for general corporate purposes; and the expectation of continued adverse impacts from costs incurred in connection with our pursuit of acquisitions and strategic transactions. Such forward-looking statements may, without limitation, be preceded by, followed by, or include words such as "believes," "expects," "anticipates," "estimates," "intends," "plans," "continues," "project," "potential," "possible," "contemplate," "seek," or similar expressions, or may employ such future or conditional verbs as "may," "might," "will," "could," "should" or "would," or may otherwise be indicated as forward-looking statements by grammatical construction, phrasing or context. For those statements, we claim the protection of the safe harbor for forward-looking statements contained in the U.S. Private Securities Litigation Reform Act of 1995, where applicable, and applicable Canadian securities laws.

Forward-looking statements are provided to assist readers in understanding management's current expectations and plans relating to the future. Readers are cautioned that such information may not be appropriate for other purposes. Forward-looking statements are not guarantees of future performance and are subject to risks that could cause actual results to differ materially from those expressed or implied in such forward-looking statements, including, among others, as is described in more detail in Item 3 (D), Key Information — Risk Factors and elsewhere in this Annual Report, risks related to:

- customer and segment concentration;
- challenges of replacing revenue from completed, lost or non-renewed programs or customer disengagements, including the Cisco Disengagement and other CCS Review disengagements;
- our customers' ability to compete and succeed with our products and services;
- the cyclical nature of our capital equipment business, in particular our semiconductor and display businesses;
- price, margin pressures, and other competitive factors and adverse market conditions affecting, and the highly competitive nature of, the EMS industry in general and our segments in particular (including the risk that anticipated market improvements do not materialize);
- changes in our mix of customers and/or the types of products or services we provide, including the impact on gross profit of a higher concentration of lower margin programs;
- delays in the delivery and availability of components, services and materials;
- unanticipated changes in customer demand;
- the inability to maintain adequate utilization of our workforce;
- the expansion or consolidation of our operations;
- defects or deficiencies in our products, services or designs;
- integrating acquisitions and "operate-in-place" arrangements, and achieving the anticipated benefits therefrom;
- negative impacts on our business resulting from recent increases in third-party indebtedness;
- rapidly evolving and changing technologies, and changes in our customers' business and outsourcing strategies;
- customer, competitor and/or supplier consolidation;
- compliance with social responsibility initiatives;
- challenges associated with new customers or programs, or the provision of new services;
- the impact of our restructuring actions, including a failure to achieve anticipated benefits from our CCS Review (including the Cisco Disengagement) and/or our productivity initiatives;
- the incurrence of future restructuring charges, impairment charges or other write-downs of assets;
- managing our operations, growth initiatives and our working capital performance during uncertain market, political and economic conditions;
- disruptions to our operations, or those of our customers, component suppliers and/or logistics partners, including as a result of External Events (in particular, the impact of COVID-19);
- changes to our operating model;
- changing commodity, materials and component costs as well as labor costs and conditions;
- retaining or expanding our business due to execution and quality issues (including our ability to successfully resolve these challenges);
- non-performance by counterparties (including the financial institutions party to our purchased annuities and other financial counterparties, key suppliers and/or customers);

- maintaining sufficient financial resources and working capital to fund currently anticipated financial obligations and to pursue desirable business opportunities;
- negative impacts on our business resulting from any significant uses of cash, securities issuances, and/or additional third-party indebtedness for acquisitions or to otherwise fund our operations;
- our financial exposure to foreign currency volatility;
- our global operations and supply chain;
- competitive bid selection processes;
- customer relationships with emerging companies;
- recruiting or retaining skilled talent;
- our dependence on industries affected by rapid technological change;
- our ability to adequately protect intellectual property;
- increasing taxes, tax audits, and challenges of defending our tax positions;
- obtaining, renewing or meeting the conditions of tax incentives and credits;
- computer viruses, malware, hacking attempts or outages that may disrupt our operations;
- the inability to prevent or detect all errors or fraud;
- the variability of revenue and operating results;
- compliance with applicable laws, regulations, and government grants;
- the management of our IT systems and our ability to protect confidential information;
- our pension and other benefit plan obligations;
- changes in accounting judgments, estimates and assumptions;
- our ability to maintain compliance with the restrictive and financial covenants under our credit facility;
- interest rate fluctuations and changes to LIBOR;
- deterioration in financial markets or the macro-economic environment;
- our credit rating; and
- current or future litigation, governmental actions, and/or changes in legislation or accounting standards.

The foregoing and other material risks and uncertainties are discussed in our public filings, which can be found at www.sedar.com and www.sec.gov, including in this Annual Report, and subsequent reports on Form 6-K furnished to, the U.S. Securities and Exchange Commission, and as applicable, the Canadian Securities Administrators.

Our forward-looking statements contained in this Annual Report are based on various assumptions, many of which involve factors that are beyond our control. Our material assumptions include those related to the following:

- fluctuation of production schedules from our customers in terms of volume and mix of products or services;
- the timing and execution of, and investments associated with, ramping new business;
- the successful pursuit, completion and integration of acquisitions;
- the success of our customers' products;
- our ability to retain programs and customers;
- the stability of general economic and market conditions, currency exchange rates and interest rates;

- supplier performance, pricing and terms;
- compliance by third parties with their contractual obligations and the accuracy of their representations and warranties;
- the costs and availability of components, materials, services, equipment, labor, energy and transportation;
- that our customers will retain liability for recently-imposed tariffs and countermeasures;
- global tax legislation changes;
- our ability to keep pace with rapidly changing technological developments;
- the timing, execution and effect of restructuring actions;
- the successful resolution of quality issues that arise from time to time;
- our having sufficient financial resources and working capital to fund currently anticipated financial obligations and to pursue desirable business opportunities;
- our ability to successfully diversify our customer base and develop new capabilities;
- that we achieve the expected benefits from our recent acquisitions and actions associated with our CCS Review (including the Cisco Disengagement);
- the impact of actions associated with the CCS Review (including the Cisco Disengagement) on our business;
- the magnitude of anticipated profits in our capital equipment business in the first quarter of 2020;
- the timing and nature of anticipated improvements in the capital equipment market in 2020; and
- the impact of anticipated adverse market conditions in 2020 on our A&D business.

While management believes these assumptions to be reasonable under current circumstances, they may prove to be inaccurate, which could cause actual results to differ materially (and adversely) from those that would have been achieved had such assumptions been accurate.

Forward-looking statements speak only as of the date on which they are made, and we disclaim any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. You should read this Annual Report, and the documents, if any, that we incorporate herein by reference, with the understanding that our actual results may be materially different from what we expect.

All forward-looking statements attributable to us are expressly qualified by the cautionary statements included in this Annual Report.

Item 1. Identity of Directors, Senior Management and Advisers

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information

A. Selected Financial Data

You should read the following selected financial data together with Item 5, "Operating and Financial Review and Prospects," the Consolidated Financial Statements in Item 18, and the other information in this Annual Report. The selected financial data presented below is derived from our Consolidated Financial Statements, which are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). See Item 18. No dividends have been declared by the Corporation.

	Year ended December 31				
	2015	2016	2017	2018	2019
	(in millions, except per share amounts)				
Consolidated Statements of Operations Data⁽¹⁾:					
Revenue ⁽¹⁾	\$ 5,639.2	\$ 6,046.6	\$ 6,142.7	\$ 6,633.2	\$ 5,888.3
Cost of sales ⁽¹⁾	5,248.1	5,617.0	5,724.2	6,202.7	5,503.6
Gross profit ⁽¹⁾	391.1	429.6	418.5	430.5	384.7
Selling, general and administrative expenses (SG&A), including research and development ⁽²⁾	230.7	236.0	229.4	247.8	255.7
Amortization of intangible assets.....	9.2	9.4	8.9	15.4	29.6
Other charges (recoveries) ⁽³⁾	35.8	25.5	37.0	61.0	(49.9)
Earnings from operations ⁽¹⁾	115.4	158.7	143.2	106.3	149.3
Refund interest income ⁽⁴⁾	—	(14.3)	—	—	—
Finance costs ⁽⁵⁾	6.3	10.0	10.1	24.4	49.5
Earnings before income taxes ⁽¹⁾	109.1	163.0	133.1	81.9	99.8
Income tax expense (recovery).....	42.2	24.7	27.6	(17.0)	29.5
Net earnings ⁽¹⁾	<u>\$ 66.9</u>	<u>\$ 138.3</u>	<u>\$ 105.5</u>	<u>\$ 98.9</u>	<u>\$ 70.3</u>
Other Financial Data⁽¹⁾:					
Basic earnings per share ⁽¹⁾	\$ 0.43	\$ 0.98	\$ 0.74	\$ 0.71	\$ 0.54
Diluted earnings per share ⁽¹⁾	\$ 0.42	\$ 0.96	\$ 0.73	\$ 0.70	\$ 0.53
Property, plant and equipment and computer software cash expenditures.....	\$ 62.8	\$ 64.1	\$ 102.6	\$ 82.2	\$ 80.5
Shares used in computing per share amounts (in millions):					
Basic.....	155.8	141.8	143.1	139.4	131.0
Diluted.....	157.9	143.9	145.2	140.6	131.8

As of December 31

	2015	2016	2017	2018	2019
	(in millions)				
Consolidated Balance Sheet Data⁽¹⁾					
Cash and cash equivalents	\$ 545.3	\$ 557.2	\$ 515.2	\$ 422.0	\$ 479.5
Working capital ⁽¹⁾⁽⁶⁾	990.6	1,121.5	1,210.1	1,203.2	1,110.7
Property, plant and equipment	314.6	302.7	323.9	365.3	355.0
Right-of-use (ROU) assets ⁽¹⁾	—	—	—	—	104.1
Total assets ⁽¹⁾	2,612.0	2,841.9	2,964.2	3,737.7	3,560.7
Borrowings under credit facility ⁽⁷⁾	262.5	227.5	187.5	757.3	592.3
Lease obligations ⁽¹⁾⁽⁷⁾	19.0	18.4	17.7	10.4	116.1
Capital stock	2,093.9	2,048.2	2,048.3	1,954.1	1,832.1
Total equity ⁽¹⁾	1,091.0	1,257.8	1,370.2	1,332.3	1,356.2

(1) Changes in accounting policies:

Effective January 1, 2018, we adopted IFRS 15, *Revenue from Contracts with Customers* ("IFRS 15"), which established a comprehensive framework for determining whether, how much, and when revenue should be recognized. In connection with the adoption of this standard, we elected to apply the full retrospective method, and in connection therewith: (i) recognized the transitional adjustments through equity at January 1, 2016, the start of the first relevant comparative reporting period impacted by the adoption of this standard; and (ii) restated financial information for the years ended December 31, 2016 and 2017. The new standard changed the timing of our revenue recognition for a significant portion of our business, resulting in the recognition of revenue for certain customer contracts earlier than under the previous revenue recognition rules (which was generally upon delivery of final products to our end customer). The new standard materially impacted our Consolidated Financial Statements, primarily in relation to inventory and accounts receivable balances. See note 2 to the Consolidated Financial Statements in Item 18 of our Annual Report on Form 20-F for the year ended December 31, 2018 for the transitional impacts of adopting IFRS 15.

Effective January 1, 2018, we adopted IFRS 9, *Financial Instruments* ("IFRS 9"), which introduced a new model for the classification and measurement of financial assets, a single expected credit loss (ECL) model for the measurement of the impairment of financial assets, and a new model for hedge accounting that is aligned with a company's risk management activities. In connection with the adoption of IFRS 9, we also complied with the transitional rules of IAS 1, *Presentation of Financial Statements* and IFRS 7, *Financial Instruments Disclosures*. In accordance with the transitional provisions of the rule, we applied the changes of IFRS 9 retrospectively, with the exception of the hedge accounting policies, which we have applied prospectively as required by the standard. The adoption of this standard did not result in any adjustments to our Consolidated Financial Statements.

Effective January 1, 2019, we adopted IFRS 16, *Leases* ("IFRS 16"), which brings most leases on-balance sheet for lessees under a single model. In connection therewith, as of such date, we recognize ROU assets and related lease obligations as of the applicable lease commencement date. ROU assets represent our right to use such leased assets, and our lease obligations represent our related lease payment obligations. In adopting this standard, we applied the modified retrospective approach, permitting us to recognize the cumulative effect of such adoption as an adjustment to our opening balance sheet as of January 1, 2019, without restatement of prior period comparative information. Upon initial adoption of IFRS 16, we recognized ROU assets of \$111.5 million and related lease obligations of \$112.0 million, and reduced our accrued liabilities by \$0.5 million on our consolidated balance sheet as of January 1, 2019. There was no net impact on our deficit as of January 1, 2019. Prior to the adoption of IFRS 16, we recognized operating lease expenses on a straight-line basis over the lease term generally in cost of sales or SG&A in our consolidated statement of operations. There were no changes to our existing finance leases required by the adoption of IFRS 16. See note 2 to the Consolidated Financial Statements in Item 18.

(2) SG&A expenses include research and development costs of \$28.4 million in 2019, \$28.8 million in 2018, \$26.2 million in 2017, \$24.9 million in 2016, and \$23.2 million in 2015.

(3) Other charges in 2015 totaled \$35.8 million, comprised primarily of: (a) \$23.9 million in restructuring charges, and (b) an aggregate non-cash impairment of \$12.2 million against the property, plant and equipment of our cash generating units in Japan and Spain recorded in the fourth quarter of 2015.

Other charges in 2016 totaled \$25.5 million, comprised of: (a) \$31.9 million in restructuring charges, offset in part by (b) \$6.4 million, consisting primarily of net legal recoveries.

Other charges in 2017 totaled \$37.0 million, comprised of: (a) \$28.9 million in restructuring charges, (b) a \$1.9 million non-cash loss incurred on the purchase of pension annuities, (c) 1.6 million in transition costs relating to the relocation of our Toronto manufacturing operations, and (d) \$4.6 million, primarily for acquisition-related costs and activities. See note 16 to the Consolidated Financial Statements in Item 18.

Other charges in 2018 totaled \$61.0 million, comprised of: (a) \$35.4 million in restructuring charges pertaining to our cost efficiency initiative, (b) \$13.2 million in transition costs relating to the relocation of our Toronto manufacturing operations and corporate headquarters, (c) \$1.2 million of accelerated amortization of unamortized deferred financing costs and (d) \$11.2 million, primarily for acquisition-related costs and activities. See note 16 to the Consolidated Financial Statements in Item 18.

Other charges (recoveries) in 2019 consisted of net recoveries of \$49.9 million, comprised of: (a) \$37.9 million in restructuring charges pertaining to our cost efficiency initiative, (b) \$95.8 million in transition recoveries, consisting of the \$102.0 million gain on the sale of our Toronto real property, offset in part by \$3.8 million of related relocation costs, and \$2.4 million of internal relocation costs pertaining to our capital equipment business, (c) \$2.0 million in fees with respect to credit agreement and related cross-default waivers in October 2019, (d) \$4.1 million of post-employment benefit plan losses (non-cash), and (e) \$3.9 million in acquisition-related costs and indemnification asset re-measurement costs, offset in part by \$2.0 million in legal recoveries. See notes 7 and 16 to the Consolidated Financial Statements in Item 18.

- (4) Refund interest income represents the refund of interest on cash then-held on account with tax authorities in connection with the resolution of certain previously-disputed tax matters in 2016.
- (5) Finance costs consist of: interest expense and fees related to our credit facility (including debt issuance and related amortization costs), our interest rate swap agreements (commencing in 2018), our accounts receivable sales program, two customer supplier financing programs, and commencing in the first quarter of 2019, interest expense on our lease obligations under IFRS 16, net of interest income earned. See notes 12 and 17 to the Consolidated Financial Statements in Item 18.
- (6) Calculated as current assets less current liabilities.
- (7) Borrowings under our credit facility exclude our lease obligations; lease obligations as of December 31, 2019 include lease obligations under IFRS 16 (\$111.2 million) and lease obligations financed through third parties (\$4.9 million).

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

Any of the following risk factors, or any combination of them, could have a material adverse effect on our business, financial condition, and/or operating results. Our shareholders and prospective investors should carefully consider each of the following risks and all of the other information set forth in this Annual Report.

We are dependent on a limited number of customers and end markets. A decline in revenue from, or the loss of, any significant customer, could have a material adverse effect on our financial condition and operating results.

We depend upon a small number of customers for a substantial portion of our revenue. Our top 10 customers in 2019 represented 65% (2018 — 70%; 2017 — 71%) of our total revenue. We also remain dependent upon revenue from our CCS segment (consisting of our Communications and Enterprise end markets), which represented 61% of our consolidated revenue in 2019, and 67% and 68% of our consolidated revenue in 2018 and 2017, respectively. To reduce our reliance on any one customer or end market (including the concentration of our revenues with traditional CCS segment customers), we continue to target new customers and services, including a continued focus on the expansion of our Advanced Technology Solutions (ATS) segment, and CCS segment growth initiatives focused on our newly-reshaped post-CCS Review segment portfolio. Notwithstanding our expansion efforts, however, we remain dependent on our CCS segment (in particular our traditional CCS customers) for a large portion of our revenue, which continues to experience slower growth rates, increased pricing pressures and a highly competitive marketplace, including from original design manufacturers (ODMs).

A decline in revenue from, or the loss of, any significant customer could have a material adverse effect on our financial condition and operating results. See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Recent Developments — *Segment Environment: CCS Segment*" below for a discussion of our Cisco Disengagement, as well as other disengagements stemming from our CCS Review, and the anticipated impact of these disengagements on our business. We cannot assure: (i) the replacement of completed, delayed, cancelled or reduced orders with new business; (ii) that our current customers will continue to utilize our services consistent with historical volumes or at all; and/or (iii) that our customers will renew their long-term manufacturing or services contracts with us on acceptable terms or at all.

There can be no assurance that our efforts to secure new customers and programs in our traditional or new markets, including through acquisitions, will succeed in reducing our customer concentration. Acquisitions are also subject to integration risk, and revenues and margins could be lower than we anticipate. Failure to secure business from existing or new customers in any of our end markets would adversely impact our operating results.

Any of the foregoing may adversely affect our margins, cash flow, and our ability to grow our revenue, and may increase the variability of our operating results from period to period. See "***Our revenue and operating results may vary significantly from period to period***" below.

We are dependent on our customers' ability to compete and succeed in the marketplace with the products and services we provide.

Our operating results are highly dependent upon our customers' ability to compete and succeed in the marketplace with our products and services. Factors that may adversely affect our customers include: rapid changes in technology, evolving industry standards, and short product life cycles; seasonal demand; our customers' failure to successfully market, and/or a lack of widespread commercial acceptance of, their products; supply chain issues; dramatic shifts in demand which may cause our customers to lose market share or exit businesses; and/or recessionary periods in our customers' markets. In addition, certain of our customers have experienced, and may in the future experience, severe revenue erosion, pricing, margin and cash flow pressures, and excess inventories that, in turn, have adversely affected (and in the future may adversely affect) our operating results. If technologies or standards supported by our customers' products and services or their business models become obsolete, fail to gain widespread acceptance or are canceled, our business would be adversely affected. See "***Our customers may be negatively affected by rapid technological changes, shifts in business strategy and/or the emergence of new business models, and new entrants/competition with disruptive products and/or services***" and "***Our revenue and operating results may vary significantly from period to period***" below.

The cyclical nature of the capital equipment industry, particularly the semiconductor and display industries, has adversely impacted our operating results during the recent industry downturn.

The capital equipment industry, particularly the semiconductor and display industries, is highly cyclical and periodically experiences significant economic downturns, often in connection with, or in anticipation of, maturing product cycles or a decline in general economic conditions. These downturns are characterized by diminished product demand, lower volumes and rapid erosion of average selling prices, resulting in revenue declines, production overcapacity, and excess inventory. The timing, length and volatility of these cycles are difficult to predict. The quick onset of demand changes, as well as the high level of fixed costs associated with this business, exacerbates the adverse impact of these downturns on our operating results. Actions to reduce our costs may be insufficient to align our structure with prevailing business conditions, and we may be unable to invest in research and development and engineering at the levels we believe are necessary to maintain our competitive position. The foregoing may adversely affect our margins, cash flow, and our ability to grow our revenue, and may increase the variability of our operating results from period to period. See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Recent Developments — *Segment Environment: ATS Segment*" for a discussion of the adverse impacts on our business of cyclical decreases in semiconductor capital equipment demand that commenced in the second half of 2018.

We operate in an industry comprised of numerous competitors and aggressive pricing dynamics.

We operate in a highly competitive industry. Our competitors include Benchmark Electronics, Inc., Flex Ltd., Hon Hai Precision Industry Co., Ltd., Jabil Inc., Plexus Corp., and Sanmina Corporation, as well as ODMs and smaller EMS companies that often have a regional, product, service or industry-specific focus. In recent years, we have expanded our joint design and manufacturing (JDM) offering, which encompasses advanced technology design solutions that customers can tailor to their specific platform applications. However, the complete hardware platform solutions that are part of our JDM offering may compete with those of our traditional customers. We also face increased competition from ODMs, who also specialize in providing internally designed products and manufacturing services, as well as component and sub-system suppliers, distributors and/or systems integrators. Offering products or services to customers that compete with the offerings of other customers may negatively impact our relationship with, or result in a loss of business from, such other customers. We face indirect competition from our current and prospective customers who may choose to manufacture products internally rather than outsource to EMS providers, or who may decide to insource previously outsourced business, particularly where internal excess capacity exists. In addition to the foregoing, we may face competition from distribution and logistics providers expanding their services across the supply chain.

The competitive environment in our industry is intense and aggressive pricing is a common business dynamic. Some of our competitors have greater scale and offer a broader range of services. While we have increased our capacity in lower-cost regions to reduce our costs, these regions may not provide the same operational benefits that they have in the past due to rising costs and a continued aggressive pricing environment. Additionally, our current or potential competitors may: increase or shift their presence in new lower-cost or lower-tariff regions to try to offset continuous competitive pressure and increasing labor costs or to secure new business; develop or acquire services comparable or superior to ours; consolidate to form larger competitors; or adapt more quickly than we do to new technologies, evolving industry trends and changing customer requirements. In addition, our competitors may be more effective than we are in investing in IT solutions to differentiate their offerings to capture a larger share of the market. Some of our competitors have increased their vertical capabilities by manufacturing modules or components used in the products

they assemble, such as metal or plastic parts and enclosures, backplanes, circuit boards, cabling and related products. Although we have also expanded our capabilities, including through recent acquisitions and "operate-in-place" arrangements, our competitors' expansion efforts may be more successful than ours. Competition may cause pricing pressures, reduced profits or a loss of market share (for example, from program losses, non-renewals or customer disengagements). We may not be able to compete successfully against our current and future competitors.

A change in the mix of customers and/or the types of products or services we provide could have a material adverse effect on our financial condition and operating results.

The mix of our customers and the type of products or services we provide may have an impact on our financial condition and operating results from period-to-period. For example, a higher concentration of lower-margin programs will have an adverse impact on our operating results in the relevant period. Soft demand in our recently-expanded capital equipment business, materials constraints (particularly in our growing aerospace and defense (A&D) business), ramping costs in our expanding industrial and healthtech businesses, as well as adverse market conditions in our CCS segment (which continues to account for a substantial portion of our revenue), negatively impacted our margins and operating results for 2019. See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Overview" for a discussion of factors that impacted various of our businesses during 2019, as well as our efforts to improve our operating results. In addition, certain customer agreements in both of our segments require us to provide specific price reductions over the contract term, which negatively impact our financial condition and operating results if they are not offset.

We are dependent on third parties to supply certain materials, and our results can be negatively affected by the availability and cost of such materials.

The purchase of materials and electronic components represents a significant portion of our costs. We rely on third parties to provide such items. Although our customers often dictate the materials to be used in their products, materials shortages or other issues affecting timely access to these materials (which often occur in our industry) may impact our ability to successfully complete a program. A delay or interruption in supply from a component supplier, especially for single-sourced components, could have a significant impact on our operations and on our customers if we are unable to deliver finished products in a timely manner. If the amount we are required to pay for equipment and supplies exceeds what we have estimated, especially in a fixed price contract, we may suffer losses on these contracts. If a supplier or manufacturer fails to provide supplies or equipment as required under a contract for any reason, we may be required to source these items from other third parties on a delayed basis or on less favorable terms, which could impact our profitability. Additionally, quality or reliability issues at any of our component providers, or financial difficulties that affect their production and ability to supply us with components, could halt or delay production of a customer's product, or result in claims against us for failure to meet required customer specifications, which could materially adversely impact our operating results. Shortages may also result in our carrying higher levels of inventory and extended lead-times, or result in increased component prices, which may require price increases in the products and services that we provide. Any increase in our costs that we are unable to recover would negatively impact our margins and operating results. Changes in forecasted volumes or in our customers' requirements can also negatively affect our ability to obtain components and adversely impact our operating results. We have experienced materials constraints from certain suppliers in both of our segments commencing in 2017, due in part to industry-wide shortages for certain electronic components. Although these constraints generally improved in 2019, our A&D business continues to be negatively impacted by materials shortages, particularly with respect to the availability of high reliability parts and machined components. These shortages have caused delays in the production of customer products in both of our segments, have resulted in higher-than-expected levels of inventory, and in combination with volatile market demand, have negatively impacted our margins in recent periods.

Inherent challenges in managing unanticipated changes in customer demand may impact our planning, supply chain execution and manufacturing, and may adversely affect our operating performance and results.

Our customers expect rapid response times to meet changes in their volume requirements. Although we generally enter into master supply agreements with our customers, orders under those agreements are not guaranteed. Instead, we bid on a program-by-program basis and typically receive customer purchase orders for specific quantities and timing of products. Our customers typically do not commit to production schedules for more than 30 to 90 days in advance, and we often experience volatility in customer orders and inventory levels. Customers may terminate their manufacturing or service agreements or arrangements with us prior to scheduled expiration, fail to renew such agreements or arrangements upon expiration, or significantly change, reduce or delay the volume of manufacturing or other services they order from us, any of which would adversely affect our operating results. Customers may also shift business to our competitors, in-source programs, or adjust the concentration of their supplier base. The global economic environment, political pressures, negative sentiment from our customers' customers or changes made by local governments (such as tax benefits or tariffs) may also impact our customers' business decisions. These and other factors could adversely affect the rate of outsourcing to EMS providers generally or to us in particular. Additionally, a significant portion of our revenue can occur in the last month of the quarter, and purchase orders may be subject to change or cancellation, all of which affect our operating results when they occur. For example, commencing in the second half of 2018, we experienced weaker-

than-expected demand in our capital equipment business, in particular from our semiconductor customers, which negatively impacted our operating results commencing in that period and throughout 2019. In recent periods, we have also experienced significant decreases in our Communications end market revenue due to continued demand weakness from our legacy customers. Some of this weakness is expected to continue into 2020. Because we cannot predict if or when adverse market conditions will reverse, our forecasts of customer orders may be inaccurate, and may make it difficult to order appropriate levels of materials, schedule production, and maximize utilization of our manufacturing capacity and resources.

Our customers may change their forecasts, production quantities or product type requirements, or may accelerate, delay or cancel production quantities. When customers change production volumes or request different products to be manufactured from those in their original forecast, the unavailability of components and materials for such changes could also adversely impact our revenue and working capital performance. See "*We are dependent on third parties to supply certain materials, and our results can be negatively affected by the availability and cost of such materials*" above.

Further, to guarantee continuity of supply for many of our customers, we are required to manufacture and warehouse specified quantities of finished goods. The uncertainty of demand in our customers' end markets, intense competition in our customers' industries and general order volume volatility may result in customers delaying or canceling the delivery of products we manufacture for them or placing purchase orders for lower volumes of products than previously anticipated. This may result in higher than expected levels of inventory, which could in turn have a material adverse impact on our operating results and working capital performance. Although the levels of inventory we carry in any period reflect inventory required to support new program ramps, inventory levels are also impacted by demand volatility and significant product mix changes, including late changes from customers, as well as materials constraints from suppliers. We may not be able to return or re-sell excess inventory resulting from these factors, or we may be required to hold such inventory for a period of time, any of which may result in our having to record additional reserves for the inventory if it becomes excess or obsolete. For example, increased levels of overall aged inventory in 2018 compared to 2017 resulted in approximately \$10 million in higher inventory provisions in 2018. Order cancellations and delays could also lower our asset utilization, resulting in higher levels of unproductive assets, lower inventory turns, and lower margins.

Our profitability could suffer if we are not able to maintain adequate utilization of our workforce.

The cost of providing our services, including the extent to which we utilize our workforce, affects our profitability. The rate at which we utilize our workforce is affected by a number of factors, including: our ability to transition employees from completed projects to new programs and to hire and assimilate new employees; our ability to forecast demand for our services and thereby maintain an appropriate headcount in each of our geographies and operating sites; our ability to manage attrition; our need to devote time and resources to training and development; and our ability to match the skill sets of our employees to the needs of the marketplace. If we over-utilize our workforce, our employees may become disengaged, which could impact employee attrition. If we under-utilize our workforce, our margins and profitability could suffer.

We may encounter difficulties expanding or consolidating our operations or introducing new competencies or new offerings, which could adversely affect our operating results.

As we expand our business, open new sites, enter into new markets, products and technologies, invest in research, design and development, acquire new businesses or capabilities, transfer business from one location to another location within our network, consolidate certain operations, and/or introduce new business models or programs, we may encounter difficulties that result in higher than expected costs associated with such activities. Potential difficulties related to such activities include our ability: to manage growth effectively; to maintain existing business relationships during periods of transition; to anticipate disruptions in our operations that may impact our ability to deliver to customers on time, produce quality products and ensure overall customer satisfaction; and to respond rapidly to changes in customer demand or volumes. For example, we incurred operating losses in the second half of 2018 and throughout 2019 in our recently-expanded capital equipment business related to significant decreases in customer demand which commenced in the second half of 2018, which also resulted in additional costs to consolidate sites and transfer programs in an effort to reduce the fixed costs associated with this business.

We may also encounter difficulties in ramping and executing new programs. Ramping new programs can range from several months to over a year before production starts, and often requires significant up-front investments and increased working capital. These programs may generate lower margins or losses during and/or following the ramp period, or may not achieve the expected financial performance, due to production ramp inefficiencies, lower than expected volume, or delays in ramping to volume. In addition, our customers may significantly change these programs, or even cancel them altogether, due to decreases in their end-market demand or in the actual or anticipated success of their products in the marketplace. For example, we incurred higher-than-expected costs in 2018 and 2019 with respect to ramping new programs, including in our A&D, healthcare and industrial businesses. We may continue to incur similar additional ramping costs as we further expand our ATS segment and integrate new acquisitions. There can be no assurance that our increased investments will benefit us or result in business growth. As we pursue opportunities in new markets or technologies, we may encounter challenges due to our limited knowledge or experience in these areas. In addition, the success of new business models or programs depends on a number of factors including: understanding the new

business or markets; timely and successful product development; market acceptance; the effective management of purchase commitments and inventory levels in line with anticipated demand; the development or acquisition of appropriate intellectual property and capital investments, to the extent required; the availability of materials in adequate quantities and at appropriate costs to meet anticipated demand; and the risk that new offerings may have quality or other defects in the early stages of introduction. Any of these factors could prevent us from realizing the anticipated benefits of growth in new markets or technologies, which could materially adversely affect our business and operating results.

As part of our strategy to enhance our end-to-end service offerings, we intend to continue to expand our design and engineering, including JDM, capabilities. Providing these services may expose us to different or greater potential risks than those we face when providing our manufacturing services. Our design services offerings require significant investments in research and development, technology licensing, testing and tooling equipment, patent applications and talent recruitment. Our margins may be adversely impacted if we incur higher than expected investment costs, or if our customers are not satisfied with our progress, or do not approve our completed designs. In addition, our design activities often require the purchase of inventory for initial production runs before we have a firm purchase commitment from a customer. Furthermore, we may face increased competition with respect to this offering from ODMs and other companies providing similar services, including our own customers. As we anticipate continuing to grow this business, costs required to support our design and engineering capabilities may adversely affect our profitability. In addition, some of the products we design and develop must satisfy safety and regulatory standards and/or receive government certifications. If we fail to obtain these approvals or certifications on a timely basis, we would be unable to sell these products, which would harm our revenues, profitability and reputation.

There can be no assurance that our expansion into new markets or new business will be successful, or that we will achieve the anticipated benefits.

In addition, there is no assurance that we will find suitable new acquisition targets, that we will be able to consummate any such transactions on terms and conditions acceptable to us, or that we will be able to fund any such acquisitions with existing cash resources or through financing provided by external lenders. We may be unable to obtain additional capital if and when required on terms acceptable to us or at all. If the amount of capital we are able to raise from financing activities, together with the cash from our operations, is not sufficient to consummate an acquisition we have deemed desirable, we may not be able to implement our intended business plan, which could adversely affect our business, results of operations and financial condition. In addition, we may incur costs to support our pursuit of acquisitions and/or other strategic opportunities, which may not result in the consummation of any such transactions, and are expected to continue to adversely impact our operating results. See "***We have incurred substantial third-party debt in recent periods, which has increased our debt service requirements, may reduce our ability to fund future acquisitions and/or to respond to unexpected capital requirements, and may have other adverse impacts on our business***" below.

There may be problems with the products we design or manufacture that could result in liability/warranty claims against us, which may reduce demand for our services, damage our reputation, and/or cause us to incur significant costs.

In most of our sales contracts, we provide warranties against defects or deficiencies in our products, services, or designs. The extent of the warranties varies by customer, and warranties generally range from one to three years. However, the warranty period for our JDM designs, and our solar panel products (which remain in force notwithstanding our exit from this business), are generally longer. We generally design and manufacture products to our customers' specifications, many of which are highly complex, and include products for regulated industries, such as healthcare and A&D. The customized design solutions that form a part of our JDM offering also subject us to the risk of liability claims if defects are discovered or alleged. Despite our quality control and quality assurance efforts, problems may occur, or may be alleged, in or resulting from the design and/or manufacturing of these products. Whether or not we are responsible, problems in the products we design and/or manufacture, or in products which include components we manufacture, whether real or alleged, whether caused by faulty customer specifications, the design or manufacturing processes or a component defect, may result in increased costs to us, as well as delayed shipments to our customers, and/or reduced or canceled customer orders. These potential claims may include damages for the recall of a product and/or injury to person or property, including consequential and/or punitive damages.

Even if customers or third parties, such as component suppliers, are responsible for defects, they may not, or may not be able to, assume responsibility for any such costs or required payments to us. While we seek to insure against many of these risks, insurance coverage may be inadequate, not cost effective or unavailable, either in general or for particular types of products or issues.

As we expand our service offerings (including our JDM offerings) and pursue business in new end markets, our warranty obligations have increased and we may not be successful in pricing our products to appropriately cover our warranty costs. A successful claim for damages arising from defects or deficiencies for which we are not adequately insured, and for which indemnification from a third party is not timely (or otherwise) available, could have a material adverse effect on our reputation and/or our operating results and financial condition.

We may encounter integration and other significant challenges with respect to our acquisitions and strategic transactions which could adversely affect our operating results.

We have (and may continue to) expand our capabilities and presence in new end markets through acquisitions and/or strategic transactions, including multi-year "operate-in-place" arrangements, where we manage certain production, assembly or other services for customers directly from their locations, acquire their inventory, equipment and/or other assets, hire their employees, and lease or acquire their manufacturing sites. Potential challenges related to these acquisitions and transactions include: integrating acquired operations, systems and businesses (which may include transferring production from acquired operations to our existing network, or downsizing or closing acquired locations, in each case to obtain anticipated operational synergies); meeting customers' expectations as to volume, product quality and timeliness; supporting legacy contractual obligations; retaining customer, supplier, employee or other business relationships of acquired operations; addressing unforeseen liabilities of acquired businesses; limited experience with new technologies and markets; failure to realize anticipated benefits, such as cost savings and revenue enhancements; failure to achieve anticipated business volumes or operating margins; valuation methodologies not accurately capturing the value of the acquired business; the effects of diverting management's attention from day-to-day operations to matters involving the integration of acquired businesses; incurring potentially substantial transaction costs associated with these transactions; increased burdens on our staff and on our administrative, internal control and operating systems, which may hinder our legal and regulatory compliance activities; overpayment for an acquisition; and potential impairments resulting from post-acquisition deterioration in, or reduced benefit from, an acquired business. While we often obtain indemnification rights from the sellers of acquired businesses, such rights may be difficult to enforce, the losses may exceed any dedicated escrow funds, and the indemnitors may not have the ability to financially support the indemnity. Any of these factors may prevent us from realizing the anticipated benefits of an acquisition, including additional revenue, operational synergies and economies of scale. Any delay or failure to realize the anticipated benefits of acquisitions may adversely affect our business and operating results and may require us to write-down the carrying value of any related goodwill and intangible assets in periods subsequent to the acquisitions. For example, we incurred operating losses in the second half of 2018 and throughout 2019 in our recently-expanded capital equipment business related to significant unanticipated cyclical decreases in customer demand which commenced in the second half of 2018, which also resulted in additional costs to consolidate sites and transfer programs in an effort to reduce the fixed costs associated with this business. Acquisitions may also involve businesses we are not familiar with, and expose us to additional business risks that are different than those we have traditionally experienced or anticipated at the time of acquisition.

We have incurred substantial third-party debt in recent periods, which has increased our debt service requirements, may reduce our ability to fund future acquisitions and/or to respond to unexpected capital requirements, and may have other adverse impacts on our business.

Our debt leverage and debt service requirements have each increased as a result of third-party borrowings used to finance our acquisitions of Atrenne Integrated Solutions, Inc. (Atrenne) and Impakt Holdings, LLC (Impakt). This increased indebtedness, together with the mandatory prepayment provisions of our credit facility, may reduce our ability to fund future acquisitions and/or to respond to unexpected capital requirements. Such increases may also: require us to pursue additional term financing for potential investments, which may not be available on acceptable terms or at all; limit our ability to obtain additional financing for working capital, business activities, and other general corporate requirements; limit our ability to refinance our indebtedness on terms acceptable to us or at all; limit our flexibility to plan for and adjust to changing business and market conditions, increase our vulnerability to general adverse economic and industry conditions; and will require us to dedicate a portion of our cash flow to make interest and principal payments on such indebtedness, thereby limiting the availability of our cash flow for other purposes. In addition, such increased indebtedness could have a variety of other adverse effects, including: (i) default and foreclosure on our assets if we have insufficient funds to repay the debt obligations; (ii) acceleration of such indebtedness or cross-defaults if we breach financial or other covenants under applicable debt agreements and such breaches are not waived; (iii) increased vulnerability to adverse changes in competitive conditions or government regulation; and (iv) other disadvantages compared to our competitors who have less debt. Our current credit facility prohibits share repurchases for cancellation if our leverage ratio (as defined in such facility) exceeds a specified amount. This restriction is currently in effect.

In addition, our credit ratings impact the cost and availability of future borrowings and, accordingly, our cost of capital. Our ratings reflect the opinions of the ratings agencies of our financial strength, operating performance and ability to meet our debt obligations. There can be no assurance that we will achieve a particular rating or maintain a particular rating in the future, which could place us at a competitive disadvantage compared to our competitors and prevent us from taking actions that could benefit us in the long term. See "***Our credit rating may be downgraded***" below. We may not be able to obtain financing arrangements on acceptable terms or in amounts sufficient to meet our needs in the future, which could harm our ability to grow our business, internally or through acquisitions.

Our customers may be negatively affected by rapid technological changes, shifts in business strategy and/or the emergence of new business models, and new entrants/competition with disruptive products and/or services.

Many of our customers compete in markets that are characterized by rapidly changing technology, evolving industry standards, continuous improvements in products and services, commoditization of certain products, changes in preferences by end customers or other changes in demand, and the emergence of new entrants or competitors with disruptive products, services, or new business models that deemphasize traditional original equipment manufacturer (OEM) distribution channels. These conditions frequently result in shorter product lifecycles and may lead to shifts in our customers' business strategies. Our success will depend on the success achieved by our customers in developing, marketing and selling their products.

For example, declines in end-market demand for customer-specific proprietary systems in favor of open systems with standardized technologies has had an adverse impact on our customers, and consequently, our business. Other examples are described in "***We are dependent on our customers' ability to compete and succeed in the marketplace with the products and services we provide***" above. The highly competitive nature of our customers' products and services could also drive further consolidation among OEMs, and result in product line consolidation that could adversely impact our customer relationships and our revenue.

Consolidation within the EMS industry, or among our customers or suppliers, may adversely affect our business relationships or the volume of business we conduct with our customers.

Our customers, competitors and/or suppliers may be subject to consolidation. Consolidation in industries that utilize our services may occur as companies combine to achieve economies of scale and other synergies, which could result in an increase in excess manufacturing capacity as companies seek to divest manufacturing operations or eliminate product lines. Excess manufacturing capacity may increase pricing and competitive pressures in our industry as a whole and for us in particular. Consolidation could also result in an increasing number of very large companies offering products in multiple industries. The significant purchasing and market power of these large companies could increase pricing and competitive pressures for us. If one of our customers is acquired by another company that does not rely on us to provide services, has its own production services, or relies on another provider of similar services, we may lose that customer's business. Such consolidation may reduce the number of customers from which we generate a significant percentage of our revenue, and further expose us to increased risks relating to our dependence on a small number of customers. Any of the foregoing results of industry consolidation could adversely affect our business. Consolidation among our competitors may create a competitive advantage over us, which may result in a loss of business and revenue if customers shift their production. Such consolidation may also result in pricing pressures, which could negatively impact our profit margins. Changes in OEM strategies, including the divestiture or exit from certain of their businesses, may also result in a loss of business for us.

Any failure to comply with customer-driven policies and standards, and third party certification requirements, including those related to social responsibility, could adversely affect our business and reputation.

In addition to government regulations and industry standards, our customers may require us to comply with their own social responsibility, conflict minerals, quality or other business policies or standards, which may be more restrictive than current laws and regulations and our pre-existing policies, before they commence, or continue, doing business with us. Such policies or standards may be customer-driven, established by the industries in which we operate, or imposed by third party organizations. For example, we are a member of the Responsible Business Alliance (RBA). The RBA is a non-profit coalition of electronics companies that, among other things, establishes standards for its members in responsible and ethical practices in the areas of labor, environmental compliance, employee health and safety, ethics and social responsibility. Our compliance with these policies, standards and third-party certification requirements could be costly, and our failure to comply could adversely affect our operations, customer relationships, reputation and profitability.

Challenges associated with new customers or programs, or the provision of new services, could adversely affect our operations and financial results.

In determining whether to pursue a potential new customer, program or service, we evaluate whether it fits with our value proposition as well as its potential end-market success. Where we proceed, our goal is to ensure that our terms of engagement appropriately reflect anticipated costs, risks and rewards. The failure to make prudent engagement decisions or to establish appropriate contractual terms could adversely affect our profitability and margins.

There are also risks associated with the timing and ultimate realization of anticipated revenue from a new program or service. Certain new programs or services require us to devote significant capital and personnel to new technologies and competencies. We may not meet customer expectations, which could damage our relationships with such customers and impact our ability to timely deliver conforming products or services. The success of new programs may also depend heavily on factors including product reliability, market acceptance, regulatory approvals and/or economic conditions. Any failure to meet expectations on these factors could adversely affect our results of operations.

We have incurred significant restructuring charges in recent periods, and expect to incur further significant restructuring charges during 2020; we may not achieve some or all of the expected benefits from our restructuring activities, these activities may adversely affect our business, and additional restructuring actions may be required once currently-contemplated actions are complete.

We perform ongoing evaluations of our business, operational efficiency and cost structure, and implement restructuring actions as we deem necessary. We incurred a total of \$81.3 million in restructuring charges in connection with our cost efficiency initiative, which we commenced in the fourth quarter of 2017 and completed in the fourth quarter of 2019, and commenced implementation of a new restructuring program associated primarily with the Cisco Disengagement (with anticipated restructuring charges of \$30 million in 2020). We recorded restructuring charges of \$37.9 million in 2019, \$35.4 million in 2018, and \$28.9 million in 2017. See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Operating results — Other charges (recoveries)." Implementation of our restructuring activities may be costly and disruptive to our business, and we may not achieve the cost savings and benefits anticipated from such activities. We may not be able to retain or expand existing business due to execution issues relating to anticipated headcount reductions, plant closures or product/service transfers, and we may incur higher operating expenses during the periods of transition. Additionally, restructuring actions may result in a loss of continuity and accumulated knowledge in our workforce and related operational inefficiencies, as well as negative publicity. Headcount reductions can also have a negative impact on morale and our ability to attract and hire new qualified personnel in the future. Our restructuring activities are expected to require a significant amount of management and other employees' time and focus, which may divert attention from operating and growing our business.

Any failure to achieve some or all of the expected benefits of our restructuring activities, including any delay in implementing planned related restructuring actions, may have a material adverse effect on our competitive position and operating results. In addition, we may implement additional future restructuring actions or divestitures as a result of changes in our business, the marketplace and/or our exit from less profitable, under-performing, non-core or non-strategic operations.

We have incurred significant impairment charges and operating losses in recent periods, and may incur such charges and losses in future periods.

We evaluate the recoverability of the carrying amount of our goodwill, intangible assets, property, plant and equipment, ROU assets and deferred tax assets on an ongoing basis, and we may incur impairment charges, which could be substantial and could adversely affect our financial results. Impairment assessments inherently involve judgment as to assumptions about expected future cash flows and the impact of market conditions on those assumptions. Future events and changing market conditions may impact our assumptions as to prices, costs, or other factors that may result in changes in our estimates of future cash flows. Factors that might reduce the recoverable amount of these assets below their respective carrying values include declines in our stock price and market capitalization, reduced future cash flow estimates, and slower growth rates in any of our businesses. Sustained market price decreases, demand softness, and/or failure to realize future revenue at an appropriate profit margin in any cash generating unit (CGU) could negatively impact our operating results, including restructuring actions and/or impairment losses for such CGU. Similar factors are considered in evaluating the recoverability of our deferred tax assets. Our deferred tax assets are reduced to the extent it is no longer probable that we will realize the related tax benefits; such reductions are reversed if it again becomes probable that we will realize such benefits.

We have recorded charges in recent periods to write-down certain assets in connection with our restructuring actions, and have incurred significant operating losses for certain of our businesses (including operating losses in connection with the wind-down of our solar panel manufacturing business in 2017 and in connection with our capital equipment business in the second half of 2018 and throughout 2019). See notes 7, 8, 9, and 16 to the Consolidated Financial Statements in Item 18.

We continue to operate in an uncertain global economic and political environment.

Concerns over global economic conditions, financial markets, geopolitical issues, energy costs, inflation, and the availability and cost of credit, have contributed to increased global economic and political uncertainty. Brexit, the current U.S. administration, and tensions between the U.S. and other countries have contributed to such uncertainty. See "***Our operations could be adversely affected by global or local events outside our control***" and "***Policies or legislation proposed or instituted by the current U.S. administration could have a material adverse effect on our business, results of operations and financial condition***" below. Uncertain global economies have adversely impacted, and may continue to unpredictably impact, currency exchange rates. See

"We are exposed to translation and transaction risks associated with foreign currency exchange rate fluctuations; hedging instruments may not be effective in mitigating such risks" below. Financial market instability may result in lower returns on our financial investments, and lower values on some of our assets. Alternately, inflation may lead to higher costs for labor and materials and/or increase our costs of borrowing and raising capital. Uncertainty surrounding the global economic environment and geopolitical outlook may impact current and future demand for some of the products we manufacture or services we provide, the financial condition of our customers and/or suppliers, as well as the number and pace of customer consolidations. If any of the foregoing impacts the financial condition of our customers, they may delay payments to us or request extended payment terms, which could have an adverse effect on our financial condition and working capital. If any of the foregoing impacts the financial condition of our suppliers, this may have an adverse effect on our operations, financial condition and/or customer relationships.

We cannot predict the precise nature, extent, or duration of these economic or political conditions or if they will have any impact on our financial results. A deterioration in the economic environment may accelerate the effect of the various risk factors described in this Annual Report and could result in other unforeseen events that may adversely impact our business and financial condition.

Our operations could be adversely affected by global or local events outside our control.

Our operations and those of our customers, component suppliers and/or our logistics partners may be disrupted by global or local events outside our control, including: natural disasters and related disruptions; political instability; terrorism; armed conflict; labor or social unrest; criminal activity; disease or illness that affects local, national or international economies; unusually adverse weather conditions; and other risks present in the jurisdictions in which we, our customers, our suppliers and/or our logistics partners operate. These types of events could disrupt operations at one or more of our sites or those of our customers, component suppliers and/or our logistics partners. These events could also lead to higher costs or supply shortages, and may disrupt the delivery of components to us or our ability to provide finished products or services to our customers, any of which could adversely affect our operating results materially. We carry insurance to cover damage to our sites and interruptions to our operations, including those that may occur as a result of natural disasters, such as flooding, earthquakes or other events. Our insurance policies, however, are subject to deductibles, coverage limitations and exclusions, and may not provide adequate (or any) coverage should such events occur.

Our business and operations could be materially and adversely affected by the effects of a widespread outbreak of a contagious disease, including the recent outbreak of the respiratory illness caused by COVID-19 first identified in Wuhan, Hubei Province, China, (discussed below) or any other outbreak of contagious diseases, and other adverse public health developments. These effects could include disruptions or restrictions on our employees' and other service providers' ability to travel, as well as temporary closures of our facilities or the facilities of our customers, suppliers, or other vendors in our supply chain, potentially including single source suppliers. Any disruption of our supply chain or customers could adversely impact our business and results of operations, including by causing us to cease the manufacturing of one or more products for a period of time, which could also lead to loss of customers, as well as reputational, competitive, or business harm. In addition, a significant outbreak of contagious diseases in the human population could result in a widespread health crisis that could adversely affect the economies and financial markets of many countries, resulting in an economic downturn that could affect demand for our end customers' products and in turn adversely impact our operating results. There have been numerous factory and port closures in response to the recent COVID-19 outbreak, and we are in regular contact with our customers, suppliers and logistics providers. To date, we have seen some related materials constraints and reductions in order volumes, shipments and cash collections. Significant uncertainty remains with respect to the potential future impact of the COVID-19 outbreak on our business, and the size of the impact will depend on future developments which cannot currently be predicted, including the speed at which our suppliers and logistics providers can return to full production, the status of labor shortages and the impact of supplier prioritization of backlog. We are actively assessing, and responding where possible, to the potential effects of the COVID-19 outbreak on our employees, customers, suppliers, and logistics providers, and evaluating governmental actions being taken to curtail its spread. However, while we expect that our financial results for the first quarter of 2020 will be negatively impacted by this disruption, we cannot currently estimate the overall severity or duration of any resulting adverse impact on our business, financial condition and/or results of operations, which may be material. A material adverse effect on our employees, customers, suppliers and/or logistics providers could have a material adverse effect on us. In addition, supply chain or logistics disruptions could materially impact our operations outside China since we purchase a meaningful level of components from Chinese suppliers for our sites in other countries.

Increased international political volatility, including changes to previously accepted trading or other government policies or legislation in the United States and Europe, instability in parts of the Middle East, as well as the ongoing refugee crisis, anti-immigrant activities, social unrest and fears of terrorism, enhanced national security measures, armed conflicts, security issues at the U.S./Mexico border related to illegal immigration or criminal activities associated with illegal drug activities, labor or social unrest, strained international relations, including tensions between the United States and other countries, and any related decline in consumer confidence arising from these and other factors may materially hinder our ability to conduct business, or may reduce demand for our products or services. Any escalation in these events or similar future events may disrupt our operations or those

of our customers and suppliers and could adversely affect the availability of materials needed to manufacture our products or the means to transport those materials to manufacturing sites and finished products to customers. Changes in policies by the U.S. or other governments could negatively affect our operating results due to changes in duties, tariffs or taxes, or limitations on currency or fund transfers, as well as government-imposed restrictions on producing certain products in, or shipping them to, specific countries.

The June 2016 Brexit referendum led to, among other things, volatility in currency exchange rates that resulted in the strengthening of the U.S. dollar against foreign currencies in which we conduct business. Given the lack of comparable precedent, it is unclear what financial, trade and legal implications the withdrawal of the United Kingdom from the European Union will have and how such withdrawal will affect us, our customers and their demand for our services. We cannot predict changes in currency exchange rates, the impact of exchange rate changes on our operating results, nor the degree to which we will be able to manage the impact of currency exchange rate changes, and any of these effects of Brexit, among others, could materially adversely affect our business, results of operations and financial condition. Also see "***Policies or legislation proposed or instituted by the current U.S. administration could have a material adverse effect on our business, results of operations and financial condition***" below for a discussion of uncertainties, and potential adverse impacts on our business, that may arise out of actions of the current U.S. administration.

We rely on a variety of common carriers for the transportation of materials and products and for their ability to route these materials and products through various international ports and other transportation hubs. A work stoppage, strike or shutdown of any important supplier's site or operations, or at any major port or airport, or the inability to access any such site for any reason, could result in manufacturing and shipping delays or expediting charges, which could have a material adverse effect on our operating results.

The foregoing events have had and may in the future have an adverse impact on the U.S. and global economy in general, and on consumer confidence and spending, which may adversely affect our revenue and financial results. Such events could increase the volatility of the market price of our securities and may limit the capital resources available to us and our customers and suppliers.

Policies or legislation proposed or instituted by the current U.S. administration could have a material adverse effect on our business, results of operations and financial condition.

The current U.S. administration has created uncertainty with respect to, among other things, existing and proposed trade agreements, free trade generally, and significant increases on tariffs on goods imported into the U.S. from specified countries. The United States, Canada and Mexico have agreed on a revised trade deal (USMCA) to replace the North American Free Trade Agreement. The USMCA was executed at the end of 2018, but has not yet been ratified by Canada. We cannot currently quantify the impact on our business of the USMCA, if ratified. In addition, the current U.S. administration has increased tariffs on certain items imported into the U.S. from several countries (many of which are not addressed by the USMCA), each of which has imposed retaliatory tariffs on specified items. These actions, or other governmental actions related to tariffs or international trade agreements, could increase the cost to our U.S. customers who use our non-U.S. manufacturing sites and components, and vice versa, which may materially and adversely impact demand for our services, our results of operations or our financial condition. We transferred numerous customer programs in 2019, primarily located in China, to countries unaffected by these tariffs (including Thailand). Remaining transfers were completed in early 2020. These transfers resulted in new investments and costs to realign our manufacturing footprint, including expansion in non-affected countries, and reductions of operations in impacted geographies. Although such costs were not material in 2019, given the uncertainty regarding the scope and duration of these trade actions, the uncertainty of the impact of the USMCA, if ratified, on our business, whether trade tensions will escalate further, and whether our customers will continue to bear the cost of the tariffs, their impact on our operations and results for future periods cannot be currently quantified, but may be material. See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — External Factors that May Impact our Business" for further detail.

In general, tax reform efforts, including with respect to tax base or rate, transfer pricing, inter-company dividends, cross border transactions, controlled corporations, and limitations on tax relief allowed on the interest on inter-company debt, require us to continually assess our organizational structure against tax policy trends, and could lead to an increased risk of international tax disputes and an increase in our effective tax rate, and could adversely affect our financial results. We do not currently expect the U.S. Tax Cuts and Jobs Act, effective January 1, 2018, to have a significant impact on our future global tax rate, but we will continue to assess additional impacts, if any, resulting from any regulatory guidance or changes in our interpretations, assumptions, or business.

It is unknown at this time to what extent other new laws will be passed or pending or new regulatory proposals will be adopted, if any, or the effect that such passage or adoption may have on the economy and/or our business. However, changes in U.S. social, political, regulatory and economic conditions or in laws and policies governing foreign trade, taxes, manufacturing,

clean energy, the healthcare industry, development and investment in the jurisdictions in which we and/or our customers or suppliers operate, could materially adversely affect our business, results of operations and financial condition.

Changes to our operating model may adversely affect our business.

We continuously work to improve our productivity, quality, delivery performance and flexibility. In connection therewith, we recently completed an \$81.3 million cost efficiency initiative, implemented to further streamline our business and improve our margin performance. We have also commenced implementation of a new restructuring program, associated primarily with our Cisco Disengagement, and expect to incur \$30 million in restructuring charges in 2020 in connection therewith. Charges related to these initiatives adversely impact our financial condition and results of operations in the periods incurred. In addition, as a result of our CCS Review (implemented to address under-performing programs and to disengage from customer programs that do not meet our strategic objectives), we are disengaging from programs that are expected to result in an aggregate annualized decline in our CCS segment revenue of approximately \$1.25 billion once all such disengagements (including the Cisco Disengagement) are complete. See "Operating Results — Other charges (recoveries)" and "Overview — Recent Developments" in Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations."

Implementation of these initiatives presents a number of risks, including: (i) failure to achieve anticipated margin improvements from such actions; (ii) actual or perceived disruption of service or reduction in service levels to customers; (iii) potential adverse effects on our internal control environment with respect to general and administrative functions during transitions resulting from such initiatives; (iv) actual or perceived disruption to suppliers, distribution networks and other important operational relationships and the inability to resolve potential conflicts in a timely manner; (v) diversion of management attention from ongoing business activities and strategic objectives; and (vi) failure to retain key employees. Because of these and other factors, we cannot predict whether we will fully realize the purpose and anticipated benefits or cost savings of these initiatives and, if we do not, our business and results of operations may be adversely affected. Furthermore, adverse changes to our business may require additional restructuring or reorganization activities in the future. See "***We have incurred significant restructuring charges in recent periods, and expect to incur further significant restructuring charges during 2020; we may not achieve some or all of the expected benefits from our restructuring activities, these activities may adversely affect our business, and additional restructuring actions may be required once currently-contemplated actions are complete***" above.

Our results may be negatively affected by rising labor costs.

There is some uncertainty with respect to the pace of rising labor costs in various regions in which we operate. Any increase in labor costs that we are unable to recover in our pricing to our customers would negatively impact our margins and operating results.

Volatility in commodity prices may negatively impact our operating results.

We rely on various energy sources in our production and transportation activities. The price of commodities can be volatile. Increases in prices for energy and other commodities could result in higher raw material and component costs and transportation costs. Any increase in our costs that we are unable to recover in our pricing to our customers would negatively impact our margins and operating results.

Quality and execution issues may reduce demand for our services, damage our reputation, and/or have a material adverse effect on our business and operating results.

In any given quarter, we can experience quality and process variances related to materials, testing, or other manufacturing or supply chain activities. Although we are successful in resolving the majority of such issues, the existence of these variances could cause us to incur significant costs in relation to corrective actions, have a material adverse impact on the demand for our services in future periods from any affected customers, damage our reputation, and/or have a material adverse effect on our business and operating results.

We may experience increased financial and reputational risk due to non-performance by counterparties.

A failure by counterparties, including customers, suppliers, financial institutions (including the issuers of our purchased annuities), or other third parties with whom we conduct business, to fulfill their contractual obligations, may result in financial loss to us and may have adverse effects on our business.

We have key suppliers that are important to our sourcing activities. If a key supplier, or any company within such supplier's supply chain, experiences financial or other difficulties, such difficulties may affect their ability to supply us with materials, components or services, which could halt or delay the production of a customer's products, and/or have a material adverse impact on our operations, financial results, and customer relationships.

Our ability to collect outstanding accounts receivable (A/R) depends, in part, on the financial strength of our customers. We provide flexible payment terms to most of our customers (generally ranging from 30 to 90 days), however, we extend or provide longer payment terms from time to time when deemed commercially reasonable. If longer payment terms become more prevalent, it could adversely impact our working capital requirements, and increase our financial exposure and credit risk. Our A/R balance at December 31, 2019 was \$1,052.7 million (December 31, 2018—\$1,206.6 million), with two customers individually representing 10% or more of total A/R (December 31, 2018—two customers). Customers having financial difficulties may result in payment delays, defaults in payments, or requests for extended payment terms, any of which could adversely impact our short-term cash flows, financial performance and/or operating results. In addition, customer financial difficulties may result in order cancellations or volume reductions, and higher-than-expected inventory levels, which could have a material adverse impact on our operating results and working capital performance. We may not be able to return or resell this inventory, or we may be required to hold the inventory for an extended period of time, which may result in inventory obsolescence and a requirement to record additional inventory reserves. We may also be unable to recover all of the amounts owed to us by a customer, including amounts to cover unused inventory or capital investments we incurred to support such customer's business. Furthermore, if a customer bankruptcy occurs, our profitability may be adversely impacted if affected A/R are in excess of our allowance for doubtful accounts. Additionally, our future revenues could be adversely impacted by a customer bankruptcy. Inability to collect A/R and/or the loss of one or more major customers could adversely impact our operating results, financial position and cash flows. We cannot reasonably determine the extent to which a customer or supplier may have financial difficulties, or whether we will be required to adjust customer pricing, payment terms and/or the amounts we pay to suppliers for materials and components.

To mitigate the actuarial and investment risks of our defined benefit pension plans, we purchase annuities (using existing plan assets) from time to time from third party insurance companies for certain, or all, of our obligations under specified pension plans. See note 19 to the Consolidated Financial Statements in Item 18. Although these annuities substantially hedge the financial investment risk associated with the related pension obligations, failure by the insurance companies to fulfill their contractual obligations would result in a financial loss to us, as we retain ultimate responsibility for the payment of benefits to plan participants unless and until such pension plans are wound-up.

We may use cash on hand, issue debt or equity securities, and/or incur additional third-party debt (or any combination thereof) to complete future acquisitions or otherwise fund our operations, which may adversely affect our liquidity, credit ratings, financial condition and/or results of operations.

Any significant use of cash (for future acquisitions or otherwise) would adversely impact our cash position and liquidity. In addition, we may choose to issue debt securities or otherwise incur additional debt, to fund future acquisitions or otherwise fund our operations. Any additional incurrence of debt (either through the issuance of debt securities or through a new or refinanced credit facility) would increase our debt leverage and debt service requirements, and could have a variety of additional effects, including, but not limited to, those described in "***We have incurred substantial third-party debt in recent periods, which has increased our debt service requirements, may reduce our ability to fund future acquisitions and/or to respond to unexpected capital requirements, and may have other adverse impacts on our business***" above, as well as the potential imposition of additional restrictive covenants on our operations. To the extent we sell equity or convertible debt securities, the issuance of these securities (the pricing of which would be subject to market conditions at the time of issuance) could result in material dilution to our stockholders. Sales of our equity securities or convertible debt, or the perception that these sales could occur, could also cause the market price for our subordinate voting shares (SVS) to fall, and new securities could have rights, preferences and privileges senior to the holders of our SVS.

We are exposed to translation and transaction risks associated with foreign currency exchange rate fluctuations; hedging instruments may not be effective in mitigating such risks.

Global currency markets can be volatile. Although we conduct the majority of our business in U.S. dollars (our functional currency), our global operations subject us to translation and transaction risks associated with fluctuations in currency exchange rates that could have a material adverse impact on our operating results and/or financial condition. A significant portion of our operational costs (including payroll, pensions, site costs, costs of locally sourced supplies and inventory, and income taxes) are denominated in various currencies other than the U.S. dollar. Fluctuations in currency exchange rates may significantly increase the amount of translated U.S. dollars required for costs incurred in other currencies or significantly decrease the U.S. dollars received from non-U.S. dollar revenues. Our non-U.S. currency exposures consist of the Canadian dollar, Czech Koruna, Thai baht, Malaysian ringgit, Mexican peso, British pound sterling, Brazilian real, Chinese renminbi, Euro, Romanian leu, Korean won, Lao kip, Japanese yen, Hong Kong dollar, Philippine peso, Indian Rupee, Taiwan dollar, and Singapore dollar.

Although our functional currency is the U.S. dollar, currency risk on our income tax expense arises as we are generally required to file our tax returns in the local currency for each particular country in which we have operations. A weakening of the local currency against the U.S. dollar could have a negative impact on our income taxes payable (related to increased local-currency taxable profits) and on our deferred tax costs (primarily related to the revaluation of non-monetary foreign assets from historical average exchange rates to the period-end exchange rates). See note 21 to the Consolidated Financial Statements in Item 18. While

our hedging program is designed to mitigate currency risk vis-à-vis the U.S. dollar, we remain subject to taxable foreign exchange impacts in our translated local currency financial results relevant for tax reporting purposes.

As part of our risk management program, we enter into foreign exchange forward and swap contracts to lock in the exchange rates for future foreign currency transactions, which is intended to reduce the variability of our operating costs and future cash flows denominated in local currencies. While these contracts are intended to reduce the effects of fluctuations in foreign currency exchange rates, our hedging strategy does not mitigate the longer-term impacts of changes to foreign exchange rates. We do not enter into these contracts for trading purposes or speculation, and our management believes all such contracts are entered into as hedges of underlying transactions. Nonetheless, these instruments involve costs and risks of their own in the form of transaction costs, credit requirements and counterparty risk. If our hedging program is not successful, or if we change our hedging activities in the future, we may experience significant unexpected expenses from fluctuations in exchange rates.

Our financial results have been adversely impacted by negative foreign currency translation effects, and such adverse effects, some of which may be substantial, are likely to recur in the future.

Our ability to successfully manage unexpected changes or risks inherent in our global operations and supply chain may adversely impact our financial performance.

We have sites in the following countries: Canada, the United States, China, Ireland, Japan, Laos, Malaysia, Mexico, Romania, Singapore, South Korea, Spain and Thailand. During 2019, approximately 80% of our revenue was produced at locations outside of North America. We also purchase the majority of our components and materials from international suppliers.

Global operations are subject to inherent risks which may adversely affect us, including:

- changes in local tax rates and tax incentives and the adverse tax consequences of repatriating earnings;
- labor unrest and differences in regulations and statutes governing employee relations, including increased scrutiny of labor practices within our industry;
- cultural differences and/or differences in local business customs;
- negative impacts, or ineffectiveness, of executing restructuring activities;
- changes in regulatory requirements;
- inflationary trends and rising costs;
- changes in international political relations;
- difficulty in staffing (including skilled labor availability and cost) and managing foreign operations;
- challenges in building and maintaining infrastructure to support operations;
- compliance with a variety of foreign laws, including import and export tariffs and regulations;
- adverse changes in trade policies and/or agreements between countries in which we maintain operations;
- changes in logistics costs;
- changes in the availability, lead time, and cost of components and materials;
- weaker laws protecting intellectual property rights and/or greater difficulty enforcing such rights;
- global economic, political and/or social instability;
- potential restrictions on the transfer of funds and/or other restrictive actions by foreign governments;
- the effects of terrorist activity, armed conflict, natural disasters and epidemics (including the recent COVID-19 outbreak); and
- global currency fluctuations.

Any of these risks could disrupt the supply of our components or materials, slow or stop our production, and/or increase our costs. Compliance with trade and foreign tax laws may increase our costs and actual or alleged violations of such laws could result in enforcement actions or financial penalties that could result in substantial costs. In addition, the introduction or expansion of certain social programs in foreign jurisdictions may increase our costs, and certain supplier's costs, of doing business.

In particular, a significant portion of our manufacturing, design, support and storage operations are conducted in our facilities in China, and revenues associated with our China operations are important to our success. Therefore, our business, financial condition and results of operations may be materially adversely affected by economic, political, legal, regulatory, competitive and other factors in China. International trade disputes with China could result in tariffs and other measures that could adversely affect the Company's business. The Chinese economy differs from the economies of most developed countries in many respects, including the level of government involvement and control over economic growth. In addition, our operations in China are governed by Chinese laws, rules and regulations, some of which are relatively new. The Chinese legal system continues to rapidly evolve, which may result in uncertainties with respect to the interpretation and enforcement of Chinese laws, rules and regulations that could have a material adverse effect on our business. China experiences high turnover of direct labor in the manufacturing sector due to the intensely competitive and fluid market for labor, and the retention of adequate labor is a challenge. If our labor turnover rates are higher than we expect, or we otherwise fail to adequately manage our labor needs, then our business and results of operations could be adversely affected. We are also subject to risks associated with our subsidiaries organized in China. For example, regulatory and registration requirements and government approvals affect the financing that we can provide to our subsidiaries. If we fail to receive required registrations and approvals to fund our subsidiaries organized in China, or if our ability to remit currency out of China is limited, then our business and liquidity could be adversely affected. In addition, see "***Our operations could be adversely affected by global or local events outside our control***" above for a discussion of potential and anticipated adverse impacts on our business resulting from the recent outbreak of COVID-19, and Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — External Factors that May Impact our Business" for a discussion of current actions we have taken in response to recent tariffs and potential adverse impacts of recent trade tensions between the United States and China.

We currently ship a significant portion of our worldwide production to customers in the U.S. from other countries. Changes to, among other things, laws or policies in the U.S. regarding foreign trade, import/export duties, tariffs or taxes, manufacturing and/or investments, could materially adversely affect our U.S. and foreign operations. See "***Policies or legislation proposed or instituted by the current U.S. administration could have a material adverse effect on our business, results of operations and financial condition***" above.

Our business is dependent on us winning competitive bid selection processes.

These selection processes are typically lengthy and can require us to dedicate significant development expenditures and scarce engineering resources in pursuit of a single customer opportunity. Failure to obtain a particular design win may prevent us from obtaining design wins in subsequent generations of a particular product. This can result in lost revenue and could weaken our position in future competitive bid selection processes.

Customer relationships with emerging companies may present more risks than with established companies.

Customer relationships with emerging companies present special risks because we do not have an extensive product or customer relationship history. There is less demonstration of market acceptance of their products making it harder for us to anticipate requirements than with established customers. Our credit risk on these customers, especially in A/R and inventories, and the risk that these customers will be unable to fulfill indemnification obligations to us are potentially increased.

If we are unable to recruit or retain highly skilled talent, our business could be adversely affected.

The recruitment of personnel in the EMS industry is highly competitive. We believe that our future success depends, in part, on our ability to attract and retain highly skilled executive, technical and management talent in the various geographies in which we operate. The time required to replace or redistribute responsibilities related to the loss of the services of certain executive, management and technical employees, individually or in the aggregate, could have a material adverse effect on our operations, and there can be no assurance that we will be able to retain their services. Organizational changes may impact our relationships with customers, vendors, and employees, potentially resulting in loss of business, loss of vendor relationships, and the loss of key employees or declines in employee productivity. Uncertainties associated with any senior management transitions could lead to concerns from current and potential third parties with whom we do business, any of which could hurt our business prospects. Turnover in key leadership positions within the Company, or any failure to successfully integrate key new hires or promoted employees, may adversely impact our ability to manage the Company efficiently and effectively, could be disruptive and distracting to management and may lead to additional departures of existing personnel, any of which could have a material adverse effect on our business, operating results, financial results and internal controls over financial reporting.

We may not keep pace with rapidly evolving technology.

Many of the markets for our manufacturing and engineering services are characterized by rapidly changing technology and evolving process development. We believe our future success depends, in part, upon our ability to: continually develop and deliver electronic and complex mechanical manufacturing services that meet our customers' evolving needs; hire, retain and expand our qualified engineering and technical personnel; maintain and continually improve our technological expertise; and successfully anticipate or respond to technological changes in manufacturing processes on a cost-effective and timely basis.

Although we believe that our operations use the assembly and testing technologies, equipment and processes that are currently required by our customers, we cannot be certain that we will maintain or develop the capabilities required by our customers in the future. The emergence of new technologies, industry standards or customer requirements may render our equipment, designs, inventory or processes obsolete or noncompetitive. In addition, we may have to invest in new processes, capabilities or equipment to support new technologies used in our customers' current or future products, and to support their supply chain processes. Additionally, as we expand our service offerings or pursue business in new markets where our experience may be limited, we may be less effective in adapting to technological change. Our manufacturing, engineering, supply chain processes, and test development efforts and design capabilities may not be successful due to rapid technological shifts in any of these areas. The acquisition and implementation of new technologies and equipment and the offering of new or additional services to our customers may require significant expense or capital investment, which could reduce our operating margins and our operating results. Our failure to anticipate and adapt to our customers' changing technological needs and requirements or to hire and retain a sufficient number of engineers and maintain our engineering, technological and manufacturing expertise could have a material adverse effect on our operations.

Various industry-specific standards, qualifications and certifications are required to produce certain types of products for our customers. Failure to obtain or maintain those certifications may adversely affect our ability to maintain existing levels of business or win new business.

We may not adequately protect our intellectual property or the intellectual property of others.

We believe that certain of our proprietary intellectual property rights and information provide us with a competitive advantage. Accordingly, we take steps to protect this proprietary information, including entering into non-disclosure agreements with customers, suppliers, employees and other parties, and by implementing security measures. However, these measures may not be sufficient to prevent or detect the misappropriation or unauthorized use or disclosure of our property or information. We also conduct business in some countries where the extent of effective legal protection for intellectual property rights is uncertain. Even if we have intellectual property rights, there is no guarantee that such rights will provide adequate protection of items we consider to be proprietary. We may also be required to compromise protections or yield rights to technology, data or intellectual property in order to conduct business in or access markets in certain jurisdictions, either through formal written agreements or due to legal or administrative requirements in the host nation. If we are not able to protect our intellectual property rights, our business, financial condition and results of operations may be adversely affected.

There is also a risk that claims of intellectual property infringement could be brought against us, our customers and/or our suppliers. If such claims are successful, we may be required to spend significant time and financial resources to develop non-infringing processes, technology or information or to obtain appropriate licenses from the owner. We may not be successful in such development, or any such licenses may not be available on commercially acceptable terms, if at all. In addition, any litigation could be lengthy and costly and could adversely affect us even if we are successful. As we expand our service offerings, we may be less effective in anticipating or mitigating the intellectual property risks related to new manufacturing, design and other services, which could be significant.

We are subject to the risk of increasing income and other taxes, tax audits, and the challenges of successfully defending our tax positions, and obtaining, renewing or meeting the conditions of tax incentives and credits, any of which may adversely affect our financial performance.

We conduct business operations in a number of countries, including countries where tax incentives have been extended to encourage foreign investment or where income tax rates are low. Our income tax expense could increase significantly if certain tax incentives from which we benefit are retracted. A retraction could occur if we fail to satisfy the conditions on which these tax incentives are based, or if they are not renewed or replaced upon expiration. Our income tax expense could also increase if tax rates applicable to us in such jurisdictions are otherwise increased, or due to changes in legislation or administrative practices. Changes in our outlook in any particular country could impact our ability to meet the required conditions. See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Operating Results — Income taxes" and note 20 to the Consolidated Financial Statements in Item 18 for a discussion of recently expired tax incentives, the status of existing tax incentives, and a challenge to our Brazilian sales tax levy rates.

We develop our tax filing positions based upon the anticipated nature and structure of our business and the tax laws, administrative practices and judicial decisions currently in effect in the jurisdictions in which we have assets or conduct business, all of which are subject to change or differing interpretations, possibly with retroactive effect.

Certain of our subsidiaries provide financing or products and services to, and may from time-to-time undertake certain significant transactions with, other subsidiaries in different jurisdictions. Moreover, several jurisdictions in which we operate have tax laws with detailed transfer pricing rules which require that all transactions with non-resident related parties be priced using arm's-length pricing principles, and that contemporaneous documentation must exist to support such pricing.

We are subject to tax audits in various jurisdictions, which could result in additional tax expense in future periods related to prior results. Any such increase in our income tax expense and related interest and/or penalties could have a significant adverse impact on our future earnings and future cash flows. The successful pursuit of assertions made by any taxing authority could result in our owing significant amounts of tax, interest, and possibly penalties. We believe we adequately accrue for any probable potential adverse tax ruling. However, there can be no assurance as to the final resolution of any claims and any resulting proceedings. If any claims and any ensuing proceedings are determined adversely to us, the amounts we may be required to pay could be material, and could be in excess of amounts accrued.

As at December 31, 2019, a significant portion of our cash and cash equivalents was held by foreign subsidiaries outside of Canada, a large part of which may be subject to withholding taxes upon repatriation under current tax laws. We currently expect to repatriate approximately \$117 million from various foreign subsidiaries in the near term (December 31, 2018 — expected to repatriate \$30 million), which has resulted in higher related deferred tax liabilities than in the prior year.

Our operations and our customer relationships may be adversely affected by disruptions to our information technology (IT) systems, including disruptions from cybersecurity breaches of our IT infrastructure.

We rely on information technology networks and systems, including those of third-party service providers, to process, transmit and store electronic information. In particular, we depend on our IT infrastructure for a variety of functions, including worldwide financial reporting, inventory and other data management, procurement, invoicing and email communications. Any of these systems may be susceptible to outages due to fire, floods, power loss, telecommunications failures, terrorist attacks, sabotage and similar events. Global cybersecurity threats and incidents can range from uncoordinated individual attempts to gain unauthorized access to our IT systems to sophisticated and targeted measures known as 'advanced persistent threats'. The ever-increasing use and evolution of technology, including cloud-based computing and the rise of the 'Internet of Things,' creates opportunities for the unintentional dissemination or intentional destruction of confidential information stored in our systems or in non-encrypted portable media or storage devices. We could also experience a business interruption, information theft of confidential data, or reputational damage from industrial espionage attacks, malware or other cyber-attacks, which may compromise our system infrastructure or lead to data leakage, either internally or at our third-party providers. Despite the implementation of advanced threat protection, information and network security measures and disaster recovery plans, our systems and those of third parties on which we rely may also be vulnerable to computer viruses, break-ins and similar disruptions. If we or our vendors are unable (or are perceived as unable) to prevent or promptly identify and remedy such outages and breaches, our operations may be disrupted, our business reputation could be adversely affected, and there could be a negative impact on our financial condition and results of operations. We expect that risks and exposures related to cybersecurity attacks will remain high for the foreseeable future due to the rapidly evolving nature and sophistication of these threats.

We may not be able to prevent or detect all errors or fraud.

Due to the inherent limitations of internal control systems, misstatements due to error or fraud may occur and may not be detected in a timely manner or at all. Accordingly, we cannot provide absolute assurance that all control issues, errors or instances of fraud, if any, impacting us have been or will be prevented or detected. In addition, over time, certain aspects of a control system may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate, which we may not be able to address quickly enough to prevent all instances of error or fraud. In connection with our on-going assessment of the effectiveness of our internal control over financial reporting, we may discover "material weaknesses" in our internal controls. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The existence of any material weakness may require management to devote significant time and incur significant expense to remediate any such material weaknesses. The existence of any material weakness in our internal control over financial reporting may result in errors in our financial statements that could require us to make corrective adjustments, restate our financial statements, cause us to fail to meet our reporting obligations, and cause shareholders to lose confidence in our reported financial information, all of which could materially and adversely affect the market price of our securities. If we are unable to successfully identify and remediate any material weaknesses that may arise in a timely manner, the accuracy and timing of our financial reporting may be adversely affected, and we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports and applicable stock exchange listing requirements.

Our revenue and operating results may vary significantly from period to period.

Our quarterly and annual results may vary significantly depending on various factors, certain of which are described below, and many of which are beyond our control.

- the volume and timing of customer demand relative to our capacity;
- the typical short life cycle of our customers' products and success in the marketplace of our customers' products;
- the cyclical nature of customer demand in several of our businesses;
- customers' financial condition;
- changes to our mix of customers, programs and/or end market demand;
- how well we execute on our operational strategies, and the impact of changes to our business model;
- varying revenues and gross margins among geographies and programs for the products or services we provide;
- pricing pressures, the competitive environment and contract terms and conditions;
- upfront investments and challenges associated with the ramping of programs for new or existing customers;
- provisions or charges resulting from unexpected changes in market conditions impacting our industry or the end markets we serve;
- customer disengagements or terminations or non-renewal of customer programs, arrangements or agreements;
- the timing of expenditures in anticipation of future orders;
- our effectiveness in planning production and managing inventory, fixed assets and manufacturing processes;
- operational inefficiencies and disruptions in production at individual sites;
- changes in cost and availability of commodities, materials, components, services and labor;
- current or future litigation;
- seasonality in quarterly revenue patterns across some of our businesses;
- governmental actions or changes in legislation;
- currency fluctuations; and
- changes in U.S. and global economic and political conditions and world events.

Demand patterns are volatile across our end markets, particularly in our CCS segment and our semiconductor and display capital equipment businesses. Rapid shifts in technology, model obsolescence, commoditization of certain products, the emergence of new business models, shifting patterns of demand (such as the shift from traditional network infrastructures to highly virtualized and cloud-based environments, and declines in end-market demand for customer-specific proprietary systems in favor of open systems with standardized technologies), the prevalence of solid state or flash memory technology as a replacement for hard disk drives, the proliferation of software-defined technologies enabling the disaggregation of software and hardware, increased competition, product oversupply, pricing pressures, and the volatility of the economy, all contribute to the complexity of managing our operations and fluctuations in our financial results. Our mix of revenue by end market is also impacted by, among other factors, overall end market demand, the timing and extent of new program wins, program completions or losses, customer disengagements, or follow-on business from customers and from acquisitions. Changes to our mix of revenue by end market, and the conditions that are specific to each end market, could lead to volatility in our revenue and margins from period to period and adversely impact our financial position and cash flows. In our CCS segment, cloud-based and other service providers have increased their use of our products in recent periods. These customers and markets are cyclically different from our traditional OEM customers, creating more volatility and unpredictability in our revenue patterns as we adjust to this shift, and additional challenges with respect to the management of our working capital requirements. The display market is currently undergoing a shift from LCD to OLED technology, driven by the introduction of 5G smart phones that predominantly use OLED screens. Although we believe that we are well-positioned in the OLED space, the pace of this transition may impact the speed at which demand in our display business recovers.

Compliance with governmental laws and obligations could be costly and may negatively impact our financial performance.

We are subject to various federal/national, state/provincial, local, foreign and supra-national environmental laws and regulations. Our environmental management systems and practices have been designed to provide for compliance with these laws and regulations. Maintaining compliance with and responding to increasingly stringent environmental regulations requires a significant investment of time and resources and may restrict our ability to modify or expand our manufacturing sites or to continue production. Any failure to comply with these laws and regulations may potentially result in significant fines and penalties, our operations may be suspended or subjected to increased oversight, and our cost of related investigations could be material in any period.

More complex and stringent environmental legislation continues to be imposed globally, including laws that place increased responsibility and requirements on the "producers" of electronic equipment and, in turn, their providers and suppliers. Such laws may relate to product inputs (such as hazardous substances and energy consumption), product use (such as energy efficiency and waste management/recycling), and/or operational outputs/by-products from our manufacturing processes that can result in environmental contamination (such as waste water, air emissions and hazardous waste). Noncompliance with these requirements could result in substantial costs, including fines and penalties, and we may incur liability to our customers and consumers.

Even where compliance responsibility rests primarily with our customers, they may request our assistance in meeting their obligations. Our customers remain focused on issues such as waste management (including recycling), climate change (including the reduction of carbon emissions) and product stewardship, and expect their EMS providers to be environmental leaders. We strive to meet such customer expectations, although these demands may extend beyond our regulatory obligations and require significant investments of time and resources to attract and retain customers.

We generally conduct environmental assessments, or review assessment reports undertaken by others, for our manufacturing sites at the time of acquisition or leasing. However, such assessments may not reveal all environmental liabilities, and assessments have not been obtained for all sites. In addition, some of our operations involve the use of hazardous substances that could cause environmental impacts. While we have operational systems to provide environmental management, we cannot rule out all risk of non-compliance and could incur substantial costs to comply. Although if deemed necessary, we may investigate, remediate or monitor emissions and site conditions at some of our owned or leased sites (such as air, soil and/or groundwater conditions), we may not be aware of, or adequately address, all such emissions and conditions, and we may incur significant costs should such work be required. In many jurisdictions in which we operate, environmental laws impose liability for the costs of removal, remediation or risk assessment of hazardous or toxic substances on an owner, occupier or operator of real estate, even if such person or company was unaware of or not responsible for the discharge or migration of such substances. In some instances where soil or groundwater contamination existed prior to our ownership or occupation, landlords or former owners may have retained some contractual responsibility or regulatory liability, but this may not provide sufficient protection to reduce or eliminate our liability. Third-party claims for damages or personal injury are also possible and could result in significant costs to us. If more stringent compliance or cleanup standards under environmental laws or regulations are imposed, or the results of future testing and analyses at our current or former operating sites indicate that we are responsible for the release of hazardous substances into the air, ground and/or water, we may be subject to additional liability. Additional environmental matters may arise in the future at sites where no problem is currently known or at sites that we may acquire in the future.

Our healthtech business is subject to regulation by the U.S. Food and Drug Administration (FDA), Health Canada, the European Medicines Agency, the Brazilian Health Surveillance Agency, and similar regulatory bodies in other jurisdictions, relating to the medical devices and hardware we manufacture for our customers. Our sites that deliver products to the healthcare business are certified or registered in quality management standards applicable to the healthcare industry. We are required to comply with various statutes and regulations related to the design, development, testing, manufacturing and labeling of our medical devices in addition to reporting of certain information with respect to the safety of such products. Any failure to comply with these regulations could result in fines, injunctions, product recalls, import detentions, additional regulatory controls, suspension of production, and/or the shutting down of one or more of our sites, among other adverse outcomes. Failure to comply with these regulations may also materially affect our reputation and/or relationships with customers and regulators.

We provide design, engineering and manufacturing related services to our customers in the A&D business. As part of these services, we are subject to substantial regulation from government agencies including the U.S. Department of Defense (DOD) and the U.S. Federal Aviation Administration. Our A&D sites are certified in quality management standards applicable to the A&D industry. Failure to comply with these regulations or the loss of any of our quality management certifications may result in fines, penalties and injunctions, and could prevent us from executing on current or winning future contracts, any of which may materially adversely affect our financial condition and operating results. In addition to quality management standards, there are several other U.S. regulations with which we are required to comply, including the Federal Acquisition Regulations (FAR), which provides uniform policies and procedures for acquisition; the Defense Federal Acquisition Regulation Supplement, a DOD agency supplement to the FAR that provides DOD-specific acquisition regulations that DOD government acquisition officials, and those contractors doing business with DOD, must comply with in the procurement process for goods and services; and the Truth in

Negotiations Act, which requires full and fair disclosure by contractors in the conduct of negotiations with the government and its prime contractors. These rules are complex, our performance under them is subject to audit by the U.S. Defense Contract Audit Agency, the U.S. Office of Federal Contract Compliance Programs and other government regulators, and in most cases must be complied with by our suppliers. If an audit or investigation reveals a failure to comply with regulations, we could become subject to civil or criminal penalties and administrative sanctions by either the government or the prime customer, including government pre-approval of our government contracting activities, termination of the contract, payment of fines and suspension or debarment from doing further business with the U.S. government. Any of these actions could increase our expenses, reduce our revenue and damage our reputation as a reliable U.S. government supplier. We are also subject to the export control laws and regulations of the countries in which we operate, including, but not limited to, the U.S. International Traffic in Arms Regulations (ITAR) and the Export Administration Regulations (EAR).

Our international operations require us to comply with various anti-bribery laws, including the U.S. Foreign Corrupt Practices Act (FCPA) and the Corruption of Foreign Public Officials Act (Canada) (CFPOA). In some countries in which we operate, it may be customary for businesses to engage in business practices that are prohibited by the FCPA, CFPOA or other laws and regulations. Although we have implemented policies and procedures designed to ensure compliance with the FCPA, CFPOA and similar laws in other jurisdictions, there can be no assurance that all of our employees and agents, as well as those companies to which we outsource certain business operations, will not be in violation of these laws and our policies or procedures. In addition to the difficulty of monitoring compliance, any suspected or alleged activity would require a costly investigation by us and may result in the diversion of management's time, resources and attention. Failure to comply with these laws may subject us to, among other things, adverse publicity, penalties and legal expenses that may harm our reputation and have a material adverse effect on our business, financial condition and operating results.

As a public company, we are subject to stringent laws, regulations and other requirements, including the U.S. Sarbanes-Oxley Act and the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank), affecting, among other areas, our accounting, internal controls, corporate governance practices, securities disclosures and reporting. For example, Dodd-Frank contains provisions concerning specified minerals originating from the Democratic Republic of Congo or adjoining countries (referred to as "conflict minerals"). As required by Dodd-Frank, the U.S. Securities and Exchange Commission (SEC) has adopted due diligence, disclosure and reporting requirements for companies that manufacture, or contract to manufacture, products that include conflict minerals. We manufacture such products for our customers. Due to our complex supply chain, compliance with these rules is time-consuming and costly. If we are unable to ascertain the origins of all such minerals used in the manufacturing of our products through the due diligence procedures we implement, we may be unable to satisfy our customers' certification requirements. This may harm our reputation, damage our customer relationships and result in a loss of revenue. If the SEC rules or other new social or environmental standards limit our pool of suppliers in order to produce "conflict free" or "socially responsible" products, or otherwise adversely affect the sourcing, supply and pricing of materials used in our products, we could also experience cost increases and a material adverse impact on our operating results.

In addition, whenever we pursue business in new end markets, or our customers pursue new technologies or businesses, we are required to navigate the potentially heavy regulatory and legislative burdens of such end markets or technologies, as well as applicable quality standards with respect thereto.

The regulatory climate can itself affect the demand for our services. For example, government reimbursement rates and other regulations, as well as the financial health of healthcare providers, changes in how healthcare in the U.S. is structured, including as a result of the U.S. Affordable Care Act (or any successor legislation), and how medical devices are taxed, could affect the willingness and ability of end customers to purchase the products of our customers in this market as well as impact our margins.

Our customers are also required to comply with various government regulations, legal requirements and industry standards, including many of the industry-specific regulations discussed above. Our customers' failure to comply could affect their businesses, which in turn would affect our sales to them. In addition, if our customers are required by regulation or other requirements to make changes in their product lines, these changes could significantly disrupt particular programs for these customers and create inefficiencies in our business.

In addition, a failure by a supplier or manufacturer to comply with applicable laws, regulations or customer requirements could negatively impact our business, and for governmental customers, could result in fines, penalties, suspension or even debarment being imposed on us, which could have a material adverse impact on our business, financial condition and results of operations.

Compliance or the failure to comply with employment laws and regulations may negatively impact our financial performance.

We are subject to a variety of domestic and foreign employment laws, including those related to: workplace safety, discrimination, harassment, whistle-blowing, wages and overtime, personal taxation, classification of employees, work authorizations and severance. Compliance with such laws may increase our costs. In addition, such laws are subject to change,

and enforcement activity relating to these laws, particularly outside of the United States, may increase as a result of greater media attention due to alleged violations by other companies, changes in law, political and other factors. There can be no assurance that, in the future, we will not be found to have violated elements of such laws. Any such violations could lead to the assessment of fines or damages against us by regulatory authorities or claims by employees, any of which could adversely affect our operating results and/or our reputation.

An inability to successfully manage the procurement, development, implementation or execution of IT systems, or to adequately maintain these systems and their security, as well as to protect data and other confidential information, may adversely affect our business and reputation.

As a complex, global company, we are heavily dependent on our IT systems to support our customers' requirements and to successfully manage our business. Any inability to successfully manage the procurement, development, implementation, execution or maintenance of such systems, including matters related to system and data security, cybersecurity, privacy, reliability, compliance, performance and access, as well as any inability of these systems to fulfill their intended purpose, could have an adverse effect on our business. See "***Our operations and our customer relationships may be adversely affected by disruptions to our information technology (IT) systems, including disruptions from cybersecurity breaches of our IT infrastructure***" above.

In addition, we must comply with increasingly complex and rigorous regulatory standards enacted to protect business and personal data in various jurisdictions. For example, the European Union's General Data Protection Regulation imposes additional obligations on companies regarding the handling of personal data and provides certain individual privacy rights to persons whose data is stored. Compliance with existing, proposed and recently enacted laws and regulations can be costly; any failure to comply with these regulatory standards could subject us to legal and reputational risks. Misuse of or failure to secure personal information could also result in violation of data privacy laws and regulations, proceedings against the Company by governmental entities or others, fines and penalties, damage to our reputation and credibility and could have a negative impact on our business and results of operations.

We may be required to make larger contributions to our defined benefit pension and other benefit plans in the future.

We maintain defined benefit and defined contribution pension plans, as well as other benefit plans globally. Our pension funding policy for our defined benefit and defined contribution pension plans is to contribute amounts sufficient, at minimum, to meet local statutory funding requirements that are based on actuarial calculations. Our obligations are based on certain assumptions relating to plan asset performance, salary changes, employee turnover, retirement ages, life expectancy, expected healthcare costs, the performance of the financial markets, future interest rates, and plan and legislative changes. If actual results or future expectations differ from these assumptions or if statutory funding requirements change, the amounts we are obligated to contribute to the pension plans may increase and such increase could be significant. We are also required to contribute amounts to our other benefit plans to meet local statutory or such plans' funding requirements. The amounts we are obligated to contribute may increase due to legislative or other changes. We recorded non-cash charges of \$4.1 million in 2019, representing additional obligations under our Thailand post-employment benefit plan, as a result of recent changes in labor protection laws in Thailand that increase severance benefits for specified employees upon termination.

Failure to comply with the conditions of government grants may lead to grant repayments and adversely impact our financial performance.

We have received grants from government organizations or other third parties as incentives related to capital investments or other expenditures. These grants often have future conditions with which we must comply. If we do not meet these future conditions, we could be obligated to repay all or a portion of the grant, which could adversely affect our financial position and operating results.

There are inherent uncertainties involved in the judgments, estimates, and assumptions used in the preparation of our financial statements. Any changes in judgments, estimates and assumptions could have a material adverse effect on our financial position and results of operations.

Our Consolidated Financial Statements are prepared in accordance with IFRS. The preparation of financial statements in conformity with IFRS requires management to make judgments, estimates, and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, revenues and expenses. Judgments, estimates, and assumptions are inherently subject to change in future periods, which could have a material adverse effect on our financial position and results of operations.

Our credit agreement contains restrictive and financial covenants that may impair our ability to conduct business, and the failure to comply with such covenants could cause our outstanding debt to become immediately payable.

Our credit agreement contains restrictive covenants that limit our management's discretion with respect to certain business matters. Among other factors, these covenants limit our ability and our subsidiaries' ability to incur additional debt, create liens

or other encumbrances, change the nature of our business, sell or otherwise dispose of assets, make certain investments and payments, repurchase SVS for cancellation if a defined leverage ratio exceeds a specified amount (Repurchase Restriction), merge or consolidate with other entities, or effect specified changes in control. This agreement also contains certain financial covenants related to indebtedness and interest coverage. If we are not able to comply with these covenants, our outstanding debt could become immediately due and payable, and the incurrence of additional debt under our revolving credit facility may not be allowed, either of which could have a material adverse effect on our liquidity and ability to conduct our business. See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Capital Resources" for a discussion of defaults related to the Repurchase Restriction waived in the fourth quarter of 2019.

We are subject to interest rate fluctuations.

Borrowings under our revolver bear interest at LIBOR, Canadian Prime, or Base Rate, plus a specified margin, or in the case of any bankers' acceptance, at the B/A Discount Rate (each as defined in the underlying credit agreement). The margin for borrowings under our revolver ranges from 0.75% to 2.5%, depending on the rate we select and our consolidated leverage ratio. Our term loans currently bear interest at LIBOR plus a specified margin (2.125% for one term loan and 2.5% for the other). These borrowings expose us to interest rate risks due to fluctuations in these rates and margins. Because our third-party indebtedness has increased in recent periods, an increase in interest rates would have a more pronounced impact on our interest expense than in prior periods with lower borrowing levels. At December 31, 2019, we had an aggregate of \$592.3 million outstanding under our term loans, and other than ordinary course letters of credit, no amounts outstanding under our revolver. Aggregate borrowings under our credit facility as at December 31, 2018 were \$757.3 million (December 31, 2017 — \$187.5 million). To partially hedge against our exposures to interest rate variability on our term loans, we entered into 5-year agreements with a syndicate of third-party banks in August and December 2018 to swap the variable interest rates with fixed rates of interest on \$350.0 million of the total borrowings thereunder. See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity — *Cash requirements* and Capital Resources." Significant interest rate fluctuations may adversely affect our business, operating results and financial condition.

Changes to LIBOR may negatively impact us.

LIBOR, the London interbank offered rate, is the basic rate of interest used in lending between banks on the London interbank market and is widely used as a reference for setting the interest rate on loans globally. Our term loans currently bear interest based on LIBOR, and our revolver bears interest at specified rates (at our option) which include LIBOR. The U.K. Financial Conduct Authority, which regulates LIBOR, has announced that it intends to stop encouraging or requiring banks to submit LIBOR rates after 2021, and it is unclear if LIBOR will cease to exist or if new methods of calculating LIBOR will evolve. In addition, the issues that may lead to the discontinuation or unavailability of LIBOR may also apply to replacement interest rates. Our credit facility provides that when the administrative agent, the majority of lenders or we determine that LIBOR is unavailable or being replaced, then we and the administrative agent may amend the underlying credit agreement to reflect a successor rate. Once LIBOR becomes unavailable, if no successor rate has been established, loans under the credit facility will convert to Base Rate loans. In either event, interest rates on our current or future indebtedness may increase. Further, there can be no guarantee that a transition from LIBOR to an alternative will not result in financial market disruptions, significant increases in benchmark rates, or borrowing costs to borrowers, any of which could have an adverse effect on our liquidity, results of operations or financial condition.

Deterioration in financial markets or in the macro-economic environment may adversely affect our ability to raise funds or increase the cost of raising funds.

We currently have access to a revolver, which matures in June 2023. We may also issue or wish to incur additional debt or issue equity securities to fund our operations or make additional acquisitions. Our ability to borrow or raise capital, or renew or increase our third-party indebtedness may be impacted if financial markets are unstable. Disruptions in the capital and credit markets could adversely affect our ability to draw on our revolver (or any successor or additional facility). Our access to funds under our credit facility (or any successor or additional facility) will be dependent on the ability of our senior lenders to meet their funding commitments. They may not be able to meet their funding commitments to us if they experience shortages of capital and liquidity or if they experience excessive volumes of borrowing requests from us and other borrowers within a short period of time. Longer term disruptions in the capital and credit markets as a result of uncertainty, changing or increased regulation, reduced alternatives, or failures of significant financial institutions could adversely affect our access to liquidity needed for our business. Any disruption could require us to take measures to conserve cash until the markets stabilize or until alternative credit arrangements or other funding sources can be arranged. Such measures could include deferring capital expenditures, and reducing or eliminating discretionary uses of cash.

Our credit rating may be downgraded.

Any negative change in our credit rating or outlook may make it more expensive for us to raise additional capital in the future on terms that are acceptable to us, if at all. See "***We have incurred substantial third-party debt in recent periods, which has increased our debt service requirements, may reduce our ability to fund future acquisitions and/or to respond to unexpected capital requirements, and may have other adverse impacts on our business.***"

The interest of our controlling shareholder, Onex Corporation, with an approximate 81% voting interest, may conflict with the interests of other shareholders.

Onex Corporation (Onex) beneficially owns all of our outstanding multiple voting shares (MVS) and less than 1% of our outstanding SVS. The number of SVS and MVS beneficially owned by Onex represents approximately 81% of the voting interest in Celestica. Accordingly, Onex has the ability to exercise significant influence over our business and affairs and generally has the power to determine all matters submitted to a vote of our shareholders where our shares vote together as a single class. Onex may make decisions regarding Celestica and our business that are opposed to other shareholders' interests or with which other shareholders may disagree. Onex's voting power could have the effect of deterring or preventing a change in control of our Corporation that might otherwise be beneficial to our other shareholders.

Through its shareholdings, Onex has the power to elect our directors and its approval is required for significant corporate transactions such as certain amendments to our Restated Articles of Incorporation (Articles), the sale of all or substantially all of our assets and plans of arrangement. The directors so elected have the authority, subject to applicable laws, to appoint or replace senior management, cause us to issue additional SVS or MVS or repurchase SVS or MVS, declare dividends or take other actions.

Gerald W. Schwartz, the Chairman of the Board, President and Chief Executive Officer of Onex, indirectly owns shares representing the majority of the voting rights of the shares of Onex. The interests of Onex and Mr. Schwartz may differ from the interests of the remaining holders of SVS. For additional information about shareholder rights and restrictions relative to our SVS and MVS, see Item 10(B), "Memorandum and Articles of Incorporation" and Exhibit 2.3. For additional information about our principal shareholders, see Item 7(A), "Major Shareholders." Also see Item 7(B), "Related Party Transactions" for a description of related party transactions involving Onex and/or Mr. Schwartz.

Onex has, from time-to-time, issued debentures exchangeable and redeemable under certain circumstances for our SVS, entered into forward equity agreements with respect to our SVS, sold our SVS (after exchanging MVS for SVS), or redeemed these debentures through the delivery of our SVS, and could take similar actions in the future. These sales may impact our share price or have consequences on our debt and ownership structure.

We are subject to litigation, which may result in substantial litigation expenses, settlement costs or judgments, require the time and attention of key management resources, and result in adverse publicity, any of which may negatively impact our financial performance.

We are from time to time party to various copyright, patent and trademark infringement, unfair competition, breach of contract, customs, employment and other legal actions incidental to our business, as plaintiff or defendant, as well as various other claims, suits, investigations and legal proceedings (including securities class action and shareholder derivative lawsuits which have been settled or dismissed). Additional legal claims or regulatory matters may arise in the future and could involve matters relating to commercial disputes, government regulation and compliance, intellectual property, antitrust, tax, employment or shareholder issues, product liability claims and other issues on a global basis. Regardless of the merits of the claims, litigation may be both time-consuming and disruptive to our business. The defense and ultimate outcome of any lawsuits or other legal proceedings may result in higher expenses, which could have a material adverse effect on our business, financial condition, or results of operations. We cannot predict the final outcome of such lawsuits or the likelihood that other proceedings will be initiated against us. Accordingly, the cost of defending against such lawsuits or any future lawsuits or proceedings may be high and, in any event, these legal proceedings may result in the diversion of our management's time and attention away from our business. In the event that there is an adverse ruling in any legal proceeding, we may be required to make payments to third parties that could have a material adverse effect on our reputation, financial condition and results of operations.

Changes in accounting standards enacted by the relevant standard-setting bodies may adversely affect our reported operating results, profitability and financial performance.

Accounting standards are revised periodically and/or expanded upon by applicable standard-setting bodies. We are required to adopt new or revised accounting standards and to comply with revised interpretations issued from time-to-time by these authoritative bodies, including the Canadian Accounting Standards Board (CASB), the IASB, and the SEC. While these accounting changes do not typically affect the economics of our business, such standards could have a significant effect on our accounting methods and reported results. For example, the IASB issued a new revenue recognition standard and amended the standard relating to the classification, measurement and impairment of financial assets and hedge accounting; both of these standards became

effective as of January 1, 2018. The new revenue recognition standard changed the timing of revenue recognition for a significant portion of our business, and the adoption of such standard had a material impact on our Consolidated Financial Statements, primarily in relation to inventory and A/R. Additionally, the standard relating to leases was also amended to bring most leases onto the balance sheet for lessees, eliminating the distinction between operating and finance leases. This standard became effective January 1, 2019, and had a material impact on our Consolidated Financial Statements. See note 2 to the Consolidated Financial Statements in Item 18. Changes in accounting standards could materially affect (either positively or negatively) our reported operating results or financial condition. Our Consolidated Financial Statements are prepared in accordance with IFRS. Our reported financial information may not be comparable to the information reported by our competitors or other public companies that use different accounting standards.

The issuance or sale of SVS may adversely affect our share price.

Future sales of our SVS in the public market, or the issuance of SVS in connection with our equity-based compensation plans or otherwise, could adversely affect the market price of the SVS. Sales of a substantial number of our SVS in the public market by holders of exercised vested options or vested share units settled in or exercised for SVS may lower the prevailing market price for such shares and could impair our ability to raise capital through the future sale of our equity securities. Additionally, if we issue additional SVS, or if holders of outstanding vested options exercise those options or if vested shares units are settled in newly-issued SVS, our shareholders will incur dilution. See "***We may use cash on hand, issue debt or equity securities, and/or incur additional third-party debt (or any combination thereof) to complete future acquisitions or otherwise fund our operations, which may adversely affect our liquidity, credit ratings, financial condition and/or results of operations***" above.

The market price of our SVS may be volatile.

Volatility in our business can result in significant price and volume fluctuations in the market price of our SVS. Factors such as changes in our operating results, announcements by our customers, competitors or other events affecting companies in the electronics industry, currency fluctuations, general market fluctuations, macro-economic conditions, and External Events may cause the market price of our SVS to decline. In addition, if our operating results do not meet the expectations of securities analysts or investors, the price of our SVS could decline.

There can be no assurance that we will continue to repurchase SVS for cancellation.

Any repurchase of SVS for cancellation is subject to the Repurchase Restriction (which is currently in effect). Any future permitted repurchase of SVS, and the amount and timing of any such repurchases, will be subject to capital availability and periodic determinations by our Board of Directors (Board) that SVS repurchases are in the best interest of our shareholders and are in compliance with all applicable laws and agreements. Any future permitted SVS repurchases, including their timing and amount, may be affected by, among other factors: our views on potential future capital requirements for strategic transactions, including acquisitions; debt service requirements; our credit rating; changes to applicable tax laws or corporate laws; and changes to our business model. In addition, the amount we spend and the number of SVS we are able to repurchase under any future normal course issuer bid (NCIB) or substantial issuer bid may further be affected by a number of other factors, including the SVS we repurchase to satisfy stock-based compensation awards, the price of our SVS and blackout periods in which we are restricted from repurchasing SVS. Our SVS repurchases may change from time to time, and even if permitted under our credit facility, we cannot provide assurance that we will continue to repurchase SVS for cancellation in any particular amounts or at all. A reduction in or elimination of our SVS repurchases could have a negative effect on our stock price.

Potential unenforceability of judgments.

We are incorporated under the laws of the Province of Ontario, Canada. Our controlling persons, a majority of our directors, and several of our officers are residents of (or are organized in) Canada. Also, a substantial portion of our assets and the assets of these persons are located outside of the United States. As a result, it may be difficult to effect service of process within the United States upon those directors, officers, or controlling persons who are not residents of the United States, or to enforce judgments in the United States obtained in courts of the United States. It may also be difficult for shareholders to enforce a U.S. judgment in Canada predicated upon the civil liability provisions of U.S. federal or state securities laws or to succeed in a lawsuit in Canada based only on U.S. federal or state securities laws.

Negative publicity could adversely affect our reputation as well as our business, financial results and share price.

Unfavorable media related to our industry, company, brand, marketing, personnel, operations, business performance, or prospects may affect our share price and the performance of our business, regardless of its accuracy or inaccuracy. The speed at which negative publicity can be disseminated has increased dramatically with the capabilities of electronic communication, including social media outlets, websites, blogs, and newsletters. Our success in maintaining, extending, and expanding our brand image depends on our ability to adapt to this rapidly changing media environment. Adverse publicity or negative commentary

from any media outlet could damage our reputation and reduce the demand for our products, which would adversely affect our business.

Our business could be negatively impacted as a result of actions by activist shareholders or others.

Although Onex controls a substantial majority of the voting power of our securities, we may be subject to challenges in the operation of our business due to actions instituted by activist shareholders or others. Responding to such actions could be costly and time-consuming, may not align with our business strategies and could divert the attention of our Board and senior management from the pursuit of our business strategies. Perceived uncertainties as to our future direction as a result of shareholder activism may lead to the perception of a change in the direction of the business or other instability and may make it more difficult to attract and retain qualified personnel and business partners and may adversely affect our relationships with vendors, customers and other third parties.

Our business and operations could be adversely impacted by climate change initiatives.

Concern over climate change has led to international legislative and regulatory initiatives directed at limiting carbon dioxide and other greenhouse gas emissions. Proposed and existing efforts to address climate change by reducing greenhouse gas emissions could directly or indirectly affect our costs of energy, materials, manufacturing, distribution, packaging and other operating costs, which could adversely impact our business and financial results.

Item 4. Information on the Company

A. History and Development of the Company

We were incorporated in Ontario, Canada on September 27, 1996. Our legal and commercial name is Celestica Inc. We are a corporation domiciled in the Province of Ontario, Canada and operate under the *Business Corporations Act* (Ontario) ("OBCA"). Our principal executive offices are currently located at 5140 Yonge Street, Suite 1900, Toronto, Ontario, Canada M2N 6L7. Our telephone number is (416) 448-5800, and our internet address is www.celestica.com. Information on our website is not incorporated by reference into this Annual Report.

Prior to our incorporation, we were an IBM manufacturing unit that provided manufacturing services to IBM for more than 75 years. In 1993, we began providing electronics manufacturing services to non-IBM customers. In October 1996, we were purchased from IBM by an investor group led by Onex, and in 1998, we completed our initial public offering.

A description of our acquisition activities (including our 2018 acquisitions of Atrenne and Impakt), our principal capital expenditures (including property, plant and equipment), and our financing activities over the last three financial years is set forth in notes 3, 4, 7, 12, 13, 22, and 24 to the Consolidated Financial Statements in Item 18, and Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations."

A description of our divestiture activities (including our restructuring activities) over the last three financial years is set forth in notes 6, 7 and 16 to the Consolidated Financial Statements in Item 18, and Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations," including a discussion of the consummation of the sale of our real property located in Toronto, Ontario, and related transition matters.

A description of our significant commitments for capital expenditures as at December 31, 2019 and those planned for 2020 is set forth in Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity — Tabular Disclosure of Contractual Obligations: *Additional Commitments*."

See "Overview — *Celestica's business*" and "Recent Developments" of Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations" for a discussion of the anticipated impact, range and timing of actions associated with our CCS Review, which commenced in the second half of 2018, including the Cisco Disengagement, and anticipated related restructuring actions; recent adverse trends impacting our businesses; and the completion of our cost efficiency initiative (initiated in the fourth quarter of 2017).

There were no public takeover offers by third parties in respect of the Corporation's SVS or MVS or by the Corporation in respect of other companies' shares which occurred during the last or current financial year.

The U.S. Securities and Exchange Commission (SEC) maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The address of that site is <http://www.sec.gov>.

B. Business Overview

General

We deliver innovative supply chain solutions globally to customers in two operating and reporting segments: Advanced Technology Solutions (ATS) and Connectivity & Cloud Solutions (CCS).

Our ATS segment consists of our ATS end market, and is comprised of our A&D, industrial, energy, healthtech, and capital equipment businesses. Our capital equipment business is comprised of our semiconductor, display, and power & signal distribution equipment businesses. Our CCS segment consists of our Communications and Enterprise end markets. Our Enterprise end market is comprised of our servers and storage businesses. All period percentages and financial information in this Annual Report reflect the current presentation. In 2017, we operated in one reportable segment comprised of multiple end markets. See note 25 to the Consolidated Financial Statements in Item 18.

Our global headquarters is located in Toronto, Ontario, Canada. We operate a network of sites and centers of excellence (discussed below) strategically located in North America, Europe and Asia, with specialized end-to-end supply chain capabilities tailored to meet specific market and customer product lifecycle requirements.

We offer a comprehensive range of product manufacturing and related supply chain services to customers in both of our segments, including design and development, new product introduction, engineering services, component sourcing, electronics manufacturing and assembly, testing, complex mechanical assembly, systems integration, precision machining, order fulfillment, logistics, asset management, product licensing, and after-market repair and return services. Within design and development, our JDM offering includes developing hardware platforms and design solutions in collaboration with customers, and managing aspects of the supply chain and manufacturing. We believe our services and solutions create value for our customers by accelerating their time-to-market, and by providing higher quality, lower cost, and reduced cycle times (as compared to insourcing) in our customers' supply chains. We believe this results in lower total cost of ownership, greater flexibility, higher return on invested capital and improved competitive advantage for our customers in their respective markets.

We depend on a small number of customers for a substantial portion of our revenue. In the aggregate, our top 10 customers represented 65% of our total 2019 revenue. In 2019, we had one customer that individually represented 10% or more of total revenue (Cisco Systems, Inc., which accounted for 12% of total revenue for 2019). Significant reductions in, or the loss of, revenue from these or any of our major customers may have a material adverse effect on us. See Item 3(D), Key Information — Risk Factors — ***"We are dependent on a limited number of customers and end markets. A decline in revenue from, or the loss of, any significant customer, could have a material adverse effect on our financial condition and operating results."*** Also see Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Recent Developments — *Segment Environment: CCS Segment*" for a discussion of the Cisco Disengagement, as well as other disengagements stemming from our CCS Review, and the anticipated impact of these disengagements on our business.

Products and services in our ATS segment are extensive and are often more regulated than in our CCS segment, and can include the following: government-certified and highly-specialized manufacturing, electronic and enclosure-related services for A&D-related customers; high-precision semiconductor and display equipment and integrated subsystems; a wide range of industrial automation, controls, test and measurement devices; advanced solutions for surgical instruments, diagnostic imaging and patient monitoring; and efficiency products to help manage and monitor the energy and power industries. Our ATS segment businesses typically have a higher margin profile, higher working capital requirements, and longer product life cycles than the businesses in our CCS segment. Products and services in our CCS segment consist predominantly of enterprise-level data communications and information processing infrastructure products, and can include routers, switches, servers and storage-related products used by a wide range of businesses and cloud-based and other service providers to manage digital connectivity, commerce and social media applications. Our CCS segment businesses typically have a lower margin profile, lower working capital requirements, and higher volumes than the businesses in our ATS segment.

To increase the value that we deliver to our customers, we continue to make investments in people, value-added service offerings, new capabilities, capacity, technology, IT systems, software and tools, and work to improve our productivity, quality, delivery performance and flexibility in our efforts to be recognized as a leading company in the EMS industry. We have been increasing our investments in automation and digital factory solutions and capabilities throughout our network to improve quality and productivity. Our recently-completed cost efficiency initiative and related restructuring actions were also intended to further streamline our business, increase operational efficiencies and improve our productivity.

We believe that continued investments in these areas support our long-term growth strategy, and will strengthen our competitive position, enhance customer satisfaction, and increase long-term shareholder value. Within both of our segments, we are focused on: increased penetration in our end markets; diversifying our customer mix and product portfolios, including increasing design and development, engineering, and after-market services (higher value-added services); and diversifying our capabilities. In response to slower growth rates and increased pricing pressures in our traditional markets, which continue to account for a substantial portion of our revenue, we intend to concentrate on expanding our business beyond such traditional markets, including through CCS segment growth initiatives focused on our newly-reshaped post-CCS Review segment portfolio, and by continuing to pursue new customers and acquisition opportunities in our ATS segment. See "Celestica's Strategy" below for a discussion of our strategy, and Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Operating Goals and Priorities" for a discussion of our current priorities.

Electronics Manufacturing Services Industry

Overview

Leading EMS companies manage global networks that are capable of delivering customized supply chain solutions. They offer end-to-end services for the entire product lifecycle, including design and engineering services, manufacturing, assembly, testing, systems integration, fulfillment and after-market services. Our customers, which include OEMs, cloud-based and other service providers, and other companies in a wide range of industries, use these services to enhance their competitive positions. Outsourcing manufacturing and related services can help our customers to address their business challenges related to cost, asset utilization, quality, time-to-market, demand volatility, customer support, and rapidly changing technologies.

We believe outsourcing by these companies will continue across a number of industries as a means to:

Reduce Operating Costs and Invested Capital. The manufacturing process for electronics products has become increasingly automated, requiring greater levels of investment in property, plant and equipment. EMS companies help enable their customers to gain access to a global network of manufacturing sites with supply chain management expertise, advanced engineering capabilities, flexible capacity and economies of scale. By outsourcing to EMS companies, customers can reduce their overall product lifecycle and operating costs, working capital, and property, plant and equipment investment requirements, and further focus on their own objectives.

Focus Resources on Core Competencies. Many EMS customers prioritize their resources on their core competencies of product development, sales, marketing and customer service, by outsourcing design, engineering, manufacturing, supply chain, product lifecycle management, and other product support requirements to their EMS partners.

Improve Time-to-Market. Electronic products generally experience short lifecycles, requiring companies that use our services to continually reduce the time and cost of bringing products to market. We believe that such companies can significantly improve their product development cycles and enhance time-to-market by benefiting from the expertise and infrastructure of EMS providers, including their capabilities relating to design and engineering services, prototyping and the rapid ramp-up of new products to high-volume production, all with the critical support of global supply chain management and manufacturing networks.

Utilize EMS Companies' Procurement, Inventory Management and Logistics Expertise. We believe that the successful manufacturing of electronic products requires significant resources to manage the complexities in planning, procurement and inventory management, frequent design changes, short product lifecycles and product demand fluctuations. Companies can help manage these complexities by outsourcing to those EMS providers that (i) possess sophisticated IT systems and global supply chain management capabilities and (ii) can leverage significant component procurement advantages to lower product costs.

Access Leading Engineering Capabilities and Technologies. EMS providers can assist companies in the development of new product concepts, or the re-design of existing products, as well as assist with improvements in the performance, cost and time required to bring products to market. In addition, companies can gain access to high-quality manufacturing expertise and capabilities in the areas of advanced process, interconnect and test technologies.

Improve Access to Global Markets. EMS companies with global infrastructure and support capabilities help to provide customers with efficient world-wide manufacturing solutions, distribution capabilities and after-market services.

Access Value-Added Service Offerings. EMS providers strive to expand their offerings to include services such as design, fulfillment and after-market services, including repair and recycling, to encourage companies to outsource more of their cost of goods sold.

Celestica's Strategy

We are focused on building solid partnerships and delivering informed, flexible solutions intended to contribute to our customers' success. Towards this end, we collaborate with our customers in an effort to identify and meet their current and future requirements. We offer a range of services and hardware solutions designed to deliver lower costs, increased flexibility and predictability, improved quality and responsive service. We constantly seek to advance our quality, engineering, manufacturing and supply chain capabilities to help our customers achieve a competitive advantage. We will continue to focus on our pursuit of the following, intended to strengthen our competitive position and enhance customer satisfaction and shareholder value:

Increase Penetration in our End Markets. We strive to establish a diverse customer base across several industries with different business cycles. We believe our expertise in technology, quality and supply chain management, in addition to our service offerings and centers of excellence, have positioned us as an attractive partner to companies across various markets. Our goal is to increase our presence across our end markets, with particular emphasis on CCS segment growth initiatives focused on our newly-reshaped post-CCS Review segment portfolio, and expanding our ATS segment, both organically and through acquisitions. Revenue dollars from our ATS segment increased by 17% from 2017 to 2019, representing 39% of our total revenue in 2019, up from 33% in 2018 and 32% in 2017.

Our segment and end market revenue as a percentage of total revenue is as follows:

	2017	2018	2019
ATS.....	32%	33%	39%
Communications	43%	41%	40%
Enterprise	25%	26%	21%

Selectively Pursue Acquisitions and Strategic Transactions. We will continue to selectively seek acquisition opportunities and strategic transactions in order to (i) profitably grow our revenue, (ii) further develop strategic relationships with customers in our end markets and (iii) enhance the scope of our capabilities and service offerings.

Continuously Improve Operational Performance. We will continue to focus on: (i) managing our mix and volume of business and service offerings to improve our overall margins, (ii) leveraging our supply chain practices globally to lower materials costs, minimize lead times and improve our planning cycle to better meet volatility in customer demand and improve asset utilization and inventory levels, and (iii) improving operating efficiencies to reduce costs and improve margins. In order to help us streamline our processes, we have been increasing our investments in the "digital factory," and automating and connecting our equipment, people and systems throughout our global network, including our customers and suppliers. Although our overall revenues and gross profit decreased in 2019 compared to 2018, resulting primarily from lower revenue in our CCS segment and our capital equipment business, our mix of programs had a favorable impact on our gross margins in 2019. We also intend to continue to invest in higher margin services (including our JDM offering), and focus on driving better inventory performance in the continuing A&D constrained materials environment. Our recently-completed cost efficiency initiative, intended primarily to better align our Enterprise end market and capital equipment business to the current demand environment, also had a favorable impact on our profitability in 2019.

Develop and Grow Trusted Relationships with Leading Customers. We continue to seek to build profitable, strategic relationships with industry leaders that we believe can benefit from our services and solutions. We strive to respond to our customers' needs with speed, flexibility and predictability in delivering results. We have established and maintain strong relationships with a diverse mix of leading OEMs, cloud-based and other service providers and other companies across our end markets. We believe that our customer base is a strong potential source of growth for us as we seek to strengthen these relationships through the delivery of additional services.

Expand Range of Service Offerings and Continue to Invest in Developing New Technology, Quality Products and Supply Chain Solutions and Services. We continually seek to expand the services we offer to our customers, and we are committed to meeting our customers' needs in the areas of technology, quality and supply chain management. We believe our expertise in these areas enables us to meet the rigorous demands of our customers, allows us to produce a variety of electronic products ranging from high-volume electronics to highly complex technology infrastructure products used in a broad array of end markets, and allows us to deliver consistently reliable products to our customers. We also believe the systems and collaborative processes associated with our expertise in supply chain management help us to adjust our operations to meet the lead time requirements of

our customers, and quickly and effectively deliver products directly to end customers. We collaborate with our suppliers to influence component design for the benefit of our customers. As a result of the successes that we have had in these areas, we have been recognized with numerous customer and industry achievement awards.

See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Operating Goals and Priorities" for a discussion of our current priorities and areas of focus.

Celestica's Business

Innovative Supply Chain Solutions and Services

We are a global provider of innovative supply chain solutions. We offer a range of services including design and development, engineering services, supply chain management, new product introduction, component sourcing, electronics manufacturing, assembly, testing, complex mechanical assembly, systems integration, precision machining, order fulfillment, logistics, asset management, product licensing, and after-market repair and return services. Our design and development services include our JDM offering, which consists of developing hardware platforms and design solutions in collaboration primarily with CCS segment customers, as well as managing aspects of the supply chain and manufacturing. We believe that our JDM offering helps to differentiate us from other EMS providers, by encompassing advanced technology design solutions that customers can tailor to their specific platform applications. We execute our business in our global network of sites, including our designated centers of excellence, strategically located in North America, Europe and Asia. We leverage these sites and centers of excellence, information technology, and our supply chain expertise using collaborative processes and a team of highly skilled, customer-focused employees. We believe that our ability to deliver a range of supply chain and hardware solutions to our customers provides them with a competitive lead time, and advantages in quality, flexibility and total cost of ownership.

The objective of our centers of excellence program is to help ensure that our operations reflect a solid understanding of the markets we serve, have current capabilities and standardized practices, and are positioned to provide efficiency, consistency, and value to our customers around the globe. To obtain "center of excellence" status, our sites must meet our defined criteria pertaining to quality, supply chain capabilities, Lean and Six Sigma, market specific certifications (to the extent applicable), and other matters regarding their operations.

Quality, Lean and Six Sigma Culture

We believe one of our strengths is our ability to consistently deliver high-quality services and products. We have an extensive quality management system that focuses on continual process improvement and achieving high levels of customer satisfaction. We employ a variety of advanced statistical engineering techniques and other tools to assist in improving product and service quality. Most of our principal sites are ISO 9001 and ISO 14001 certified (international quality management standards), and have other required industry-specific certifications.

In addition to these standards, we deploy Lean and Six Sigma initiatives throughout our operations network to deliver customer value and eliminate defects and waste. Lean initiatives help drive manufacturing efficiencies, cycle times velocities and improved product quality. We use Six Sigma extensively in an effort to reduce process variation and to drive root cause problem-solving. Lean and Six Sigma methods are also used in non-production areas to streamline our processes and eliminate waste. We apply the knowledge we gain in our after-market services to help improve the quality and reliability of next-generation products. We believe that success in these areas helps our customers to lower their costs, positioning them more competitively in their respective markets.

Design and Engineering Services

Our global design teams are focused on delivering flexible solutions and expertise, intended to help customers reduce overall product costs, improve time-to-market, introduce competitively differentiated products, and drive hardware innovations. For customer-owned designs, we partner with our customers to augment their design teams, and utilize our proprietary design analysis tools to minimize design revisions and to achieve improved manufacturing yields. Our JDM service involves developing hardware platforms and design solutions in collaboration with customers, managing aspects of the supply chain, and manufacturing their products. We continue to invest in leading-edge product roadmaps and design capabilities aligned with both market standards and emerging technologies in support of our JDM offering. We are currently delivering both partially customized JDM products, and complete hardware platform solutions to customers in the storage, servers, communications, and industrial markets. These products are intended to help our customers reach their markets faster, while reducing product costs and building valuable intellectual property for their product portfolios. Through our collective experience with common technologies across multiple industries and

product groups, we believe we provide quality and cost-focused solutions for a wide range of our customers' design needs. Revenue attributable to our JDM business has grown by approximately 20% since 2017.

We collaborate with some of our core customers' product designers in the early stages of product development, using advanced tools to enable new product ideas to progress from electrical and application-specific integrated circuit design, to simulation, physical layout and design review, all intended to ensure readiness for manufacturing. We use our design expertise to create innovative technologies and hardware product solutions, and leverage key ecosystem partners to drive both innovation and supply chain leverage. Our JDM offerings encompass advanced technology hardware design solutions that customers can tailor to their specific platform applications. We believe that collaboration between our customers' teams, key ecosystem partners, and our design and manufacturing groups helps to ensure that new designs are released rapidly, smoothly and cohesively into production.

Our engineering services team works with our customers throughout the product life-cycle. We believe our engineering expertise and experience in design review, product test solutions, assembly technology, automation, quality and reliability, position us to deliver the services required to address the challenges facing our customers. We maintain ties with key industry associations and engineering firms to help us stay apprised of advances in technical knowledge.

Prototyping and New Product Introduction

Prototyping is a critical early-stage process in the development of new products. Our engineers collaborate with our customers' engineers to provide quick responses in the early stages of the product development lifecycle.

Supply Chain Management and Services

We use advanced planning, analytics, enterprise resource planning, and supply chain management systems to optimize materials management from suppliers to our customers' customers. We believe that the effective management of the supply chain is critical to our customers' success, as it directly impacts the time and cost required to deliver products to market and the capital requirements associated with carrying inventory.

We strive to reduce our customers' total cost of ownership by providing lower costs and reduced cycle times in their supply chain, and by delivering higher quality products. We also strive to align our preferred suppliers in close proximity to our centers of excellence to increase the speed and flexibility of our supply chain, to deliver higher quality products and to reduce time-to-market. We believe we deliver a differentiated supply chain offering.

Through our global supply chain management processes and integrated IT tools, we endeavor to provide our customers with enhanced visibility to balance their global demand and supply requirements, including inventory and order management.

Manufacturing Services

Printed Circuit Board Assembly

Printed circuit board assembly includes the attachment of electronic components, such as capacitors, microprocessors, resistors and memory modules, to printed circuit boards. Our global network of engineers helps us to provide our customers with full printed circuit board (PCB) assembly technology capabilities. These capabilities include design for manufacturing, PCB layout, packaging, assembly (circuit card assembly or CCA), lead-free soldering, test development, and data analytics for complex flexible and rigid-flex circuits and hybrid PCBs.

Complex Mechanical Assembly

We provide systems integration and precision machined components to our capital equipment customers. Complex mechanical systems integration consists of multiple interconnected subsystems that interact with various materials, e.g., fluids, solids, particles and rigid bodies. Such systems are often used in advanced manufacturing applications such as semiconductor manufacturing, display manufacturing (including LCD, OLED, QLED and other displays), medical applications using robotics, and other applications such as cash handling machines where precise standards are required. We also provide complex mechanical assembly primarily to our aerospace customers, including wire harness assembly, systems integration, sheet metal fabrication, welding and machining.

Precision Machining

We utilize specialized computer-controlled machines to manufacture high quality components to tight tolerance requirements. Such components are often used in applications similar to those noted above for complex mechanical assembly.

Energy Services

We provide integrated solutions and services to our renewable energy customers in the areas of power generation, conversion and monitoring. Our energy portfolio includes power inverters, energy storage products, smart meters and other electronic componentry, and encompasses complete product lifecycle solutions, including design, manufacturing and reliability services.

Systems Assembly and Testing

We use sophisticated technologies in the assembly and testing of our products. We continue to make investments in the development of automated solutions, as well as new assembly and test process techniques intended to enhance product quality, reduce cost and improve delivery time to customers. We work independently and also collaborate with customers and suppliers to develop assembly and test technologies. Systems assembly and testing require sophisticated logistics capabilities to rapidly procure components, assemble products, perform complex testing and distribute products to customers around the world. Our full systems assembly services involve combining and testing a wide range of sub-assemblies and components before shipping them to their final destination. Some customers require custom build-to-order system solutions with very short lead times, and we are focused on using our advanced supply chain management capabilities to respond to our customers' needs.

Quality and Product Assurance

We provide complete product reliability testing, inspection and qualification capabilities to support our customers' full product lifecycle requirements. Our quality and product assurance teams perform product testing to ensure that designs meet or exceed required specifications. We are capable of testing to various industry standards, and we work closely with our customers to execute unique test protocols. We believe that this service allows our customers to assess certification risks early in the product development lifecycle, reducing cost and time-to-market.

Failure Analysis and After-Market Services

Our extensive failure analysis capabilities concentrate on identifying the root cause of product failures and determining corrective actions. The root causes of failures typically relate to inherent component defects and/or deficiencies in design specifications. Products are subjected to various environmental extremes, including temperature, humidity, vibration, voltage and contamination. Field conditions are simulated in failure analysis laboratories which employ electron microscopes, spectrometers and other advanced equipment. Our engineers work proactively in partnership with suppliers and customers in an effort to discover product failures before products are shipped, and to develop and implement resolutions if required.

We also seek to provide value to our customers through our after-market services offerings which include repair, fulfillment, reverse logistics, asset management, reclamation and returns processing and prevention. Our fulfillment offering includes the design and management of integrated supply chain and materials management for light manufacturing and final assembly and reclamation. Our reverse logistics offering includes the design and management of transportation networks, warehousing and distribution of products, asset recovery services, and transportation and supply chain event monitoring. Our returns processing and prevention offering provides our customers with product screening and testing and product design and process analysis. Our reclamation offering includes product disassembly, reassembly and re-use, as well as certified scrap disposition processing. We offer these services individually or integrated through a 'Control Tower' model which coordinates our people, systems and processes with those of our customers to improve service levels by providing an increased level of visibility and analytics throughout the entire after-market value chain.

Geographies

For each of 2017, 2018 and 2019, approximately 70% of our revenue was produced in Asia and approximately 20% of our revenue was produced in North America. Revenue produced in Canada represented 8% of revenue in 2019 (2018 — 9%; 2017 — 8%). Our property, plant and equipment in Canada represented 10% of our property, plant and equipment at December 31, 2019 (December 31, 2018 — 9%; December 31, 2017 — 6%). A listing of our principal locations is included in Item 4(D), "Information on the Company — Property, Plants and Equipment." Certain geographic information for countries exceeding 10% of our external revenue, property, plant and equipment (and commencing in 2019, ROU assets), and intangible assets and goodwill is set forth in note 25 to the Consolidated Financial Statements in Item 18.

Marketing and Customer Experience

We structure our business development teams by end market, with a focus on offering market insight and expertise, and complete manufacturing and supply chain solutions to our customers. We have customer-focused teams, each headed by a group general manager who oversees the global relationship with our key customers. These teams work with our Solutions Architects

to meet the requirements of each customer's product or supply chain. Our global network is comprised of customer-focused teams, operational and project managers, and supply chain management teams, as well as senior executives.

Our goal is to effectively collaborate with our customers, and towards that end, we provide comprehensive support before, during and after the delivery of our products and services. We seek to deepen and grow our customer relationships by providing consistent, high-quality implementation and customer support services, which we believe drives customer retention and additional opportunities within our existing customer base.

Customer Concentration and Relationship Management

We target industry-leading customers in each of our segments. Our current CCS segment customers include Cisco Systems, Inc., Dell Technologies, Hewlett-Packard Enterprise, Hewlett-Packard Inc., IBM Corporation, Juniper Networks, Inc., NEC Corporation, Oracle Corporation, and Polycom, Inc. However, see Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Recent Developments — *Segment Environment: CCS Segment*" for a discussion of the Cisco Disengagement, as well as other disengagements stemming from our CCS Review, and the anticipated impact of these disengagements on our business. Our current ATS segment customers include Applied Materials, Inc. and Honeywell Inc. We are focused on strengthening our relationships with strategic customers through the delivery of new and expanding end-to-end solutions.

The following table sets forth the customers that individually represented 10% or more of total revenue for the years indicated:

	Segment	Year ended December 31		
		2017	2018	2019
Cisco Systems, Inc.....	CCS	18%	14%	12%
Dell Technologies.....	CCS	*	10%	*
Juniper Networks, Inc.....	CCS	13%	*	*
Total.....		31%	24%	12%

* Less than 10%.

Our top 10 customers represented 65%, 70% and 71% of total revenue for 2019, 2018 and 2017, respectively.

We generally enter into master supply agreements with our customers that provide the framework for our overall relationship, although the level of business under those agreements is not guaranteed. Instead, we bid on a program-by-program basis and typically receive customer purchase orders for specific quantities and timing of products. A majority of these agreements also require the customer to purchase unused inventory that we have purchased to fulfill that customer's forecasted manufacturing demand. Some of these agreements require us to provide specific price reductions to our customers over the term of the contracts. We expect such price reductions to become more prevalent as customers increasingly seek longer-term contracts to lock in their supply, terms and pricing. In addition, we have extended payment terms for certain customers, and/or provided longer payment terms for new customers and/or with respect to new programs. These factors have, and may continue to, adversely impact our operating results in future periods. Also see Item 3(D), Key Information — Risk Factors — ***"Inherent challenges in managing unanticipated changes in customer demand may impact our planning, supply chain execution and manufacturing, and may adversely affect our operating performance and results."***

Research and Technology Development

We use advanced technology to design, assemble and test the products we manufacture. We continue to invest in our global design services and capabilities to conceive differentiated JDM product solutions for our customers.

We believe that our customer-focused factories are flexible and can be reconfigured as needed to meet customer-specific product requirements and fluctuations in volumes (although we do incur increased production costs from time to time in connection with unexpected demand changes). We have extensive capabilities across a broad range of specialized assembly, configuration and test processes. We work with a variety of substrates based on the products we build for our customers, from thin, flexible printed circuit boards to highly complex, dense multi-layer printed circuit boards, as well as a broad array of advanced component and attachment technologies employed in our customers' products and our own product designs. We believe that increasing demand for full-system assembly solutions continues to drive technical advancement in complex mechanical assembly and configuration. We also develop and manufacture sub-components, such as optical modules and complex machined parts, intended to drive targeted technical advancements to support these opportunities.

Our automated electronics assembly lines are continuously refreshed with the latest generation technology, with a focus on flexible lines with quick changeover, large board capability, and small component capability. Our assembly capabilities are complemented by advanced test capabilities. The technologies we use include high-speed functional testing, optical, burn-in, vibration, radio frequency, and in-circuit and in-situ dynamic thermal cycling stress testing. Our inspection technology includes X-ray computed tomography, advanced automated optical inspection, three-dimensional paste volumetric inspection and scanning electron microscopy. We work directly with leaders in the equipment industry to optimize their products and solutions or to jointly design solutions to meet the needs of our customers. We apply automation solutions for higher volume products, where possible, to help improve product quality, lower product costs, and increase manufacturing efficiencies.

Our ongoing research and development activities include the development of processes and test technologies, as well as focused product development and technology building blocks that can be used by customers in the development of their products, or to accelerate their products' time-to-market. Our JDM offering is focused on developing these design solutions and subsequently managing the other aspects of the supply chain, including product manufacturing. We focus our solutions on developing current and next generation storage, server and communications products (in particular, elements of data centers, which include the development of complete hardware platform solutions to reduce product costs and accelerate time to market, and which we believe will continue to grow). We work directly with our customers to understand their product roadmaps and to develop technology solutions intended to meet their particular needs. We are proactive in developing manufacturing techniques that take advantage of the latest component, product and packaging designs. We have worked with, and have taken leadership roles in, industry and academic groups that strive to advance the state of technology in the industry. As we continue to pursue deeper relationships with our customers, and participate in additional services and revenue opportunities with them, we anticipate an increase in our spending in these development areas.

Supply Chain Management

We share data electronically with our key suppliers, and help ensure speed of supply through strong relationships with our component suppliers and logistics partners. We view the size and scale of our procurement activities, including our IT systems, as an important competitive advantage, as they enhance our ability to obtain better pricing, influence component packaging and designs, and obtain a supply of components in constrained markets. We procure substantially all of our materials and components on behalf of our customers pursuant to individual purchase orders that are generally short-term in nature.

Components and raw materials are sourced globally, with a majority of electronic components originating from Asian countries. See Item 3(D), Key Information — Risk Factors for a discussion of various risks related to our foreign operations. All of the products we manufacture or assemble require one or more components. In many cases, there may be only one supplier of a particular component. Some of these components could be rationed in response to supply shortages. We work with our suppliers and customers to attempt to ensure continuity in the supply of these components. In cases where unanticipated customer demand or supply shortages occur, we attempt to arrange for alternative sources of supply, where available, or defer planned production in response to the availability of the critical components. Notwithstanding these efforts, however, we have experienced materials constraints from certain suppliers in both our segments in recent periods, due in part to industry-wide shortages for certain electronic components. These shortages caused delays in the production of customer products, and required us to carry higher than expected levels of inventory, commencing in 2017. Although the availability of previously constrained materials has improved generally, our A&D business continued to be negatively impacted by materials shortages throughout 2019, particularly with respect to the availability of certain high reliability parts and machined components, resulting in operational and materials inefficiencies and a continued backlog of orders. See Item 3(D), Key Information — Risk Factors, ***"We are dependent on third parties to supply certain materials, and our results can be negatively affected by the availability and cost of such materials."*** Generally, the prices of principal raw materials are not volatile, and price increases resulting from materials shortages and/or other factors are typically recoverable from our customers.

We utilize our enterprise systems, as well as specific supply chain IT tools, to provide comprehensive information on our logistics, financial and engineering support functions. These systems provide management with the data and analytics required to manage the logistical complexities of our business and are augmented by and integrated with other applications, such as shop floor controls, component and product database management, and design tools.

To minimize the risk associated with inventory, we primarily order materials and components only to the extent necessary to satisfy existing customer orders and forecasts covered by the applicable customer contract terms and conditions. We have implemented specific inventory management strategies with certain suppliers, such as "supplier managed inventory" (pulling inventory at the production line on an as-needed basis) and on-site stocking programs. Our initiatives in Lean and Six Sigma also focus on eliminating excess inventory throughout the supply chain. Notwithstanding the foregoing, however, as a result of demand

volatility from our customers and the materials constraints from certain suppliers discussed above, we carried higher than expected levels of certain inventory at December 31, 2019. We expect these adverse market conditions to continue in the near term.

Intellectual Property

We hold licenses to various technologies which we have acquired in connection with acquisitions. In addition, we believe that we have secured access to technology sufficient for the current conduct of our business.

We regard our manufacturing processes and certain designs as proprietary trade secrets and confidential information. We rely largely upon a combination of trade secret laws, non-disclosure agreements with our customers, suppliers, employees and other parties, and upon our internal security systems, confidentiality procedures and employee confidentiality agreements to maintain the trade secrecy of our designs and manufacturing processes. Although we take steps to protect our trade secrets and other intellectual property, we cannot assure that misappropriation will not occur. See Item 3(D), Key Information — Risk Factors, **"We may not adequately protect our intellectual property or the intellectual property of others."**

Our research and design activities (including JDM), along with related developments, have resulted in the growth of our patent portfolio and its importance to us. We anticipate that such growth (and importance) will continue as we expand our business activities. In addition, we currently have a limited number of other patents and patent applications pending to protect our intellectual property. Other factors significant to our proprietary rights include the knowledge and experience of management and personnel, and our ability to develop, enhance and market electronics manufacturing services.

Each of our customers typically provides us with a license to its technology for use in providing electronics manufacturing services to such customer. Generally, the agreements governing such technology grant to us non-exclusive, worldwide licenses with respect to the subject technologies, are typically provided without charge, and terminate upon a material breach by us of the terms of such agreements, or termination of the program to which such licenses relate.

We also license some technology from third parties that we use in providing electronics manufacturing services to our customers. We believe that such licenses are generally available on commercial terms from a number of licensors. Generally, the agreements governing such technology grant to us non-exclusive, worldwide licenses with respect to the subject technologies and terminate upon expiration, or a material breach by us of the terms, of such agreements.

Competition

The EMS industry is highly competitive with multiple global EMS providers competing for customers and programs. Our competitors include Benchmark Electronics, Inc., Flex Ltd., Hon Hai Precision Industry Co., Ltd., Jabil Inc., Plexus Corp., and Sanmina Corporation, as well as smaller EMS companies that often have a regional, product, service or industry-specific focus, and ODMs that provide internally designed products and manufacturing services. As part of our JDM offering, we also provide complete hardware platform solutions, which may compete with those of our customers. Offering products or services to customers that compete with the offerings of other customers may negatively impact our relationship with, or result in a loss of business from, such other customers.

We also face indirect competition from current and prospective customers who evaluate our capabilities and commercial models against the merits of manufacturing products internally, and from distribution and logistics providers expanding their services across the supply chain, including assembly, fulfillment, logistics and in some cases, engineering services. We compete with different companies depending on the type of service or geographic area. Some of our competitors have greater scale and provide a broader range of services than we provide. We believe our competitive advantage is our track record in manufacturing technology, quality, complexity, responsiveness and cost-effective, value-added services. To remain competitive, we believe we must continue to provide technologically advanced manufacturing services and solutions, maintain quality levels, offer flexible delivery schedules, deliver finished products and services on time and compete favorably on price.

The competitive landscape in the CCS area remains aggressive, as demand growth continues to move from traditional enterprise network infrastructure providers to cloud-based and other service providers, resulting in aggressive bidding from EMS providers and increased competition from ODMs as they further penetrate these markets. As a result of the high concentration of our business in the CCS marketplace, we expect continued competitive pressures, aggressive pricing and technology-driven demand shifts, to negatively impact our CCS businesses in future periods. We intend to continue to monitor these dynamics and focus on cost and portfolio management in response to these factors. To enhance our competitiveness, we continue to focus on expanding our service offerings and capabilities beyond our traditional areas of EMS expertise.

See Item 3(D), Key Information — Risk Factors — **"We operate in an industry comprised of numerous competitors and aggressive pricing dynamics"** and Item 5, "Operating and Financial Review and Prospects — Management's Discussion and

Analysis of Financial Condition and Results of Operations — Overview — *Overview of business environment and Recent Developments.*"

Environmental Matters

We are subject to various federal/national, state/provincial, local, foreign and supra-national laws and regulations, including environmental measures relating to the release, use, storage, treatment, transportation, discharge, disposal and remediation of contaminants, hazardous substances and waste, and health and safety measures related to practices and procedures applicable to the construction and operation of our sites. We have management systems in place designed to maintain compliance with such laws and regulations.

Our past operations and the historical operation by others of our sites may have resulted in soil and groundwater contamination on our sites, and in many jurisdictions in which we operate, environmental laws impose liability for the costs of removal, remediation or risk assessment of hazardous or toxic substances on an owner, occupier or operator of real property even if such person or company was unaware of or not responsible for the discharge or migration of such substances. From time-to-time we investigate, remediate and monitor soil and groundwater contamination at certain operating sites. We generally obtain Phase I or similar environmental assessments (which involve general inspections without soil sampling or groundwater analysis), or review assessment reports undertaken by others, for our manufacturing sites at the time of acquisition or leasing. However, such assessments may not reveal all environmental liabilities (due, for example, to limited available information about prior operations at the properties or other gaps in information at the time we acquire or lease such sites), and assessments have not been obtained for all sites. Where contamination is suspected at sites being acquired or leased, Phase II intrusive environmental assessments (that can include soil and/or groundwater testing) are usually performed. We expect to conduct Phase I or similar environmental assessments in respect of future property acquisitions or leases and intend to perform Phase II assessments where appropriate. Past environmental assessments have not revealed any environmental liability that we believe will have a material adverse effect on our operating results or financial condition, in part because of contractual retention of liability by landlords and former owners at certain sites. However, any such contractual retention of liability may not provide sufficient protection to reduce or eliminate our liability. Third-party claims for damages or personal injury are also possible and could result in significant costs to us. If more stringent compliance or cleanup standards under environmental laws or regulations are imposed, or the results of future testing and analyses at our current or former sites indicate that we are responsible for the release of hazardous substances into the air, ground and/or water, we may be subject to additional liability. Environmental matters may arise in the future at sites where no problem is currently known or at sites that we may acquire in the future. See Item 3(D), Key Information — Risk Factors — ***"Compliance with governmental laws and obligations could be costly and may negatively impact our financial performance."***

Environmental legislation also occurs at the product level. Celestica works with its customers in connection with compliance with applicable product-level environmental legislation in the jurisdictions where products are manufactured and/or offered for use and sale by our customers.

Backlog

Our A&D business continued to be negatively impacted by materials shortages throughout 2019, particularly with respect to the availability of certain high reliability parts and machined components, resulting in operational and materials inefficiencies and a continued backlog of orders. We currently expect gradual improvement in this backlog over the next several quarters.

Although we obtain purchase orders from our customers, they typically do not commit to delivery of products more than 30 to 90 days in advance. We do not believe that the backlog of expected product sales covered by purchase orders is a meaningful measure of future sales, since generally orders may be rescheduled or canceled.

Seasonality

Seasonality is reflected in the mix of products we manufacture from quarter-to-quarter. From time to time, we experience some level of seasonality in our quarterly revenue patterns across certain of our businesses. The addition of new customers may also introduce different demand cycles than our existing businesses. For example, cloud-based service providers have increased their use of products in our CCS segment in recent periods. These customers and markets are cyclically different from our traditional OEM customers, creating more volatility and unpredictability in our revenue patterns as we adjust to this shift, and additional challenges with respect to the management of our working capital requirements. The pace of technological change, the frequency of customers transferring business among EMS competitors and the constantly changing dynamics of the global economy will also continue to impact us. As a result of these factors, the impact of new program wins or program losses or non-renewals, overall demand variability, and limited visibility in technology end markets, it is difficult to isolate the impact of seasonality on our business. In recent periods, revenue from the storage component of our Enterprise end market has increased in the fourth quarter

of the year compared to the third quarter, and then decreased in the first quarter of the following year, reflecting the increase in customer demand we typically experience in this business in the fourth quarter of each year. In addition, we typically experience our lowest overall revenue levels during the first quarter of each year. There is no assurance that these patterns will continue. See also Item 3(D), Key Information — Risk Factors — ***"Our revenue and operating results may vary significantly from period to period."***

Controlling Shareholder Interest

Onex is our controlling shareholder with an approximate 81% voting interest in Celestica. Accordingly, Onex has the ability to exercise a significant influence over our business and affairs and generally has the power to determine all matters submitted to a vote of our shareholders where the SVS and MVS vote together as a single class. Such matters include electing our Board and thereby influencing significant corporate transactions, including mergers, acquisitions, divestitures and financing arrangements. Gerald W. Schwartz, the Chairman of the Board, President and Chief Executive Officer of Onex, indirectly owns shares representing the majority of the voting rights of the shares of Onex. For further details, refer to Item 3(D), Key Information — Risk Factors — ***"The interest of our controlling shareholder, Onex Corporation, with an approximate 81% voting interest, may conflict with the interests of other shareholders"*** and footnotes 2 and 3 of Item 7(A) "Major Shareholders and Related Party Transactions — Major Shareholders."

Government Regulation

Information regarding material effects of government regulations on Celestica's business is provided in the risk factors entitled ***"We are subject to the risk of increasing income and other taxes, tax audits and the challenges of successfully defending our tax positions, and obtaining, renewing or meeting the conditions of tax incentives and credits, any of which may adversely affect our financial performance," "Compliance with governmental laws and obligations could be costly and may negatively impact our financial performance," "Compliance or the failure to comply with employment laws and regulations may negatively impact our financial performance," and "Policies or legislation proposed or instituted by the current U.S. administration could have a material adverse effect on our business, results of operations and financial condition"*** in Item 3(D), Key Information — Risk Factors.

Sustainability and Ethical Labor Practices

We are committed to driving sustainability initiatives through collaboration with our employees, customers, suppliers and local communities. Our Sustainability Report, which is published annually, outlines our sustainability strategy, the progress we have made as a socially responsible organization, and the key activities and milestones we are working to achieve for each of our focus areas, including employee sustainability, environmental sustainability, material stewardship, sustainable solutions and sustainable communities. Our most recent Sustainability Report, as well as our Corporate Values, can be found on our website: www.celestica.com (information on our website is not incorporated by reference into this Annual Report).

We strive to minimize the impact of our operations on the environment by working to make our infrastructure sustainable and by reducing our greenhouse gas (GHG) emissions. Since 2009, we have published annual reports documenting our corporate social responsibility programs and environmental sustainability initiatives. We are committed to reporting our GHG emissions annually, and have included third-party assurance of our GHG emissions in our annual report since 2013. Since 2010, we have responded to the CDP (formerly the Carbon Disclosure Project) climate change questionnaire, which enables engagement on environmental issues worldwide. We have adopted the United Nations Sustainable Development Goals as part of our sustainability strategy, as well as a Conflict Minerals Policy in accordance with Dodd-Frank. We fully support the objectives of the conflict minerals legislation, which aims to minimize violence and environmental damage in the Democratic Republic of Congo and adjoining countries, and expect our suppliers to provide all necessary declarations.

We maintain a Business Conduct Governance (BCG) Policy, which outlines the ethics and practices we consider necessary for a positive working environment, as well as the high legal and ethical standards to which our employees are held accountable. 100% of our employees have completed BCG Policy training, and we conduct annual re-certifications. Our BCG Policy is available on our website: www.celestica.com (information on our website is not incorporated by reference into this Annual Report).

In addition, we have well-established policies regarding fair labor practices and guidelines intended to create a respectful, safe and healthy work environment for our employees globally.

We are a founding (and remain a) member of the RBA, a non-profit coalition of electronics companies that, among other things, establishes standards for its members in responsible and ethical practices in the areas of labor, environmental compliance, employee health and safety, ethics and social responsibility. The RBA Code of Conduct outlines industry standards intended to

ensure that working conditions in the supply chain are safe, workers are treated with respect and dignity, and manufacturing processes are environmentally responsible. We continually work to implement, manage and audit our compliance with the RBA Code of Conduct.

We are committed to the development and fair treatment of our global workforce, including promotion of a diverse workforce, an inclusive work environment, equal employment opportunity hiring practices and policies, and anti-harassment, workforce safety and anti-reprisal policies.

Financial Information Regarding Geographic Areas

Details of our financial information regarding geographic areas are disclosed in note 25 to the Consolidated Financial Statements in Item 18, in Item 4(B) "Information on the Company — Business Overview — Geographies," and in Item 4(D) "Information on the Company — Property, Plants and Equipment." Risks associated with our foreign operations are disclosed in Item 3(D), Key Information — Risk Factors, including "*Our ability to successfully manage unexpected changes or risks inherent in our global operations and supply chain may adversely impact our financial performance.*"

C. Organizational Structure

Onex, an Ontario corporation, is the Corporation's controlling shareholder with an approximate 81% voting interest in Celestica (via its direct and indirect beneficial ownership of approximately 18.6 million (100%) of the Corporation's MVS, and approximately 0.4 million of the Corporation's SVS). Gerald W. Schwartz is the Chairman of the Board, President, and Chief Executive Officer of Onex, and indirectly owns multiple voting shares of Onex representing the majority of the voting rights of the shares of Onex (also see footnotes 2 and 3 to the Major Shareholders Table in Item 7(A) below).

Celestica conducts its business through subsidiaries operating on a worldwide basis. The following companies are considered significant subsidiaries of Celestica, and each of them is wholly-owned, directly or indirectly, by Celestica:

- Celestica Cayman Holdings 1 Limited, a Cayman Islands corporation;
- Celestica Cayman Holdings 9 Limited, a Cayman Islands corporation;
- Celestica (Dongguan-SSL) Technology Limited, a China corporation;
- Celestica Holdings Pte Limited, a Singapore corporation;
- Celestica Hong Kong Limited, a Hong Kong corporation;
- Celestica LLC, a Delaware, U.S. limited liability company;
- Celestica (Thailand) Limited, a Thailand corporation;
- Celestica (USA) Inc., a Delaware, U.S. corporation;
- Celestica Precision Machining Ltd., a California, U.S. corporation;
- Celestica International Limited Partnership, an Ontario, Canada partnership; and
- 2480333 Ontario Inc., an Ontario, Canada corporation.

D. Property, Plants and Equipment

The following table summarizes our principal owned and leased properties as of February 19, 2020. These sites are used to provide manufacturing services and solutions, such as the manufacture of printed circuit boards, assembly and configuration of final systems, complex mechanical assembly, precision machining as well as other related services and customer support activities, including design and development, warehousing, distribution, fulfillment and after-market services, with a total of approximately 6.7 million square feet of productive capacity.

Major locations	Square Footage ⁽¹⁾ (in thousands)	Segment	Owned/Leased ⁽²⁾	Lease Expiration Dates
Canada ⁽³⁾⁽⁵⁾	341	ATS/CCS	Leased	between 2020 and 2028
Arizona	111	ATS	Leased	2027
California ⁽³⁾	206	ATS/CCS	Leased	between 2020 and 2023
Oregon	240	ATS	Leased	between 2021 and 2026
Massachusetts	55	ATS	Owned	N/A
Minnesota ⁽³⁾	230	ATS	Leased	between 2021 and 2024
Mexico ⁽³⁾	463	ATS/CCS	Leased	between 2020 and 2023
Ireland ⁽³⁾	82	ATS/CCS	Leased	between 2020 and 2024
Spain	109	ATS	Owned	N/A
Romania	260	ATS/CCS	Owned	N/A
China ⁽³⁾⁽⁴⁾	1,147	ATS/CCS	Owned/Leased	between 2020 and 2056
Malaysia ⁽³⁾⁽⁴⁾	1,350	ATS/CCS	Owned/Leased	between 2020 and 2060
Thailand ⁽³⁾⁽⁴⁾	982	ATS/CCS	Owned/Leased	between 2020 and 2048
Singapore ⁽³⁾	202	ATS/CCS	Leased	between 2020 and 2022
South Korea ⁽³⁾	233	ATS	Owned/Leased	2021
Japan ⁽³⁾	594	ATS/CCS	Owned/Leased	between 2020 and 2022
Laos	121	CCS	Leased	between 2021 and 2023

(1) Represents estimated square footage being used.

(2) No owned or leased real properties are pledged as security under the New Credit Facility.

(3) Represents multiple locations.

(4) With respect to these locations, the land is leased, and the buildings are either owned or leased by us.

(5) On March 7, 2019, we completed the sale of our real property located in Toronto, Ontario, which included the site of our corporate headquarters and our Toronto manufacturing operations. In anticipation of the sale, we entered into a long-term lease in November 2017 in the Greater Toronto area for the relocation of our Toronto manufacturing operations, which was completed in February 2019. As part of the sale, we also entered into a 10-year lease in March 2019 for our new corporate headquarters (with tenancy currently targeted to be May 2022). In connection therewith, we completed the temporary relocation of our corporate headquarters in the second quarter of 2019 (pursuant to a 3-year lease executed in September 2018) while space in a new office building (to be built by the purchaser of the property on the site of our former location) is under construction. In connection with such relocations, we capitalized building improvements and equipment costs related to our new manufacturing site (\$17 million since commencement in the fourth quarter of 2017 through completion) and our temporary corporate headquarters (\$5.0 million, all in 2019). We also incurred transition costs of \$18.6 million since commencement in the fourth quarter of 2017 through February 19, 2020. Our temporary headquarters relocation is complete, and we do not expect to incur further transition costs in connection therewith until the move into our new corporate headquarters commences (such costs cannot be estimated at this time). All of such costs have been, and the remainder are expected to be, funded from cash on hand. See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity — Toronto Real Property and Related Transactions."

We consider each of the properties in the table above to be adequate for its purpose and suitably utilized according to the individual nature and requirements of the relevant operations. We currently expect to be able to extend the terms of expiring leases or to find replacement sites on commercially acceptable terms. Also see "Environmental Matters" in Item 4(B) above.

Our principal executive office is located at 5140 Yonge Street, Suite 1900, Toronto, Ontario, Canada M2N 6L7.

Our material tangible fixed assets are described in note 7 to the Consolidated Financial Statements in Item 18.

Item 4A. Unresolved Staff Comments

None.

Item 5. Operating and Financial Review and Prospects

CELESTICA INC. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 2019

The following Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) should be read in conjunction with our 2019 audited consolidated financial statements (2019 AFS), which we prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). Unless otherwise noted, all dollar amounts are expressed in U.S. dollars. The information in this discussion is provided as of February 19, 2020 unless we indicate otherwise.

Certain statements contained in this MD&A constitute forward-looking statements within the meaning of Section 27A of the U.S. Securities Act of 1933, as amended, and Section 21E of the U.S. Securities Exchange Act of 1934, as amended (U.S. Exchange Act), and contain forward-looking information within the meaning of Canadian securities laws. Such forward-looking information includes, without limitation, statements related to: our priorities, intended areas of focus, targets, objectives and goals; trends in the electronics manufacturing services (EMS) industry and our segments (including the components thereof), and their anticipated impact on our business; the anticipated impact of specified adverse market conditions in each of our segments (and/or component businesses) and near term expectations; anticipated improvements in backlog; the anticipated range and timing of restructuring charges associated primarily with the phased non-renewal of our programs with Cisco Systems, Inc. (Cisco Disengagement); the anticipated impact, range and timing of actions associated with our Connectivity & Cloud Solutions segment portfolio review (CCS Review), including the Cisco Disengagement; our anticipated financial or operating results; growth and diversification strategies and plans (and potential hindrances thereto); materials constraints; the anticipated impact of completed acquisitions and program wins, transfers, losses or disengagements on our business; anticipated expenses, restructuring actions and charges, capital expenditures and other anticipated working capital requirements, including the anticipated amounts, timing, impact and funding thereof; the anticipated repatriation of undistributed earnings from foreign subsidiaries; the potential impact of tax and litigation outcomes; our anticipated ability to use certain net operating losses; intended investments in our business and associated risks; the potential impact of the pace of technological changes, customer outsourcing, program transfers, and the global economic environment on our business; raw materials prices; the timing of the commencement of, and amount of payments under, a lease for our new corporate headquarters; our expectations with respect to days in cash deposits; the impact of outstanding indebtedness under our credit facility on our business; the sufficiency of our capital resources; our intention (when in our discretion) to settle outstanding equity awards with subordinate voting shares (SVS); the anticipated impact of recent U.S. tax reform on our business; the potential impact of price reductions, longer payment terms and longer-term contracts on our business; our compliance with covenants under our credit facility; the potential use and effect of cash, securities issuances and further increases in third-party indebtedness to fund our operations or acquisitions; the potential adverse impacts of events outside of our control, including, among others, Britain's departure from the European Union (Brexit), policies or legislation proposed or instituted by the current administration in the U.S., the potential impact of significant tariffs on items imported into the U.S. and related countermeasures, and/or coronavirus disease 2019 (COVID-19) or other widespread illness or disease (External Events); potential true-up premiums under our U.K. main pension plan; the amount, method of funding, and impact of mandatory 2020 prepayments under our credit facility based on 2019 excess cash flow; pension plan funding requirements; and the anticipated impact of the expiration of certain income tax incentives in Thailand. Such forward-looking statements may, without limitation, be preceded by, followed by, or include words such as "believes," "expects," "anticipates," "estimates," "intends," "plans," "continues," "project," "potential," "possible," "contemplate," "seek," or similar expressions, or may employ such future or conditional verbs as "may," "might," "will," "could," "should" or "would," or may otherwise be indicated as forward-looking statements by grammatical construction, phrasing or context. For those statements, we claim the protection of the safe harbor for forward-looking statements contained in the U.S. Private Securities Litigation Reform Act of 1995 and applicable Canadian securities laws.

Forward-looking statements are provided to assist readers in understanding management's current expectations and plans relating to the future. Readers are cautioned that such information may not be appropriate for other purposes. Forward-looking statements are not guarantees of future performance and are subject to risks that could cause actual results to differ materially from those expressed or implied in such forward-looking statements, including, among others, risks related to: customer and segment concentration; challenges of replacing revenue from completed, lost or non-renewed programs or customer disengagements, including the Cisco Disengagement and other CCS Review disengagements; our customers' ability to compete and succeed with our products and services; the cyclical nature of our capital equipment business, in particular our semiconductor and display businesses; competitive factors and adverse market conditions affecting the EMS industry in general and our segments

in particular (including the risk that anticipated market improvements do not materialize); changes in our mix of customers and/or the types of products or services we provide, including the impact on gross profit of higher concentrations of lower margin programs; delays in the delivery and availability of components, services and materials; unanticipated changes in customer demand; the inability to maintain adequate utilization of our workforce; the expansion or consolidation of our operations; defects or deficiencies in our products, services or designs; integrating acquisitions and "operate-in-place" arrangements, and achieving the anticipated benefits therefrom; negative impacts on our business resulting from recent increases in third-party indebtedness; rapidly evolving and changing technologies, and changes in our customers' business and outsourcing strategies; customer, competitor and/or supplier consolidation; compliance with social responsibility initiatives; challenges associated with new customers or programs, or the provision of new services; the impact of restructuring actions, including a failure to achieve anticipated benefits from actions associated with the CCS Review, including the Cisco Disengagement and/or our productivity initiatives; the incurrence of future restructuring charges, impairment charges or other write-downs of assets; managing our operations, growth initiatives, and our working capital performance during uncertain market, political and economic conditions; disruptions to our operations, or those of our customers, component suppliers and/or logistics partners, including as a result of External Events (in particular, the impact of COVID-19); changes to our operating model; changing commodity, materials and component costs as well as labor costs and conditions; retaining or expanding our business due to execution or quality issues (including our ability to successfully resolve these challenges); non-performance by counterparties; maintaining sufficient financial resources and working capital to fund currently anticipated financial obligations and to pursue desirable business opportunities; negative impacts on our business resulting from any significant uses of cash, securities issuances, and/or additional increases in third-party indebtedness for additional acquisitions or to otherwise fund our operations; our financial exposure to foreign currency volatility; our global operations and supply chain; competitive bid selection processes; customer relationships with emerging companies; recruiting or retaining skilled talent; our dependence on industries affected by rapid technological change; our ability to protect intellectual property; increasing taxes, tax audits, and challenges of defending our tax positions; obtaining, renewing or meeting the conditions of tax incentives and credits; computer viruses, malware, hacking attempts or outages that may disrupt our operations; the inability to prevent or detect all errors or fraud; the variability of revenue and operating results; compliance with applicable laws, regulations, and government grants; the management of our IT systems and our ability to protect confidential information; our pension and other benefit plan obligations; changes in accounting judgments, estimates and assumptions; our ability to maintain compliance with the restrictive and financial covenants under our credit facility; interest rate fluctuations and changes to LIBOR; deterioration in financial markets or the macro-economic environment; our credit rating; and current or future litigation, governmental actions, and/or changes in legislation or accounting standards. The foregoing and other material risks and uncertainties are discussed in our public filings at www.sedar.com and www.sec.gov, including in this MD&A, our most recent Annual Report on Form 20-F filed with, and subsequent reports on Form 6-K furnished to, the U.S. Securities and Exchange Commission (SEC), and as applicable, the Canadian Securities Administrators.

Our forward-looking statements are based on various assumptions, many of which involve factors that are beyond our control. Our material assumptions include those related to the following: fluctuation of production schedules from our customers in terms of volume and mix of products or services; the timing and execution of, and investments associated with, ramping new business; the successful pursuit, completion and integration of acquisitions; the success of our customers' products; our ability to retain programs and customers; the stability of general economic and market conditions, currency exchange rates, and interest rates; supplier performance, pricing and terms; compliance by third parties with their contractual obligations and the accuracy of their representations and warranties; the costs and availability of components, materials, services, equipment, labor, energy and transportation; that our customers will retain liability for recently-imposed tariffs and countermeasures; global tax legislation changes; our ability to keep pace with rapidly changing technological developments; the timing, execution, and effect of restructuring actions; the successful resolution of quality issues that arise from time to time; our having sufficient financial resources and working capital to fund currently anticipated financial obligations and to pursue desirable business opportunities; our ability to successfully diversify our customer base and develop new capabilities; that we achieve the expected benefits from our recent acquisitions and actions associated with our CCS Review (including the Cisco Disengagement); the impact of actions associated with the CCS Review (including the Cisco Disengagement) on our business; the magnitude of anticipated profits in our capital equipment business in the first quarter of 2020; the timing and nature of anticipated improvements in the capital equipment market in 2020; and the impact of anticipated adverse market conditions in 2020 on our A&D business. Although management believes its assumptions to be reasonable under the current circumstances, they may prove to be inaccurate, which could cause actual results to differ materially (and adversely) from those that would have been achieved had such assumptions been accurate. Forward-looking statements speak only as of the date on which they are made, and we disclaim any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

All forward-looking statements attributable to us are expressly qualified by these cautionary statements.

Overview

Celestica's business:

We deliver innovative supply chain solutions globally to customers in two operating and reportable segments: Advanced Technology Solutions (ATS) and Connectivity & Cloud Solutions (CCS). Our ATS segment consists of our ATS end market, and is comprised of our aerospace and defense (A&D), industrial, energy, healthtech, and capital equipment businesses. Our capital equipment business is comprised of our semiconductor, display, and power & signal distribution equipment businesses. Our CCS segment consists of our Communications and Enterprise end markets. Our Enterprise end market is comprised of our servers and storage businesses. Additional information regarding our reportable segments is included in note 25 to the 2019 AFS. Our customers include original equipment manufacturers (OEMs), cloud-based and other service providers, and other companies in a wide range of industries.

Our global headquarters is located in Toronto, Ontario, Canada. We operate a network of sites and centers of excellence strategically located in North America, Europe and Asia, with specialized end-to-end supply chain capabilities tailored to meet specific market and customer product lifecycle requirements.

We offer a comprehensive range of product manufacturing and related supply chain services to customers in both of our segments, including design and development, new product introduction, engineering services, component sourcing, electronics manufacturing and assembly, testing, complex mechanical assembly, systems integration, precision machining, order fulfillment, logistics, asset management, product licensing, and after-market repair and return services. Within design and development, our Joint Design and Manufacturing (JDM) offering includes developing hardware platforms and design solutions in collaboration with customers, and managing aspects of the supply chain and manufacturing.

Products and services in our ATS segment are extensive and are often more regulated than in our CCS segment, and can include the following: government-certified and highly-specialized manufacturing, electronic and enclosure-related services for A&D-related customers; high-precision semiconductor and display equipment and integrated subsystems; a wide range of industrial automation, controls, test and measurement devices; advanced solutions for surgical instruments, diagnostic imaging and patient monitoring; and efficiency products to help manage and monitor the energy and power industries. Our ATS segment businesses typically have a higher margin profile, higher working capital requirements, and longer product life cycles than the businesses in our CCS segment.

Products and services in our CCS segment consist predominantly of enterprise-level data communications and information processing infrastructure products, and can include routers, switches, servers and storage-related products used by a wide range of businesses and cloud-based and other service providers to manage digital connectivity, commerce and social media applications. Our CCS segment businesses typically have a lower margin profile, lower working capital requirements, and higher volumes than the businesses in our ATS segment.

Overview of business environment:

The EMS industry is highly competitive. Demand can be volatile from period to period, and aggressive pricing is a common business dynamic, particularly in our CCS segment. Customers may shift production between EMS providers for a number of reasons, including changes in demand for their products, pricing concessions, more favorable terms and conditions, execution or quality issues, their preference or need to consolidate their supply chain capacity or change their supply chain partners, tax benefits, new trade policies or legislation, or consolidation among customers. Customers may also change the amount of business they outsource, or the concentration or location of their EMS suppliers. As a result, customer and segment revenue and mix, as well as overall profitability, are difficult to forecast.

Managing our operations is complex, and our financial results often fluctuate, in each case as a result of product lifecycles in the markets we serve, production lead times required by our customers, rapid shifts in technology, model obsolescence, commoditization of certain products, the emergence of new business models, shifting patterns of demand (such as the shift from traditional network infrastructures to highly virtualized and cloud-based environments, and declines in end-market demand for customer-specific proprietary systems in favor of open systems with standardized technologies), the prevalence of solid state or flash memory technology as a replacement for hard disk drives, the proliferation of software-defined technologies enabling the disaggregation of software and hardware, product oversupply, and the build-up by customers of inventory buffers. For example,

declines in end-market demand for customer-specific proprietary systems in favor of open systems with standardized technologies has adversely impacted some of our CCS segment customers in recent periods, and consequently, our CCS business.

Capacity utilization, customer mix and the types of products and services we provide are important factors affecting our financial performance. The number of sites, the location of qualified personnel, the manufacturing capacity, and the mix of business through that capacity are vital considerations for EMS providers in terms of supporting their customers and generating appropriate returns. Because the EMS industry is working capital intensive, we believe that non-IFRS adjusted return on invested capital (ROIC), which is primarily based on non-IFRS operating earnings (each discussed in "Non-IFRS measures" below) and investments in working capital and equipment, is an important metric for measuring an EMS provider's financial performance.

See "External Factors that May Impact our Business" below for a discussion of other factors that could adversely impact our business.

Recent Developments

COVID-19:

There have been numerous factory and port closures in response to the recent COVID-19 outbreak, and we are in regular contact with our customers, suppliers and logistics providers. To date, we have seen some related materials constraints and reductions in order volumes, shipments and cash collections. Significant uncertainty remains with respect to the potential future impact of the COVID-19 outbreak on our business, and the size of the impact will depend on future developments which cannot currently be predicted, including the speed at which our suppliers and logistics providers can return to full production, the status of labor shortages and the impact of supplier prioritization of backlog. We are actively assessing, and responding where possible, to the potential effects of the COVID-19 outbreak on our employees, customers, suppliers, and logistics providers, and evaluating governmental actions being taken to curtail its spread. However, while we expect that our financial results for the first quarter of 2020 will be negatively impacted by this disruption, we cannot currently estimate the overall severity or duration of any resulting adverse impact on our business, financial condition and/or results of operations, which may be material. A material adverse effect on our employees, customers, suppliers and/or logistics providers could have a material adverse effect on us. In addition, supply chain or logistics disruptions could materially impact our operations outside China since we purchase a meaningful level of components from Chinese suppliers for our sites in other countries. Also see "External Factors that May Impact our Business" below.

Segment Environment:

ATS Segment

Demand in our capital equipment business remains soft. Revenue from our semiconductor capital equipment customers has been adversely impacted by cyclical decreases in demand that started in the second half of 2018, resulting in lower utilization and operating losses in our capital equipment business throughout 2019. However, we have observed some signs of improvement since the third quarter of 2019 (Q3 2019), and our customers are continuing to forecast moderate demand growth in the first half of 2020. The display market is currently undergoing a shift from LCD to OLED technology, driven by the introduction of 5G smart phones that predominantly use OLED screens. We continue to expect a near-term soft display market, with modest recovery in late 2020, as a result of anticipated increases in the demand for these next generation smart phones and large form factor displays. However, the pace of this transition may impact the speed of the recovery. Our capital equipment business for the fourth quarter of 2019 (Q4 2019) improved relative to Q3 2019, due to higher sequential revenue and the positive impact of our cost reduction initiatives. The low single-digit million dollar loss for Q4 2019 for this business was in line with our expectations. For the first quarter of 2020 (Q1 2020), we expect to generate a profit in our capital equipment business in the single-digit million dollar range, driven by our cost productivity initiatives and increased volumes. We continue to believe that new program wins, market share gains, and new applications position us favorably to benefit from potential growth in this business in the future.

Our industrial and healthtech businesses produced strong revenue growth in 2019 as we ramped new programs. Although the cost of ramping multiple new programs in these businesses adversely impacted their profitability in the first half of 2019, their profitability improved and stabilized in the second half of 2019.

Although materials constraints have improved generally, our A&D business continued to be negatively impacted by materials shortages during 2019, particularly with respect to the availability of certain high reliability parts and machined components, resulting in operational inefficiencies (including production delays, and a need to carry higher than expected levels of inventory), and a continued backlog of orders. We continue to expect gradual improvement in this backlog over the next several quarters. In addition to the impact of continued materials constraints, we anticipate that the halt of the Boeing 737 Max program will also put some downward pressure on our A&D revenue in 2020. However, we expect improvements in our other ATS businesses to more than offset the 737 Max impacts in 2020.

Planned disengagements (which are now complete) from non-strategic programs resulted in revenue reductions in our energy business in 2019 compared to 2018.

The decrease in our ATS segment income and margin in 2019 as compared to 2018 (see "Operating Results" below) was attributable primarily to the losses in our capital equipment business, inefficiencies in our A&D business, and the disengagement from certain non-strategic energy programs, offset in part by improvements from the ramping of new programs in our other ATS businesses. We continue to pursue new customers and invest in our ATS segment to expand our market share, to diversify our end market mix, and to enhance and add new technologies and capabilities to our offerings. As a result of anticipated strengthening demand in our capital equipment business, growth in our industrial and healthtech businesses, and benefits from our cost productivity initiatives, we expect to see margin improvement in our ATS segment in 2020.

CCS Segment

Our CCS segment generally experiences a high degree of volatility in terms of revenue and product/service mix. This segment has also been adversely affected by sustained negative pricing pressures, which have significantly impacted our profitability in recent periods. These factors, as well as aggressive pricing and technology-driven demand shifts in this highly competitive market, are not expected to abate. We are also experiencing an increasing shift in the mix of our programs towards cloud-based and other service providers, which are cyclically different from our traditional OEM customers, creating more volatility and unpredictability in our revenue patterns as we adjust to this shift, and additional challenges with respect to the management of our working capital requirements.

In order to address under-performing programs, and better align our investments with our strategic and financial priorities, we commenced a comprehensive review of our CCS segment revenue portfolio (CCS Review) in the second half of 2018. In connection with the CCS Review, we negotiated improved commercial terms for certain programs, and successfully completed our disengagement from identified programs in 2019, largely in our Enterprise end market. The aggregate annualized revenue decline from these Enterprise disengagements will be approximately \$500 million. Our Communications end market has also been (and continues to be) adversely impacted by significant revenue declines resulting from program-specific market dynamics, which in some cases resulted in returns below our financial targets. In connection therewith, we announced in October 2019 that we had come to a mutual agreement with our largest customer, Cisco Systems, Inc. (Cisco), to a phased exit from existing programs commencing in 2020 (Cisco Disengagement). As a result of adding the Cisco Disengagement to the CCS segment disengagements then-underway, we increased our anticipated annualized decline in CCS segment revenue (once all such disengagements are complete) from approximately \$500 million (as described above) to \$1.25 billion. We are working collaboratively with Cisco to ensure a seamless and successful transition, and expect the transition (including associated restructuring actions described under "Restructuring Update" below) to be largely complete by the end of 2020. No revenue impact from the Cisco Disengagement is expected in Q1 2020.

Our CCS segment revenue for 2019 decreased \$0.8 billion to \$3.6 billion compared to \$4.4 billion in 2018, including a revenue decline of just over \$400 million resulting from disengagements associated with the CCS Review, with the remainder of the revenue decline resulting from continued demand softness from certain Communications customers (some of which we expect to continue into 2020), partially offset by new program ramps (see "Operating Results" below). Despite the revenue declines, these disengagements and our cost productivity initiatives had a beneficial impact on our CCS segment margin for 2019. We are focused on completing our CCS Review disengagements in 2020, and continue to expect the impact of such disengagements, including the Cisco Disengagement, to result in an aggregate revenue decline in 2020 as compared to 2019 in the range of approximately \$400 million to \$600 million. Notwithstanding the foregoing, we intend to continue to invest in areas that we believe are key to the long-term success of our CCS segment, including our JDM offering, and evolve our product offerings to serve our growing service provider customer base.

As anticipated, as a result of the CCS segment revenue declines and lower capital equipment demand, total Company revenue declined 11% in 2019 compared to 2018. While we are not providing guidance for 2020, we continue to anticipate 2020 revenue to decline relative to 2019, and 2020 non-IFRS operating margin and non-IFRS adjusted earnings per share to increase relative to 2019 as we execute associated cost actions and redeploy our resources to support growth in other areas of our business. We do not provide reconciliations for forward-looking non-IFRS financial measures, as we are unable to provide a meaningful or accurate calculation or estimation of reconciling items and the information is not available without unreasonable effort. See "Operating Goals and Priorities" and "Non-IFRS measures" below.

Restructuring Update:

We have recorded an aggregate of \$81.3 million in restructuring charges from the commencement of our cost efficiency initiative (CEI) in the fourth quarter of 2017 (Q4 2017) through its completion at the end of Q4 2019, including \$37.9 million of restructuring charges recorded in 2019. Aggregate charges under the CEI were above the high end of our previously disclosed range of \$50 to \$75 million, as we accelerated certain other cost actions, including those related to the Cisco Disengagement. See "Operating Results — Other charges (recoveries)."

We intend to incur \$30 million of restructuring charges in 2020, associated primarily with the Cisco Disengagement. We expect to substantially complete this restructuring program by the end of 2020.

Board Membership Changes:

On January 29, 2020, William A. Etherington, our former Chair of the Board, retired from Celestica's Board of Directors and Michael M. Wilson (a director since 2011) was immediately appointed as Chair of the Board. In accordance with the Directors' Share Compensation Plan, the deferred share units (DSUs) held by Mr. Etherington will be redeemed and payable on or prior to the 90th day following the date on which he retires from the Board of Directors of Onex (or is otherwise no longer a director or employee of any corporation that does not deal at arm's length with the Company). As of January 29, 2020, Mr. Etherington held 0.47 million DSUs.

Toronto Real Property and Related Transactions Update:

See "Liquidity — Toronto Real Property and Related Transactions" below and note 7 to the 2019 AFS for a discussion of our Toronto property sale completed in March 2019 and related transactions, as well as transition and capital costs incurred in connection with relocations related to such sale.

Share Repurchases:

Our most recent normal course issuer bid (NCIB) expired in December 2019. Our Credit Facility prohibits further share repurchases for cancellation if our leverage ratio (as defined in such facility) exceeds a specified amount. This restriction is currently in effect, but does not apply to open market purchases to satisfy delivery requirements under our stock-based compensation (SBC) plans.

Adoption of IFRS 16:

We adopted IFRS 16, *Leases*, effective January 1, 2019, which brings most leases on-balance sheet for lessees under a single model, eliminating the distinction between operating and finance leases. We applied the modified retrospective approach, permitting us to recognize the cumulative effect of such adoption as an adjustment to our opening balance sheet as of January 1, 2019, without restatement of prior period comparative information. See note 2 to our 2019 AFS.

Operating Goals and Priorities

Our current priorities are focused on evolving our revenue portfolio; expanding our non-IFRS operating margin* and segment margins*; and maintaining a balanced approach to capital allocation. Management believes that each of these goals and priorities is reasonable.

Evolving our Revenue Portfolio — To evolve our revenue portfolio, we intend to continue to focus on: (i) realigning our portfolio towards more diversified revenue, (ii) driving sustainable profitable revenue growth, (iii) growing our ATS segment revenue organically by an average of 10% per year over the long term, (iv) supplementing our organic growth with disciplined and targeted acquisitions intended to expand capabilities, and (v) optimizing and reshaping our portfolio to drive more consistent returns and profitability.

Expanding Margins — With respect to our margins, we intend to focus on: (i) achieving non-IFRS operating margin* in the target range of 3.75% to 4.5%, (ii) achieving ATS segment margin in the target range of 5.0% to 6.0% and maintaining CCS segment margin in the target range of 2.0% to 3.0%, and (iii) achieving greater than 50% of total segment income from our ATS segment. In order to achieve our ATS segment income and margin, and non-IFRS operating margin* goals: (i) the current demand environment in the capital equipment business must return to prior levels; (ii) materials shortages and the demand environment in our A&D business must stabilize, to help reduce production inefficiencies; and (iii) we must successfully execute the ramping of new ATS programs, particularly in our industrial and healthtech businesses, to their targeted profitability levels. Because we cannot control market conditions, however, the timeline to achieve these goals, as well as our long-term ATS segment revenue growth rate objective, cannot be assured. To maintain our CCS segment margin, we must (i) execute the Cisco Disengagement as planned, while continuing to achieve cost productivity improvements, and (ii) continue to expand our portfolio in higher margin services. See "Recent Developments" above.

Balanced Approach to Capital Allocation — In terms of capital allocation, we are focused on: (i) returning approximately 50% of non-IFRS free cash flow* to shareholders annually, on average and when permitted, over the long term, (ii) investing 1.5% to 2.0% of annual revenue in capital expenditures to support our organic growth, and (iii) executing on strategic acquisitions as part of a disciplined capital allocation framework. We are also focused on maintaining a strong balance sheet, as well as lowering outstanding borrowings.

The foregoing priorities and areas of intended focus constitute our objectives and goals, and are not intended to be projections or forecasts of future performance. Our future performance is subject to risks, uncertainties and other factors that could cause actual outcomes and results to differ materially from the goals and priorities described above.

* Operating margin and free cash flow are non-IFRS measures without standardized meanings and may not be comparable to similar measures presented by other companies. See "Non-IFRS measures" below for a discussion of the non-IFRS measures included herein (including a description of recent modifications to our calculation of certain non-IFRS measures), and a reconciliation of historical non-IFRS measures to the most directly comparable IFRS measures. We do not provide reconciliations for forward-looking non-IFRS financial measures, as we are unable to provide a meaningful or accurate calculation or estimation of reconciling items and the information is not available without unreasonable effort. This is due to the inherent difficulty of forecasting the timing or amount of various events that have not yet occurred, are out of our control and/or cannot be reasonably predicted, and that would impact the most directly comparable forward-looking IFRS financial measure. For these same reasons, we are unable to address the probable significance of the unavailable information. Forward-looking non-IFRS financial measures may vary materially from the corresponding IFRS financial measures. Segment performance is evaluated based on segment revenue, segment income and segment margin (segment income as a percentage of segment revenue), each of which is defined in "Operating Results — Segment income and margin" below.

Our Strategy

To increase the value we deliver to our customers, we continue to make investments in people, value-added service offerings, new capabilities, capacity, technology, IT systems, software and tools, and work to improve our productivity, quality, delivery performance and flexibility in our efforts to be recognized as a leading company in the EMS industry.

While the demand environment remains volatile, we remain committed to making the investments we believe are required to support our long-term objectives and to create shareholder value, while simultaneously managing our costs and resources to maximize our efficiency and productivity. Within both of our segments, we are focused on: increased penetration in our end markets; diversifying our customer mix and product portfolios, including increasing design and development, engineering, and after-market services (higher value-added services); and diversifying our capabilities. The costs of investments that we deem desirable may be prohibitive, however, and therefore prevent us from achieving our diversification objectives. In addition, the ramping activities associated with investments that we do make may be significant and could negatively impact our margins in the short and medium term. To counteract these factors, we continue to invest in and deploy automation and digital factory solutions and capabilities throughout our network to improve quality and productivity. Our recently-completed CEI and related restructuring actions were also intended to further streamline our business, increase operational efficiencies and improve our productivity.

In support of our expansion efforts, we have executed two "operate-in-place" outsourcing agreements with existing A&D customers, pursuant to which we provide manufacturing and after-market repair services for specific product lines at such customers' sites. In addition, we acquired Lorenz, Inc. and Suntek Manufacturing Technologies, SA de CV, collectively known as Karel Manufacturing (Karel) in November 2016, Atrenne Integrated Solutions, Inc. (Atrenne) in April 2018, and Impakt Holdings, LLC (Impakt) in November 2018, all in our ATS segment.

As we expand our business, open new sites, or transfer business within our network to accommodate growth or achieve synergies, however, we may encounter difficulties that result in higher than expected costs associated with such activities. Potential difficulties related to such activities include our ability to: manage growth effectively; maintain existing business relationships during periods of transition; anticipate disruptions in our operations that may impact our ability to deliver to customers on time, produce quality products and ensure overall customer satisfaction; and respond rapidly to changes in customer demand or volumes. We may also encounter difficulties in ramping and executing new programs. We may require significant investments in additional capabilities and increased working capital to support these new programs, including those associated with business acquisitions, and may generate lower margins or losses during and/or following the ramp period. There can be no assurance that our increased investments will benefit our financial performance or result in business growth. As we pursue opportunities in new markets or technologies, we may encounter challenges due to our limited knowledge or experience in these areas. In addition, the success of new business models or programs depends on a number of factors including: understanding the new business or markets; timely and successful product development; market acceptance; the effective management of purchase commitments and inventory levels in line with anticipated demand; the development or acquisition of appropriate intellectual property and capital investments, to the extent required; the availability of materials in adequate quantities and at appropriate costs to meet anticipated demand; and the risk that new offerings may have quality or other defects in the early stages of introduction. Any such difficulties could prevent

us from realizing the anticipated benefits of growth in our business, including in new markets or technologies, which could materially adversely affect our business and operating results.

We may, at any time, be in discussions with respect to possible acquisitions or strategic transactions. There can be no assurance that any of such discussions will result in a definitive agreement and, if they do, what the terms or timing of any such agreement would be. There can also be no assurance that any acquisition or other strategic transaction will be successfully integrated or will generate the returns we expect. We may fund our acquisitions and other strategic transactions from cash on hand, third-party borrowings, the issuance of securities, or a combination thereof.

External Factors that May Impact our Business

Uncertainty in the global economy and financial markets may impact current and future demand for our customers' products and services, and consequently, our operations. We continue to monitor the dynamics and impacts of the global economic and financial environment and work to manage our priorities, costs and resources to anticipate and prepare for any changes we deem necessary.

Other external factors that could adversely impact the EMS industry and our business include natural disasters and related disruptions, political instability, terrorism, armed conflict, labor or social unrest, criminal activity, disease or illness that affects local, national or international economies (including the increased tariffs and COVID-19, discussed below), unusually adverse weather conditions, and other risks present in the jurisdictions in which we, our customers, our suppliers, and/or our logistics partners operate. These types of events could disrupt operations at one or more of our sites or those of our customers, component suppliers and/or our logistics partners. These events could also lead to higher costs or supply shortages and may disrupt the delivery of components to us, or our ability to provide finished products or services to our customers, any of which could adversely affect our operating results. In addition, uncertainties resulting from Brexit (given the lack of comparable precedent) and/or policies or legislation proposed or instituted by the current administration in the U.S., and/or increased tensions between the U.S. and other countries, may adversely affect our business, results of operations and financial condition.

Our business and operations could be materially and adversely affected by the effects of a widespread outbreak of a contagious disease, including the recent outbreak of the respiratory illness caused by COVID-19 first identified in Wuhan, Hubei Province, China, or any other outbreak of contagious diseases, and other adverse public health developments. These effects could include disruptions or restrictions on our employees' and other service providers' ability to travel, as well as temporary closures of our facilities or the facilities of our customers, suppliers, or other vendors in our supply chain, potentially including single source suppliers. Any disruption of our supply chain or customers could adversely impact our business and results of operations, including by causing us to cease the manufacturing of one or more products for a period of time, which could also lead to loss of customers, as well as reputational, competitive, or business harm. In addition, a significant outbreak of contagious diseases in the human population could result in a widespread health crisis that could adversely affect the economies and financial markets of many countries, resulting in an economic downturn that could affect demand for our end customers' products and in turn adversely impact our operating results. See "Recent Developments — COVID-19" above.

The current U.S. administration has increased tariffs on certain items imported into the U.S. from several countries, including China, Mexico, and the European Union. Each of these countries has imposed retaliatory tariffs on specified items, which have been challenged by the U.S. These actions, or other governmental actions related to tariffs or international trade agreements, could increase the cost to our U.S. customers who use our non-U.S. manufacturing sites and components, and vice versa, which may materially and adversely impact demand for our services, our results of operations or our financial condition. We currently ship a significant portion of our worldwide production to customers in the U.S. from other countries. Increased tariffs, and/or changes to international trade agreements, including the revised trade agreement among the U.S., Canada and Mexico (USMCA), which has not yet been ratified by Canada, may cause our U.S. customers to insource programs previously outsourced to us, transfer manufacturing to locations within our global network that are not impacted by such actions (potentially increasing production costs), and/or shift their business to other EMS providers. Additionally, tariffs on imported components for use in our U.S. production could have an adverse impact on demand for such production. Retaliatory tariffs could reduce demand for our U.S.-based production or make such production less profitable. We assessed the impact of current tariffs on our global network, and discussed such tariffs with impacted customers. In connection therewith, we transferred numerous customer programs in 2019, primarily located in China, to countries unaffected by these tariffs (including Thailand). Remaining transfers were completed in early 2020. These transfers resulted in new investments and costs to realign our manufacturing footprint, including expansion in non-affected countries, and reductions of operations in impacted geographies. Although such costs were not material in 2019, given the uncertainty regarding the scope and duration of these trade actions, the uncertainty of the impact of the USMCA, if ratified, on our business, whether trade tensions will escalate further, and whether our customers will continue to bear the cost of the tariffs, their impact on our operations and results for future periods cannot be currently quantified, but may be material. We will continue to monitor the scope and duration of trade actions by the U.S. and other governments on our business.

In general, changes in U.S. social, political, regulatory and economic conditions or in laws and policies governing foreign trade, taxation, manufacturing, clean energy, the healthcare industry, development and investment in the jurisdictions in which we, and/or our customers or suppliers operate, could materially adversely affect our business, results of operations and financial condition.

If a key supplier (or any company within such supplier's supply chain) experiences financial or other difficulties, this may affect its ability to supply us with materials, components or services, which could halt or delay the production of a customer's products, and/or have a material adverse impact on our operations, financial results and customer relationships.

Our ability to collect outstanding accounts receivable (A/R) and achieve future sales depends, in part, on the financial strength of our customers. Insufficient customer liquidity may result in significant delays in or defaults on payments owed to us. In addition, customer financial difficulties or changes in demand for our customers' products may result in order cancellations and higher than expected levels of inventory, which could have a material adverse impact on our operating results and working capital performance. We may not be able to return or resell this inventory, or we may be required to hold the inventory for an extended period of time, any of which may result in our having to record additional inventory reserves. We may also be unable to recover all of the amounts owed to us by a customer, including amounts to cover unused inventory or capital investments we incurred to support that customer's business. Our failure to collect amounts owed to us and/or the loss of one or more major customers could have a material adverse effect on our operating results, financial position and cash flows.

As described above, customers may shift production between EMS providers, change the amount of business they outsource or the concentration or location of their EMS suppliers. These customer decisions may impact, among other items, our revenue and margins, the need for future restructuring, the level of capital expenditures and our cash flows.

Summary of Key Operating Results and Financial Information

Our consolidated financial statements have been prepared in accordance with IFRS as issued by the IASB and accounting policies we adopted in accordance with IFRS. Such consolidated financial statements reflect all adjustments that are, in the opinion of management, necessary to present fairly our financial position as at December 31, 2019 and 2018 and the financial performance, comprehensive income and cash flows for each of the years in the three-year period ended December 31, 2019. On January 1, 2019, we adopted IFRS 16, *Leases*, and no restatement of comparative period financial information was required in connection therewith. See "Recently adopted accounting standards" in note 2 to our 2019 AFS.

The following tables set forth certain key operating results and financial information for the periods indicated (in millions, except per share amounts and percentages).

	Year ended December 31					
	2017	2018	2019	% Change 2018 v. 2017	% Change 2019 v. 2018	
Revenue.....	\$ 6,142.7	\$ 6,633.2	\$ 5,888.3	8 %	(11)%	
Gross profit.....	418.5	430.5	384.7	3 %	(11)%	
Selling, general and administrative expenses (SG&A).....	203.2	219.0	227.3	8 %	4 %	
Other charges (recoveries).....	37.0	61.0	(49.9)	65 %	(182)%	
Net earnings.....	105.5	98.9	70.3	(6)%	(29)%	
Diluted earnings per share.....	\$ 0.73	\$ 0.70	\$ 0.53	(4)%	(24)%	
Segment revenue* as a percentage of total revenue:	Year ended December 31					
				2017	2018	2019
ATS revenue (% of total revenue).....				32%	33%	39%
CCS revenue (% of total revenue).....				68%	67%	61%

Segment income and segment margin*:	Year ended December 31							
	2017		2018		2019			
		Segment Margin		Segment Margin		Segment Margin		Segment Margin
ATS segment	\$ 96.8	4.9%	\$ 102.5	4.6%	\$ 64.2	2.8%		
CCS segment	120.4	2.9%	111.4	2.5%	93.9	2.6%		

* Segment performance is evaluated based on segment revenue, segment income and segment margin (segment income as a percentage of segment revenue), each of which are defined in "Operating Results — Segment income and margin" below.

	December 31 2018		December 31 2019	
Cash and cash equivalents	\$	422.0	\$	479.5
Total assets		3,737.7		3,560.7
Borrowings under term loans		598.3		592.3
Borrowings under revolving credit facility*		159.0		—

* excluding ordinary course letters of credit

	Year ended December 31			
	2017	2018	2019	
Cash provided by operating activities	\$ 127.0	\$ 33.1	\$ 345.0	
SVS repurchase activities:				
Aggregate cost (including transaction costs) of SVS repurchased for cancellation	\$ 19.9	\$ 75.5	\$ 67.3	
Number of SVS repurchased for cancellation (in millions)	1.9	6.8	8.3	
Weighted average price per share for repurchases	\$ 10.58	\$ 11.10	\$ 8.15	
Aggregate cost (including transaction costs) of SVS repurchased for delivery under stock-based compensation (SBC) plans	\$ 16.7	\$ 22.4	\$ 9.2	
Number of SVS repurchased for delivery under SBC plans (in millions)	1.4	2.1	1.2	

A discussion of the foregoing information is set forth under "Operating Results" below.

Other performance indicators:

In addition to the key operating results and financial information described above, management reviews the following measures (which are not measures defined under IFRS):

	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Cash cycle days:								
Days in A/R	62	57	60	62	71	65	61	63
Days in inventory	57	56	59	61	74	73	68	67
Days in accounts payable (A/P)	(62)	(60)	(65)	(65)	(70)	(64)	(60)	(60)
Days in cash deposits*	(2)	(1)	(1)	(2)	(6)	(9)	(8)	(8)
Cash cycle days	55	52	53	56	69	65	61	62
Inventory turns	6.4x	6.6x	6.2x	6.0x	5.0x	5.0x	5.4x	5.5x

* Represents cash deposits made by certain customers to cover our risk of excess and/or obsolete inventory. As a result of the recent increased use of cash deposits to mitigate higher inventory levels, commencing in the first quarter of 2019 (Q1 2019), we deduct cash deposit days in our calculation of cash cycle days, and have restated the prior period comparatives shown above to conform to the current presentation.

	2018				2019			
	March 31	June 30	September 30	December 31	March 31	June 30	September 30	December 31
A/R Sales (in millions).....	\$ 113.0	\$ 113.0	\$ 113.0	\$ 130.0	\$ 130.0	\$ 136.6	\$ 130.0	\$ 90.6
Supplier Financing* (in millions).....	77.8	76.0	81.0	50.0	24.9	11.5	25.8	50.4
Total (in millions).....	\$ 190.8	\$ 189.0	\$ 194.0	\$ 180.0	\$ 154.9	\$ 148.1	\$ 155.8	\$ 141.0

* Represents A/R sold to third party banks in connection with the uncommitted supplier financing programs of two customers in Q4 2019, and the supplier financing program of one customer prior thereto.

Days in A/R is defined as the average A/R for the quarter divided by the average daily revenue. Days in inventory, days in A/P and days in cash deposits are calculated by dividing the average balance for each item for the quarter by the average daily cost of sales. Cash cycle days is defined as the sum of days in A/R and days in inventory minus the days in A/P and days in cash deposits. Inventory turns are determined by dividing 365 by the number of days in inventory. A lower number of days in A/R, days in inventory, and cash cycle days, and a higher number of days in A/P, days in cash deposits, and inventory turns generally reflect improved cash management performance.

Days in A/R increased 1 day from the fourth quarter of 2018 (Q4 2018) to 63 days for Q4 2019 primarily due to a decrease in revenue from Q4 2018 to Q4 2019 and the timing of collections. Day in inventory increased 6 days from Q4 2018 to 67 days for Q4 2019 primarily due to lower cost of sales for Q4 2019 compared to Q4 2018, despite lower average inventory levels at the end of Q4 2019. Days in A/P decreased 5 days from Q4 2018 to 60 days in Q4 2019 primarily due to lower average A/P balances and the timing of payments, partially offset by the impact of reduced cost of sales from Q4 2018 to Q4 2019. Days in cash deposits increased 6 days from Q4 2018 to 8 days in Q4 2019 primarily due to higher cash deposits we received from customers in 2019 to help reduce our working capital requirements. Customer cash deposits were \$121.9 million as at December 31, 2019, compared to \$57.9 million as at December 31, 2018. Although there were 8 days in cash deposits in Q4 2019, we continue to expect this number to decrease in the near term as we work with our customers to reduce our inventory levels. The components of cash cycle days were consistent or relatively consistent sequentially.

We believe that cash cycle days (and the components thereof) and inventory turns are useful measures in providing investors with information regarding our cash management performance and are accepted measures of working capital management efficiency in our industry. These are not measures of performance under IFRS, and may not be defined and calculated in the same manner by other companies. These measures should not be considered in isolation or as an alternative to working capital as an indicator of performance.

Management also reviews other non-IFRS measures including adjusted net earnings, operating margin, adjusted ROIC and free cash flow. See "Non-IFRS measures" below.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities, revenue and expenses, and related disclosures with respect to contingent assets and liabilities. We base our judgments, estimates and assumptions on current facts, historical experience and various other factors that we believe are reasonable under the circumstances. The economic environment could also impact certain estimates and discount rates necessary to prepare our consolidated financial statements, including significant estimates and discount rates applicable to the determination of the recoverable amounts used in our impairment testing of our non-financial assets (see notes 7, 8, and 9 to our 2019 AFS). Our assessment of these factors forms the basis for our judgments on the carrying values of assets and liabilities and the accrual of our costs and expenses. Actual results could differ materially from these estimates and assumptions. We review our estimates and underlying assumptions on an ongoing basis and make revisions as determined necessary by management. Revisions are recognized in the period in which the estimates are revised and may impact future periods as well. Significant accounting policies and methods used in the preparation of our consolidated financial statements are described in note 2 to our 2019 AFS. The following is a discussion of those accounting policies which management considers to be "critical," defined as accounting policies that management believes are both most important to the portrayal of our financial condition and results and require application of management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effects of matters that are inherently uncertain.

Key sources of estimation uncertainty and judgment: We have applied significant estimates, judgment and assumptions in the following areas which we believe could have a significant impact on our reported results and financial position: our determination of the timing of revenue recognition; our measurement of income taxes; the determination of our cash generating units (CGUs*); whether events or changes in circumstances are indicators that an impairment review of our assets or CGUs should be conducted; the measurement of our CGUs' recoverable amounts, which includes estimating future growth, profitability, discount and terminal growth rates, and the fair value of any real property; and the allocation of the purchase price and other valuations related to our business acquisitions.

* CGUs are the smallest identifiable group of assets that cannot be tested individually and generate cash inflows that are largely independent of those of other assets or groups of assets, and can be comprised of a single site, a group of sites, or a line of business.

Revenue recognition:

Where products are custom-made to meet a customer's specific requirements, and such customer is obligated to compensate us for the work performed to date, we recognize revenue over time as production progresses to completion, or as services are rendered. We generally estimate revenue for our work in progress based on costs incurred to date plus a reasonable profit margin for eligible products for which we do not have alternative uses. We apply significant estimates, judgment and assumptions in interpreting our customer contracts, determining the timing of revenue recognition and measuring work in progress.

Income taxes:

We record income tax expense or recovery based on taxable income earned or loss incurred in each tax jurisdiction where we operate at the enacted or substantively enacted tax rate applicable to that income or loss. In the ordinary course of business, we engage in many transactions for which the ultimate tax outcome is uncertain and therefore estimates are required for exposures related to potential and actual examinations by taxation authorities. We review these transactions and exposures and record tax liabilities for open years based on our assessment of many factors, including past experience and interpretations of tax law applied to the facts of each matter. Management periodically evaluates the positions taken in our tax returns with respect to situations in which applicable tax rules are subject to interpretation. We establish provisions related to tax uncertainties where appropriate, based on our estimate of the amount that ultimately will be paid to or received from the tax authorities. The various judgments and estimates by management in establishing provisions related to tax uncertainties significantly affect the amounts we recognize in our consolidated financial statements. The determination of tax liabilities is subjective and generally involves a significant amount of judgment. We believe that our income tax liability reflects the probable outcome of our income tax obligations based on known facts and circumstances; however, the final income tax outcome may be different from our estimates. A change to these estimates could impact our income tax provision.

We recognize deferred income tax assets to the extent we believe it is probable, based on management's estimates, that future taxable profit will be available against which the deductible temporary differences as well as unused tax losses and tax credit carryforwards can be utilized. We consider factors such as the reversal of taxable temporary differences, projected future taxable income, the character of the income tax asset, tax planning strategies, changes in tax laws and other factors. A change to these factors could impact the amount of deferred income tax assets we recognize. We review our deferred income tax assets at each reporting date and reduce them to the extent we believe it is no longer probable that we will realize the related tax benefits.

Determination of CGUs:

Judgment is involved in the determination of our CGUs, which includes an assessment of whether the relevant asset, or group of assets, largely generates independent cash inflows, and an evaluation of how management monitors the business operations pertaining to such asset or asset group.

Impairment of goodwill, intangible assets, property, plant and equipment, and right-of-use (ROU) assets:

We review the carrying amounts of goodwill, intangible assets, property, plant and equipment, and ROU assets for impairment whenever events or changes in circumstances (triggering events) indicate that the carrying amount of such assets, or the related CGU or CGUs, may not be recoverable. In addition to an assessment of triggering events during the year, we conduct an annual impairment assessment of CGUs with goodwill in the fourth quarter of the year. Judgment is required in the determination of our CGUs and whether a review for impairment should be conducted.

We recognize an impairment loss when the carrying amount of an asset, CGU or group of CGUs exceeds its recoverable amount. The recoverable amount of an asset, CGU or group of CGUs is measured as the greater of its expected value-in-use and its fair value less costs of disposal. The process of determining the recoverable amount is subjective and requires management to exercise significant judgment in estimating future growth, profitability, discount and terminal growth rates, the fair value of any real property, and in projecting future cash flows, among other factors. Future events and changing market conditions may impact our assumptions as to prices, costs or other factors that may result in changes in our estimates of future cash flows. Our expected value-in-use is determined based on a discounted cash flow analysis. Determining the estimated fair value less costs of disposal requires valuations and use of appraisals. Where applicable, we engage independent brokers to obtain market prices to estimate our real property and other asset values. At each reporting date, we review for indicators that could change the estimates we used to determine the recoverable amount of the relevant assets. Failure to realize the assumed revenues at an appropriate profit margin of a CGU could result in impairment losses in such CGU in future periods.

Business combinations:

We use judgment to determine the estimates used to value identifiable assets and liabilities, and the fair value of contingent consideration and other contingencies, if applicable, at the acquisition date. We may engage third parties to determine the fair value of certain inventory, property, plant and equipment and intangible assets. We use estimates to determine cash flow projections, including the period of expected future benefit, and future growth and discount rates, among other factors, to value intangible assets and contingent consideration. The fair value of acquired tangible assets are measured by applying the market, cost or replacement cost, or the income approach (using discounted cash flows and forecasts by management), as appropriate.

Operating Results

Our product and service volumes, revenue and annual and quarterly operating results are affected by, among other factors: the level and timing of customer orders; our customer and business mix and the types of products or services we provide; the rate at which, the costs associated with, and the execution of, new program ramps; demand volumes and the seasonality of our business; price competition and other competitive factors; the mix of manufacturing or service value-add; manufacturing capacity, utilization and efficiency; the degree of automation used in the assembly process; the availability of components or labor; the location of qualified personnel; costs and inefficiencies of transferring programs between sites; program completions or losses, or customer disengagements and the timing and the margin of follow-on business or any replacement business; the impact of foreign exchange fluctuations; the performance of third-party providers; our ability to manage inventory, production location and equipment effectively; our ability to manage changing labor, component, energy and transportation costs effectively; fluctuations in variable compensation costs; the timing of our expenditures in anticipation of forecasted sales levels; and the timing of any acquisitions and related integration costs. Significant period-to-period variations can also result from the timing of new programs reaching full production or programs reaching end-of-life, the timing of follow-on or next generation programs and/or the timing of existing programs being fully or partially transferred internally or to a competitor. See "Overview — *Overview of business environment and Recent Developments*" above for a discussion of recent market conditions impacting our segments and our business.

Operating results expressed as a percentage of revenue:

	Year ended December 31		
	2017	2018	2019
Revenue	100.0%	100.0%	100.0%
Cost of sales	93.2	93.5	93.5
Gross profit	6.8	6.5	6.5
SG&A	3.3	3.3	3.9
Research and development costs	0.4	0.5	0.4
Amortization of intangible assets	0.1	0.2	0.5
Other charges (recoveries)	0.6	0.9	(0.8)
Finance costs	0.2	0.4	0.8
Earnings before income tax	2.2	1.2	1.7
Income tax expense (recovery)	0.5	(0.3)	0.5
Net earnings	1.7%	1.5%	1.2%

Revenue:

Revenue of \$5.9 billion for 2019 decreased 11% compared to 2018. ATS segment revenue increased 3% in 2019 compared to 2018, and CCS segment revenue decreased 19% in 2019 compared to 2018.

Revenue of \$6.6 billion for 2018 increased 8% compared to 2017. ATS segment revenue increased 13% in 2018 compared to 2017, and CCS segment revenue increased 6% in 2018 compared to 2017.

The following table sets forth revenue from our reportable segments, as well as segment and end market revenue as a percentage of total revenue for the periods indicated (in millions, except percentages):

	2017		2018		2019	
		% of total		% of total		% of total
ATS segment revenue	\$ 1,958.6	32%	\$ 2,209.7	33%	\$ 2,285.6	39%
CCS segment revenue	\$ 4,184.1	68%	\$ 4,423.5	67%	\$ 3,602.7	61%
Communications	2,654.6	43%	2,724.2	41%	2,346.4	40%
Enterprise	1,529.5	25%	1,699.3	26%	1,256.3	21%
Total revenue	\$ 6,142.7	100%	\$ 6,633.2	100%	\$ 5,888.3	100%

ATS segment revenue represented 39% of total revenue for 2019, compared to 33% for 2018, and 32% for 2017. ATS segment revenue for 2019 increased \$75.9 million (3%) compared to 2018, reflecting aggregate revenue growth in our industrial, healthtech, and A&D businesses in the mid-teens percentage range. These increases were offset in large part by significant year-over-year reductions in demand in our capital equipment business (notwithstanding capital equipment revenue improvements in Q4 2019 sequentially and compared to Q4 2018, and new revenue from our November 2018 Impakt acquisition), and by planned disengagements from non-strategic energy programs (which disengagements are now complete). Although capital equipment revenue in 2019 benefited from our Impakt acquisition, the favorable impact was significantly lower than expected primarily due to the recent downturn in semiconductor and display demand. Revenue growth in our A&D business for 2019 as compared to 2018 was driven by strong demand, including from Atrenne, but was negatively impacted by production delays caused by the materials constraints in certain high reliability parts and machined components described above.

ATS segment revenue for 2018 increased \$251.1 million (13%) compared to 2017, reflecting new A&D programs, including from our acquisition of Atrenne and our September 2017 "operate-in-place" program, demand strength in our industrial business, higher year-over-year revenue in our capital equipment business, primarily from a strong first half of 2018, and to a lesser extent, revenue from our November 2018 acquisition of Impakt. Revenue from our capital equipment customers however,

was weaker than expected for the second half of 2018, adversely impacted by cyclical decreases in demand, which continued throughout 2019. ATS segment revenue for 2018 was also adversely impacted by a \$24 million decrease, as compared to 2017, due to our exit from the solar panel manufacturing business (accounting for approximately 1% of our ATS segment revenue in 2017).

CCS segment revenue represented 61% of total revenue for 2019, compared to 67% for 2018, and 68% for 2017. CCS segment revenue for 2019 decreased \$820.8 million (19%) compared to 2018. Communications end market revenue for 2019 decreased \$377.8 million (14%) compared to 2018, primarily due to continuing demand softness from certain of our traditional OEM customers (some of which is anticipated to continue into 2020), partially offset by demand strength and new program revenue in support of data center growth. Enterprise end market revenue for 2019 decreased \$443.0 million (26%) compared to 2018, just over \$400 million of which was due to planned program disengagements resulting from our CCS Review, partially offset by new program ramps.

CCS segment revenue for 2018 increased \$239.4 million (6%) compared to 2017. Communications end market revenue for 2018 increased 3% compared to 2017, as increased demand and new programs (including JDM programs) were partially offset by decreased demand from certain of our legacy customers. Enterprise end market revenue for 2018 increased 11% compared to 2017, primarily driven by strong demand in our storage business. Notwithstanding the increase in CCS segment revenue in 2018 as compared to 2017, we were impacted by adverse pricing pressures in this segment in 2018.

We depend on a small number of customers for a substantial portion of our revenue. In the aggregate, our top 10 customers represented 65% of total revenue for 2019 (2018 — 70%; 2017 — 71%).

The following table sets forth the customers that individually represented 10% or more of total revenue for the periods indicated, and their segments:

	Segment	Year ended December 31		
		2017	2018	2019
Cisco Systems, Inc.	CCS	18%	14%	12%
Dell Technologies.....	CCS	*	10%	*
Juniper Networks, Inc.	CCS	13%	*	*
Total		31%	24%	12%

* Less than 10%.

Whether any of our customers individually account for 10% or more of our total revenue in any period depends on various factors affecting our business with that customer and with other customers, including overall changes in demand for our customers' products, the extent and timing of new program wins, follow-on business, program completions or losses, the phasing in or out of programs, the relative growth rate or decline of our business with our various customers, price competition and changes in our customers' supplier base or supply chain strategies, and the impact of seasonality on our business.

We generally enter into master supply agreements with our customers that provide the framework for our overall relationship. These agreements typically do not guarantee a particular level of business or fixed pricing. Instead, we bid on a program-by-program basis and typically receive customer purchase orders for specific quantities and timing of products. We cannot assure that our current customers will continue to award us with follow on or new business. Customers may also cancel contracts, and volume levels can be changed or delayed, any of which could have a material adverse impact on our results of operations and working capital performance, including requiring us to carry higher than expected levels of inventory. We cannot assure the replacement of completed, delayed, cancelled or reduced orders, or that our current customers will continue to utilize our services or renew their long-term manufacturing or services contracts with us on acceptable terms or at all. In addition, in any given quarter, we can experience quality and process variances related to materials, testing or other manufacturing or supply chain activities. Although we are successful in resolving the majority of these issues, the existence of these variances could have a material adverse impact on the demand for our services in future periods from any affected customers. Further, some of our customer agreements require us to provide specific price reductions to our customers over the term of the contracts, which has significantly impacted revenue and our margins. As longer-term contracts are becoming more prevalent, we anticipate that these adverse effects will increasingly impact our business in future periods. Recent market shifts to generic, cloud-based hardware platforms are also adversely impacting demand from our traditional OEM Communications customers. See "Overview — Recent Developments"

above. There can be no assurance that revenue from any of our major customers will continue at historical levels or will not decrease in absolute terms or as a percentage of total revenue. A significant revenue decrease or pricing pressures from these or other customers, or a loss of a major customer or program, could have a material adverse impact on our business, our operating results and our financial position. See "Overview — Recent Developments" above for a discussion of our Cisco Disengagement, and its anticipated impact on our business.

As noted in the "Overview" above with respect to our A&D business in 2019, materials constraints can also cause delays in production and could have a material adverse impact on our operations and our inventory levels. Order cancellations and delays could also lower our asset utilization, resulting in lower margins. Significant period-to-period changes in margins can also occur if new program wins or follow-on business are more competitively priced than past programs. In addition, customers from time to time shift programs to us from other service providers, including some for lower complexity, light touch programs that are aggressively priced, which can adversely impact future operating results.

Gross profit:

The following table shows gross profit and gross margin (gross profit as a percentage of total revenue) for the periods indicated:

	Year ended December 31		
	2017	2018	2019
Gross profit (in millions).....	\$ 418.5	\$ 430.5	\$ 384.7
Gross margin	6.8%	6.5%	6.5%

Gross profit for 2019 decreased \$45.8 million (11%), compared to 2018, most significantly due to lower revenue levels in our CCS segment, and weaker ATS segment performance, including losses in our capital equipment business and inefficiencies in our A&D business resulting from materials constraints with respect to the availability of high reliability parts and machined components. Despite overall lower revenue, however, gross margin of 6.5% for 2019 was flat compared to 2018, as favorable changes in mix and productivity improvements in our CCS segment were offset by weaker ATS segment performance. In addition, gross profit for 2018 was negatively impacted by higher net inventory provisions (\$13.5 million) as compared to 2019 (\$4.1 million), described below.

Gross profit for 2018 increased \$12.0 million (3%), compared to 2017. The increase in gross profit was attributable to higher revenue levels in both our CCS and ATS segments compared to 2017. Despite the increase in revenue for 2018 compared to 2017, gross margin decreased from 6.8% in 2017 to 6.5% for 2018. The decrease in gross margin resulted primarily from unfavorable changes in overall program mix (including as a result of demand softness in our capital equipment business), increased pricing pressures primarily in our CCS segment, approximately \$10 million in higher provisions we recorded for certain aged inventory during 2018, and the recognition of a \$1.6 million fair value adjustment with respect to the inventory acquired from Atrenne through cost of sales in the second quarter of 2018. Inventory provisions for 2018 of \$13.5 million (2017 — \$3.3 million) resulted primarily from an increase in our overall aged inventory levels, more than half of which related to customers in our ATS segment. These negative impacts more than offset the increase in gross profit in 2018 as compared to 2017 described above.

As noted above, some of our customer agreements require us to provide specific price reductions over the contract term, which has significantly impacted revenue and margins. This adverse impact is expected to continue. In general, multiple factors can cause gross margin to fluctuate from period to period including, among others: volume and mix of products or services; higher/lower revenue concentration in lower gross margin products and businesses; pricing pressures; contract terms and conditions; production management; utilization of manufacturing capacity; changing material and labor costs, including variable labor costs associated with direct manufacturing employees; manufacturing and transportation costs; start-up and ramp-up activities; new product introductions; disruption in production at individual sites, including as a result of program transfers; cost structures at individual sites; foreign exchange volatility; and the availability of components and materials. Our gross profit and selling, general and administrative expenses (discussed below) are also impacted by the level of variable compensation expense (including awards under our incentive and SBC plans) we record in each period.

SG&A:

SG&A for 2019 of \$227.3 million (3.9% of total revenue) increased \$8.3 million compared to \$219.0 million (3.3% of total revenue) for 2018, primarily due to a \$9.1 million increase in SG&A resulting from the 2018 addition of the operations of Impakt and Atrenne (ATS segment), and \$2.9 million in higher foreign exchange losses, offset in part by lower variable spend.

SG&A for 2018 of \$219.0 million (3.3% of total revenue) increased \$15.8 million compared to \$203.2 million (3.3% of total revenue) for 2017, primarily due to higher variable expenses, including \$3.2 million in higher employee SBC expense (described below) in 2018, and \$10.5 million in SG&A resulting from the 2018 addition of the operations of Impakt and Atrenne.

Segment income and margin:

Segment performance is evaluated based on segment revenue (set forth above), segment income and segment margin (segment income as a percentage of segment revenue). Revenue is attributed to the segment in which the product is manufactured or the service is performed. Segment income is defined as a segment's net revenue less its cost of sales and its allocable portion of selling, general and administrative expenses and research and development expenses (collectively, Segment Costs). Identifiable Segment Costs are allocated directly to the applicable segment while other Segment Costs, including indirect costs and certain corporate charges, are allocated to our segments based on an analysis of the relative usage or benefit derived by each segment from such costs. Segment income excludes Finance Costs (defined under "Liquidity" below), employee SBC expense, amortization of intangible assets (excluding computer software), Other Charges (recoveries) (defined under "Non-IFRS measures" below), other solar charges in 2017 (consisting of non-cash charges to write-down the carrying value of our then-remaining solar panel inventory and A/R balances), and an acquisition inventory fair value adjustment in 2018, as these costs and charges/recoveries are managed and reviewed by our CEO at the company level. See the reconciliation of segment income to our earnings before income taxes in note 25 to the 2019 AFS. Our segments do not record inter-segment revenue. Although segment income and segment margin are used to evaluate the performance of our segments, we may incur operating costs in one segment that may also benefit the other segment. Our accounting policies for segment reporting are the same as those applied to the company as a whole.

ATS segment income for 2019 decreased \$38.3 million (37%) compared to 2018. ATS segment margin decreased from 4.6% in 2018 to 2.8% in 2019. The decrease in ATS segment income and margin for 2019 as compared to 2018 was due primarily to the significantly lower demand in, and the high level of fixed costs associated with, our capital equipment business, which more than offset the positive contributions to segment income in 2019 arising from our industrial and healthtech businesses. We incurred losses of approximately \$20 million in our capital equipment business in 2019. See "Overview — Recent Developments" above for a discussion of improved sequential quarterly performance in our capital equipment business in Q4 2019 and our near term expectations. Although A&D revenue increased in 2019 compared to 2018, the limited availability of certain high reliability parts and machined components negatively impacted our A&D profitability for 2019 compared to the prior year.

ATS segment income for 2018 increased \$5.7 million (6%) compared to 2017. ATS segment margin decreased from 4.9% in 2017 to 4.6% in 2018. The increase in ATS segment income for 2018 was primarily due to higher ATS segment revenue in 2018 compared to 2017, as described above, including higher year-over-year revenue in our capital equipment business, primarily during the first half of 2018. The decrease in ATS segment margin was attributable primarily to weaker-than-expected demand in our capital equipment business (primarily with respect to our semiconductor customers) in the second half of 2018, resulting in operating losses in this business in Q4 2018 in the mid-single digit million dollar range, due to the high level of associated fixed costs, which more than offset segment margin improvement from acquisitions and other new ATS programs.

CCS segment income for 2019 decreased \$17.5 million (16%) compared to 2018, while CCS segment revenue decreased 19% compared to 2018. The decrease in CCS segment income was primarily due to the lower comparative revenue (described above). CCS segment margin increased from 2.5% in 2018 to 2.6% in 2019, as a result of favorable changes in program mix. Despite the lower revenue, CCS Review disengagements and our cost productivity initiatives had a beneficial impact on our CCS segment margin in 2019. See "Overview — Recent Developments" above for a discussion of anticipated impacts of our CCS Review on our operations and financial results.

CCS segment income for 2018 decreased \$9.0 million (7%) compared to 2017. CCS segment margin decreased from 2.9% in 2017 to 2.5% in 2018. Despite the increase in our CCS segment revenue for 2018 compared to 2017, CCS segment income and margin for 2018, as compared to 2017, were negatively impacted by increased pricing pressures from some of our significant customers, unfavorable changes in program mix, including a higher concentration of lower margin business compared to the prior year (particularly in the first quarter of 2018), and the inventory provisions recorded in 2018 (discussed above). These decreases

were partially offset by CCS segment income contributions from our JDM business in 2018 as compared to 2017. The then-performance of our CCS segment resulted in the implementation of our CEI in October 2017 (and related restructuring actions) in order to reduce our cost structure (see "Other charges (recoveries)" below). In addition, as part of our strategy to diversify our business and improve shareholder returns, we commenced the CCS Review in the second half of 2018.

SBC expense:

Our employee and director SBC expense varies from period to period. The portion of such expense that relates to performance-based compensation generally varies depending on our level of achievement of pre-determined performance goals and financial targets.

The following table shows employee SBC expense (with respect to restricted share units (RSUs) and performance share units (PSUs) granted to employees) and director SBC expense (with respect to DSUs and RSUs issued to directors as compensation) for the periods indicated (in millions):

	Year ended December 31		
	2017	2018	2019
Employee SBC expense in cost of sales	\$ 14.6	\$ 14.7	\$ 14.6
Employee SBC expense in SG&A	15.5	18.7	19.5
Total	<u>\$ 30.1</u>	<u>\$ 33.4</u>	<u>\$ 34.1</u>
Director SBC expense in SG&A	\$ 2.2	\$ 2.0	\$ 2.4

Our employee SBC expense for 2019 was relatively flat compared to 2018. Compared to 2017, our employee SBC expense for 2018 increased by \$3.3 million, reflecting \$2.4 million in higher reversals we recorded during 2017 in connection with forfeited awards, and additional expenses related to new grants made during 2018 as compared to 2017. Unless a grantee has been authorized, and elects, to settle these awards in cash, management currently intends to settle all outstanding RSUs and PSUs with SVS purchased in the open market by a broker or issued from treasury. Accordingly, we have accounted for these share unit awards as equity-settled awards. See "Cash requirements" below.

Other charges (recoveries):

(i) Restructuring charges:

We recorded the following restructuring charges for the periods indicated (in millions):

	Year ended December 31		
	2017	2018	2019
Restructuring charges	\$ 28.9	\$ 35.4	\$ 37.9

We perform ongoing evaluations of our business, operational efficiency and cost structure, and implement restructuring actions as we deem necessary. We recorded an aggregate of \$81.3 million in restructuring charges from the commencement of our CEI in Q4 2017 through its completion at the end of 2019, including the charges recorded below. Aggregate charges under the CEI were above the high end of our previously disclosed range of \$50 to \$75 million, as we accelerated certain other cost actions, including those related to the Cisco Disengagement. The CEI included actions related to our CCS Review and our capital equipment business, and resulted in reductions to our workforce, as well as the consolidation of certain sites to better align capacity and infrastructure with current and anticipated customer demand, related transfers of customer programs and production, re-alignment of business processes, management reorganizations, and other associated activities.

We intend to incur \$30 million of restructuring charges in 2020, associated primarily with our Cisco Disengagement. We expect to substantially complete this restructuring program by the end of 2020.

We recorded restructuring charges of \$37.9 million in 2019, all in connection with our CEI, consisting of cash charges of \$28.1 million, primarily for employee termination costs, and non-cash charges of \$9.8 million. The non-cash restructuring charges recorded in 2019 represented the write-down of certain equipment, primarily related to our capital equipment business

(ATS segment) and disengaged programs, and the write down of ROU assets (\$1.0 million) pertaining to vacated properties, resulting in part from certain sublet recoveries that were lower than the carrying value of the related leases. Approximately two-thirds of the 2019 charges were associated with our CCS segment. Our restructuring provision at December 31, 2019 was \$11.2 million, which we currently expect to pay in 2020. All cash outlays have been, and the balance is expected to be, funded with cash on hand.

We recorded restructuring charges of \$35.4 million in 2018, all in connection with our CEI, consisting of cash charges of \$35.2 million, primarily for consultant costs, and employee and lease termination costs, and non-cash charges of \$0.2 million, representing losses on the sale of surplus equipment. Our restructuring provision at December 31, 2018 was \$10.3 million, which we paid with cash on hand. The majority of the 2018 charges pertained to workforce reductions at sites associated primarily with our CCS segment.

We recorded restructuring charges of \$28.9 million in 2017, consisting of cash charges of \$25.1 million, comprised of employee termination costs related to our Organization Design and Global Business Services initiatives (affecting both of our segments), costs in connections with the rationalization of certain operations in the third quarter of 2017, and \$8.0 million of charges in connection with our CEI in Q4 2017, as well as net non-cash charges of \$3.8 million to write down the carrying value of our then-remaining solar panel manufacturing equipment (in our ATS segment) which we have since sold. Our restructuring provision at December 31, 2017 was \$12.7 million, which we paid with cash on hand.

We may also implement additional future restructuring actions or divestitures as a result of changes in our business, the marketplace and/or our exit from less profitable, under-performing, non-core or non-strategic operations. In addition, an increase in the frequency of customers transferring business to our EMS competitors, changes in the volumes they outsource, pricing pressures, or requests to transfer their programs among our sites or to lower-cost locations, may also result in our taking future restructuring actions. We may incur higher operating expenses during periods of transitioning programs within our network or to our competitors. Any such restructuring activities, if undertaken at all, could adversely impact our operating and financial results, and may require us to further adjust our operations.

(ii) Asset impairment:

See "Critical Accounting Policies and Estimates" above and note 2(j) to our 2019 AFS for a discussion of the timing and testing of the carrying amounts of goodwill, intangible assets, property, plant and equipment, and commencing in 2019, ROU assets, for impairment. We did not identify any triggering events during the course of 2017 to 2019 indicating that the carrying amount of our assets or CGUs may not be recoverable. In addition, during the fourth quarter of each of 2017, 2018 and 2019, we performed our annual impairment assessment for CGUs with goodwill, and determined that there was no impairment, as the recoverable amount of our CGUs and their assets exceeded their respective carrying values. However, we recorded non-cash restructuring charges: (i) in 2017, to write down our then-remaining solar panel manufacturing equipment; (ii) in 2018, to reflect losses on the sale of surplus equipment; and (iii) in 2019, to write-down certain equipment related primarily to our capital equipment business and disengaged programs, as well as certain ROU assets related to vacated properties, in each case in connection with our restructuring actions. See paragraph (i) above.

The process of determining the recoverable amount of an asset, CGU or group of CGUs is subjective and requires management to exercise significant judgment in estimating future growth, profitability, discount and terminal growth rates, among other factors. Where applicable, we engage independent brokers to obtain market prices to estimate our real property and other asset values. See note 9 of our 2019 AFS for a discussion of how we determine our cash flow projections for our impairment assessments, as well as the cash flow projection periods, growth rates, and discount rates used in our annual impairment assessments of CGUs with goodwill for each of 2017, 2018 and 2019.

Our goodwill balance is allocated to the following CGUs (in millions):

	December 31		
	2017	2018	2019
Capital equipment ⁽¹⁾	\$ 19.5	\$ 130.7	\$ 132.0
A&D ⁽²⁾	3.7	3.7	3.7
Atrenne ⁽³⁾	—	64.0	62.6
	<u>\$ 23.2</u>	<u>\$ 198.4</u>	<u>\$ 198.3</u>

(1) Consists of: (i) in 2019, \$112.5 million of goodwill attributable to our Impakt acquisition, and \$19.5 million attributable to a prior acquisition (Prior Goodwill); (ii) in 2018, \$111.2 million of goodwill attributable to our Impakt acquisition, and the Prior Goodwill; and (iii) in 2017, the Prior Goodwill. The final purchase price adjustment for Impakt was recorded in 2019.

(2) Attributable to our 2016 Karel acquisition.

(3) Attributable to our 2018 Atrenne acquisition. The final purchase price adjustment was recorded in 2019.

As part of our goodwill assessment, we also performed a sensitivity analysis for the relevant CGUs in order to identify the impact of changes in key assumptions, including projected growth rates, profitability, discount and terminal growth rates. We did not identify any key assumptions where a reasonable possible change would have resulted in material impairments to the above goodwill balances in 2017, 2018 and 2019. In 2019, although our capital equipment CGU generated a net operating loss, our assumptions for this CGU for our 2019 Annual Impairment Assessment reflect our expectation of market recovery in the capital equipment business. Future growth in revenue and margins are supported by new business awarded recently, near-term customer forecasts, improved demand and performance commencing in Q4 2019, our expectation of profitability in Q1 2020, assumptions for additional future program wins based on our current revenue pipeline, margin improvements based on restructuring actions completed during 2019, and external industry outlooks. Impairment assessments inherently involve judgment as to assumptions about expected future cash flows and the impact of market conditions on those assumptions. See "Critical Accounting Policies and Estimates" above.

(iii) Pension annuity purchases:

In March 2017, the trustees of our main U.K. pension plan entered into an agreement with a third party insurance company to purchase an annuity for participants in such plan who have retired. The purchase of this annuity resulted in a non-cash loss of \$17.0 million which we recorded in other comprehensive income (OCI) and simultaneously re-classified to deficit during the first quarter of 2017. In April 2017, the trustees of our supplementary U.K. pension plan entered into an agreement with a third party insurance company to purchase an annuity for all participants of this plan, all of whom are retired. The purchase of this annuity resulted in a non-cash loss of \$1.9 million which we recorded during the second quarter of 2017 in other charges in our consolidated statement of operations, as we anticipated winding up this plan after the purchase of the annuity (see note 16(b) to our 2019 AFS). The wind-up of the supplementary pension plan was completed in 2019. In June 2018, the trustees of the main U.K. pension plan entered into an agreement with a third party insurance company to purchase an annuity for participants in such plan who have not yet retired. The purchase of this annuity resulted in a non-cash loss of \$63.3 million for the second quarter of 2018 which we recorded in OCI and simultaneously re-classified to deficit. The cost of the annuities is subject to a true-up adjustment in the near term, and we may be required to pay additional premium amounts after completion of data verification of all participants.

(iv) Losses on post-employment benefit plan (Post-employment Benefit Plan Losses):

During Q4 2019, we recorded non-cash charges of \$4.1 million, representing additional obligations under our Thailand post-employment benefit plan as a result of recent changes in labor protection laws in Thailand that increase severance benefits for specified employees upon termination.

(v) Transition Costs (Recoveries):

Transition Costs consist of Toronto Transition Costs and, commencing in Q3 2019, Internal Relocation Costs, each of which are defined under the caption "Non-IFRS measures" below. We recorded \$3.8 million of Toronto Transition Costs in 2019 (2018 — \$13.2 million; 2017 — \$1.6 million). We recorded \$2.4 million of Internal Relocation Costs in 2019 (2018 and 2017 — nil). Transition Recoveries consist of the \$102.0 million gain we recorded on the sale of our Toronto real property in Q1 2019

(Property Gain). See "Liquidity — Toronto Real Property and Related Transactions" below for a discussion of the sale of our Toronto real property and related relocations, including transition and capital costs incurred in connection therewith.

(vi) Credit Facility-related charges:

During the second quarter of 2018, we recorded a \$1.2 million charge to accelerate the amortization of unamortized deferred financing costs related to the extinguishment of a prior credit facility. During Q4 2019, we incurred \$2.0 million in fees in connection with obtaining waivers in October 2019 related to our non-compliance with certain restrictive covenants under our current credit facility (Waiver Fees). See "Capital Resources" below.

(vii) Acquisition Costs and Other:

We incur consulting, transaction and integration costs relating to potential and completed acquisitions, including with respect to Atrenne and Impakt. We also incurred \$2.2 million in charges in 2019 related to the subsequent re-measurement of indemnification assets recorded in connection with our Impakt acquisition. Collectively, these costs and charges are referred to as Acquisition Costs. During 2019, we recorded \$3.9 million (2018 — \$11.0 million; 2017 — \$4.5 million) in Acquisition Costs. See note 3 to our 2019 AFS. Acquisition Costs in 2019 and 2017 were offset in part by legal recoveries in connection with the settlement of class action lawsuits in which we were a plaintiff. Additionally, the 2017 recoveries of \$1.1 million were partially offset by costs we recorded for unrelated legal matters.

Income taxes:

For 2019, we had a net income tax expense of \$29.5 million on earnings before tax of \$99.8 million, compared to a net income tax recovery of \$17.0 million on earnings before tax of \$81.9 million for 2018, and a net income tax expense of \$27.6 million on earnings before tax of \$133.1 million for 2017. Our 2019 earnings before tax included the Property Gain (discussed above), which had no net tax impact, as such gain was offset by the utilization of previously unrecognized tax losses.

Our net income tax expense of \$29.5 million for 2019 was favorably impacted by \$6.4 million in tax benefits arising from return-to-provision adjustments for changes in estimates related to prior years, based on changes in facts or circumstances, and an aggregate of \$4.5 million in reversals of certain previously-recorded tax liabilities and uncertainties, offset in part by \$6.0 million of deferred tax expense arising from taxable temporary differences associated with the anticipated repatriation of undistributed earnings from certain of our Chinese and Thai subsidiaries. We currently expect to repatriate cash from these subsidiaries in the near future and have recorded a deferred tax liability in connection therewith. Upon repatriating the cash, we will reverse this deferred tax liability and record a current income tax expense for withholding taxes. Our functional and reporting currency is the U.S. dollar; however, our income tax expense is based primarily on taxable income determined in the currency of the country of origin. As a result, foreign currency translation differences impact our income tax expense from period to period. While our net income tax expense included taxable foreign exchange impacts (Currency Impacts) from fluctuations in foreign currencies relative to the U.S. dollar during each quarter of 2019, overall net Currency Impacts for 2019 were not significant.

Our net income tax recovery for 2018 of \$17.0 million was favorably impacted by the recognition of \$3.7 million and \$49.6 million of previously unrecognized deferred tax assets in our U.S. group of subsidiaries as a result of our Atrenne and Impakt acquisitions, respectively (the benefit pertaining to Impakt is referred to as the Impakt Benefit), which largely offset the \$56.6 million in net deferred tax liabilities that arose in connection with such acquisitions, as well as the reversal of \$6.0 million of previously-accrued Mexican income taxes, to reflect the terms of an approved bi-lateral advance pricing arrangement between the U.S. and Mexican tax authorities in the second quarter of 2018. These income tax benefits were offset, in part, by adverse Currency Impacts arising primarily from the weakening of the Malaysian ringgit and Chinese renminbi relative to the U.S. dollar.

Our net income tax expense for 2017 of \$27.6 million was favorably impacted by the recognition of a \$4.3 million deferred income tax benefit (Solar Benefit) related to our solar assets (discussed below), as well as favorable Currency Impacts resulting from the strengthening of the Malaysian ringgit and Chinese renminbi relative to the U.S. dollar, which were offset in part by \$4.0 million in deferred income tax expense related to taxable temporary differences associated with the then-anticipated repatriation of undistributed earnings from certain of our Chinese subsidiaries, and a \$2.0 million deferred income tax expense related to the U.S. Tax Cuts and Jobs Act (discussed below). In connection with our exit from the solar panel manufacturing business, we withdrew one of our tax incentives in Thailand (which related solely to such operations) during the second quarter of 2017. The withdrawal of this incentive allowed us to apply tax losses arising from the disposition of our solar assets against other taxable profits in Thailand, resulting in the recognition of the Solar Benefit in 2017 and ultimately realized in 2018.

Based on currently available information, we continue to believe that the impact of the U.S. Tax Cuts and Jobs Act (effective January 1, 2018) will not be material. No significant amounts resulting from this legislation were recorded during 2019 or 2018 (2017 — recorded deferred income tax expense of \$2.0 million). See note 20 to our 2019 AFS.

We conduct business operations in a number of countries, including countries where tax incentives have been extended to encourage foreign investment or where income tax rates are low. Our effective tax rate can vary significantly from period to period for various reasons, including as a result of the mix and volume of business in various tax jurisdictions, and in jurisdictions with tax holidays and tax incentives that have been negotiated with the respective tax authorities (see discussion below). Our effective tax rate can also vary due to the impact of restructuring charges, foreign exchange fluctuations, operating losses, cash repatriations, certain tax exposures, the time period in which losses may be used under tax laws and whether management believes it is probable that future taxable profit will be available to allow us to recognize deferred income tax assets.

Certain countries in which we do business grant tax incentives to attract and retain our business. Our tax expense could increase significantly if certain tax incentives from which we benefit are retracted. A retraction could occur if we fail to satisfy the conditions on which these tax incentives are based, or if they are not renewed or replaced upon expiration. Our tax expense could also increase if tax rates applicable to us in such jurisdictions are otherwise increased, or due to changes in legislation or administrative practices. Changes in our outlook in any particular country could impact our ability to meet the required conditions.

We have three income tax incentives in Thailand with varying exemption periods (one of our previous Thailand tax incentives expired in October 2019). Two of these incentives initially allow for a 100% income tax exemption (including distribution taxes), which after eight years transition to a 50% income tax exemption for the next five years (excluding distribution taxes). One of these incentives expires in 2020, and the other will transition to the 50% exemption in 2022 and expire in 2027. We obtained a new Thailand incentive in Q4 2019, which allows for a 100% income tax exemption (including distribution taxes) for a period of eight years, and will expire in 2027. Upon full expiry of each of the incentives, taxable profits associated with such expired tax incentives become fully taxable. Based on our anticipated 2020 levels of business in Thailand, we estimate an increase to our effective tax rate by approximately 1% as a result of the 2019 and 2020 expiry of two of our Thailand tax incentives, assuming that our efforts to transition some or all of such businesses to other remaining incentives are unsuccessful. Our tax expense could increase significantly if certain tax incentives from which we benefit are retracted.

In certain jurisdictions, primarily in the Americas and Europe, we currently have significant net operating losses and other deductible temporary differences, some of which we expect will be used to reduce taxable income in these jurisdictions in future periods, although not all are currently recognized as deferred tax assets. In addition, the tax benefits we are able to record related to restructuring charges and SBC expenses are limited, as a significant portion of such amounts are incurred in jurisdictions with unrecognized loss carryforwards. Tax benefits we are able to record related to the accounting amortization of intangible assets are also limited based on the structure of our recent acquisitions. We review our deferred income tax assets at each reporting date and reduce them to the extent we believe it is no longer probable that we will realize the related tax benefits.

We develop our tax filing positions based upon the anticipated nature and structure of our business and the tax laws, administrative practices and judicial decisions currently in effect in the jurisdictions in which we have assets or conduct business, all of which are subject to change or differing interpretations, possibly with retroactive effect. We are subject to tax audits in various jurisdictions which could result in additional tax expense in future periods relating to prior results. Reviews by tax authorities generally focus on, but are not limited to, the validity of our inter-company transactions, including financing and transfer pricing policies which generally involve subjective areas of taxation and significant judgment. Any such increase in our income tax expense and related interest and/or penalties could have a significant adverse impact on our future earnings and future cash flows.

In 2017, the Brazilian Ministry of Science, Technology, Innovation and Communications issued assessments seeking to disqualify certain research and development (R&D) expenses for the years 2006 to 2009, which entitled our Brazilian subsidiary (which ceased operations in 2009) to charge reduced sales tax levies to its customers. The assessments against our Brazilian subsidiary, which (including interest and penalties) total approximately 39 million Brazilian real (approximately \$10 million at year-end exchange rates) for such years, remain under appeal. Although we cannot predict the outcome of this matter, we believe that our R&D activities for the period are supportable, and it is probable that our position will be sustained upon full examination by the appropriate Brazilian authorities and, if necessary, upon consideration by the Brazilian judicial courts. Our position is supported by our Brazilian legal advisers. There were no changes in the status of this matter during 2018 or 2019.

The successful pursuit of assertions made by any taxing authority could result in our owing significant amounts of tax, interest and possibly penalties. We believe we adequately accrue for any probable potential adverse tax ruling. However, there can be no assurance as to the final resolution of any claims and any resulting proceedings. If any claims and any ensuing proceedings are determined adversely to us, the amounts we may be required to pay could be material, and in excess of amounts accrued.

Net earnings:

Net earnings for 2019 decreased \$28.6 million compared to 2018. The decrease was primarily due to \$45.8 million in lower gross profit, \$8.3 million in higher SG&A expenses, \$14.2 million in higher amortization of intangible assets (with respect to SG&A and intangibles amortization, both primarily due to our Atrenne and Impakt acquisitions in 2018), \$25.1 million in higher Finance Costs (defined in "Liquidity — Finance Costs" below) in 2019 as compared to 2018, and \$46.5 million in higher income tax expenses (primarily due to the \$49.6 million Impakt Benefit recorded in 2018), partially offset by the \$102.0 million Property Gain in Q1 2019.

Net earnings for 2018 decreased \$6.6 million compared to 2017. The decrease was primarily due to \$24.0 million in higher other charges (primarily restructuring charges, Acquisition Costs and Toronto Transition Costs), \$14.3 million in higher Finance Costs (defined in "Liquidity — Finance Costs" below), and \$6.5 million in higher amortization of intangibles in 2018 as compared to 2017, offset in part by \$44.6 million in lower income taxes in 2018 compared to 2017 (primarily due to the \$49.6 million Impakt Benefit).

Liquidity and Capital Resources

Liquidity

The following tables set forth key liquidity metrics for the periods indicated (in millions):

	December 31		
	2017	2018	2019
Cash and cash equivalents	\$ 515.2	\$ 422.0	\$ 479.5
Borrowings under credit facility*	187.5	757.3	592.3

* excluding ordinary course letters of credit.

	Year ended December 31		
	2017	2018	2019
Cash provided by operating activities	\$ 127.0	\$ 33.1	\$ 345.0
Cash provided by (used in) investing activities	(89.3)	(545.6)	38.7
Cash provided by (used in) financing activities	(79.7)	419.3	(326.2)
Changes in non-cash working capital items (included in operating activities above):			
A/R	\$ (6.3)	\$ (155.4)	\$ 153.7
Inventories	(139.6)	(224.0)	97.7
Other current assets	(2.0)	7.6	16.5
A/P, accrued and other current liabilities and provisions	51.8	227.0	(158.8)
Working capital changes	<u>\$ (96.1)</u>	<u>\$ (144.8)</u>	<u>\$ 109.1</u>

Cash provided by operating activities:

In 2019, we generated \$345.0 million of cash from operating activities compared to \$33.1 million in 2018. The \$311.9 million increase in cash from operating activities in 2019 as compared to 2018 was primarily due to \$253.9 million in lower working capital requirements. Lower working capital requirements were primarily due to cash improvements of: (i) \$309.1 million in A/R cash flows, which resulted primarily from the timing of collections; (ii) \$321.7 million in inventory cash flows, which reflect successful inventory management, as well as the impact of disengaged programs, offset in part by the impact of materials

constraints, as well as the build-up of inventory for new program ramps in both of our segments; and (iii) \$64.0 million in higher customer cash deposits, offset in part by a \$449.8 million reduction in A/P cash flows, reflecting the timing of payments.

In 2018, we generated \$33.1 million of cash from operating activities compared to \$127.0 million in 2017. The decrease of \$93.9 million was primarily due to \$48.7 million in higher working capital requirements and \$51.2 million in lower earnings before income taxes in 2018 as compared to 2017. Higher working capital requirements were primarily due to cash reductions of (i) \$149.1 million in A/R cash flows, due to higher amounts and the timing of revenue earned during 2018; and (ii) \$84.4 million in inventory cash flows, which reflected demand reductions from certain of our customers in each of our segments, materials constraints primarily from CCS segment suppliers during 2018, and requirements to support new program ramps, each factor causing us to carry higher than expected levels of inventory at December 31, 2018 compared to 2017; offset in part by a \$175.2 million improvement in A/P cash flows, which reflects increased inventory purchases during 2018.

From time to time, we extend payment terms applicable to certain customers, and/or provide longer payment terms to new customers or with respect to new programs. If this becomes more prevalent, it could adversely impact our working capital requirements, and increase our financial exposure and credit risk. To substantially offset the effect of extended payment terms for particular customers on our working capital, we participate in two customer supplier financing programs (SFPs) (one with a CCS segment customer, and commencing in Q4 2019, one with an ATS segment customer), pursuant to which we sell A/R from such customers to third-party banks on an uncommitted basis to receive earlier payment. At December 31, 2019, we sold \$50.4 million of A/R under the SFPs, consisting of \$18.3 million under the SFP with the CCS segment customer and \$32.1 million under the SFP with the ATS segment customer (December 31, 2018 — \$50.0 million under the SFP with the CCS segment customer). The decrease in amounts of A/R sold under the CCS customer SFP in 2019 as compared to 2018 (\$31.7 million) reflects our disengagement from various programs with that customer as a result of our CCS Review. We pay discount charges with respect to these arrangements, which we record as finance costs in our consolidated statement of operations.

Free cash flow (non-IFRS):

Non-IFRS free cash flow is defined as cash provided by or used in operations after the purchase of property, plant and equipment (net of proceeds from the sale of certain surplus equipment and property), lease payments (including lease payments under IFRS 16), repayments from a former solar supplier (2017), and Finance Costs (defined below) paid (excluding debt issuance costs paid and Waiver Fees paid). As a measure of liquidity, and consistent with the inclusion of our Toronto relocation capital expenditures and Toronto Transition Costs in non-IFRS free cash flow in the periods incurred, we have included the \$113.0 million in proceeds from the sale of our Toronto real property (Toronto Proceeds) in non-IFRS free cash flow in 2019 (the year of receipt). We incurred debt issuance costs in connection with our current credit facility (upon execution and subsequent security arrangements), as well as \$2.0 million in Waiver Fees in Q4 2019, neither of which we consider to be part of our core operating expenses. As a result, we modified our non-IFRS free cash flow calculation: (i) commencing in Q1 2019, to exclude debt issuance costs from total Finance Costs paid (\$2.9 million in 2019; \$12.9 million in 2018; nil in 2017); and (ii) in Q4 2019, to exclude the Waiver Fees (which are recorded in other charges). Prior period comparatives have been restated, where applicable, to conform to the current presentation. In addition, as of January 1, 2019, as a result of our adoption of IFRS 16 (Leases), we modified our non-IFRS free cash flow calculation to subtract lease payments under IFRS 16, as such payments were previously (but are no longer) reported in cash provided by (used in) operations. IFRS 16 did not require the restatement of prior period financial statements. Accordingly, and in order to preserve comparability with prior calculations, commencing in Q1 2019, such lease payments are subtracted from cash provided by (used in) operations in our determination of non-IFRS free cash flow. Note, however, that non-IFRS free cash flow does not represent residual cash flow available to Celestica for discretionary expenditures. Management uses non-IFRS free cash flow as a measure, in addition to IFRS cash provided by or used in operations, to assess our operational cash flow performance. We believe non-IFRS free cash flow provides another level of transparency to our liquidity. A reconciliation of this measure to cash provided by operating activities measured under IFRS is set forth below (in millions):

	Year ended December 31		
	2017 (restated)	2018 (restated)	2019
IFRS cash provided by operations.....	\$ 127.0	\$ 33.1	\$ 345.0
Purchase of property, plant and equipment, net of sales proceeds	(101.8)	(78.5)	36.0
Lease payments.....	(6.5)	(17.0)	(38.2)
Repayments from former solar supplier	12.5	—	—
Finance costs paid (excluding debt issuance costs and Waiver Fees paid)	(10.2)	(23.1)	(41.6)
Non-IFRS free cash flow.....	<u>\$ 21.0</u>	<u>\$ (85.5)</u>	<u>\$ 301.2</u>

Our non-IFRS free cash flow (defined above) of positive \$301.2 million for 2019 increased \$386.7 million compared to 2018, primarily due to higher cash generated from operating activities (discussed above) and the \$113.0 million in Toronto Proceeds received in March 2019 (included in "purchase of property, plant and equipment, net of sales proceeds" in the table above).

Our non-IFRS free cash flow of negative \$85.5 million for 2018 decreased \$106.5 million compared to 2017, primarily due to lower cash generated from operating activities in 2018 (discussed above) as compared to 2017, as well as higher interest costs incurred on our higher borrowings in 2018 compared to 2017, and \$11.3 million of lease payments (including accrued interest and fees) we made to settle outstanding solar equipment leases in the first quarter of 2018. These decreases were offset by \$20.4 million in lower capital expenditures in 2018 as compared to 2017 (see "Cash used in investing activities" below). In addition, 2017 benefited from the repayment of \$12.5 million of advances from a former solar supplier.

Cash provided by (used in) investing activities:

Our capital expenditures for 2019 were \$80.5 million (2018 — \$82.2 million; 2017 — \$102.6 million), primarily to enhance our manufacturing capabilities in various geographies and to support new customer programs (2019 — split approximately evenly between our segments; 2018 — approximately two-thirds of the equipment additions were in support of our ATS segment; 2017 — split approximately evenly between our segments). See footnote (iii) to the "Additional Commitments" table below for information with respect to commitments for capital expenditures as of December 31, 2019. Our capital expenditures for 2019 included \$5.0 million related to our temporary corporate headquarters (nil prior thereto), and \$1.2 million in building improvements and new machinery at our new Toronto manufacturing site (2018 — approximately \$15 million; 2017 — nil). Capital expenditures in 2017 also included expanding one of our production sites in Romania to support new ATS customers. We fund our capital expenditures from cash on hand and through the financing arrangements described under "Capital Resources" below. From time-to-time, we receive cash proceeds from the sale of surplus equipment and property (2019 — \$116.5 million; 2018 — \$3.7 million; 2017 — \$0.8 million). The Toronto Proceeds were reported as cash provided by investing activities in 2019.

In April 2018, we paid \$141.7 million for our acquisition of Atrenne, and in November 2018, we paid \$325.4 million for our acquisition of Impakt. See "Financing" below. In accordance with the finalization in 2019 of applicable working capital adjustments, the final purchase price for our Atrenne and Impakt acquisitions was reduced by \$1.4 million and \$1.3 million, respectively.

In 2017, we received cash advance repayments of \$12.5 million from a former solar supplier.

Cash provided by (used in) financing activities:

Share repurchases:

See "Summary of Key Operating Results and Financial Information" above for a table detailing repurchases of SVS under our NCIBs for 2017 to 2019.

Financing:

In June 2018, we entered into an \$800.0 million credit facility (Credit Facility) providing a \$350.0 million term loan (Initial Term Loan) and a \$450.0 million revolver (Revolver). In November 2018, we added a \$250.0 million term loan (Incremental Term Loan). The Initial Term Loan and the Incremental Term Loan are collectively referred to as the Term Loans. Prior to the Credit Facility, we were party to a credit facility (Prior Facility) that consisted of a \$300.0 million revolver (Prior Revolver) and a \$250.0 million term loan (Prior Term Loan). The Prior Facility is described under the "Capital Resources" section of our Annual Report on Form 20-F for the year ended December 31, 2018.

During Q1 2019, we borrowed \$48.0 million under the Revolver, primarily to fund share repurchases, and later during that quarter, repaid \$110.0 million of the outstanding amount under the Revolver, using the Toronto Proceeds. During the second and third quarters of 2019, we repaid an aggregate of \$97.0 million (representing the remainder) of the amount outstanding under the Revolver. During 2019, we made aggregate scheduled principal repayments of \$6.0 million under the Term Loans.

During the second quarter of 2018, we borrowed \$163.0 million under the Prior Revolver, primarily to fund the Atrenne acquisition and for working capital requirements. We repaid such amounts and the \$175.0 million then-outstanding under our Prior Term Loan in June 2018 (terminating the entire prior facility), using proceeds from the Initial Term Loan. During the third quarter of 2018, we borrowed \$55.0 million under the Revolver for working capital purposes. During Q4 2018, we borrowed \$339.5 million under the Revolver to fund the Impakt acquisition. The net proceeds of the Incremental Term Loan were used to repay

\$245.0 million of the outstanding amounts under the Revolver. During 2018, we made aggregate scheduled principal repayments of \$1.7 million under the Initial Term Loan and \$12.5 million under the Prior Term Loan.

During 2017, we made aggregate scheduled principal repayments of \$25.0 million under the Prior Term Loan and repaid \$15.0 million outstanding under the Prior Revolver.

Outstanding credit facility balances and interest rates as of December 31, 2019 are discussed below.

Finance Costs:

Finance Costs consist of interest expense and fees related to our Credit Facility (including debt issuance and related amortization costs), our interest rate swap agreements, our A/R sales program and SFPs, and commencing in Q1 2019, interest expense on our lease obligations under IFRS 16, net of interest income earned. Finance Costs do not include the \$2.0 million of Waiver Fees, which we recorded in other charges in Q4 2019 (see "Operating Results" above). During 2019, we paid Finance Costs of \$44.5 million (2018 — \$36.0 million; 2017 — \$10.2 million) including debt issuance costs paid of \$2.9 million (2018 — \$12.9 million; 2017 — nil) in connection with the Credit Facility (upon execution and subsequent security arrangements). The increase in Finance Costs from 2018 to 2019 was primarily due to higher interest expense under our Credit Facility resulting from higher average borrowings throughout 2019 compared to 2018, and higher interest rates particularly in the first half of 2019 compared to 2018. Finance Costs increased in 2018 as compared to 2017 as a result of higher interest expense due to increased borrowings to fund our 2018 acquisitions, higher fees associated with the increased sale of A/R in 2018 as compared to 2017, and higher interest costs in 2018 as compared to 2017 due to rising interest rates (as a result of increases in LIBOR). (see "Cash Requirements" below).

Lease payments:

During 2019, we paid \$38.2 million (2018 — \$17.0 million; 2017 — \$6.5 million) in lease payments (see "Cash Requirements" below), including \$35.3 million (2018 — nil; 2017 — nil) for lease payments under IFRS 16 (effective January 1, 2019). Lease payments during 2018 included \$11.3 million (including fees and accrued interest) we paid in January 2018 to settle and terminate our then-remaining solar panel equipment leases. Lease payments reduce our non-IFRS free cash flow. See "Non-IFRS free cash flow" above for a discussion of modifications to our calculation of such measurement with respect to lease payments under IFRS 16. At December 31, 2019, we had a total of \$116.1 million in lease obligations outstanding (December 31, 2018 — \$10.4 million; December 31, 2017 — \$17.7 million in lease obligations outstanding).

Cash requirements:

We maintain the Revolver, uncommitted bank overdraft facilities, an uncommitted A/R sales program (our previous A/R sales program terminated January 15, 2020, and was replaced with a new program effective March 6, 2020), and we participate in two uncommitted SFPs to provide short-term liquidity and to have funds available for working capital and other investments to support our strategic priorities. See "Capital Resources" below for a discussion of swing line and letter of credit sub-limits under the Revolver, as well as the accordion feature of the Credit Facility. Our working capital requirements can vary significantly from month-to-month due to a range of business factors, including the ramping of new programs, expansion of our services and business operations, timing of purchases, higher levels of inventory for new programs and anticipated customer demand, timing of payments and A/R collections, and customer forecasting variations. The international scope of our operations may also create working capital requirements in certain countries while other countries generate cash in excess of working capital needs. Moving cash between countries on a short-term basis to fund working capital is not always expedient due to local currency regulations, tax considerations, and other factors. To meet our working capital requirements and to provide short-term liquidity, we may draw on the Revolver, sell A/R through our A/R sales program or participate in the SFPs, while available. The timing and the amounts we borrow or repay under these facilities can vary significantly from month-to-month depending upon our cash requirements. As at December 31, 2019, other than ordinary course letters of credit, no amounts were outstanding under the Revolver (December 31, 2018 — \$159.0 million outstanding under the Revolver; December 31, 2017 — no amounts outstanding under the Prior Revolver). At December 31, 2019, \$90.6 million (December 31, 2018 — \$130.0 million; December 31, 2017 — \$80.0 million) of A/R were sold under our A/R sales program, and \$50.4 million of A/R were sold under the SFPs, consisting of \$18.3 million under the SFP with the CCS segment customer and \$32.1 million under the SFP with the ATS segment customer (December 31, 2018 — \$50.0 million sold under the SFP with the CCS segment customer; December 31, 2017 — \$52.3 million sold under the SFP with the CCS customer), in each case as a cost-effective alternative to drawing additional amounts on our Revolver to meet our ordinary course cash requirements, and to offset the effect of extended payment terms for particular customers on our working capital. See "Capital Resources" below.

As part of our strategic initiatives to scale and diversify our ATS revenue base and expand our capabilities in our ATS segment, we have increased our levels of third-party indebtedness in order to fund acquisitions and working capital needs. However, we do not believe that the aggregate amounts outstanding under our Credit Facility as at December 31, 2019 (described under "Capital Resources" below), or the \$107.0 million mandatory Term Loan prepayment requirement in 2020 (described below) have had (or will have) a significant adverse impact on our liquidity, our results of operations or financial condition. At December 31, 2019, we had \$428.8 million available under our Revolver for future borrowings, reflecting outstanding borrowings (none) and letters of credit (December 31, 2018 — \$269.7 million available; December 31, 2017 — \$276.8 million available). We believe that cash flow from operating activities (notwithstanding anticipated CCS segment revenue declines described in the "Overview" above), together with cash on hand, remaining availability under the Revolver, intra-day and overnight bank overdraft facilities, and cash from the sale of A/R, will continue to be sufficient to fund our currently anticipated working capital needs and planned capital spending (including the commitments described elsewhere herein). In addition, we believe that our current level of leverage is acceptable for a company of our size and that we will remain in compliance with restrictive and financial covenants under the Credit Facility.

Notwithstanding the foregoing, however, our increased indebtedness, together with the mandatory prepayment provisions of the Credit Facility (described below), may reduce our ability to fund future acquisitions and/or to respond to unexpected capital requirements, will require us to use an increased amount of our cash flow to service such debt, and may also: require us to pursue additional term loan financing for potential investments, which may not be available on acceptable terms, or at all; limit our ability to obtain additional financing for working capital, business activities, and other general corporate requirements; limit our ability to refinance our indebtedness on terms acceptable to us or at all; limit our flexibility to plan for and adjust to changing business and market conditions, and increase our vulnerability to general adverse economic and industry conditions (collectively, Potential Debt Limitations).

In addition, the Credit Facility contains restrictive covenants that limit our ability to engage in specified types of transactions, as well as specified financial covenants (described in "Capital Resources" below). Our ability to maintain compliance with such financial covenants will depend on our ongoing financial and operating performance, which, in turn, may be impacted by economic conditions and financial, market, and competitive factors, many of which are beyond our control. A breach of any such covenants could result in a default under the instruments governing our indebtedness. See "Capital Resources" below for a discussion of certain covenant waivers obtained in Q4 2019.

In addition to required aggregate quarterly principal repayments on the Term Loans of \$1.5 million, commencing in 2020, we will be required to make an annual prepayment of outstanding obligations under the Credit Facility (applied first to the Term Loans, then to the Revolver, in the manner set forth in the Credit Facility), ranging from 0% — 50% (based on a defined leverage ratio) of specified excess cash flow (as defined in the Credit Facility) for the prior fiscal year. Prepayments of \$107.0 million will be required in the second quarter of 2020 based on this provision, which we intend to fund with cash on hand. The Toronto Proceeds were included in the determination of excess cash flow for 2019. In addition, prepayments of outstanding obligations under the Credit Facility (applied as described above) may also be required in the amount of specified net cash proceeds received above a specified annual threshold (including proceeds from the disposal of certain assets, but excluding the Toronto Proceeds). Repaid amounts on the Term Loans may not be re-borrowed. Repaid amounts on the Revolver may be re-borrowed.

Interest expense under the Credit Facility, based on interest rates and amounts then outstanding, and including the impact of our interest rate swap agreements, was \$36.8 million in 2019, including \$8.5 million for Q4 2019 (2018 — interest expense of \$18.4 million; 2017 — interest expense of \$8.0 million). Any increase in prevailing interest rates, margins, or amounts outstanding, would cause this amount to increase (see discussion below). In 2019, we recorded \$2.5 million in amortization of debt issuance costs (2018 — \$1.0 million; 2017 — \$0.7 million). Commitment fees (see footnote (i) in the contractual obligations table below) paid during 2019 were \$1.3 million (2018 — \$1.3 million; 2017 — \$1.3 million). During Q4 2019, we incurred \$2.0 in Waiver Fees which we recorded in Other Charges.

As at December 31, 2019, a significant portion of our cash and cash equivalents was held by foreign subsidiaries outside of Canada, a large part of which may be subject to withholding taxes upon repatriation under current tax laws. Cash and cash equivalents held by subsidiaries related to undistributed earnings that are considered indefinitely reinvested outside of Canada (which we do not intend to repatriate in the foreseeable future) are not subject to these withholding taxes. We currently expect to repatriate approximately \$117 million from various foreign subsidiaries in the near term, and have recorded any anticipated future withholding taxes as deferred income tax liabilities. While some of our subsidiaries are subject to local governmental restrictions on the flow of capital into and out of their jurisdictions (including in the form of cash dividends, loans or advances to us), which is required or desirable from time to time to meet our international working capital needs and other business objectives (as described above), these restrictions have not had a material impact on our ability to meet our cash obligations. At December 31, 2019, we had approximately \$344 million (December 31, 2018 — \$355 million) of cash and cash equivalents held by foreign subsidiaries outside of Canada that we do not intend to repatriate in the foreseeable future.

We may use cash on hand, issue debt or equity securities, or further increase our levels of third-party indebtedness (or any combination of the foregoing) to fund operations and/or make additional acquisitions. Any significant use of cash would adversely impact our cash position and liquidity. Any issuance or incurrence of additional debt would increase our debt leverage and interest expense and may reduce our debt agency ratings. In addition, any issuance of equity or convertible debt securities could dilute current shareholders' positions; debt or convertible debt securities could have rights and privileges senior to those of equity holders; and the terms of debt securities could impose restrictions on our operations. Sales (or the perception of sales) of our equity securities or convertible debt could also cause the market price of our SVS to decline. Any further increase in our overall debt levels would require us to use additional cash flow to service such debt, may further adversely impact our ability to fund future acquisitions and/or respond to unexpected capital requirements, may impose additional restrictive covenants on our operations, and may result in (among other things) any or all of the Potential Debt Limitations.

Tabular Disclosure of Contractual Obligations

As at December 31, 2019, we had known contractual obligations that require future payments as follows (in millions):

	Total	2020	2021	2022	2023	2024	Thereafter
Borrowings under Credit Facility ⁽ⁱ⁾	\$ 592.3	\$ 113.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 455.3
Lease obligations*	134.9	34.1	27.4	22.1	17.1	11.2	23.0
Pension plan contributions ⁽ⁱⁱ⁾	13.1	13.1	—	—	—	—	—
Non-pension post-employment plan payments	44.3	4.4	2.9	3.3	4.0	3.7	26.0
Binding purchase order obligations ⁽ⁱⁱⁱ⁾	919.7	919.7	—	—	—	—	—
Purchase obligations under IT support agreements	134.8	24.4	18.6	14.9	14.5	12.6	49.8
Total ^(iv)	<u>\$ 1,839.1</u>	<u>\$ 1,108.7</u>	<u>\$ 54.9</u>	<u>\$ 46.3</u>	<u>\$ 41.6</u>	<u>\$ 33.5</u>	<u>\$ 554.1</u>

* Includes ROU lease obligations under IFRS 16, effective January 1, 2019, which eliminated the distinction between operating and finance leases.

- (i) Represents mandatory scheduled principal repayment obligations for our borrowings under the Term Loans, based on amounts outstanding as of December 31, 2019, and mandatory principal prepayments on the Term Loans in 2020 based on specified excess cash flow for 2019, but excludes related interest and fees. Under the Credit Facility, we are required to pay a commitment fee on the unused portion of the Revolver, which is calculated based on the daily balance outstanding (2019 — \$1.3 million, 2018 — \$1.3 million, 2017 — \$1.3 million). Borrowings under the Revolver, and remaining borrowings under the Term Loans, are due upon maturity. The Revolver and Term Loans mature in June 2023 and June 2025, respectively. See "Liquidity — Cash requirements" above for a description of scheduled principal repayments and mandatory prepayments required under the Credit Facility. We are currently unable to determine whether further mandatory principal prepayments of the Term Loans based on specified excess cash flow or cash proceeds will be required subsequent to 2020. The Initial Term Loan currently bears interest at LIBOR plus 2.125%. The Incremental Term Loan currently bears interest at LIBOR plus 2.5%. Interest expense and fees under the Credit Facility, including the impact of our interest rate swap agreements, was approximately \$37 million for 2019. Any increase in prevailing interest rates, margins, or amounts outstanding compared to 2019, would cause this amount to increase. Payment defaults under the credit facility will incur interest on unpaid amounts at an annual rate equal to the sum of (i) 2%, plus (ii) the rate per annum otherwise applicable to such unpaid amounts, or if no rate is specified or available, the rate per annum applicable to Base Rate revolving loans. If an event of default occurs and is continuing, the administrative agent may declare all advances on the facility to be immediately due and payable, and may cancel the lenders' commitments to make further advances thereunder. See "Capital Resources" below and note 12 to our 2019 AFS for a description of the Credit Facility, including amounts outstanding thereunder, repayment dates and applicable interest rates and margins.
- (ii) Based on our latest actuarial valuations, we estimate our funding requirement for 2020 to be \$13.1 million (2019 — funding requirement of \$12.0 million; 2018 — funding requirement of \$13.3 million). See note 19 to our 2019 AFS. A significant deterioration in the asset values or asset returns could lead to higher than expected future contributions. Risks and uncertainties associated with actuarial valuation measurements may also result in higher future cash contributions. We fund our pension contributions from cash on hand. Although we have defined benefit plans that are currently in a net unfunded position, we do not expect our pension obligations will have a material adverse impact on our future results of operations, cash flows or liquidity.
- (iii) Represents outstanding purchase orders with suppliers to acquire inventory. These purchase orders are generally short-term in nature and legally binding. However, a substantial portion of these purchase orders are for standard inventory items which we have procured for specific customers based on their purchase orders or forecasts, under which such customers have contractually assumed liability for such material, if not consumed.
- (iv) This table excludes \$28.4 million of long-term deferred income tax liabilities and \$28.6 million of provisions and other non-current liabilities primarily pertaining to warranties and asset retirement obligations, as we are unable to reliably estimate the timing of any future payments related thereto. However, long-term liabilities included in our consolidated balance sheet include these items. In addition, our interest rate swap agreements require us to pay a fixed rate of interest with respect to an aggregate of \$350.0 million outstanding under the Term Loans. These payments, however, are partially offset by related interest we receive, based on the variable interest rates swapped. As the offsets are not determinable and vary from quarter to quarter, this table also excludes the interest payments on our interest rate swap agreements.

Additional Commitments:

As at December 31, 2019, we had additional commitments that expire as follows (in millions):

	<u>Total</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>Thereafter</u>
Foreign currency contracts and swaps ⁽ⁱ⁾	\$ 523.9	\$ 523.9	\$ —	\$ —	\$ —	\$ —	\$ —
Letters of credit, letters of guarantee and surety bonds ⁽ⁱⁱ⁾	34.5	26.5	3.4	—	—	—	4.6
Capital expenditures ⁽ⁱⁱⁱ⁾	6.0	6.0	—	—	—	—	—
Total	<u>\$ 564.4</u>	<u>\$ 556.4</u>	<u>\$ 3.4</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 4.6</u>

- (i) Represents the aggregate notional amounts of our forward currency contracts and swaps.
- (ii) Includes \$21.2 million in letters of credit issued under our Revolver.
- (iii) As at December 31, 2019, management had approved \$23.1 million for capital expenditures, primarily for machinery and equipment to support new customer programs (approximately one-third of which is committed for Europe, just over one-half of which is committed for Asia, and the remainder of which is committed for the Americas). Of such approved amount, \$6.0 million in purchase orders had been issued to third-party vendors as of December 31, 2019. Our capital spending varies each period based on the timing of new business wins and forecasted sales levels. Based on our current operating plans, we anticipate capital spending for 2020 to be approximately 1.5% to 2.0% of revenue, and expect to fund these expenditures from cash on hand and through the financing agreements described below under "Capital Resources." Our intended 2020 capital expenditures include the expansion of one of our Atrenne facilities to accommodate additional capacity for our defense customers, as well as new A&D licensing business.

Customer or program transfers between EMS providers are part of the competitive nature of our industry. From time-to-time, we make commitments to purchase assets, primarily inventory, or fund certain costs, as part of transitioning programs from a customer or a competitor. In September 2017, we purchased \$5 million of inventory and assumed the relevant workforce in connection with a program transferred to us under an "operate-in-place" arrangement.

Toronto Real Property and Related Transactions:

On July 23, 2015, we entered into an agreement of purchase and sale (Property Sale Agreement) with a special purpose entity (Property Purchaser) to sell our real property located in Toronto, Ontario. Upon execution of the Property Sale Agreement, we were paid a cash deposit of \$15 million Canadian dollars (\$11.2 million at the then-prevailing exchange rate). In September 2018, the Property Sale Agreement was assigned by the Property Purchaser to a new purchaser (Assignee). On March 7, 2019, we completed the sale of the Toronto real property and received the \$113.0 million in Toronto Proceeds, including a high density bonus and an early vacancy incentive related to the temporary relocation of our corporate headquarters. The \$102.0 million Property Gain was recorded in other charges (recoveries). See "Related Party Transactions" below for a description of the ownership of the Property Purchaser and its 5% non-voting interest in the Assignee.

In connection with the then-anticipated sale, we entered into a long-term lease in November 2017 for the relocation of our Toronto manufacturing operations, which was completed in February 2019. We also entered into a 10-year lease in March 2019 with the Assignee for our new corporate headquarters (described below), to be built by the Assignee on the site of our former location. In connection therewith, we completed the temporary relocation of our corporate headquarters in the second quarter of 2019 (pursuant to a 3-year lease executed in September 2018) while our new corporate headquarters is under construction. In connection with such relocations, we capitalized building improvements and equipment costs related to our new manufacturing site (totaling \$17 million from commencement in Q4 2017 through completion, of which \$1.2 million and \$15 million was incurred during 2019 and 2018, respectively) and our temporary corporate headquarters (\$5.0 million in 2019; nil prior thereto), as well as transition-related costs which we record in other charges (\$18.6 million since commencement, of which \$3.8 million and \$13.2 million was incurred in 2019 and 2018, respectively). Transition costs are comprised of direct relocation costs, duplicate costs (such as rent expense, utility costs, depreciation charges, and personnel costs) incurred during the transition periods, as well as cease-use costs incurred in connection with idle or vacated portions of the relevant premises that we would not have incurred but for these relocations. Our temporary headquarters relocation is complete, and we do not expect to incur further transition costs in connection therewith until the move to our new corporate headquarters commences.

The commencement date of the 10-year lease for our new corporate headquarters will be determined by the Assignee and is currently targeted to be May 2022. Upon such commencement, our estimated annual basic rent will be approximately \$2.5 million Canadian dollars for each of the first five years, and approximately \$2.7 million Canadian dollars for each of the remaining five years. We may, at our option, extend the lease for two further consecutive five-year periods.

Share Repurchases:

We have funded our share repurchases from cash on hand, borrowings under our revolving facilities, or a combination thereof. See "Cash provided by (used in) financing activities" above.

Indemnities:

We provide routine indemnifications, the terms of which range in duration and often are not explicitly defined. These may include indemnifications against third-party intellectual property infringement claims and certain third-party negligence claims for property damage. We have also provided indemnifications in connection with the sale of certain businesses and real property. The maximum potential liability from these indemnifications cannot be reasonably estimated. In some cases, we have recourse against other parties to mitigate our risk of loss from these indemnifications. Historically, we have not made significant payments relating to these types of indemnifications.

Litigation and contingencies:

In the normal course of our operations, we may be subject to lawsuits, investigations and other claims, including environmental, labor, product, customer disputes and other matters. Management believes that adequate provisions have been recorded where required. Although it is not always possible to estimate the extent of potential costs, if any, management believes that the ultimate resolution of all such pending matters will not have a material adverse impact on our financial performance, financial position or liquidity. See "Operating Results — Income Taxes" above for a description of a Brazilian sales tax matter.

Capital Resources

Our capital resources consist of cash provided by operating activities, access to the Revolver, intraday and overnight bank overdraft facilities, an A/R sales program (our previous A/R sales program terminated January 15, 2020, and was replaced with a new A/R sales program effective March 2020, as described below), the SFPs, and our ability to issue debt or equity securities. We regularly review our borrowing capacity and make adjustments, as permitted, for changes in economic conditions and changes in our requirements. We centrally manage our funding and treasury activities in accordance with corporate policies, and our main objectives are to ensure appropriate levels of liquidity, to have funds available for working capital or other investments that we determine are required to grow our business, to comply with debt covenants, to maintain adequate levels of insurance, and to balance our exposures to market risks.

At December 31, 2019, we had cash and cash equivalents of \$479.5 million (December 31, 2018 — \$422.0 million), of which approximately 93% was cash and 7% was cash equivalents, consisting of bank deposits. The majority of our cash and cash equivalents was denominated in U.S. dollars, and the remainder was held primarily in Chinese renminbi and the Euro. We also held cash and cash equivalents in the following currencies: British pound sterling, Brazilian real, Canadian dollar, Czech koruna, Hong Kong dollar, Indian rupee, Japanese yen, Korean won, Lao kip, Malaysian ringgit, Mexican peso, Philippines peso, Romanian leu, Singapore dollar, Taiwan dollar and Thai baht. Our cash and cash equivalents are subject to intra-quarter swings, generally related to the timing of A/R collections, inventory purchases and payments, and other capital uses.

In June 2018, we entered into the \$800.0 million Credit Facility, providing for the \$350.0 million Initial Term Loan and the \$450 million Revolver. In November 2018, we added the \$250.0 million Incremental Term Loan. As of December 31, 2019, an aggregate of \$592.3 million was outstanding under the Term Loans, and other than ordinary course letters of credit, no amounts were outstanding under the Revolver (December 31, 2018 — \$598.3 million was outstanding under the Term Loans, and other than ordinary course letters of credit, \$159.0 million was outstanding under the Revolver). See "Liquidity — *Cash provided by (used in) financing activities — Financing*" above for a discussion of amounts borrowed and repaid under our credit facilities during 2017, 2018 and 2019. Prior to execution of the Credit Facility, we were party to the Prior Facility (see "Liquidity — *Financing*" above).

The Initial Term Loan requires quarterly principal repayments of \$0.875 million, which commenced on September 30, 2018, and the Incremental Term Loan requires quarterly principal repayments of \$0.625 million, which commenced on March 31, 2019, and in each case, a lump sum repayment of the remainder outstanding at maturity. See "Liquidity — *Cash requirements*" above for a discussion of mandatory prepayments required under the Credit Facility, including the \$107.0 million mandatory

prepayment of the Term Loans required in 2020 with respect to excess cash flow for 2019. Except under specified circumstances, and subject to the payment of breakage costs (if any), we are generally permitted to make voluntary prepayments of outstanding amounts under the Revolver and the Term Loans without any other premium or penalty. Repaid amounts on the Term Loans may not be re-borrowed. Repaid amounts on the Revolver may be re-borrowed.

The Credit Facility has an accordion feature that allows us to increase the term loans and/or revolving loan commitments by approximately \$110 million, plus an unlimited amount to the extent that a specified leverage ratio on a pro forma basis does not exceed specified limits, in each case on an uncommitted basis and subject to the satisfaction of certain terms and conditions. The Revolver also includes a \$50.0 million sub-limit for swing line loans, providing for short-term borrowings up to a maximum of ten business days, as well as a \$150.0 million sub-limit for letters of credit, in each case subject to the overall Revolver credit limit. The Revolver permits us and certain designated subsidiaries to borrow funds (subject to specified conditions) for general corporate purposes, including for capital expenditures, certain acquisitions, and working capital needs. Borrowings under the Revolver bear interest at LIBOR, Canadian Prime, or Base Rate (each as defined in the Credit Facility) plus a specified margin, or in the case of any bankers' acceptance, at the B/A Discount Rate (as defined in the Credit Facility). The margin for borrowings under the Revolver ranges from 0.75% to 2.5%, depending on the rate we select and our consolidated leverage ratio. The Initial Term Loan currently bears interest at LIBOR plus 2.125%. The Incremental Term Loan currently bears interest at LIBOR plus 2.5%. The Credit Facility provides that when the Administrative Agent, the majority of lenders or the Company determines that LIBOR is unavailable or being replaced, the Administrative Agent and the Company may amend the underlying credit agreement to reflect a successor rate. Once LIBOR becomes unavailable, if no successor rate has been established, loans under the Credit Facility will convert to Base Rate loans.

As part of our risk management program, we attempt to mitigate interest rate risk through interest rate swaps. In order to partially hedge against our exposure to interest rate variability on the Term Loans, we entered into 5-year agreements with a syndicate of third-party banks in August and December 2018 to swap the variable interest rate with a fixed rate of interest on \$175.0 million of the total borrowings outstanding under each of the Initial Term Loan and the Incremental Term Loan (for an aggregate of \$350.0 million). The swap agreements include an option that allows us to cancel up to \$75.0 million of the notional amount of each of the original swap agreements, starting in August 2021 for the Initial Term Loan and December 2020 for the Incremental Term Loan. These options to cancel are aligned with our risk management strategy for our Term Loans as they allow us to make voluntary prepayments of outstanding amounts without premium or penalty, subject to certain conditions. Our unhedged borrowings under the Credit Facility at December 31, 2019 are \$242.3 million, consisting of unhedged amounts outstanding under the Term Loans (no amounts were outstanding under the Revolver at December 31, 2019). A one-percentage point increase in relevant interest rates would increase interest expense, based on the outstanding unhedged borrowings at December 31, 2019, by \$2.4 million annually. See note 21(b) to our 2019 AFS for further information regarding our interest rate swap agreements.

We are required to comply with certain restrictive covenants under the Credit Facility, including those relating to the incurrence of certain indebtedness, the existence of certain liens, the sale of certain assets (excluding real property then-held for sale), specified investments and payments, sale and leaseback transactions, and certain financial covenants relating to a defined interest coverage ratio and leverage ratio that are tested on a quarterly basis. Our Credit Facility also prohibits share repurchases for cancellation if our leverage ratio (as defined in such facility) exceeds a specified amount (Repurchase Restriction). At December 31, 2019, we were in compliance with all restrictive and financial covenants under the Credit Facility. As previously disclosed, we had been in non-compliance with certain restrictive covenants related to the Repurchase Restriction with respect to approximately \$17.0 million in excess purchases made in May 2019 under our NCIB. These defaults, as well as related cross defaults, were waived in October 2019. The Repurchase Restriction is currently in effect. The obligations under the Credit Facility are guaranteed by us and certain specified subsidiaries. Subject to specified exemptions and limitations, all assets of the guarantors are pledged as security for the obligations under the Credit Facility. The Credit Facility contains customary events of default. If an event of default occurs and is continuing (and is not waived), the administrative agent may declare all amounts outstanding under the Credit Facility to be immediately due and payable and may cancel the lenders' commitments to make further advances thereunder. In the event of a payment or other specified defaults, outstanding obligations accrue interest at a specified default rate.

We incurred aggregate debt issuance costs of \$11.9 million in connection with the Initial Term Loan and the Incremental Term Loan (upon execution and subsequent security arrangements), which we recorded as an offset against the proceeds therefrom. Such costs have been deferred (as long-term debt on our consolidated balance sheet) and will be amortized over the term of the term loans using the effective interest rate method. We incurred aggregate debt issuance costs of \$4.2 million in connection with the Revolver, which have been deferred (as other assets on our consolidated balance sheet) and will be amortized over the term of the Revolver. We accelerated the amortization of the remaining \$1.2 million of unamortized deferred financing costs related to the Prior Facility upon its termination (\$0.6 million related to our Prior Revolver recorded in other assets and \$0.6 million related

to our Prior Term Loan recorded in long-term debt), and recorded it to other charges in our consolidated financial statements in June 2018.

At December 31, 2019, we had \$21.2 million outstanding in letters of credit under the Revolver (December 31, 2018 — \$21.3 million). We also arrange letters of credit and surety bonds outside of the Revolver. At December 31, 2019, we had \$13.3 million of such letters of credit and surety bonds outstanding (December 31, 2018 — \$14.4 million).

At December 31, 2019, we also had a total of \$142.5 million in uncommitted bank overdraft facilities available for intraday and overnight operating requirements (December 31, 2018 — \$132.8 million). There were no amounts outstanding under these overdraft facilities at December 31, 2019 or December 31, 2018.

At December 31, 2019, we had \$428.8 million available under the Revolver for future borrowings, reflecting outstanding borrowings (none) and letters of credit (December 31, 2018 — \$269.7 million).

Our agreement to sell up to \$250.0 million in A/R on an uncommitted basis (subject to pre-determined limits by customer) to two third-party banks was scheduled to expire in November 2019, but was extended to January 15, 2020 pursuant to its terms, at which time it expired. Based on a review of our requirements at that time, we reduced the sales program limit from \$250.0 million to \$200.0 million during the extension period. See "*Cash Requirements*" above for a discussion of amounts of A/R sold and de-recognized from our A/R balance under this program at December 31, 2017, 2018 and 2019. To replace our previous A/R sales program, and based on a recent review of our requirements, we entered into an agreement in March 2020 with a new third-party bank to sell up to \$235.0 million in A/R (based on currently approved obligors) on an uncommitted basis, subject to pre-determined limits by customer. This agreement provides for a one-year term, with automatic annual one-year extensions, and may be terminated at any time by the bank or by us upon 3 month's prior notice, or by the bank upon specified defaults. Under this A/R sales program, upon sale, we assign the rights to the A/R to the banks, collect cash from our customers, and remit the cash to the bank once it is collected. We pay discount charges which we record as finance costs in our consolidated statement of operations. As our A/R sales program is on an uncommitted basis, there can be no assurance that the bank will purchase the A/R we intend to sell to it under this program.

We participate in two SFPs (one with a CCS segment customer, and commencing in Q4 2019, one with an ATS segment customer), pursuant to which we sell A/R from the relevant customer to third-party banks on an uncommitted basis in order to receive earlier payment. The third-party banks collect the relevant A/R directly from the customers. See "*Cash Requirements*" above for a discussion of amounts of A/R sold and de-recognized from our A/R balance under the SFPs at December 31, 2017, 2018 and 2019. We utilize the SFPs to substantially offset the effect of extended payment terms required by the relevant customer on our working capital for the period. As the SFPs are on an uncommitted basis, there can be no assurance that the banks will purchase the A/R we intend to sell to them thereunder.

The timing and the amounts we borrow and repay under our revolving credit and overdraft facilities, or sell under the SFPs or our A/R sales program, can vary significantly from month-to-month depending upon our working capital and other cash requirements.

Our strategy on capital risk management has not changed significantly since the end of 2018. Other than the restrictive and financial covenants associated with our Credit Facility noted above, we are not subject to any contractual or regulatory capital requirements. While some of our international operations are subject to government restrictions on the flow of capital into and out of their jurisdictions, these restrictions have not had a material impact on our operations or cash flows.

Financial instruments:

Our short-term investment objectives are to preserve principal and to maximize yields without significantly increasing risk, while at the same time not materially restricting our short-term access to cash.

The majority of our cash balances are held in U.S. dollars. We price the majority of our products in U.S. dollars and the majority of our materials costs are also denominated in U.S. dollars. However, a significant portion of our non-materials costs (including payroll, pensions, site costs and costs of locally sourced supplies and inventory) are denominated in various other currencies. As a result, we may experience foreign exchange gains or losses on translation or transactions due to currency fluctuations. We have a foreign exchange risk management policy in place to govern our hedging activities. We do not enter into speculative trades. Our current hedging activity is designed to reduce the variability of our foreign currency costs where we have

local manufacturing operations. We enter into foreign exchange forward contracts to hedge our cash flow exposures and foreign currency swaps to hedge our balance sheet exposures. Balance sheet hedges are based on our forecasts of the future position of net monetary assets or liabilities denominated in foreign currencies and, therefore, may not mitigate the full impact of any translation impacts in the future. There can be no assurance that our hedging transactions will be successful in mitigating our foreign exchange risk.

See note 21 to our 2019 AFS for a listing of our foreign exchange forwards and swaps to trade U.S. dollars in exchange for specified currencies at December 31, 2019. These contracts, which generally extend for periods of up to 12 months, will expire by the fourth quarter of 2020. The fair value of the outstanding contracts at December 31, 2019 was a net unrealized gain of \$4.5 million (December 31, 2018 — net unrealized loss of \$14.2 million), resulting from fluctuations in foreign exchange rates between the contract execution and the period-end date.

Financial risks:

We are exposed to a variety of risks associated with financial instruments and otherwise.

Currency risk: Due to the global nature of our operations, we are exposed to exchange rate fluctuations on our financial instruments denominated in various currencies. The majority of our currency risk is driven by operational costs, including income tax expense, incurred in local currencies by our subsidiaries. As part of our risk management program, we attempt to mitigate currency risk through a hedging program using forecasts of our anticipated future cash flows and balance sheet exposures denominated in foreign currencies. We enter into foreign exchange forward contracts and swaps, generally for periods up to 12 months, to lock in the exchange rates for future foreign currency transactions, which is intended to reduce the variability of our operating costs and future cash flows denominated in local currencies. While these contracts are intended to reduce the effects of fluctuations in foreign currency exchange rates, our hedging strategy does not mitigate the longer-term impacts of changes to foreign exchange rates. Although our functional currency is the U.S. dollar, currency risk on our income tax expense arises as we are generally required to file our tax returns in the local currency for each particular country in which we have operations. While our hedging program is designed to mitigate currency risk vis-à-vis the U.S. dollar, we remain subject to taxable foreign exchange impacts in our translated local currency financial results relevant for tax reporting purposes. We do not use derivative financial instruments for speculative purposes.

We cannot predict changes in currency exchange rates, the impact of exchange rate changes on our operating results, nor the degree to which we will be able to manage the impact of currency exchange rate changes. Such changes, including as a result of Brexit or other global events impacting currency exchange rates could materially adversely affect our business, results of operations and financial condition.

Interest rate risk: Borrowings under the Credit Facility bear interest at specified rates, plus specified margins (as described above). We have entered into 5-year interest rate swap agreements with a syndicate of third-party banks in each of August and December 2018 to partially hedge against our exposures to interest rate variability on our Term Loans. The derivative instruments swap the variable interest rates with fixed rates of interest on an aggregate of \$350.0 million of the total borrowings under the Term Loans. The swap agreements include options that allows us to cancel up to \$75.0 million of the notional amount of each swap agreement, starting in August 2021 with respect to the Initial Term Loan and December 2020 with respect to the Incremental Term Loan.

Our unhedged borrowings under the Credit Facility at December 31, 2019 were \$242.3 million (December 31, 2018 — \$407.3 million). Unhedged borrowings expose us to interest rate risk due to the potential variability in market interest rates. A one-percentage point increase in applicable rates would increase interest expense, based on the outstanding unhedged borrowings at December 31, 2019, by \$2.4 million annually. Without accounting for the interest rate swap agreements described above, a one-percentage point increase in applicable rates would increase interest expense, based on outstanding borrowings of \$592.3 million under the Credit Facility as at December 31, 2019, by \$5.9 million annually.

Credit risk: Credit risk refers to the risk that a counterparty may default on its contractual obligations resulting in a financial loss to us. We believe our credit risk of counterparty non-performance is relatively low, however, if a key supplier (or any company within such supplier's supply chain) or customer experiences financial difficulties or fails to comply with their contractual obligations, this could result in a financial loss to us. If an institution from which we purchased annuities for our pension plans defaults on their contractual obligations, this would result in a financial loss to us, as we retain ultimate responsibility for the payment of benefits to plan participants unless and until such pension plans are wound-up. With respect to our financial market

activities, we have adopted a policy of dealing only with credit-worthy counterparties to help mitigate the risk of financial loss from defaults. We monitor the credit risk of the counterparties with whom we conduct business, through a combined process of credit rating reviews and portfolio reviews.

We also provide unsecured credit to our customers in the normal course of business. Customer exposures that potentially subject us to credit risk include our A/R, inventory on hand, and non-cancellable purchase orders in support of customer demand. From time to time, we extend the payment terms applicable to certain customers, and/or provide longer payment terms when deemed commercially reasonable. Longer payment terms, which have become more prevalent, could adversely impact our working capital requirements, and increase our financial exposure and credit risk. We attempt to mitigate customer credit risk by monitoring our customers' financial condition and performing ongoing credit evaluations as appropriate. In certain instances, we obtain letters of credit or other forms of security from our customers. We may also purchase credit insurance from a financial institution to reduce our credit exposure to certain customers. We consider credit risk in determining our allowance for doubtful accounts, and we believe that such allowance, as adjusted from time to time, is adequate. The carrying amount of financial assets recorded in our consolidated financial statements, net of our allowance for doubtful accounts, represents our estimate of maximum exposure to credit risk. At December 31, 2019, less than 2% of our gross A/R are over 90 days past due (2018 — approximately 1%). A/R are net of an allowance for doubtful accounts of \$4.2 million at December 31, 2019 (December 31, 2018 — \$5.3 million).

Liquidity risk: Liquidity risk is the risk that we may not have cash available to satisfy our financial obligations as they come due. The majority of our financial liabilities recorded in accounts payable, accrued and other current liabilities and provisions are due within 90 days. We manage liquidity risk by maintaining a portfolio of liquid funds and investments and having access to a revolving credit facility, intraday and overnight bank overdraft facilities, an A/R sales program and our SFPs. Since our A/R sales program and the SFPs are each on an uncommitted basis, there can be no assurance that any participant bank will purchase all the A/R that we wish to sell thereunder. However, we believe that cash flow from operating activities, together with cash on hand, cash from the sale of A/R, and borrowings available under the Revolver and intraday and overnight bank overdraft facilities are sufficient to fund our currently anticipated financial obligations.

See note 21 to our 2019 AFS in Item 18 for further details.

Related Party Transactions

Onex Corporation (Onex) beneficially owns, controls, or directs, directly or indirectly, all of our outstanding multiple voting shares (MVS). Accordingly, Onex has the ability to exercise significant influence over our business and affairs and generally has the power to determine all matters submitted to a vote of our shareholders where the SVS and MVS vote together as a single class. Mr. Gerald Schwartz, the Chairman of the Board, President and Chief Executive Officer of Onex, indirectly owns shares representing the majority of the voting rights of the shares of Onex.

Onex has entered into an agreement with Celestica and with Computershare Trust Company of Canada (as successor to the Montreal Trust Company of Canada), as trustee for the benefit of the holders of the SVS, for the purpose of ensuring that the holders of SVS will not be deprived of any rights under applicable take-over bid legislation to which they would be otherwise entitled in the event of a take-over bid (as that term is defined in applicable securities legislation) if MVS and SVS were of a single class of shares. Subject to certain permitted forms of sale, such as identical or better offers to all holders of SVS, Onex has agreed that it, and any of its affiliates that may hold MVS from time to time, will not sell any MVS, directly or indirectly, pursuant to a take-over bid (as that term is defined under applicable securities legislation) under circumstances in which any applicable securities legislation would have required the same offer or a follow-up offer to be made to holders of SVS if the sale had been a sale of SVS rather than MVS, but otherwise on the same terms.

We are party to a Services Agreement with Onex for the services of Mr. Tawfiq Popatia, an officer of Onex, as a director of Celestica, pursuant to which Onex receives compensation for such services. This agreement automatically renews for successive one-year terms unless either party provides a notice of intent not to renew. Under such agreement, the annual fee payable to Onex is \$235,000, payable in DSUs in equal quarterly installments in arrears. The Services Agreement terminates automatically and the rights of Onex to receive compensation (other than accrued and unpaid compensation) will terminate (a) 30 days after the first day on which Onex ceases to hold at least one MVS of Celestica or any successor company or (b) the date Mr. Popatia ceases to be a director of Celestica for any reason.

The original parties to the Property Sale Agreement were the Company and the Property Purchaser, a consortium of four real estate partnerships, approximately 27% of the interests of which are held by a privately-held partnership in which Mr. Schwartz has a material interest; and approximately 25% of the interests of which are held by a partnership in which Mr. Schwartz has a non-voting interest. The Property Purchaser holds a 5% non-voting interest in the Assignee. See "Liquidity — *Toronto Real Property and Related Transactions*" above.

Outstanding Share Data

As of February 19, 2020, we had 110,451,453 outstanding SVS and 18,600,193 outstanding MVS. As of such date, we also had 345,577 outstanding stock options, 5,028,247 outstanding RSUs, 4,887,256 outstanding PSUs assuming vesting of 100% of the target amount granted (PSUs that will vest range from 0% to 200% of the target amount granted), and 1,841,737 outstanding DSUs; each vested option or unit entitling the holder thereof to receive one SVS (or in certain cases, cash) pursuant to the terms thereof, subject to certain time or performance-based vesting conditions.

Controls and Procedures

Evaluation of disclosure controls and procedures:

Our management is responsible for establishing and maintaining a system of disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the U.S. Exchange Act) designed to ensure that information we are required to disclose in the reports that we file or submit under the U.S. Exchange Act is recorded, processed, summarized and reported within the time periods specified in the U.S. Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the U.S. Exchange Act is accumulated and communicated to the issuer's management, including its principal executive officer or officers and principal financial officer or officers, or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure.

Management, under the supervision of and with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2019. Based on that evaluation, our principal executive officer and principal financial officer have concluded that, as of December 31, 2019, our disclosure controls and procedures are effective to meet the requirements of Rules 13a-15(e) and 15d-15(e) under the U.S. Exchange Act.

A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that its objectives are met. Due to inherent limitations in all such systems, no evaluation of controls can provide absolute assurance that all control issues within a company have been detected. Accordingly, our disclosure controls and procedures are designed to provide reasonable, not absolute, assurance that the objectives of our disclosure control system are met.

Changes in internal control over financial reporting:

We did not identify any change in our internal control over financial reporting in connection with our evaluation thereof that occurred during the year ended December 31, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

During 2019, we completed the integration of the processes and controls relating to Impakt (acquired in November 2018) into our existing system of internal control over financial reporting. This integration did not result in any change that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's report on internal control over financial reporting:

Reference is made to our Management's Report on Internal Control over Financial Reporting on page F-1 of our Annual Report on Form 20-F for the year ended December 31, 2019. Our auditors, KPMG LLP, an independent registered public accounting firm, have issued an audit report on our internal control over financial reporting as of December 31, 2019, which appears on page F-2 of such Annual Report.

Unaudited Quarterly Financial Highlights (in millions, except percentages and per share amounts):

	2018				2019			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenue	\$1,499.7	\$1,695.2	\$1,711.3	\$1,727.0	\$1,433.1	\$1,445.6	\$1,517.9	\$1,491.7
Gross margin	6.2%	6.2%	6.6%	6.9%	6.1%	6.8%	6.4%	6.8%
Net earnings (loss)	\$ 14.1	\$ 16.1	\$ 8.6	\$ 60.1	\$ 90.3	\$ (6.1)	\$ (6.9)	\$ (7.0)
Weighted average # of basic shares	142.2	139.6	139.0	136.8	135.7	131.1	128.5	128.5
Weighted average # of diluted shares	143.5	140.7	140.3	138.0	136.6	131.1	128.5	128.5
# of shares outstanding	139.6	139.3	137.4	136.3	131.6	128.4	128.4	128.8
IFRS earnings (loss) per share:								
basic	\$ 0.10	\$ 0.12	\$ 0.06	\$ 0.44	\$ 0.67	\$ (0.05)	\$ (0.05)	\$ (0.05)
diluted	\$ 0.10	\$ 0.11	\$ 0.06	\$ 0.44	\$ 0.66	\$ (0.05)	\$ (0.05)	\$ (0.05)

All quarters in the table above have been impacted by our restructuring charges, the amounts of which vary from quarter to quarter.

Q4 2019 compared to Q4 2018:

Revenue of \$1.5 billion for Q4 2019 decreased 14% compared to Q4 2018, driven primarily by revenue declines in our CCS segment, offset in part by moderate revenue growth in our ATS segment. Compared to Q4 2018, revenue in Q4 2019 from our CCS segment decreased \$253.6 million (22%). Communications end market revenue decreased \$100.1 million (15%) in Q4 2019 as compared to the prior year period primarily due to continued program-specific weakness from several traditional customers. Enterprise end market revenue decreased \$153.5 million (32%) in Q4 2019 compared to the prior year period, primarily due to planned program disengagements resulting from our CCS Review. ATS segment revenue increased \$18.3 million (3%) in Q4 2019 compared to Q4 2018, driven by growth in our capital equipment business, and new programs in our industrial and healthcare businesses, offset in part by planned disengagements of non-strategic programs in our energy business. Gross profit decreased \$18.2 million in Q4 2019 compared to Q4 2018, and gross margin for Q4 2019 decreased to 6.8% compared to 6.9% for Q4 2018. The decreases in gross profit and gross margin were primarily due to lower profitability in our CCS segment and A&D business, which more than offset the improved performance from our capital equipment business (which had a low single-digit million dollar loss in Q4 2019, in line with our expectations). CCS segment margin for Q4 2019 decreased to 2.9% of segment revenue, compared to 3.3% for Q4 2018 (representing very strong performance in Q4 2018). Despite the lower revenue in Q4 2019 compared to Q4 2018, our CCS segment margin of 2.9% reflected benefits from planned CCS Review disengagements and our cost productivity initiatives. Notwithstanding the ATS segment revenue increase, ATS segment margin decreased from 3.7% for Q4 2018 to 3.0% for Q4 2019, primarily driven by supply chain inefficiencies in our A&D business, partially offset by improvements in our capital equipment business. We incurred a net loss for Q4 2019 of \$7.0 million compared to net earnings of \$60.1 million in Q4 2018, due primarily to the \$49.6 million Impakt Benefit in Q4 2018 and \$18.2 million of lower gross profit in Q4 2019.

Q4 2019 compared to Q3 2019:

Revenue for Q4 2019 decreased 2% compared to Q3 2019, driven primarily by revenue declines in our CCS segment, offset in part by moderate growth in our ATS segment. Compared to the previous quarter, CCS segment revenue decreased \$52.9 million (6%) sequentially. Communications end market revenue decreased \$59.0 million (9%) sequentially, primarily due to weaker program-specific demand, while our Enterprise end market revenue increased \$6.1 million (2%) sequentially, as seasonal demand increases more than offset planned program disengagements. ATS segment revenue increased \$26.7 million (5%) sequentially, primarily as a result of stronger demand and new program ramps in our capital equipment business. Gross profit increased \$4.1 million in Q4 2019 as compared to Q3 2019, and gross margin increased to 6.8% in Q4 2019 compared to 6.4% in Q3 2019. The increases in gross profit and gross margin were due primarily to stronger demand and performance within our capital equipment business and lower variable spend. In addition, we recorded \$5.8 million in net inventory valuation recoveries in Q4 2019. CCS segment margin for Q4 2019 increased to 2.9% of segment revenue (despite lower sequential revenue) compared to 2.8% for Q3 2019 primarily due to improved mix, including a larger proportion of JDM programs, and benefits from our productivity efforts. ATS segment margin increased from 2.8% in Q3 2019 to 3.0% for Q4 2019, primarily due to improved performance in our capital equipment business, resulting from higher revenue and benefits from our cost reduction initiatives, despite inefficiencies in our A&D business described in the "Overview" above. The net loss of \$7.0 million for Q4 2019 was relatively flat compared to the Q3 2019 net loss of \$6.9 million.

Selected Q4 2019 IFRS results:

	Actual
IFRS revenue (in billions)	\$1.5
IFRS loss per share*	\$(0.05)
IFRS loss before income taxes as a % of revenue	(0.03)%
IFRS SG&A (in millions)	\$57.1

* IFRS loss per share for Q4 2019 included an aggregate charge of \$0.20 (pre-tax) per share for employee SBC expense, amortization of intangible assets (excluding computer software), Transition Costs (described below) and restructuring charges. This aggregate charge is above the high end of our Q4 2019 guidance range of between \$0.12 to \$0.18 per share for these items, primarily due to higher-than-expected restructuring charges (see "Overview" above).

Q4 2019 actual compared to Q4 2019 guidance:

	Q4 2019	
	Guidance	Actual
IFRS revenue (in billions)	\$1.425 to \$1.525	\$1.49
Non-IFRS operating margin	2.8% at the mid-point of our revenue and non- IFRS adjusted EPS guidance ranges	2.9%
Non-IFRS adjusted SG&A (in millions)	\$50.0 to \$52.0	\$52.4
Non-IFRS adjusted EPS (diluted)	\$0.12 to \$0.18	\$0.18

For Q4 2019, our revenue was above the mid-point of our guidance range, primarily due to program-specific demand strength in our Enterprise end market. CCS segment revenue was above our expectations, as stronger-than-expected demand in our Enterprise end market was offset in part by lower-than-expected Communications end market revenue resulting from continued program-specific weakness. ATS segment revenue was in line with our expectations. Non-IFRS operating margin for Q4 2019 was above the mid-point of our revenue and non-IFRS adjusted EPS guidance ranges, and non-IFRS adjusted EPS was at the high end of our guidance range, driven in each case by favorable program mix. Non-IFRS adjusted EPS also included a \$0.01 per share favorable Currency Impact arising primarily from the strengthening of the Chinese renminbi and the Thai baht relative to the U.S. dollar. Non-IFRS adjusted SG&A for Q4 2019 exceeded our guidance range by \$0.4 million. Our non-IFRS adjusted effective tax rate for Q4 2019 was 27% (lower than our anticipated estimate of approximately 35%), driven primarily by the Currency Impact described above.

Our guidance includes a range for adjusted EPS (which is a non-IFRS measure and is defined below). Management considers non-IFRS adjusted EPS to be an important measure for investors to understand our core operating performance. A reconciliation of non-IFRS adjusted net earnings to IFRS net earnings is set forth below.

Non-IFRS measures:

Management uses adjusted net earnings and the other non-IFRS measures described herein (i) to assess operating performance and the effective use and allocation of resources, (ii) to provide more meaningful period-to-period comparisons of operating results, (iii) to enhance investors' understanding of the core operating results of our business, and (iv) to set management incentive targets. We believe the non-IFRS measures we present herein are useful to investors, as they enable investors to evaluate and compare our results from operations in a more consistent manner (by excluding specific items that we do not consider to be reflective of our ongoing operating results), to evaluate cash resources that we generate each period, and to provide an analysis of operating results using the same measures our chief operating decision makers use to measure performance. In addition, management believes that the use of a non-IFRS adjusted tax expense and a non-IFRS adjusted effective tax rate provides improved insight into the tax effects of our ongoing business operations, and is useful to management and investors for historical comparisons and forecasting. These non-IFRS financial measures result largely from management's determination that the facts and circumstances surrounding the excluded charges or recoveries are not indicative of the ordinary course of the ongoing operation of our business.

We believe investors use both IFRS and non-IFRS measures to assess management's past, current and future decisions associated with our priorities and our allocation of capital, as well as to analyze how our business operates in, or responds to, swings in economic cycles or to other events that impact our core operations.

Non-IFRS measures do not have any standardized meaning prescribed by IFRS and therefore may not be comparable to similar measures presented by other companies. Non-IFRS measures are not measures of performance under IFRS and should not be considered in isolation or as a substitute for any standardized measure under IFRS. The most significant limitation to management's use of non-IFRS financial measures is that the charges or credits excluded from the non-IFRS measures are nonetheless charges or credits that are recognized under IFRS and that have an economic impact on us. Management compensates for these limitations primarily by issuing IFRS results to show a complete picture of our performance, and reconciling non-IFRS financial measures back to the most directly comparable IFRS financial measures.

In addition to cash cycle days (including the components thereof) and inventory turns (each described under the caption "Other Performance Indicators" above), which have no defined meanings under IFRS, we use the following non-IFRS measures: adjusted gross profit, adjusted gross margin (adjusted gross profit as a percentage of revenue), adjusted SG&A, adjusted SG&A as a percentage of revenue, operating earnings (adjusted EBIAT), operating margin (operating earnings or adjusted EBIAT as a percentage of revenue), adjusted net earnings, adjusted EPS, adjusted ROIC, free cash flow, adjusted tax expense and adjusted effective tax rate. Adjusted EBIAT, adjusted ROIC, free cash flow, adjusted tax expense and adjusted effective tax rate are further described in the tables below. A description of recent modifications to our calculation of adjusted ROIC, free cash flow (including in Q4 2019) and Transition Costs, and the inclusion of Waiver Fees and the Post-employment Benefit Plan Losses in Other Charges in Q4 2019, is also included below. In calculating these non-IFRS financial measures, management excludes the following items, where applicable: employee SBC expense, amortization of intangible assets (excluding computer software), Other Charges, net of recoveries (defined below), and acquisition inventory fair value adjustments, all net of the associated tax adjustments (which are set forth in the table below), and non-core tax impacts (tax adjustments related to acquisitions, and certain other tax costs or recoveries related to restructuring actions or restructured sites).

The economic substance of these exclusions (where applicable to the periods presented) and management's rationale for excluding them from non-IFRS financial measures is provided below:

Employee SBC expense, which represents the estimated fair value of stock options, RSUs and PSUs granted to employees, is excluded because grant activities vary significantly from quarter-to-quarter in both quantity and fair value. In addition, excluding this expense allows us to better compare core operating results with those of our competitors who also generally exclude employee SBC expense in assessing operating performance, who may have different granting patterns and types of equity awards, and who may use different valuation assumptions than we do.

Amortization charges (excluding computer software) consist of non-cash charges against intangible assets that are impacted by the timing and magnitude of acquired businesses. Amortization of intangible assets varies among our competitors, and we believe that excluding these charges permits a better comparison of core operating results with those of our competitors who also generally exclude amortization charges in assessing operating performance.

Other Charges, net of recoveries, consist of: Restructuring Charges, net of recoveries (defined below); Transition Costs (Recoveries) (defined below); net Impairment charges (defined below); Acquisition Costs; legal settlements (recoveries); credit facility-related charges (consisting of the accelerated amortization of unamortized deferred financing costs recorded during the second quarter of 2018, and Waiver Fees incurred in Q4 2019); and the Post-employment Benefit Plan Losses incurred in Q4 2019. We exclude these charges, net of recoveries, because we believe that they are not directly related to ongoing operating results and do not reflect expected future operating expenses after completion of these activities or incurrence of the relevant costs. Our competitors may record similar charges at different times, and we believe these exclusions permit a better comparison of our core operating results with those of our competitors who also generally exclude these types of charges, net of recoveries, in assessing operating performance.

Restructuring Charges, net of recoveries, consist of costs relating to: employee severance, lease terminations, site closings and consolidations, write-downs of owned property and equipment which are no longer used and are available for sale, and reductions in infrastructure.

Transition Costs consist of: (i) costs recorded in connection with the relocation of our Toronto manufacturing operations, and the move of our corporate headquarters into and out of a temporary location during, and upon completion, of the construction of space in a new office building at our former location (all in connection with the sale of our Toronto real property) (collectively, Toronto Transition Costs) and (ii) costs recorded in connection with the transfer of certain capital equipment manufacturing lines from closed sites to other sites within our global network in response to the current capital equipment demand environment (Internal Relocation Costs). Transition Costs consist of direct relocation and duplicate costs (such as rent expense, utility costs, depreciation charges, and personnel costs) incurred during the transition periods, as well as cease-use costs incurred in connection with idle or vacated portions of the relevant premises that we would not have incurred but for these relocations and transfers. Transition

Recoveries consist of the Property Gain. We believe that excluding these costs and recoveries, including Internal Relocation Costs, which commenced in Q3 2019, permits a better comparison of our core operating results from period-to-period, as these costs will not reflect our ongoing operations once these relocations and manufacturing line transfers are complete, and the recovery pertains only to Q1 2019.

Impairment charges, which consist of non-cash charges against goodwill, intangible assets, property, plant and equipment, and ROU assets, result primarily when the carrying value of these assets exceeds their recoverable amount.

Acquisition inventory fair value adjustments relate to the write-up of the inventory acquired in connection with our acquisitions, representing the difference between the cost and fair value of such inventory. We exclude the impact of the recognition of these adjustments, when incurred, because we believe such exclusion permits a better comparison of our core operating results from period-to-period, as their impact is not indicative of our ongoing operating performance.

Non-core tax impacts are excluded, as we believe that these costs or recoveries do not reflect core operating performance and vary significantly among those of our competitors who also generally exclude these costs or recoveries in assessing operating performance.

The following table sets forth, for the periods indicated, the various non-IFRS measures discussed above, and a reconciliation of non-IFRS measures to the most directly comparable IFRS measures (in millions, except percentages and per share amounts):

	Three months ended December 31				Year ended December 31			
	2018		2019		2018		2019	
		% of revenue		% of revenue		% of revenue		% of revenue
IFRS revenue	\$ 1,727.0		\$1,491.7		\$ 6,633.2		\$ 5,888.3	
IFRS gross profit	\$ 120.0	6.9%	\$ 101.8	6.8 %	\$ 430.5	6.5%	\$ 384.7	6.5%
Employee SBC expense	3.8		2.7		14.7		14.6	
Acquisition inventory fair value adjustment	—		—		1.6		—	
Non-IFRS adjusted gross profit	<u>\$ 123.8</u>	7.2%	<u>\$ 104.5</u>	7.0 %	<u>\$ 446.8</u>	6.7%	<u>\$ 399.3</u>	6.8%
IFRS SG&A	\$ 59.6	3.5%	\$ 57.1	3.8 %	\$ 219.0	3.3%	\$ 227.3	3.9%
Employee SBC expense	(4.6)		(4.7)		(18.7)		(19.5)	
Non-IFRS adjusted SG&A	<u>\$ 55.0</u>	3.2%	<u>\$ 52.4</u>	3.5 %	<u>\$ 200.3</u>	3.0%	<u>\$ 207.8</u>	3.5%
IFRS earnings (loss) before income taxes	\$ 20.1	1.2%	\$ (0.4)	— %	\$ 81.9	1.2%	\$ 99.8	1.7%
Finance costs	9.2		11.3		24.4		49.5	
Employee SBC expense	8.4		7.4		33.4		34.1	
Amortization of intangible assets (excluding computer software)	5.1		5.8		11.6		24.6	
Other Charges (recoveries)	16.9		19.6		61.0		(49.9)	
Acquisition inventory fair value adjustment	—		—		1.6		—	
Non-IFRS operating earnings (adjusted EBIAT) ⁽¹⁾	<u>\$ 59.7</u>	3.5%	<u>\$ 43.7</u>	2.9 %	<u>\$ 213.9</u>	3.2%	<u>\$ 158.1</u>	2.7%
IFRS net earnings (loss)	\$ 60.1	3.5%	\$ (7.0)	(0.5)%	\$ 98.9	1.5%	\$ 70.3	1.2%
Employee SBC expense	8.4		7.4		33.4		34.1	
Amortization of intangible assets (excluding computer software)	5.1		5.8		11.6		24.6	
Other Charges (recoveries)	16.9		19.6		61.0		(49.9)	
Acquisition inventory fair value adjustment	—		—		1.6		—	
Adjustments for taxes ⁽²⁾	(50.8)		(2.1)		(56.7)		(7.6)	
Non-IFRS adjusted net earnings	<u>\$ 39.7</u>		<u>\$ 23.7</u>		<u>\$ 149.8</u>		<u>\$ 71.5</u>	
Diluted EPS								
Weighted average # of shares (in millions) *	138.0		128.5		140.6		131.8	
IFRS earnings (loss) per share *	\$ 0.44		\$ (0.05)		\$ 0.70		\$ 0.53	
Non-IFRS adjusted earnings per share	\$ 0.29		\$ 0.18		\$ 1.07		\$ 0.54	
# of shares outstanding at period end (in millions)	136.3		128.8		136.3		128.8	
	(restated)				(restated)			
IFRS cash provided by (used in) operations	\$ (1.9)		\$ 76.5		\$ 33.1		\$ 345.0	
Purchase of property, plant and equipment, net of sales proceeds	(18.8)		(14.2)		(78.5)		36.0	
Lease payments ⁽³⁾	(0.9)		(8.8)		(17.0)		(38.2)	
Finance costs paid (excluding debt issuance costs and Waiver Fees paid) ⁽³⁾	(8.8)		(9.7)		(23.1)		(41.6)	
Non-IFRS free cash flow ⁽³⁾	<u>\$ (30.4)</u>		<u>\$ 43.8</u>		<u>\$ (85.5)</u>		<u>\$ 301.2</u>	
IFRS ROIC % ⁽⁴⁾	5.0%		(0.1)%		5.8%		5.8%	
Non-IFRS adjusted ROIC % ⁽⁴⁾	15.0%		10.6 %		15.1%		9.2%	

* IFRS earnings (loss) per diluted share is calculated by dividing IFRS net earnings (loss) by the number of diluted weighted average shares outstanding (DWAS). In order to calculate IFRS loss per diluted share for Q4 2019, we used a DWAS of 128.5 million as at December 31, 2019. Because we reported a net loss on an IFRS basis in Q4 2019, the DWAS for such period-end excluded 0.9 million subordinate voting shares underlying in-the-money stock-based awards, as including these shares would be anti-dilutive. However, we included these shares in the DWAS used to calculate non-IFRS adjusted earnings (per diluted share) for Q4 2019, because such shares were dilutive in relation to this non-IFRS measure.

- (1) Management uses non-IFRS operating earnings (adjusted EBIAT) as a measure to assess performance related to our core operations. Non-IFRS adjusted EBIAT is defined as earnings (loss) before income taxes, finance costs (defined below), employee SBC expense, amortization of intangible assets (excluding computer software), Other Charges (recoveries) (defined above), and in applicable periods, acquisition inventory fair value adjustments. Finance costs consist of interest expense and fees related to our credit facility (including debt issuance and related amortization costs), our interest rate swap agreements, our A/R sales program and the SFPs, and, commencing in Q1 2019, interest expense on our lease obligations under IFRS 16, net of interest income earned. Waiver Fees are recorded in Other Charges. See "Operating Results — Other charges (recoveries)" for separate quantification and discussion of the components of Other Charges (recoveries).
- (2) The adjustments for taxes, as applicable, represent the tax effects of our non-IFRS adjustments and non-core tax impacts (described in the table below).

The following table sets forth a reconciliation of our IFRS tax expense and IFRS effective tax rate to our non-IFRS adjusted tax expense and our non-IFRS adjusted effective tax rate for the periods indicated, in each case determined by excluding the tax benefits or costs associated with the listed items (in millions, except percentages) from our IFRS tax expense for such periods:

	Three months ended				Year ended			
	December 31		December 31		December 31		December 31	
	2018	Effective tax rate	2019	Effective tax rate	2018	Effective tax rate	2019	Effective tax rate
IFRS tax expense and IFRS effective tax rate	\$ (40.0)	(199)%	\$ 6.6	(1,650)%	\$ (17.0)	(21)%	\$ 29.5	30%
Tax costs (benefits) of the following items excluded from IFRS tax expense:								
Employee SBC expense	1.1		0.4		2.3		1.0	
Other Charges	0.7		1.8		1.4		3.2	
Non-core tax impact related to tax uncertainties*	—		—		—		3.9	
Non-core tax impact related to fair value adjustments on acquisitions **	49.6		—		53.3		(1.5)	
Non-core tax impacts related to restructured sites***	(0.6)		(0.1)		(0.3)		1.0	
Non-IFRS adjusted tax expense and non-IFRS adjusted effective tax rate	<u>\$ 10.8</u>	21 %	<u>\$ 8.7</u>	27 %	<u>\$ 39.7</u>	21 %	<u>\$ 37.1</u>	34%

* Consists of the reversal of certain tax uncertainties acquired in connection with a prior acquisition that became statute-barred in 2019.

** Consists of deferred tax adjustments attributable to our Atrenne acquisition (recorded in the second quarter of 2018) and our Impakt acquisition (recorded in Q4 2018, and the second and third quarters of 2019).

*** Consists primarily of tax adjustments related to the liquidation of, and the resolution of certain tax uncertainties for, restructured sites in both 2018 and 2019; for 2018, also includes tax adjustments related to our exit from the solar panel manufacturing business.

- (3) Management uses non-IFRS free cash flow as a measure, in addition to IFRS cash provided by (used in) operations, to assess our operational cash flow performance. We believe non-IFRS free cash flow provides another level of transparency to our liquidity. Non-IFRS free cash flow is defined as cash provided by (used in) operations after the purchase of property, plant and equipment (net of proceeds from the sale of certain surplus equipment and property), lease payments (including \$8.9 million in Q4 2019 and \$35.3 million for the full year 2019, respectively, for lease payments under IFRS 16), and finance costs paid (excluding any debt issuance costs and Waiver Fees paid). As a measure of liquidity, and consistent with the inclusion of our Toronto relocation capital expenditures and Toronto Transition Costs in non-IFRS free cash flow in the periods incurred, we have included the \$113.0 million in proceeds from the sale of our Toronto real property in non-IFRS free cash flow in Q1 2019 (the period of receipt). We incurred debt issuance costs in connection with our Credit Facility (upon execution and subsequent security arrangements), as well as Waiver Fees in Q4 2019, neither of which we consider to be part of our core operating expenses. As a result, we modified our non-IFRS free cash flow calculation: (i) commencing in Q1 2019, to exclude debt issuance costs from total finance costs paid (\$0.5 million and \$2.9 million in Q4 2019 and the full year 2019, respectively, and \$5.5 million and \$12.9 million in Q4 2018 and the full year 2018, respectively); and (ii) in Q4 2019, to exclude the \$2.0 million in Waiver Fees. Prior period comparatives have been restated, where applicable, to conform to the current presentation. In addition, as of January 1, 2019, as a result of our adoption of IFRS 16 (Leases), we modified our non-IFRS free cash flow calculation to subtract lease payments under IFRS 16, as such payments were previously (but are no longer) reported in cash provided by (used in) operations. IFRS 16 did not require the restatement of prior period financial statements. Accordingly, and in order to preserve comparability with prior calculations, commencing in Q1 2019, such lease payments are subtracted from cash provided by (used in) operations in our determination of non-IFRS free cash flow. See footnote (4) below. Note that non-IFRS free cash flow, however, does not represent residual cash flow available to Celestica for discretionary expenditures.
- (4) Management uses non-IFRS adjusted ROIC as a measure to assess the effectiveness of the invested capital we use to build products or provide services to our customers, by quantifying how well we generate earnings relative to the capital we have invested in our business. Non-IFRS adjusted ROIC is calculated by dividing non-IFRS adjusted EBIAT by average net invested capital. Net invested capital (calculated in the table below) is defined as total assets less: cash, ROU assets (described below), accounts payable, accrued and other current liabilities, provisions, and income taxes payable. We use a two-point average to calculate average net invested capital for the quarter and a five-point average to calculate average net invested capital for the year. A comparable measure under IFRS would be determined by dividing IFRS earnings (loss) before income taxes by average net invested capital (which we have set forth in the charts above and below), however, this measure (which we have called IFRS ROIC), is not a measure defined under IFRS. In connection with our adoption of IFRS

16 as of January 1, 2019, we recognize ROU assets and related lease obligations on the applicable lease commencement dates. See note 2 to the 2019 AFS for further detail. As IFRS 16 did not require the restatement of prior period financial statements, we have not restated prior period calculations of non-IFRS adjusted ROIC to account for ROU assets. Accordingly, and in order to preserve comparability with prior calculations, commencing in Q1 2019, we exclude the impact of our ROU assets from our calculation of net invested capital.

The following table sets forth, for the periods indicated, our calculation of IFRS ROIC % and non-IFRS adjusted ROIC % (in millions, except IFRS ROIC % and non-IFRS adjusted ROIC %).

	Three months ended		Year ended	
	December 31		December 31	
	2018	2019	2018	2019
IFRS earnings (loss) before income taxes	\$ 20.1	\$ (0.4)	\$ 81.9	\$ 99.8
Multiplier to annualize earnings	4	4	1	1
Annualized IFRS earnings (loss) before income taxes	\$ 80.4	\$ (1.6)	\$ 81.9	\$ 99.8
Average net invested capital for the period	\$ 1,594.1	\$ 1,647.0	\$ 1,413.6	\$ 1,719.7
IFRS ROIC % ⁽¹⁾	5.0%	(0.1)%	5.8%	5.8%

	Three months ended		Year ended	
	December 31		December 31	
	2018	2019	2018	2019
Non-IFRS operating earnings (adjusted EBIAT)	\$ 59.7	\$ 43.7	\$ 213.9	\$ 158.1
Multiplier to annualize earnings	4	4	1	1
Annualized non-IFRS adjusted EBIAT	\$ 238.8	\$ 174.8	\$ 213.9	\$ 158.1
Average net invested capital for the period	\$ 1,594.1	\$ 1,647.0	\$ 1,413.6	\$ 1,719.7
Non-IFRS adjusted ROIC % ⁽¹⁾	15.0%	10.6 %	15.1%	9.2%

	December 31 2018	March 31 2019	June 30 2019	September 30 2019	December 31 2019
Net invested capital consists of:					
Total assets	\$ 3,737.7	\$ 3,688.1	\$ 3,633.7	\$ 3,557.6	\$ 3,560.7
Less: cash	422.0	457.8	436.5	448.9	479.5
Less: right-of-use assets	—	115.8	116.2	107.8	104.1
Less: accounts payable, accrued and other current liabilities, provisions and income taxes payable	1,512.6	1,344.8	1,349.2	1,342.3	1,341.7
Net invested capital at period end ⁽¹⁾	\$ 1,803.1	\$ 1,769.7	\$ 1,731.8	\$ 1,658.6	\$ 1,635.4

	December 31 2017	March 31 2018	June 30 2018	September 30 2018	December 31 2018
Net invested capital consists of:					
Total assets	\$ 2,964.2	\$ 2,976.0	\$ 3,212.2	\$ 3,316.1	\$ 3,737.7
Less: cash	515.2	435.7	401.4	457.7	422.0
Less: accounts payable, accrued and other current liabilities, provisions and income taxes payable	1,228.6	1,278.1	1,413.8	1,473.3	1,512.6
Net invested capital at period end ⁽¹⁾	\$ 1,220.4	\$ 1,262.2	\$ 1,397.0	\$ 1,385.1	\$ 1,803.1

(1) See footnote 4 of the previous table.

Recently issued accounting pronouncements:

See note 2 to the 2019 AFS for a discussion of our adoption of IFRS 16, *Leases*, as of January 1, 2019. We have adopted all applicable standards, amendments and interpretations issued under IFRS and effective as of January 1, 2020. We do not believe that any such standards, amendments or interpretations have had a material impact on our consolidated financial statements. In addition, we do not believe that there are any recently issued accounting pronouncements that are not yet effective that will have a material impact on our consolidated financial statements upon adoption.

Research and development, patents and licenses, etc.

The information required by this item is set forth above in Item 4(B) "Information on the Company — Business Overview — Research and Technology Development."

Trend Information

The information required by this item is set forth above in "Overview," "Operating Results," and "Liquidity and Capital Resources," in Item 3(D), Key Information — Risk Factors, and in Item 4(B), Information on the Company — Business Overview.

Off-Balance Sheet Arrangements

Not applicable.

Item 6. Directors, Senior Management and Employees

A. Directors and Senior Management

Each director of Celestica is elected by the shareholders to serve until the close of the next annual meeting of shareholders or until a successor is elected or appointed, unless such office is earlier vacated in accordance with the Corporation's by-laws. The following table sets forth certain information regarding the current directors and executive officers of Celestica as of February 19, 2020.

<u>Name</u>	<u>Age</u>	<u>Director Since</u>	<u>Position with Celestica</u>	<u>Residence</u>
Michael M. Wilson ⁽¹⁾	68	2011	Chair of the Board	Alberta, Canada
Robert A. Cascella ⁽²⁾	65	2019	Director	Florida, U.S.
Deepak Chopra	56	2018	Director	Ontario, Canada
Daniel P. DiMaggio	69	2010	Director	Georgia, U.S.
Laurette T. Koellner	65	2009	Director	Florida, U.S.
Carol S. Perry	69	2013	Director	Ontario, Canada
Tawfiq Popatia	45	2017	Director	Ontario, Canada
Eamon J. Ryan	74	2008	Director	Ontario, Canada
Robert A. Mionis	56	2015	Director, President and Chief Executive Officer	New Hampshire, U.S.

<u>Name</u>	<u>Age</u>	<u>Executive Officer Since</u>	<u>Position with Celestica</u>	<u>Residence</u>
Mandeep Chawla	43	2017	Chief Financial Officer	Ontario, Canada
Todd C. Cooper	50	2018	Chief Operations Officer	Connecticut, U.S.
Elizabeth L. DelBianco	60	1998	Chief Legal and Administrative Officer and Corporate Secretary	Ontario, Canada
John ("Jack") J. Lawless	59	2015	President, ATS	Georgia, U.S.
Jason Phillips	45	2019	President, CCS	North Carolina, U.S.

(1) Mr. Wilson was appointed Chair of the Board upon the retirement of Mr. William A. Etherington from the Board, effective January 29, 2020.

(2) Director since February 1, 2019.

The following is a brief biography of each of Celestica's directors, director nominees and executive officers:

Michael M. Wilson. Mr. Wilson is a corporate director and has served on the Board since 2011. Mr. Wilson was appointed Chair of the Board effective January 29, 2020. Until his retirement in December 2013, he was the President and Chief Executive Officer, and a director, of Agrium Inc. (a public agricultural crop inputs company that has subsequently merged with Potash Corporation of Saskatchewan Inc. to form Nutrien Ltd.), and has over 30 years of international and executive management experience. Prior to joining Agrium Inc., Mr. Wilson served as President of Methanex Corporation (a public company), and held various senior positions in North America and Asia during his 18 years with The Dow Chemical Company (a public company). Mr. Wilson also currently serves on the board of directors of Air Canada and Suncor Energy Inc., and previously served on the board of directors of Finning International Inc. (each a public company), and was also the past Chair of the Calgary Prostate Cancer Centre. He holds a degree in Chemical Engineering from the University of Waterloo.

Robert A. Cascella. Mr. Cascella is currently an Executive Vice President and Executive Committee member of Royal Philips, a public Dutch multinational healthcare company. He is also the Chief Executive Officer (CEO) of the Philips Precision Diagnosis business, including businesses serving Radiology, Cardiology and Oncology, as well as Enterprise Diagnostic Informatics. He served as the President and CEO of Hologic, Inc., a public medical device and diagnostics company, from 2003 to 2013. He has also held senior leadership positions at CFG Capital, NeoVision Corporation and Fischer Imaging Corporation.

Mr. Cascella served on Hologic, Inc.'s board of directors from 2008 to 2013. He also previously served on the board of Tegra Medical and acted as chair of the boards of Dysis Medical and Miranda Medical. He holds a Bachelor's degree in Accounting from Fairfield University.

Deepak Chopra. Mr. Chopra most recently served as President and Chief Executive Officer of Canada Post Corporation from February 2011 to March 2018. He has more than 30 years of global experience in the financial services, technology, logistics and supply-chain industries. Mr. Chopra worked for Pitney Bowes Inc., a NYSE-traded technology company known for postage meters, mail automation and location intelligence services, for more than 20 years. He served as President of Pitney Bowes Canada and Latin America from 2006 to 2010. He held a number of increasingly senior executive roles internationally, including President of its new Asia Pacific and Middle East region from 2001 to 2006 and Chief Financial Officer for the Europe, Africa and Middle East (EAME) region from 1998 to 2001. He has previously served on the boards of Canada Post Corporation, Purolator Inc., SCI Group, the Canada Post Community Foundation, the Toronto Region Board of Trade and the Conference Board of Canada. He currently sits on the board of The North West Company Inc., a TSX-traded retailer. Mr. Chopra is a Fellow of the Institute of Chartered Professional Accountants of Canada and has a Bachelor's degree in Commerce (Honours) and a Master's Degree in Business Management (PGDBM).

Daniel P. DiMaggio. Mr. DiMaggio is a corporate director. Prior to retiring in 2006, he spent 35 years with United Parcel Services (UPS) (a public company), most recently as Chief Executive Officer of the UPS Worldwide Logistics Group. Prior to leading UPS' Worldwide Logistics Group, Mr. DiMaggio held a number of positions at UPS with increasing responsibility, including leadership roles for the UPS International Marketing Group, as well as the Industrial Engineering function. In addition to his senior leadership roles at UPS, Mr. DiMaggio was a member of the board of directors of Greatwide Logistics Services, Inc. and CEVA Logistics (a public company). He holds a Bachelor of Science degree from the Lowell Technological Institute (now the University of Massachusetts Lowell).

Laurette T. Koellner. Ms. Koellner is a corporate director. She most recently served as Executive Chairman of International Lease Finance Corporation, an aircraft leasing subsidiary of American International Group, Inc. (AIG) from 2012 until its sale in 2014. Ms. Koellner retired as President of Boeing International, a division of The Boeing Company, in 2008. While at Boeing, she was a member of the Office of the Chairman and served as the Executive Vice President, Internal Services, Chief Human Resources and Administrative Officer, President of Shared Services, and Corporate Controller. Ms. Koellner currently serves on the board of directors of Papa John's International, Inc., The Goodyear Tire & Rubber Company, and Nucor Corporation, all public companies. Ms. Koellner previously served on the board of directors and was the Chair of the Audit Committee of Hillshire Brands Company (a public company, formerly Sara Lee Corporation and now merged with Tyson Foods, Inc.), and on the board of directors of AIG (a public company). She holds a Bachelor of Science degree in Business Management from the University of Central Florida and a Master of Business Administration from Stetson University, as well as a Certified Professional Contracts Manager designation from the National Contracts Management Association.

Carol S. Perry. Ms. Perry is a corporate director. She is Chair of the Independent Review Committee of the mutual funds managed by 1832 Asset Management L.P., a mutual fund manager and wholly-owned affiliate of The Bank of Nova Scotia. She also serves as Chair of the Independent Review Committees of investment funds managed by Jarislowsky Fraser Limited and MD Financial Management Inc., which are subsidiaries of The Bank of Nova Scotia. Previously, she was a Commissioner of the Ontario Securities Commission, and has served on adjudicative panels and acted as a director and Chair of its Governance and Nominating Committee. With over 20 years of experience in the investment industry as an investment banker, Ms. Perry held senior positions with leading financial services companies including RBC Capital Markets, Richardson Greenshields of Canada Limited and CIBC World Markets and later founded MaxxCap Corporate Finance Inc., a financial advisory firm. She is a former director of Softchoice Corporation, Atomic Energy of Canada Limited and DALSA Corporation. Ms. Perry has a Bachelor of Engineering Science (Electrical) degree from the University of Western Ontario and a Master of Business Administration degree from the University of Toronto. She also holds the professional designation ICD.D from the Institute of Corporate Directors.

Tawfiq Popatia. Mr. Popatia has been a Managing Director of Onex* since 2014 and leads its efforts in automation, aerospace and other transportation-focused industries, having joined the firm in 2007. Prior to joining Onex, Mr. Popatia worked at the private equity firm of Hellman & Friedman LLC and in the Investment Banking Division of Morgan Stanley & Co. Mr. Popatia currently serves on the boards of Advanced Integration Technology, an aerospace automation company, and BBAM, a provider of commercial jet aircraft leasing, financing and management. He previously served on the board of Spirit Aerosystems (a public company), and is a former Employer Trustee of the International Association of Machinists National Pension Fund. Mr. Popatia holds a Bachelor of Science degree in Microbiology and a Bachelor of Commerce degree in Finance from the University of British Columbia.

* Onex holds an approximate 81% voting interest in Celestica. See "Controlling Shareholder Interest" under Item 4(B) above.

Eamon J. Ryan. Mr. Ryan is a corporate director. He is the former Vice President and General Manager, Europe, Middle East and Africa for Lexmark International Inc. (a public company). Prior to that, he was the Vice President and General Manager, Printing Services and Solutions Manager, Europe, Middle East and Africa. Mr. Ryan joined Lexmark International Inc. in 1991 as the President of Lexmark Canada. Prior to that, he spent 22 years at IBM Canada, where he held a number of sales and marketing roles in its Office Products and Large Systems divisions. Mr. Ryan's last role at IBM Canada was Director of Operations for its Public Sector, a role he held from 1986 to 1990. He holds a Bachelor of Arts degree from the University of Western Ontario.

Robert A. Mionis. Mr. Mionis has been President and Chief Executive Officer of the Corporation since August 1, 2015. Mr. Mionis is responsible for the Corporation's overall leadership, strategy and vision. In conjunction with the Board of Directors, he develops the Corporation's overall strategic plan, including the corporate goals and objectives as well as our approach to risk management. He is focused on positioning the Corporation for long-term profitable growth and ensuring the success of Celestica's customers around the world. From July 2013 until August 2015, he was an Operating Partner at Pamplona Capital Management (Pamplona), a global private equity firm, where he supported several companies across a broad range of industries, including the industrial, aerospace, healthcare and automotive industries. Before joining Pamplona, Mr. Mionis served as President and CEO of StandardAero, leading the company through a period of significant revenue and profitability growth. Over the course of his career, he has held a number of operational and service roles at companies in the aerospace, industrial and semiconductor markets, including General Electric and Axcelis Technologies (each a public company), AlliedSignal, and Honeywell. Mr. Mionis has been serving on the board of directors of Shawcor Ltd., a TSX-listed energy services company, since 2018. He holds a Bachelor of Science in Electrical Engineering from the University of Massachusetts.

Mandeep Chawla. Mr. Chawla has been Chief Financial Officer (CFO) of the Corporation since October 2017. Mr. Chawla is responsible for the planning and management of short and long-term financial performance and reporting activities. He assists the CEO in setting the strategic direction and financial goals of the Corporation, and manages overall capital allocation activities in order to maximize shareholder value. He provides oversight on risk management and governance matters, and leads the communication and relationship management activities with key financial stakeholders. Since joining Celestica in 2010, Mr. Chawla has held progressively senior roles in the Corporation before assuming the role of CFO in 2017. Prior to joining Celestica, he held senior financial management roles with MDS Inc., Tyco International, and General Electric. Mr. Chawla holds a Master of Finance degree from Queen's University and a Bachelor of Commerce degree from McMaster University. He is a CPA, CMA.

Todd C. Cooper. Mr. Cooper joined Celestica as Chief Operations Officer in 2018. He is responsible for driving operational and supply chain excellence, quality and technology innovation throughout the Corporation, as well as for the enablement of processes that drive value creation. As part of his role, he leads the operations, supply chain, quality, global business services, information technology and after-market services teams. Mr. Cooper has over 25 years of experience in operations leadership and advisory roles, including considerable experience in developing and implementing operational strategies to drive large-scale improvements for global organizations. Prior to joining Celestica, Mr. Cooper led supply chain, procurement, logistics, and sustainability value creation efforts at KKR, a global investment firm, from 2008 to 2018. Prior to that, he was the Vice President of Global Sourcing in Honeywell's Aerospace Division. He previously held various management roles at Storage Technology Corporation, McKinsey & Company, and served as a Captain in the U.S. Army. He holds a Bachelor of Science in Engineering from the United States Military Academy at West Point, a Master of Science in Mechanical Engineering from the Massachusetts Institute of Technology and an MBA from the MIT Sloan School of Management.

Elizabeth L. DelBianco. Ms. DelBianco is Chief Legal and Administrative Officer and Corporate Secretary. In this role, she oversees legal, contracts, brand and communications, human resources and sustainability. Ms. DelBianco joined Celestica in 1998 and since that time has been responsible for managing legal, governance, and compliance matters for Celestica on a global basis. Prior to joining Celestica, Ms. DelBianco was a senior corporate legal advisor in the telecommunications industry. She holds a Bachelor of Arts degree from the University of Toronto, a Bachelor of Laws degree from Queen's University, and a Master of Business Administration degree from Western University. She is admitted to practice in Ontario and New York.

John ("Jack") J. Lawless. Mr. Lawless is President, ATS. In this role, he is responsible for strategy development, deployment and execution of Celestica's A&D, industrial, healthtech, energy, and capital equipment businesses. He has served in this role since joining Celestica in October 2015; however, his title changed in October 2016 from Executive Vice President, Diversified Markets in order to reflect organizational changes made to better align with the Corporation's business strategy and operational model. From 2009 to 2014, Mr. Lawless was the CEO of Associated Air Center, a subsidiary of StandardAero, where he was responsible for strategy, sales, marketing, human resources, information technology and operations. At the same time, he held the role of Chief Operating Officer of StandardAero. Prior to StandardAero, Mr. Lawless held a number of Vice President-level roles with Honeywell. Before joining Honeywell, he held progressively senior positions with companies in the aerospace, industrial and semiconductor markets, including Axcelis Technologies, General Cable and AlliedSignal.

Jason Phillips. Mr. Phillips was appointed President, CCS, effective January 1, 2019. In this role, he is responsible for strategy development, deployment and execution for Celestica's enterprise and communications businesses, including our JDM offering. Mr. Phillips joined Celestica in 2008 and held progressively senior roles within the Corporation's CCS business, most recently as Senior Vice President, Enterprise and Cloud Solutions. Prior to joining Celestica, he held the role of Vice President and General Manager, Personal Communications at Elcoteq, and spent five years at Solectron in senior roles spanning sales, global account management, business unit leadership, and operations. Mr. Phillips holds a Bachelor of Science in Business Administration from the University of North Carolina, Chapel Hill.

There are no family relationships among any of the foregoing persons, and there are no arrangements or understandings with any person pursuant to which any of our directors or executive officers were selected.

None of the directors of the Corporation during 2019, or current directors or nominees serve together as directors of other corporations.

The following table identifies the functional competencies, expertise and qualifications of the Corporation's current directors and nominees pursuant to a skills matrix developed by the Nominating and Corporate Governance Committee to identify functional competencies, expertise and qualifications that our Board would ideally possess:

2020	Daniel P. DiMaggio	Laurette T. Koellner	Rob Mironis	Carol S. Perry	Eamon J. Ryan	Michael M. Wilson	Tawfiq Popatia	Deepak Chopra	Rob Cascella	TOTAL
Skills										
Service on Other Public (For-Profit) Company Boards		✓	✓	✓		✓	✓	✓	✓	7
Senior Officer or CEO Experience	✓	✓	✓		✓	✓	✓	✓	✓	8
Financial Literacy	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
Communications and/or Enterprise Computing			✓					✓		2
A&D		✓	✓				✓			3
HealthTech									✓	1
Capital Equipment			✓							1
Industrial			✓							1
Services (design, after market)	✓		✓						✓	3
Europe and/or Asia Business Development	✓	✓	✓		✓	✓	✓	✓	✓	8
Operations (supply chain management and manufacturing)	✓		✓			✓		✓	✓	5
Marketing and Sales	✓		✓		✓	✓	✓	✓	✓	7
Strategy Deployment / M&A	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
Talent Development and Succession Planning	✓	✓	✓			✓	✓	✓	✓	7
IT and Business Transformation		✓	✓		✓			✓		4
Finance and Treasury		✓		✓			✓	✓	✓	5
Other Characteristics										
Gender	M	F	M	F	M	M	M	M	M	7M / 2F

B. Compensation

Director Compensation

Director compensation is set by the Board on the recommendation of the Human Resources and Compensation Committee (the “HRCC”) and in accordance with director compensation guidelines and principles established by the Nominating and Corporate Governance Committee. Under these guidelines and principles, the Board seeks to maintain director compensation at a level that is competitive with director compensation at comparable companies, and requires a substantial portion of such compensation to be taken in the form of DSUs (or, at a director’s election, RSUs, if the Director Share Ownership Guidelines described below have been met). The director fee structure for 2019 is set forth in Table 1 below.

Table 1: Directors’ Fees⁽¹⁾

Element	Director Fee Structure for 2019 ⁽²⁾
Annual Board Retainer ⁽³⁾	\$360,000 – Board Chair \$235,000 – Directors
Travel Fees ⁽⁴⁾	\$2,500
Annual Retainer for the Audit Committee Chair	\$20,000
Annual Retainer for the HRCC Chair	\$15,000
Annual Retainer for the Nominating and Corporate Governance Committee Chair ⁽⁵⁾	–

- (1) Does not include Mr. Mionis, President and Chief Executive Officer (“CEO”) of the Corporation, whose compensation is set out in Table 15. Does not include fees payable to Onex for the service of Mr. Popatia as a director, which is described in footnote 10 to Table 2.
- (2) Directors may also receive further retainers and meeting fees for participation on *ad hoc* committees. During 2019, Mr. Wilson received a cash payment of \$30,000 for chairing an *ad hoc* committee and Ms. Koellner and Perry and Mr. Ryan each received a cash payment of \$20,000 for participation on such committee. The Board has the discretion to grant supplemental equity awards to individual directors as deemed appropriate (no such discretion was exercised in 2019).
- (3) Paid on a quarterly basis.
- (4) Payable only to directors who travel outside of their home state or province to attend a Board or Committee meeting.
- (5) The Chair of the Board also served as the Chair of the Nominating and Corporate Governance Committee in 2019, for which no additional fee was paid.

DSU/RSU Election

Effective January 1, 2019, each director must elect to receive 0%, 25% or 50% of their annual board fees, committee chair retainer fees and travel fees (collectively, “Annual Fees”) in cash, with the balance in DSUs, until such director has satisfied the requirements of the Director Share Ownership Guidelines described (and defined) under *Director Share Ownership Guidelines* below. Once a director has satisfied such requirements, the director may then elect to receive 0%, 25% or 50% of their Annual Fees in cash, with the balance either in DSUs or RSUs. If a director does not make an election, 100% of such director’s Annual Fees will be paid in DSUs.

Annual Fee Election				
Prior to Satisfaction of Director Share Ownership Guidelines		After Satisfaction of Director Share Ownership Guidelines		
Option 1	Option 2	Option 1	Option 2	Option 3
100% DSUs	(i) 25% Cash + 75% DSUs or (ii) 50% Cash + 50% DSUs	(i) 100% DSUs or (ii) 100% RSUs	(i) 25% Cash + 75% DSUs or (ii) 50% Cash + 50% DSUs	(i) 25% Cash + 75% RSUs or (ii) 50% Cash + 50% RSUs

Subject to the terms of the Directors' Share Compensation Plan, each DSU represents the right to receive one SVS or an equivalent value in cash (at the Corporation's discretion) when the director (a) ceases to be a director of the Corporation and (b) is not an employee of the Corporation or a director or employee of any corporation that does not deal at arm's-length with the Corporation (collectively, "Retires"). RSUs granted to directors are governed by the terms of the Corporation's Long-Term Incentive Plan ("LTIP"). Each quarterly grant of RSUs will vest in instalments of one-third per year on the first, second and third anniversary dates of the grant. Each vested RSU entitles the holder thereof to one SVS; however, if permitted by the Corporation under the terms of the grant, a director may elect to receive a payment of cash in lieu of SVS. Unvested RSUs will vest immediately on the date that the director Retires. The date used in valuing DSUs and RSUs that vest on retirement for settlement purposes is the date that is 45 days following the date on which the director Retires, or as soon as practicable thereafter. Such DSUs and RSUs, as applicable, are redeemed and payable on or prior to the 90th day following the date on which the director Retires.

Grants of DSUs and RSUs are credited quarterly in arrears. The number of DSUs and RSUs, as applicable, granted is calculated by multiplying the amount of such director's Annual Fees for the quarter by the percentage of the Annual Fees that the director elected to receive in the form of DSUs or RSUs, as applicable, and dividing the product by the closing price of the SVS on the NYSE on the last business day of the quarter.

Directors' Fees Earned in 2019

All compensation paid in 2019 by the Corporation to its directors is set out in Table 2, except for the compensation of Mr. Mionis, President and CEO of the Corporation, which is set out in Table 15. In 2019, the Board (excluding Mr. Popatia – see footnote 10 to Table 2) earned total Annual Fees in the amount of \$2,170,000, including total grants of \$1,396,250 in DSUs and \$125,000 in RSUs.

Table 2: Director Fees Earned in Respect of 2019

Name	Annual Fees Earned					Allocation of Annual Fees ⁽¹⁾⁽²⁾		
	Annual Board Retainer	Annual Committee Chair Retainer	Ad Hoc Committee Fees	Travel Fees	Total Fees	DSUs ⁽³⁾	RSUs ⁽⁴⁾	Cash ⁽⁵⁾
Robert A. Cascella ⁽⁶⁾	\$235,000	–	–	\$10,000	\$245,000	\$122,500	–	\$122,500
Deepak Chopra	\$235,000	–	–	–	\$235,000	\$117,500	–	\$117,500
Daniel P. DiMaggio	\$235,000	–	–	\$10,000	\$245,000	\$183,750	–	\$61,250
William A. Etherington ⁽⁷⁾	\$360,000	–	–	–	\$360,000	\$360,000	–	–
Laurette T. Koellner ⁽⁸⁾	\$235,000	\$20,000 ⁽⁹⁾	\$20,000	\$10,000	\$285,000	\$132,500	–	\$152,500
Carol S. Perry ⁽⁸⁾	\$235,000	–	\$20,000	–	\$255,000	\$235,000	–	\$20,000
Tawfiq Popatia ⁽¹⁰⁾	–	–	–	–	–	–	–	–
Eamon J. Ryan ⁽⁸⁾	\$235,000	\$15,000 ⁽¹¹⁾	\$20,000	–	\$270,000	–	\$125,000 ⁽¹²⁾	\$145,000
Michael M. Wilson ⁽⁸⁾	\$235,000	–	\$30,000	\$10,000	\$275,000	\$245,000	–	\$30,000

- (1) Directors who had not satisfied the requirements of the Director Share Ownership Guidelines described below were required to elect to receive 0%, 25% or 50% of their 2019 Annual Fees (set forth in the "Total Fees" column above) in cash, with the balance in DSUs. Directors who have satisfied the requirements of the Director Share Ownership Guidelines described below were required to elect to receive 0%, 25% or 50% of their Annual Fees in cash, with the balance either in DSUs or RSUs. The Annual Fees received by directors in DSUs and RSUs for 2019 were credited quarterly, and the number of DSUs and RSUs, as applicable, granted in respect of the amounts credited quarterly was determined using the closing price of the SVS on the NYSE on the last business day of each quarter, which was \$8.45 on March 29, 2019, \$6.83 on June 28, 2019, \$7.17 on September 30, 2019 and \$8.27 on December 31, 2019.

- (2) For 2019, the directors elected to receive their Annual Fees as follows:

Director	Cash	DSUs	RSUs
Robert A. Cascella	50%	50%	-
Deepak Chopra	50%	50%	-
Daniel P. DiMaggio	25%	75%	-
William A. Etherington	-	100%	-
Laurette T. Koellner	50%	50%	-
Carol S. Perry	-	100%	-
Eamon J. Ryan	50%	-	50%
Michael M. Wilson	-	100%	-

- (3) Amounts in this column represent the grant date fair value of DSUs issued in respect of 2019 Annual Fees. The grant date fair value of the grants is the same as their accounting value.
- (4) Amounts in this column represent the grant date fair value of RSUs issued in respect of 2019 Annual Fees. The grant date fair value of the grants is the same as their accounting value.
- (5) Amounts in this column represent the portion of 2019 Annual Fees paid in cash.
- (6) Mr. Cascella was appointed to the Board of Directors effective February 1, 2019.
- (7) During 2019, Mr. Etherington was the Chair of the Board and the Chair of the Nominating and Corporate Governance Committee. Mr. Etherington received an annual Board Chair retainer fee in the amount of \$360,000. He did not receive a committee chair annual retainer in his capacity as Chair of the Nominating and Corporate Governance Committee. Mr. Etherington retired from the Board of Directors effective January 29, 2020.
- (8) During 2019, Meses. Koellner and Perry and Messrs. Ryan and Wilson (Chair) served on an *ad hoc* committee of the Board. Fees with respect to service on such committee were paid in cash.
- (9) Represents the annual retainer for the Chair of the Audit Committee.
- (10) Mr. Popatia is an officer of Onex and did not receive any compensation in his capacity as a director of the Corporation in 2019; however, Onex received compensation for providing the services of Mr. Popatia as a director in 2019 pursuant to a Services Agreement between the Corporation and Onex, entered into on January 1, 2009 (as amended January 1, 2017, the "Services Agreement"). The Services Agreement automatically renews for successive one-year terms unless the Corporation or Onex provide notice of intent not to renew. The Services Agreement terminates automatically and the rights of Onex to receive compensation (other than accrued and unpaid compensation) will terminate (a) 30 days after the first day on which Onex ceases to hold at least one MVS of Celestica or any successor company or (b) the date Mr. Popatia ceases to be a director of Celestica, for any reason. Onex receives compensation under the Services Agreement in an amount equal to \$235,000 per year (consistent with current annual Board retainer fees), payable in DSUs in equal quarterly installments in arrears. The number of DSUs is determined using the closing price of the SVS on the NYSE on the last day of the fiscal quarter in respect of which the instalment is to be credited.
- (11) Represents the annual retainer for the Chair of the HRCC.
- (12) Mr. Ryan was entitled to, and elected to, receive 50% of his 2019 Annual Fees in RSUs. Each quarterly RSU grant will vest ratably over three years, commencing on the first anniversary of the date of grant. Accordingly, on March 31, 2020, one-third of the RSUs granted to Mr. Ryan in respect of the first quarter of 2019 will vest and will be paid or settled either in cash or in SVS (on a one-for-one basis) at his election.

Directors' Ownership of Securities

Outstanding Share-Based Awards

Information concerning all outstanding share-based awards as of December 31, 2019 made by the Corporation to each director proposed for election at the Meeting (other than Mr. Mionis, whose information is set out in Table 16), including awards granted prior to 2019, is set out in Table 3. Such awards consist of DSUs and, commencing in 2019, RSUs. DSUs that were granted prior to January 1, 2007 may be settled in the form of SVS issued from treasury, SVS purchased in the open market, or an equivalent value in cash (at the discretion of the Corporation). DSUs granted after January 1, 2007 may only be settled in SVS purchased in the open market or an equivalent value in cash (at the discretion of the Corporation). RSUs granted to directors are governed by the terms of the LTIP. Each vested RSU entitles the holder thereof to one SVS; however, if permitted by the Corporation under the terms of the grant, a director may elect to receive a payment of cash in lieu of SVS. In 2005, the Corporation amended the

LTIP to prohibit grants to directors of options to acquire SVS. There are no options granted to directors (or former directors) prior to the foregoing amendment that remain outstanding.

Table 3: Outstanding Share-Based Awards

Name	Number of Outstanding Securities ⁽¹⁾		Market Value of Outstanding Securities ⁽²⁾ (\$)	
	DSUs (#)	RSUs (#)	DSUs (\$)	RSUs (\$)
Robert A. Cascella ⁽³⁾	16,081	–	\$132,990	–
Deepak Chopra	28,227	–	\$233,437	–
Daniel P. DiMaggio	211,053	–	\$1,745,408	–
Laurette T. Koellner	230,081	–	\$1,902,770	–
Carol S. Perry	154,551	–	\$1,278,137	–
Tawfiq Popatia ⁽⁴⁾	–	–	–	–
Eamon J. Ryan	262,768	16,409	\$2,173,091	\$135,702
Michael M. Wilson	222,176	–	\$1,837,396	–

- (1) Represents all outstanding DSUs and unvested RSUs, including the regular quarterly grant of DSUs and RSUs issued on January 1, 2020 in respect of the fourth quarter of 2019.
- (2) The market value of DSUs and unvested RSUs was determined using a share price of \$8.27, which was the closing price of the SVS on the NYSE on December 31, 2019.
- (3) Mr. Cascella was appointed to the Board of Directors effective February 1, 2019.
- (4) Mr. Popatia had no share-based awards from the Corporation outstanding as of December 31, 2019; however 249,988 DSUs have been issued to Onex (and are outstanding) pursuant to the Services Agreement since its inception, including 30,849 DSUs issued to Onex for the services of Mr. Popatia as a director of the Corporation in 2019. For further information see footnote 10 to Table 2.

Changes in Directors' Equity Interest

The following table sets out, for each director proposed for election at the Meeting (other than Mr. Mionis, whose information is set out in Table 16), such director's direct or indirect beneficial ownership of, or control or direction over, shares and share-based awards in the Corporation as of February 19, 2020, and any changes therein since February 13, 2019 (the date of disclosure in the Corporation's 2018 Annual Report on Form 20-F (the "2018 Annual Report")).

Table 4: Changes in Directors' Equity Interest⁽¹⁾

Name	Date	SVS	Share-Based Awards		Total
		(#)	DSUs (#)	RSUs ⁽²⁾ (#)	(#)
Robert A. Cascella ⁽³⁾	Feb. 13, 2019	–	–	–	–
	Feb. 19, 2020	–	16,081	–	16,081
	Change	–	16,081	–	16,081
Deepak Chopra	Feb. 13, 2019	–	12,804	–	12,804
	Feb. 19, 2020	–	28,227	–	28,227
	Change	–	15,423	–	15,423
Daniel P. DiMaggio	Feb. 13, 2019	–	186,932	–	186,932
	Feb. 19, 2020	–	211,053	–	211,053
	Change	–	24,121	–	24,121
Laurette T. Koellner	Feb. 13, 2019	–	212,688	–	212,688
	Feb. 19, 2020	–	230,081	–	230,081
	Change	–	17,393	–	17,393
Carol S. Perry	Feb. 13, 2019	–	123,702	–	123,702
	Feb. 19, 2020	–	154,551	–	154,551
	Change	–	30,849	–	30,849
Tawfiq Popatia ⁽⁴⁾	Feb. 13, 2019	–	–	–	–
	Feb. 19, 2020	–	–	–	–
	Change	–	–	–	–
Eamon J. Ryan	Feb. 13, 2019	–	262,768	–	262,768
	Feb. 19, 2020	–	262,768	16,409	279,177
	Change	–	–	16,409	16,409
Michael M. Wilson	Feb. 13, 2019	–	190,013	–	190,013
	Feb. 19, 2020	20,000	222,176	–	242,176
	Change	20,000	32,163	–	52,163

- (1) Information as to SVS beneficially owned, controlled or directed, directly or indirectly, is not within the Corporation's knowledge and therefore has been provided by each individual set forth in the table.
- (2) Effective January 1, 2019, directors may elect to receive a portion of their Annual Fees in RSUs once they have met the requirements of the Director Share Ownership Guidelines described herein.
- (3) Mr. Cascella was appointed to the Board of Directors effective February 1, 2019.
- (4) As of February 19, 2020, Mr. Popatia owned 8,894 subordinate voting shares of Onex. No director of the Corporation owned shares of Onex during 2019 other than Mr. Popatia and Mr. Etherington (as of the date of his retirement on January 29, 2020, Mr. Etherington owned 10,000 subordinate voting shares of Onex). No director nominee owns shares of Onex other than Mr. Popatia. 30,849 DSUs were issued to Onex in 2019 for the services of Mr. Popatia as a director of the Corporation. 249,988 DSUs have been issued to Onex (and are outstanding) pursuant to the Services Agreement since its inception. Onex's beneficial ownership of securities of the Corporation (which does not include DSUs) is set forth in footnote 2 to the Major Shareholder's Table in Item 7(A).

Director Share Ownership Guidelines

The Corporation has minimum shareholding requirements (the "Director Share Ownership Guidelines") for directors who are not employees or officers of the Corporation or Onex (see *Executive Share Ownership* for share ownership guidelines applicable to Mr. Mionis in his role as President and CEO of the Corporation). The Director Share Ownership Guidelines require that a director hold SVS, DSUs and/or unvested RSUs with an aggregate value equal to 150% of the annual retainer and that the Chair of the Board hold SVS, DSUs and/or unvested RSUs with an aggregate value equal to 187.5% of the annual retainer of the Chair of the Board. These Director Share Ownership Guidelines came into effect on January 1, 2016 in order to reflect the change from a retainer plus meeting fee structure to a fixed compensation arrangement for directors. Prior to the change, directors who served on the Board for five years were required to hold five times the previous base retainer. The Director Share Ownership Guidelines were thus modified to reflect the consolidation of the meeting fees into the single fixed annual retainer amount. The current shareholding requirement of 150% (187.5% for the Chair) of the annual retainer results in directors being required to hold shares or share-based awards in an amount substantially similar to five times the previous meeting fee amounts. We believe the Director Share Ownership Guidelines continue to require our directors to hold a meaningful level of shares or share-based awards in accordance with good governance practices.

Directors have five years from January 1, 2016 or from the time of their appointment to the Board, as applicable, to comply with the Director Share Ownership Guidelines. Although directors subject to the Director Share Ownership Guidelines will not be deemed to have breached such Guidelines by reason of a decrease in the market value of the Corporation's securities, such directors are required to purchase further securities within a reasonable period of time after such occurrence to comply with the Director Share Ownership Guidelines. Each director's holdings of securities are reviewed annually as of December 31. The following table sets out, for each applicable director proposed for election at the Meeting, whether such director was in compliance with the Director Share Ownership Guidelines as of December 31, 2019.

Table 5: Shareholding Requirements

Director ⁽¹⁾	Shareholding Requirements		
	Target Value as of December 31, 2019	Value as of December 31, 2019 ⁽²⁾	Met Target as of December 31, 2019
Robert A. Cascella ⁽³⁾	\$352,500	\$132,990	Not yet applicable
Deepak Chopra ⁽⁴⁾	\$352,500	\$233,437	Not yet applicable
Daniel P. DiMaggio	\$352,500	\$1,745,408	Yes
Laurette T. Koellner	\$352,500	\$1,902,770	Yes
Carol S. Perry	\$352,500	\$1,278,137	Yes
Eamon J. Ryan	\$352,500	\$2,308,793	Yes
Michael M. Wilson	\$352,500	\$1,837,396	Yes

- (1) As President and CEO of the Corporation, Mr. Mionis is subject to the Executive Share Ownership Guidelines. As an officer of Onex, Mr. Popatia is not subject to the Director Share Ownership Guidelines.
- (2) The value of the aggregate number of SVS, DSUs and/or unvested RSUs held by each director is determined using a share price of \$8.27, which was the closing price of the SVS on the NYSE on December 31, 2019.
- (3) Mr. Cascella was appointed to the Board of Directors effective February 1, 2019 and he is required to comply with the Director Share Ownership Guidelines within five years of his appointment.
- (4) Mr. Chopra was elected to the Board of Directors effective April 27, 2018 and he is required to comply with the Director Share Ownership Guidelines within five years of his election.

Attendance of Directors at Board and Committee Meetings

The following table sets forth the attendance of directors at Board meetings and at meetings of those standing committees of which they are members, from January 1, 2019 to February 19, 2020. All then-members of the Board attended the Corporation's last annual meeting of shareholders.

Table 6: Directors' Attendance at Board and Committee Meetings

Director	Board	Audit	Human Resources and Compensation	Nominating and Corporate Governance	Meetings Attended %	
					Board	Committee
Robert A. Cascella ⁽¹⁾	7 of 8	5 of 5	4 of 5	3 of 3	87%	92%
Deepak Chopra	9 of 9	6 of 6	6 of 6	4 of 4	100%	100%
Daniel P. DiMaggio	9 of 9	6 of 6	6 of 6	4 of 4	100%	100%
William A. Etherington ⁽²⁾	8 of 9	6 of 6	6 of 6	4 of 4	88%	100%
Laurette T. Koellner	9 of 9	6 of 6	6 of 6	4 of 4	100%	100%
Robert A. Mionis	9 of 9	–	–	–	100%	–
Carol S. Perry	9 of 9	6 of 6	6 of 6	4 of 4	100%	100%
Tawfiq Popatia	8 of 9	–	–	–	88%	–
Eamon J. Ryan	9 of 9	6 of 6	6 of 6	4 of 4	100%	100%
Michael M. Wilson	9 of 9	6 of 6	6 of 6	4 of 4	100%	100%

- (1) Mr. Cascella was appointed to the Board of Directors effective February 1, 2019.
- (2) Mr. Etherington retired from the Board of Directors effective January 29, 2020.

COMPENSATION DISCUSSION AND ANALYSIS

This Compensation Discussion and Analysis sets out the policies of the Corporation for determining compensation paid to the Corporation's CEO, its Chief Financial Officer ("CFO"), and the three other most highly compensated executive officers (collectively, the "Named Executive Officers" or "NEOs"). The NEOs who are the subject of this Compensation Discussion and Analysis are:



Robert A. Mionis – President and Chief Executive Officer

Mr. Mionis is responsible for Celestica's overall leadership, strategy and vision. In conjunction with the Board of Directors, he develops the Corporation's overall strategic plan, including the corporate goals and objectives as well as our approach to risk management. He is focused on positioning the Corporation for long-term profitable growth and ensuring the success of Celestica's customers around the world. For a complete CEO position description, see the Corporation's website at www.celestica.com.

Prior to joining Celestica, Mr. Mionis was an Operating Partner at Pamplona, a global private equity firm where he supported several companies across a broad range of industries, including the industrial, aerospace, healthcare and automotive industries. Before joining Pamplona, Mr. Mionis served as President and CEO of StandardAero, leading the company through a period of significant revenue and profitability growth. Over the course of his career he has held a number of operational and service roles at companies in the aerospace, industrial and semiconductor markets, including General Electric, Axcelis Technologies, AlliedSignal and Honeywell.

Mr. Mionis is a member of the Board of Directors. He has also been serving on the board of directors of Shawcor Ltd. since 2018. He holds a Bachelor of Science in Electrical Engineering from the University of Massachusetts.



Mandeep Chawla – Chief Financial Officer

Mr. Chawla is responsible for the planning and management of short and long-term financial performance and reporting activities. He assists the CEO in setting the strategic direction and financial goals of the Corporation, and manages overall capital allocation activities in order to maximize shareholder value. He provides oversight on risk management and governance matters, and leads the communication and relationship management activities with key financial stakeholders.

Mr. Chawla joined Celestica in 2010 and held progressively senior roles in the Corporation before assuming the role of CFO in 2017. Prior to joining Celestica, he held senior financial management roles with MDS Inc., Tyco International, and General Electric.

Mr. Chawla holds a Master of Finance degree from Queen's University and a Bachelor of Commerce degree from McMaster University. He is a CPA, CMA.



John "Jack" J. Lawless – President, Advanced Technology Solutions

Mr. Lawless is responsible for strategy development, deployment and execution of Celestica's A&D, industrial, healthtech, energy and capital equipment businesses.

Prior to joining Celestica, Mr. Lawless was the CEO of Associated Air Center, a subsidiary of StandardAero, where he was responsible for strategy, sales, marketing, human resources, information technology and operations. At the same time, he held the role of Chief Operating Officer of StandardAero. Prior to StandardAero, Mr. Lawless held a number of Vice President-level roles with Honeywell. Before joining Honeywell, he held progressively senior positions with companies in the aerospace, industrial and semiconductor markets, including Axcelis Technologies, General Cable and AlliedSignal.



Todd C. Cooper – Chief Operations Officer

Mr. Cooper is responsible for driving operational and supply chain excellence, quality and technology innovation throughout the Corporation, as well as for the enablement of processes that drive value creation. As part of his role, he leads the operations, supply chain, quality, global business services, information technology and after-market services teams.

Mr. Cooper has over 25 years experience in operations leadership and advisory roles, including considerable experience in developing and implementing operational strategies to drive large-scale improvements for global organizations. Prior to joining Celestica, Mr. Cooper led supply chain, procurement, logistics, and sustainability value creation efforts at KKR, a global investment firm. Prior to that, he was the Vice President of Global Sourcing in Honeywell's Aerospace Division. He previously held various management roles at Storage Technology Corporation, McKinsey & Company, and served as a Captain in the U.S. Army.

He holds a Bachelor of Science in Engineering from the United States Military Academy at West Point, a Master of Science in Mechanical Engineering from the Massachusetts Institute of Technology and an MBA from the MIT Sloan School of Management.



Jason Phillips – President, Connectivity & Cloud Solutions

Mr. Phillips is responsible for strategy development, deployment and execution for Celestica's enterprise and communications businesses, including our Joint Design and Manufacturing ("JDM") offering.

Mr. Phillips joined Celestica in 2008 and held progressively senior roles within the Corporation's CCS business, most recently as Senior Vice President, Enterprise and Cloud Solutions. Prior to joining Celestica, he held the role of Vice President and General Manager, Personal Communications at Elcoteq, and spent five years at Solectron in senior roles spanning sales, global account management, business unit leadership, and operations.

Mr. Phillips holds a Bachelor of Science in Business Administration from the University of North Carolina, Chapel Hill.

A description and explanation of the significant elements of compensation awarded to the foregoing NEOs during 2019 is set out in the section *Compensation Discussion and Analysis – 2019 Compensation Decisions*.

Note Regarding Non-IFRS Measures

This Compensation Discussion and Analysis contains references to operating margin, adjusted ROIC, and free cash flow, each of which is a non International Financial Reporting Standards ("IFRS") measure. With respect to all references to these measures, please note the following:

- Non-IFRS operating margin is defined as non-IFRS operating earnings divided by revenue. Non-IFRS operating earnings is defined as earnings (loss) before income taxes, Finance Costs (defined below), employee stock-based compensation expense, amortization of intangible assets (excluding computer software), Other Charges (recoveries) (defined below), and acquisition inventory fair value adjustments ("FVAs").
- Non-IFRS adjusted ROIC is determined by dividing non-IFRS operating earnings by average net invested capital which is defined as total assets less: cash, right-of-use ("ROU") assets, accounts payable, accrued and other current liabilities and provisions, and income taxes payable, using a five-point average to calculate average net invested capital for the year. In connection with our adoption of IFRS 16, *Leases* ("IFRS 16") as of January 1, 2019, we recognize ROU assets and related lease obligations on the applicable lease commencement dates. As IFRS 16 did not require the restatement of prior period financial statements, and in order to preserve comparability with prior calculations, commencing in the first quarter of 2019, we excluded the impact of our ROU assets from our calculation of net invested capital.
- Non-IFRS free cash flow is defined as cash provided by (used in) operations after the purchase of property, plant and equipment (net of proceeds from the sale of certain surplus equipment and property), lease payments (including lease payments under IFRS 16), and Finance Costs paid (commencing in 2019, excluding any debt issuance costs and waiver fees paid). As of January 1, 2019, we modified our non-IFRS free cash flow calculation to subtract lease payments under IFRS 16, as such payments were previously (but are no longer) reported in cash provided by (used

in) operations. Accordingly, and in order to preserve comparability with prior calculations, commencing in the first quarter of 2019, such lease payments are subtracted from cash provided by (used in) operations in our determination of non-IFRS free cash flow.

- Finance Costs consist of interest expense and fees related to the Corporation's credit facility (including debt issuance and related amortization costs, but not waiver fees, which are recorded in Other Charges), our interest rate swap agreements, our accounts receivable sales program and customer supplier financing programs, and beginning in the first quarter of 2019, interest expense on our lease obligations under IFRS 16, net of interest income earned.
- Other Charges (recoveries) consist of restructuring charges, net of recoveries, transition costs (costs related to: the relocation of our Toronto manufacturing operations and the move of our corporate headquarters into and out of a temporary location; and certain capital equipment manufacturing line transfers); transition recoveries (the gain on the sale of our Toronto real property); net impairment charges; acquisition-related consulting, transaction and integration costs, and charges related to the subsequent re-measurement of indemnification assets; legal settlements (recoveries); credit facility-related charges (consisting of the accelerated amortization of unamortized deferred financing costs recorded during the second quarter of 2018, and fees incurred in the fourth quarter of 2019 in connection with waivers of specified covenant defaults under our credit facility (and related cross defaults)); and post-employment benefit plan losses incurred in the fourth quarter of 2019 related to changes in labor regulations in Thailand.

See "Non-IFRS measures" in the Corporation's Management's Discussion and Analysis for the first three quarters of 2019 (included in Forms 6-K available at www.sec.gov) and in Item 5 of this Annual Report for, among other things, a discussion of the exclusions used to determine these non-IFRS measures, how these non-IFRS measures are used, as well as a reconciliation of historical non-IFRS operating margin, non-IFRS adjusted ROIC, and non-IFRS free cash flow to the most directly comparable IFRS measures. These non-IFRS measures do not have any standardized meanings prescribed by IFRS and therefore may not be comparable to similar measures presented by other companies.

Compensation Objectives

The Corporation's executive compensation philosophy is to attract, motivate and retain the leaders who drive the success of the Corporation. In light of this philosophy, we have designed our executive compensation programs and practices to pay for performance, adhere to the risk profile of the Corporation, align the interests of executives and shareholders, incentivize executives to work as a team to achieve our strategic objectives, ensure direct accountability for annual operating results and the Corporation's long-term financial performance and to reflect both business strategy and market norms. The HRCC reviews compensation policies and practices regularly, considers related risks, and makes any adjustments it deems necessary to ensure the compensation policies are not reasonably likely to have a material adverse effect on the Corporation.

A substantial portion of the compensation of our executives is linked to the Corporation's performance. The HRCC establishes target compensation with reference to the median compensation of a comparator group of Celestica's competitors, major suppliers, customers, and other major international technology companies that generally fall in the range of 50% to 200% of Celestica's revenue (such group, the "Comparator Group"). However, neither each element of compensation nor total compensation is expected to match the median of such Comparator Group exactly. NEOs have the opportunity for higher compensation for performance that exceeds target performance goals, and will receive lower compensation for performance that is below target performance goals.

The 2019 compensation package was designed to:

- ensure executives are compensated fairly and in a way that does not result in the Corporation incurring undue risk or encouraging executives to take inappropriate risks;
- provide competitive fixed compensation (*i.e.*, base salary and benefits), as well as a substantial amount of at-risk pay through our annual and equity-based incentive plans;
- reward executives, through both annual cash incentives and long-term equity-based incentives, for achieving operational and financial results that meet or exceed the Corporation's business plan and that are superior to those of direct competitors in the electronics manufacturing services ("EMS") industry and, in addition, in the

case of equity-based incentives, for achieving superior share price performance relative to a group of technology hardware companies;

- align the interests of executives and shareholders through long-term equity-based compensation;
- recognize tenure and utilize a multi-year approach for setting and transitioning target compensation for executives who are new in their role;
- reflect internal equity, recognize fair and appropriate compensation levels relative to differing roles and responsibilities, and encourage executives to work as a team to achieve corporate results; and
- ensure direct accountability for the annual operating results and the long-term financial performance of the Corporation.

Independent Advice

The HRCC, which has the sole authority to retain and terminate an executive compensation consultant to the HRCC, has engaged Willis Towers Watson (the “Compensation Consultant”) since October 2006 as its independent compensation consultant to assist in identifying appropriate comparator companies against which to evaluate the Corporation’s compensation levels, to provide data about those companies, and to provide observations and advice with respect to the Corporation’s compensation practices versus those of the Comparator Group and the market in general.

The Compensation Consultant also provides advice (upon request) to the HRCC on the policy recommendations prepared by management and keeps the HRCC apprised of market trends in executive compensation. The Compensation Consultant attended portions of all HRCC meetings held in 2019, in person or by telephone, as requested by the Chair of the HRCC. At each of its meetings, the HRCC held an *in camera* session with the Compensation Consultant without any member of management being present. Decisions made by the HRCC, however, are the responsibility of the HRCC and may reflect factors and considerations supplementary to the information and advice provided by the Compensation Consultant.

Each year, the HRCC reviews the scope of activities of the Compensation Consultant and, if it deems appropriate, approves the corresponding budget. During such review, the HRCC also considers the independence factors required to be considered by the NYSE prior to the selection or receipt of advice from a compensation consultant. After consideration of such independence factors and prior to engaging the Compensation Consultant in 2019, the HRCC determined that the Compensation Consultant was independent. The Compensation Consultant meets with the Chair of the HRCC and management at least annually to identify any initiatives requiring external support and agenda items for each HRCC meeting throughout the year. The Compensation Consultant reports directly to the Chair of the HRCC and is not engaged by management. The Compensation Consultant may, with the approval of the HRCC, assist management in reviewing and, where appropriate, developing and recommending compensation programs to align the Corporation’s practices with competitive practices. Any such service in excess of \$25,000 provided by the Compensation Consultant relating to executive compensation must be pre-approved by the Chair of the HRCC. In addition, any non-executive compensation consulting service in excess of \$25,000 must be submitted by management to the HRCC for pre-approval, and any services that will cause total non-executive compensation consulting fees to exceed \$25,000 in aggregate in a calendar year must also be pre-approved by the HRCC.

The following table sets out the fees paid by the Corporation to the Compensation Consultant in each of the past two years:

Table 7: Fees of the Compensation Consultant

	Year Ended December 31	
	2019	2018
Executive Compensation-Related Fees ⁽¹⁾	C\$262,059	C\$328,828
All Other Fees	–	–

- (1) Services for 2019 and 2018 included support on executive compensation matters that are part of the HRCCs annual agenda (e.g., executive compensation competitive market analysis, review of trends in executive compensation, peer group review, pay-for-performance analysis and assistance with executive compensation-related disclosure, annual valuation of PSUs for accounting purposes, attendance at all HRCC meetings, and support with ad-hoc executive compensation issues that arose throughout the year). Services for 2019 also included a compensation risk assessment update and additional NEO realized/realizable pay analysis. Services for 2018 also included a compensation risk assessment and director compensation review.

Compensation Process

Executive compensation is determined as part of an annual process followed by the HRCC, as supported by the Compensation Consultant. The HRCC reviews and approves compensation for the CEO and the other NEOs, including base salaries, target annual incentive awards under the CTI and equity-based incentive grants. The HRCC evaluates the performance of the CEO relative to financial and business goals and objectives approved by the Board from time to time for such purpose. The HRCC reviews data for the Comparator Group and other competitive market data, and consults with the Compensation Consultant before exercising its independent judgment to determine appropriate compensation levels. The CEO reviews the performance evaluations of the other NEOs with the HRCC and provides compensation recommendations. The HRCC considers these recommendations, reviews market compensation information, consults with the Compensation Consultant, and then exercises its independent judgment to determine if any adjustments are required prior to approval of the compensation of such other NEOs.

The HRCC generally meets five times a year, in January, April, July, October and December. The annual executive compensation process is as follows:

January	<ul style="list-style-type: none"> • Determine achievement of corporate and individual performance for CTI for the previous year • Determine achievement of performance for the PSUs that vest in the current year based on the applicable performance period • Approve corporate performance objectives for the CTI for the current year • Approve performance goals for PSUs granted in the current year • Review individual target compensation levels and approve base salary, target under the CTI and long-term incentives for the current year • Conduct risk assessment of compensation programs • Review scope of activity of Compensation Consultant and approve fees for the current year • Review executive compensation disclosure • Review the corporate goals and objectives relevant to CEO compensation and evaluate CEO performance in light of the financial and business goals and objectives approved by the Board for the previous year • Review and approve total compensation package for CEO for the current year, including stress-test of performance-based compensation
April	<ul style="list-style-type: none"> • Annual compensation policy review and pension plan review • Assess performance of Compensation Consultant
July	<ul style="list-style-type: none"> • Review and consider shareholder feedback from say-on-pay vote • Review trends and “hot topics” in compensation governance • Review and approve Comparator Group for the following year • Review talent management strategy and succession plans • Conduct pay-for-performance alignment review
October	<ul style="list-style-type: none"> • Review market benchmark reports for the CEO and other NEOs • Review preliminary achievement against performance targets and evaluate interim performance relative to corporate goals and objectives for the current year • Conduct risk assessment of compensation programs
December	<ul style="list-style-type: none"> • Review updated preliminary achievement against performance targets and evaluate interim performance relative to corporate goals and objectives for the current year • Review preliminary compensation recommendations and performance objectives for the following year • Preliminary evaluation of individual performance relative to objectives

At the July meeting, the HRCC, based on recommendations from the Compensation Consultant, approves the Comparator Group that will be used for the compensation review for the following year. At the October meeting, the Compensation Consultant presents a competitive analysis of the total compensation for each of the NEOs, including the CEO, with reference to the established Comparator Group as well as other competitive market data. Using this analysis, the CEO develops base salary and equity-based incentive recommendations for the NEOs which are then reviewed with the Compensation Consultant. The CEO’s compensation is determined by the HRCC in consultation with the Compensation Consultant with input from the Corporation’s chief human resources executive. At the December meeting, preliminary compensation proposals for the CEO and the other NEOs for the following year are reviewed, including base salary recommendations and the value and mix of their equity-based incentives. By

reviewing the compensation proposals in advance, the HRCC is afforded sufficient time to discuss and provide input regarding proposed compensation changes prior to the January meeting at which time the HRCC approves the compensation proposals, revised as necessary or appropriate, based on input provided at the December meeting. In January, the HRCC reviews the corporate goals and objectives relevant to compensation of the CEO as approved by the Board. Previous grants of equity-based awards and their current retention value are reviewed and may be taken into consideration when making decisions related to equity-based compensation. The HRCC also considers the potential value of the total compensation package for the CEO, which is stress-tested at different levels of performance and different stock prices to ensure that there is an appropriate link between pay and performance, taking into consideration the range of potential total compensation. The CEO and the NEOs are not present at the HRCC meetings when their respective compensation is discussed.

Based on a management plan approved by the Board, CTI targets for the relevant year are approved by the HRCC at the beginning of the year. The HRCC reviews the Corporation’s performance relative to these targets and the projected payment at the October and December meetings. At the January meeting of the following year, final payments under the CTI, as well as the vesting percentages for any previously granted equity-based incentives that have performance vesting criteria, are calculated and approved by the HRCC based on the Corporation’s year-end results as approved by the Audit Committee. The amounts related to the CTI are then paid in February.

HRCC Discretion

The HRCC may exercise its discretion to either award compensation absent attainment of a relevant performance goal or similar condition, or to reduce or increase the size of any award or payout to any NEO. The HRCC did not exercise such discretion for 2019 compensation with respect to any NEO.

The HRCC reviewed the non-IFRS adjusted ROIC performance measure for PSUs granted in 2017 and determined that such performance measure should align with the current design of PSUs, which was amended in 2018 to more closely align with the Corporation’s strategic objectives. The PSUs granted in 2017 that vested in 2020 were therefore based on the Corporation’s average non-IFRS adjusted ROIC over the three-year vesting period relative to the average non-IFRS adjusted ROIC of the pre-determined EMS competitor group over the same period.

Compensation Risk Assessment and Governance Analysis

The HRCC, in performing its duties and exercising its powers under its mandate, considers the implications of the risks associated with the Corporation’s compensation policies and practices. This includes: identifying any such policies or practices that encourage executive officers to take inappropriate or excessive risks; identifying risks arising from such policies and practices that are reasonably likely to have a material adverse effect on the Corporation; and considering the risk implications of the Corporation’s compensation policies and practices and any proposed changes to them.

The Corporation’s compensation programs are designed with a balanced approach aligned with its business strategy and risk profile. A number of compensation practices have been implemented to mitigate potential compensation policy risk. It is the HRCC’s view that the Corporation’s 2019 compensation policies and practices did not promote excessive risk-taking that would be reasonably likely to have a material adverse effect on the Corporation, and that appropriate risk mitigation features are in place within the Corporation’s compensation program. In reaching its opinion, the HRCC reviewed key risk-mitigating features in the Corporation’s compensation governance processes and compensation structure including the following:

Governance	
<i>Corporate Strategy Alignment</i>	<ul style="list-style-type: none"> Our executive compensation program is designed to link executive compensation outcomes with the execution of business strategy and align with shareholder interests.
<i>Compensation Decision-Making Process</i>	<ul style="list-style-type: none"> The Corporation has formalized compensation objectives to help guide compensation decisions and incentive design and to effectively support its pay-for-performance policy (see Compensation Discussion and Analysis – Compensation Objectives).
<i>Non-binding Shareholder Advisory Vote on Executive Compensation</i>	<ul style="list-style-type: none"> The Corporation annually holds an advisory vote on executive compensation, allowing shareholders to express approval or disapproval of its approach to executive compensation.

<i>Annual Review of Incentive Programs</i>	<ul style="list-style-type: none"> • Each year, the Corporation reviews and sets performance measures and targets for the CTI and for PSU grants under the long-term incentive plans that are aligned with the business plan and the Corporation’s risk profile to ensure continued relevance and applicability. • When new compensation programs are considered, they are stress-tested to ensure potential payouts would be reasonable within the context of the full range of performance outcomes. CEO compensation is stress-tested annually in addition to any stress-tests for new compensation programs.
<i>External Independent Compensation Advisor</i>	<ul style="list-style-type: none"> • On an ongoing basis, the HRCC retains the services of an independent compensation advisor to provide an external perspective as to marketplace changes and best practices related to compensation design, governance and compensation risk management.
<i>Overlapping Committee Membership</i>	<ul style="list-style-type: none"> • All of the Corporation’s independent directors sit on the HRCC to provide continuity and to facilitate coordination between the Committee’s and the Board’s respective oversight responsibilities.
Compensation Program Design	
<i>Review of Incentive Programs</i>	<ul style="list-style-type: none"> • At appropriate intervals, Celestica conducts a review of its compensation strategy, including pay philosophy and program design, in light of business requirements, market practice and governance considerations.
<i>Fixed versus Variable Compensation</i>	<ul style="list-style-type: none"> • For the NEOs, a significant portion of target total direct compensation is delivered through variable compensation (CTI and long-term, equity-based incentive plans). • The majority of the value of target variable compensation is delivered through grants under long-term, equity-based incentive plans which are subject to time and/or performance vesting requirements. • The mix of variable compensation provides a strong pay-for-performance relationship. • The NEO compensation package provides a competitive base level of compensation through salary, and mitigates the risk of encouraging the achievement of short-term goals at the expense of creating and sustaining long-term shareholder value, as NEOs benefit if shareholder value increases over the long-term.
<i>“One-company” Annual Incentive Plan</i>	<ul style="list-style-type: none"> • Celestica’s “one-company” annual incentive plan (the CTI) helps to mitigate risk-taking by tempering the results of any one business unit on Celestica’s overall corporate performance, and aligning executives and employees in the various business units and regions with corporate goals.
<i>Balance of Financial Performance Metrics as well as Absolute and Relative Performance Metrics</i>	<ul style="list-style-type: none"> • The CTI ensures a balanced assessment of performance with ultimate payout tied to measurable corporate financial metrics. • Individual performance is assessed based on business results, teamwork and key accomplishments, and market performance is captured through RSUs as well as PSUs (which vest based on performance relative to both absolute and relative financial targets).
<i>Minimum Performance Requirements and Maximum Payout Caps</i>	<ul style="list-style-type: none"> • A corporate profitability requirement must be met for any payout to occur under the CTI. • Additionally, a second performance measure must be achieved for payment above target. • Each of the CTI and PSU payouts have a maximum payout of two times target.
<i>Share Ownership Requirement</i>	<ul style="list-style-type: none"> • The Corporation’s share ownership guidelines require executives to hold a significant amount of the Corporation’s securities to help align their interests with those of shareholders’ and the long-term performance of the Corporation. • This practice also mitigates against executives taking inappropriate or excessive risks to improve short-term performance at the expense of longer-term objectives. • In the event of the cessation of Mr. Mionis’ employment with the Corporation for any reason, he will be required to retain the share ownership level set out in the Executive Share Ownership Guidelines on his termination date for the 12 month period immediately following his termination date as set out in Mr. Mionis’ amended CEO employment agreement effective August 1, 2016 (the “CEO Employment Agreement”).
<i>Anti-hedging and Anti-pledging Policy</i>	<ul style="list-style-type: none"> • Executives and directors are prohibited from: entering into speculative transactions and transactions designed to hedge or offset a decrease in the market value of securities of the Corporation; purchasing securities of the Corporation on margin; borrowing against securities of the Corporation held in a margin account; and pledging Celestica securities as collateral for a loan.
<i>“Clawback” Policy</i>	<ul style="list-style-type: none"> • A “clawback” policy provides for recoupment of incentive-based compensation from the CEO and CFO that was received during a specified period in the event of an accounting restatement due to material non-compliance with financial reporting requirements as a result of misconduct, as well as any profits realized from the sale of securities during such period (see – “Clawback” Provisions). • In addition, all long-term incentive awards made to NEOs are subject to recoupment if certain employment conditions are breached.

“Double Trigger”	<ul style="list-style-type: none"> The LTIP and Celestica Share Unit Plan (“CSUP”) provide for change-of-control treatment for outstanding equity based on a “double trigger” requirement.
Severance Protection	<ul style="list-style-type: none"> NEOs’ entitlements on termination without cause are in part contingent on complying with confidentiality, non-solicitation and non-competition obligations.
Pay-For-Performance Analysis	<ul style="list-style-type: none"> Periodic scenario-testing of the executive compensation programs is conducted, including a pay-for-performance analysis.

Comparator Group

The HRCC establishes salary, annual incentive and equity-based incentive awards with reference to the median of such elements for the Comparator Group, but is not bound to any target percentile for any element of compensation of the Comparator Group. The Comparator Group, comprising a selection of the Corporation’s competitors, major suppliers, customers, and other international technology companies that generally fall in the range of 50% to 200% of the Corporation’s revenue, is approved annually by the HRCC. The HRCC also considers the Corporation’s business objectives and its participation in global markets when approving the Comparator Group. While the Corporation is incorporated and headquartered in Canada, our business is global, and we compete for executive talent worldwide with companies in the technology industry. Our global recruiting strategy has been evidenced by the fact that several of our executive officers were not recruited from Canada; and in fact, the Corporation’s three most recent CEOs have come from the United States. There are no EMS competitor companies in the Comparator Group that are headquartered in Canada. For non-EMS companies, competitors of similar size and scope within Canada would not provide the desired global perspective. As a result, the determination of the Comparator Group is not bound by geographic limitations and instead includes a representation from a broad group of relevant companies which are publicly traded and against which the Corporation competes for executive leaders. Most of the companies in the current Comparator Group are based in the United States. The Comparator Group chosen in 2018 was used to establish 2019 executive compensation. ARRIS International was acquired at the end of 2018 and was subsequently removed from the Comparator Group in 2019. The Comparator Group chosen in 2019 to establish 2020 executive compensation was reviewed and approved by the HRCC, and is set out in Table 8 below.

Table 8: Comparator Group⁽¹⁾

Industry	Company	2018 Annual Revenue (billions)
Electronic Manufacturing Services	Flex Ltd.	\$25.4
	Jabil Circuit, Inc.	\$22.1
	Sanmina Corporation	\$7.1
	Benchmark Electronics, Inc.	\$2.6
	Plexus Corp.	\$2.9
Semiconductor	Advanced Micro Devices, Inc.	\$6.5
	Lam Research	\$11.1
	NVIDIA Corp.	\$9.7
Technology, Hardware, Storage, Peripherals	NCR Corp.	\$6.4
	NetApp, Inc.	\$5.9
Electronic Components & Equipment	Corning Inc.	\$11.3
	Amphenol Corporation	\$8.2
Communications	Harris Corp.	\$6.2
	Juniper Networks, Inc.	\$4.6
	Motorola Solutions	\$7.3
Life Sciences Tools & Services	Agilent Technologies Inc.	\$4.9
Percentiles	25 th Percentile	\$5.7
	50 th Percentile	\$6.8
	75 th Percentile	\$10.1
	Celestica Inc.	\$6.6
	<i>Celestica Inc. Percentile Rank</i>	<i>48%</i>

(1) All data was provided by the Compensation Consultant (sourced by it from Standard & Poor’s Capital IQ), reflecting fiscal year 2018 revenue for each company, and is presented in U.S. dollars.

Additionally, broader market compensation survey data for other similarly-sized organizations as well as Canadian market data provided by the Compensation Consultant is analyzed in accordance with a process approved by the HRCC. The HRCC considered such survey data, among other factors, in making compensation decisions. In addition to the survey data, proxy disclosure of the Comparator Group companies for the most recently completed fiscal year was considered when determining the compensation of the CEO and the other NEOs.

Anti-Hedging and Anti-Pledging Policy

Our Insider Trading Policy prohibits executives from, among other things, entering into speculative transactions and transactions designed to hedge or offset a decrease in the market value of securities of the Corporation. Accordingly, executive officers may not sell short the Corporation's securities, buy or sell put or call options on the Corporation's securities, or purchase financial instruments (including prepaid variable contracts, equity swaps, collars or units of exchange funds) which are designed to hedge or offset a decrease in the market value of the Corporation's securities. Executive officers are also prohibited from purchasing the Corporation's securities on margin, borrowing against the Corporation's securities held in a margin account, or pledging the Corporation's securities as collateral for a loan. The directors of the Corporation also must comply with the provisions of the Insider Trading policy which prohibit hedging and/or pledging of the Corporation's securities.

“Clawback” Provisions

The Corporation is subject to the “clawback” provisions of the Sarbanes-Oxley Act of 2002. Accordingly, if the Corporation is required to restate financial results due to material non-compliance with financial reporting requirements as a result of misconduct, the CEO and CFO would be required to reimburse the Corporation for any bonuses or incentive-based compensation they had received during the 12-month period following the first public issuance or filing with the SEC (whichever is earlier) of a financial document embodying such financial reporting requirement, as well as any profits they had realized from the sale of securities of the Corporation during that 12-month period.

In addition, under the terms of the stock option grants and the PSU and RSU grants made under the LTIP and the CSUP, a NEO is required by the Corporation to repay an amount equal to the market value of the shares (or in the case of options, the intrinsic value realized by the executive) at the time of release, net of taxes, if, within 12 months of the release date, the executive:

- accepts employment with, or accepts an engagement to supply services, directly or indirectly to, a third party that is in competition with the Corporation or any of its subsidiaries; or
- fails to comply with, or otherwise breaches, the terms and conditions of a confidentiality agreement or non-disclosure agreement with, or confidentiality obligations to, the Corporation or any of its subsidiaries; or
- on his or her behalf or on another's behalf, directly or indirectly recruits, induces or solicits, or attempts to recruit, induce or solicit any current employee or other individual who is/was supplying services to the Corporation or any of its subsidiaries.

Executives who are terminated for cause also forfeit all unvested RSUs, PSUs and stock options as well as all vested and unexercised stock options.

Compensation Elements for the Named Executive Officers

The compensation of the NEOs in 2019 was comprised of the following elements:

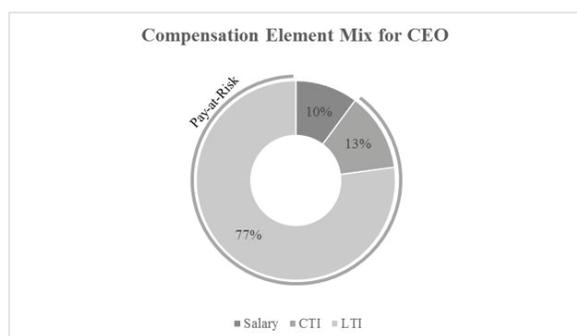
Elements	Rationale
Base Salary	Provides a fixed level of compensation intended to reflect the scope of an executive's responsibilities and level of experience and to reward sustained performance over time, as well as to approximate competitive base salary levels
Annual Cash Incentives	Aligns executive performance with the Corporation's annual goals and objectives
Equity-Based Incentives	Provides a strong incentive for long-term executive retention
<ul style="list-style-type: none"> • RSUs • PSUs 	Aligns executives' interests with shareholder interests and provides incentives for long-term performance
Benefits	Designed to help ensure the health and wellness of executives
Pension	Designed to assist executives in saving for their retirement
Perquisites	Perquisites are provided to executives on a case-by-case basis as considered appropriate and in the interests of the Corporation

Compensation Element Mix

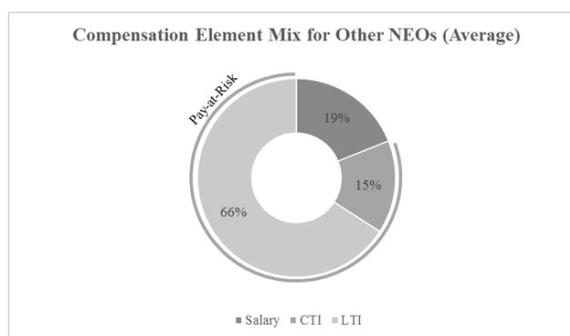
In order to ensure that our executive compensation program is market competitive, we annually review the program design and pay levels of companies in the Comparator Group and other competitive market data. We assess total target direct compensation (base salary, annual cash incentive and equity grants) as well as specific elements of compensation when reviewing market information relative to our executive compensation program. The HRCC uses the median of the Comparator Group as a guideline when determining total target direct compensation but is not bound to any target percentile for any specific element of compensation. In addition to the Comparator Group, we also consider executive compensation relative to internal peers where responsibilities and experience vary and we conduct a vertical compensation analysis in which we look at various internal business organizations or functions and compare levels of compensation with a view to succession within such organization or function. In determining appropriate positioning relative to the Comparator Group and internal peers, we utilize a multi-year approach for setting and transitioning target compensation for executives who are new in their role.

The at-risk portion of total compensation varies by role and executive level, but has the highest weighting at the most senior levels of management. CTI awards and certain equity-based incentive plan awards are contingent upon the Corporation's financial and operational performance and are therefore at-risk. By making a significant portion of total target direct compensation variable, the Corporation intends to continue to align NEO compensation with shareholder interests. The relative weighting of the compensation elements for the CEO and the other NEOs (average) for 2019 is set forth below.

Compensation Element Mix for CEO



Compensation Element Mix for Other NEOs (Average)



Base Salary

The objective of base salary is to attract, reward and retain top talent. Base salaries for executive positions are determined with consideration given to the market median of the Comparator Group. Base salaries are reviewed annually and adjusted if appropriate, to reflect individual performance, relevant knowledge, experience and the executive's level of responsibility within the Corporation.

Celestica Team Incentive Plan

The objective of the CTI is to reward all eligible employees, including the NEOs, for the achievement of annual objectives. CTI awards for the NEOs are based on the achievement of pre-determined CPF and individual performance factor ("IPF") goals and are paid in cash. Payouts can vary from 0% for performance below a threshold up to a maximum capped at 200% of the Target Award (defined below). Awards are determined in accordance with the following formula:



CPF	<p>The CPF is based on certain corporate financial targets established at the beginning of the performance period and approved by the HRCC and can vary from 0% to 200% of target.</p> <p>Actual results relative to the targets are used in the determination of the amount of the annual incentive and are subject to the following two parameters (the "CTI Parameters"):</p> <ol style="list-style-type: none"> (1) a minimum corporate profitability requirement must be achieved for the CPF to exceed zero; and (2) target non-IFRS operating margin must be achieved for other measures under the CPF to pay above target. <p>The CTI Parameters are set in addition to the CPF thresholds in order to ensure challenging limits reflective of our current business environment.</p> <p>The CPF must be greater than zero for an executive to be entitled to any CTI payment.</p>
IPF	<p>Individual contribution is recognized through the IPF component of the CTI. The IPF is determined through the annual performance review process and is based on an evaluation of the NEO's performance measured against specific criteria established at the beginning of each year. The criteria may include factors such as the NEO's individual performance relative to business results, teamwork and the executive's key accomplishments. The IPF can increase an NEO's CTI award by a factor of up to 1.5x or reduce an NEO's CTI award to zero depending on individual performance. An IPF of less than 1.0 will result in a reduction of the CTI award otherwise payable.</p>
Target Award	<p>The target award is calculated as each NEO's Eligible Earnings (<i>i.e.</i>, base salary) multiplied by the Target Incentive (expressed as a percentage of base salary in the applicable plan year) (the "Target Award"). The maximum CTI payment is two times the Target Award.</p>

Equity-Based Incentives

The Corporation's equity-based incentives for the NEOs consist of RSUs, PSUs and/or stock options. The objectives of equity-based compensation are to:

- align the NEOs' interests with those of shareholders and incent appropriate behaviour for long-term performance;
- reward the NEOs' contributions to the Corporation's long-term success; and
- enable the Corporation to attract, motivate and retain qualified and experienced employees.

At the January meeting, the HRCC determines the dollar value and mix of the equity-based grants to be awarded to the NEOs, if any. On the grant date, the dollar value is converted into the number of units that will be granted using the closing price of the SVS on the day prior to the grant date. The annual grants are made following the blackout period that ends not less than 48 hours after the Corporation's year-end results have been released. The mix of equity-based incentives is reviewed and approved by the HRCC each year, and is based on factors including competitive grant practices, balance between performance incentive and retention value, and the effectiveness of each equity vehicle for motivating and retaining critical leaders.

Target equity-based incentives are determined using the median awards of the Comparator Group as a guideline; however, consideration is also given to individual performance and contribution when determining actual awards. In establishing the grant value of the annual equity awards for each of the NEOs, we start by assessing the median total target direct compensation of the equivalent position at companies in the Comparator Group. This data is then compared over a number of years for additional context and market trends. The HRCC also considers individual performance, the need to retain experienced and talented leaders to execute the Corporation's business strategies and the executive's potential to contribute to long-term shareholder value. Also considered are the executive's role and responsibilities, internal equity and the level of previous long-term incentive awards. Once all of these factors are taken into consideration, the grant value of the annual equity-based awards for the NEOs is set.

In addition to the annual equity grants, management may award equity-based incentives in order to attract new executive hires and to retain current executives in special circumstances. Generally, any such grant is reviewed in advance with the Chair of the HRCC and is subject to ratification by the HRCC. No such grants were made to NEOs in 2019 with the exception of a one-time award to Mr. Phillips of 22,124 RSUs – see *2019 Compensation Decisions* below for a description of this award.

RSUs

NEOs may be granted RSUs under either the LTIP or the CSUP as part of the Corporation's annual equity grant. Such awards may be subject to vesting requirements, including time-based or other conditions as may be determined by the HRCC in its discretion. RSUs granted by the Corporation generally vest in instalments of one-third per year, over three years, based on continued employment with the Corporation. The payout value of the award is based on the number of RSUs being released and the market price of the SVS at the time of release. The Corporation has the right under the CSUP to settle RSUs in either cash or SVS. Under the LTIP, the Corporation may, at the time of grant, authorize grantees to settle vested RSUs either in cash or in SVS (on a one-for-one basis). Absent such permitted election, grants under the LTIP will be settled in SVS. If the Corporation has authorized a settlement in SVS or cash, the holder can choose which of these the holder receives. See *Compensation of Named Executive Officers – Equity Compensation Plans*.

PSUs

NEOs may be granted PSUs under the LTIP or the CSUP as part of the Corporation's annual equity grant. The vesting of such awards requires the achievement of specified performance-based conditions over a specified time period, as determined by the HRCC in its discretion. PSUs granted by the Corporation generally vest at the end of a three-year performance period subject to pre-determined performance criteria. The payout value of the award is based on the number of PSUs that vest (which ranges from 0% to 200% of the target amount granted) and the market price of the SVS at the time of release. The Corporation has the right under the CSUP to settle vested PSUs in either cash or SVS (on a one-for-one-basis). Under the LTIP, the Corporation may, at the time of grant, authorize grantees to settle PSUs either in cash or in SVS. Absent such permitted election, grants under the LTIP will be settled in SVS. If the Corporation has authorized a settlement in SVS or cash, the holder can choose which of these the holder receives. See *Compensation of Named Executive Officers – Equity Compensation Plans*.

Stock Options

NEOs may be granted stock options under the LTIP. The exercise price of a stock option is the closing market price on the business day prior to the date of the grant. Stock options granted by the Corporation generally vest at a rate of 25% annually on each of the first four anniversaries of the date of grant and expire after a ten-year term. The LTIP is not an evergreen plan and no stock options have been re-priced.

Other Compensation

Benefits

NEOs participate in the Corporation's health, dental, pension, life insurance and long-term disability programs. Benefit programs are determined with consideration given to market median levels in the local geographic region.

Perquisites

Perquisites are provided to executives on a case-by-case basis as considered appropriate in the interests of the Corporation. NEOs are entitled to an annual comprehensive medical examination at a private health clinic. Where applicable, tax equalization is provided to certain NEOs as an integral part of the Corporation's Short-Term Business Travel Program and is designed to maintain an individual's tax burden at approximately the same level it would have otherwise been had they remained in their home country. Due largely to variables such as timing and tax rate differences between Canada and the U.S., tax equalization amounts may vary from year to year. While the Corporation is incorporated and headquartered in Canada, our business is global, we compete for executive talent worldwide and our executives are often required to travel extensively. As a result, we believe it is appropriate to make tax equalization payments in order to attract and retain non-Canadian executive officers with specific capabilities as well as to ensure that our executives do not incur any additional tax burden as a result of the business travel necessitated by the global nature of our business.

2019 Compensation Decisions

Each element of compensation is considered independently of the other elements. However, the total package is reviewed to ensure that the achievement of target levels of corporate and individual performance will result in total compensation that is generally comparable to the median total compensation of the Comparator Group.

Base Salary

The base salaries for the NEOs were reviewed during 2019, taking into account individual performance and experience, level of responsibility and median competitive data.

The following table sets forth the annual base salary for the NEOs for the years ended December 31, 2017 through December 31, 2019:

Table 9: NEO Base Salary Changes

NEO	Year	Salary (\$)
Robert A. Mionis	2019	\$950,000
	2018	\$950,000
	2017	\$950,000
Mandeep Chawla	2019	\$460,000
	2018	\$450,000
	2017	\$450,000
Jack J. Lawless	2019	\$460,000
	2018	\$460,000
	2017	\$460,000
Todd C. Cooper	2019	\$460,000
	2018	\$460,000
	2017	-
Jason Phillips	2019	\$460,000
	2018	\$350,000
	2017	\$350,000

The HRCC reviewed salaries for CFOs within the Comparator Group, median competitive data and historical data concerning CFO base salaries at the Corporation, as well as Mr. Chawla's experience and scope of responsibilities. In 2019, the

HRCC approved an increase in Mr. Chawla’s base salary from \$450,000 to \$460,000 in order to align his pay to median base salary of CFOs within the Comparator Group.

Mr. Phillips was appointed President, CCS, effective January 1, 2019, prior to which he served as Senior Vice President, Enterprise and Cloud Solutions. Upon his appointment as President, CCS, his base salary was increased from \$350,000 to \$425,000. In August 2019, his position and responsibilities were significantly expanded in connection with the Corporation’s recent strategic objectives. As a result, Mr. Phillips’ annual base salary was increased at such time from \$425,000 to \$460,000. At such time, he also received a one-time award of 22,124 RSUs. See *NEO Equity Awards and Mix* below.

Annual Incentive Award (CTI)

2019 Company Performance Factor

The CPF component of the CTI calculation for 2019 was based on the achievement of the Corporation relative to specified financial targets as set forth in Table 10 below. The targets were revenue and non-IFRS operating margin for 2019, which were the same measures used in 2018. These measures were approved by the HRCC as they were determined to be aligned with the Corporation’s key objectives of driving profitable growth on both a “top line” and “bottom line” basis. The 2019 financial targets were established at levels consistent with the Corporation’s Annual Operating Plan for 2019, which was approved by the Board. As described above, no minimum CTI payments are guaranteed.

As described above, a minimum corporate profitability requirement must be achieved in order for CTI to be payable. That requirement was met in 2019 and therefore CTI was payable. A cap applies such that, in order for the revenue component to pay above target, target non-IFRS operating margin must be achieved; however, because revenue did not exceed target, the cap did not come into play. The percentage achievement for each measure was then determined by interpolating between the factor that corresponds to threshold, target and maximum, as applicable. Each achievement factor was then multiplied by its weight (50%) in order to determine the weighted achievement.

The CPF for 2019 was 34% based on the results in the following table:

Table 10: Company Performance Factor

Measure	Weight	Threshold	Target	Maximum	Achieved Results	Weighted Achievement
Non-IFRS operating margin	50%	2.7%	3.6%	4.5%	2.7%	15%
IFRS revenue	50%	\$5,800M	\$6,300M	\$6,800M	\$5,888M	19%
CPF						34%

2019 Individual Performance Factor

The IPF can increase an executive’s CTI award by a factor of up to 1.5x or reduce the CTI award to zero depending on individual performance (an IPF of less than 1.0 will result in a reduction of the CTI award otherwise payable). Notwithstanding the foregoing, CTI payments are subject to an overall maximum cap of 200% of the Target Award. The IPF is determined through the annual performance review process.

At the beginning of each year, the HRCC and the CEO agree on performance goals for the CEO that are then approved by the Board. Goals for the other NEOs that align with the CEO’s goals are then established and agreed to between the CEO and the respective NEOs. The performance of the CEO and the NEOs is measured against the established goals, but also contains subjective elements, such that criteria for, and the amount of, the IPF remains at the discretion of the HRCC. However, the CPF must be greater than zero for an executive to be entitled to any CTI payment.

CEO

In assessing Mr. Mionis’ individual performance, the HRCC considers the Corporation’s objectives and results achieved, personal performance objectives as determined annually, as well as other factors the Committee considers relevant to the role of CEO. Key results that were considered in determining Mr. Mionis’ IPF for 2019 are included below:

Objective	Metric	Result
Profitable Growth	2019 Financial Targets	<ul style="list-style-type: none"> • Despite lower than anticipated revenue in 2019, the Corporation’s ATS segment experienced moderate revenue growth which was largely offset by declines in the capital equipment business, lower demand in our communications end market and planned enterprise end market program disengagements • Delivered sequential non-IFRS operating margin improvements in each quarter of 2019 • Delivered strong non-IFRS free cash flow
	Bookings	<ul style="list-style-type: none"> • Strong bookings and implementation of commercial excellence roadmap
	Customer Satisfaction	<ul style="list-style-type: none"> • Improved quality, delivery and customer satisfaction • Successful ramp of new customer programs
	M&A Integration	<ul style="list-style-type: none"> • Completed integration of Atrenne Integrated Solutions, Inc. and Impakt Holdings, LLC
Expand Capabilities	Operations	<ul style="list-style-type: none"> • Launched operations strategic road-map with a focus on standard practices • Accelerated global best practices for operational effectiveness • Implementation of IT strategic roadmap, including digital factory
	Strategic Roadmap	<ul style="list-style-type: none"> • Deployed segment strategic roadmaps and added key capabilities across ATS and CCS • Expanded service provider and JDM solutions • Executed on actions associated with the CCS portfolio-review program and productivity initiatives
	Engineering	<ul style="list-style-type: none"> • Completed roll-out of Product Lifecycle tool set and implemented design led sales strategy program
People Driven	Implementation Roadmaps	<ul style="list-style-type: none"> • Talent management strategy progress through the Engagement Survey, revitalized talent strategy and leadership development programs • Leadership in brand and values development as well as corporate citizenship

2019 was a year of transition for Celestica marked by mixed results as the Corporation continued its strategic transformation. Progress was made in advancing the Corporation’s objectives, driving future revenue diversification and non-IFRS operating margin expansion. The Corporation delivered strong bookings and executed well on its CCS portfolio-review program. The ATS segment experienced moderate revenue growth, as growth in new programs in the industrial, healthtech and A&D businesses were largely offset by declines in the capital equipment business and disengagements from non-strategic programs in the energy business. The Corporation generated strong non-IFRS free cash flow in 2019, a portion of which was returned to shareholders through a share repurchase plan. While we believe we advanced our strategic transformation in 2019, financial results were below expectations as a result of supply chain inefficiencies in the A&D business, planned enterprise end-market program disengagements and continuing demand softness from certain communications customers.

The HRCC believes that under Mr. Mionis’ leadership, the Corporation navigated well through challenging market dynamics in 2019. As a result, the HRCC and the Board believe that an IPF of 0.95 for 2019 for Mr. Mionis appropriately reflects Celestica’s overall performance in 2019, as well as Mr. Mionis’ leadership in executing the Corporation’s key strategic initiatives. As a result of his 2019 IPF and the CPF for 2019, Mr. Mionis received significantly less than his Target Award, which reduced his realized compensation for 2019.

Other NEOs

The performance of the NEOs (other than the CEO) is assessed at year-end relative to objective measures that align with the targets for the CEO. The CEO assesses each NEO's contributions to the Corporation's results, including such NEO's contributions as a part of the senior leadership team. Based on the CEO's assessment, the HRCC considered each NEO to have met expectations for 2019 based on each of their individual performance and contribution to corporate goals and objectives.

Factors considered in the evaluation of each NEO's IPF included the following:

Mr. Chawla	<ul style="list-style-type: none"> • Demonstrated a high level of personal engagement and strengthened relationships with shareholders, investors and the financial community • Provided strategic direction to the Corporation's cost efficiency initiative • Led improvement of working capital performance, which contributed to strong non-IFRS free cash flow generation • Strong business partner to the segment Presidents and the Chief Operations Officer
Mr. Lawless	<ul style="list-style-type: none"> • Successfully executed a number of new program ramps, and delivered strong revenue growth in our industrial, healthtech and A&D businesses • Secured strong bookings in the ATS segment leading to increased scale, additional proof points and a stronger and more diverse ATS segment portfolio • Implemented cost reduction initiatives to partially mitigate the impact of significantly lower demand in the capital equipment business
Mr. Cooper	<ul style="list-style-type: none"> • Upgraded operations and functional leadership • Deployed a standardized "Celestica Operation System" in order to improve factory performance, including standardized best practices and a robust operational management system • Coordinated quality, delivery and productivity programs at certain key sites • Implemented strategies to expand supply-base performance and reduce working capital requirements
Mr. Phillips	<ul style="list-style-type: none"> • Provided strategic direction to the CCS portfolio-review program, including portfolio shaping, commercial and operational improvements, and segment growth initiatives • Integral to the Corporation's cost-efficiency initiative • Delivered strong results in JDM and developed next generation platforms

Target Award

The following table sets forth information with respect to the potential and actual awards under the CTI for participating NEOs during 2019:

Table 11: 2019 CTI Awards

Name	Target Incentive % ⁽¹⁾	Potential Award for Below Threshold Performance	Potential Award for Threshold Performance ⁽²⁾	Potential Award for Target Performance ⁽²⁾	Potential Maximum Award ⁽²⁾	Amount Awarded	Amount Awarded as a % of Base Salary
Robert A. Mionis	125%	\$0	\$296,875	\$1,187,500	\$2,375,000	\$383,562	40%
Mandeep Chawla	80%	\$0	\$91,507	\$366,027	\$732,054	\$118,227	26%
Jack J. Lawless	80%	\$0	\$92,000	\$368,000	\$736,000	\$118,864	26%
Todd C. Cooper	80%	\$0	\$92,000	\$368,000	\$736,000	\$118,864	26%
Jason Phillips	80%	\$0	\$87,627	\$350,510	\$701,020	\$113,215	26%

(1) The Target Incentive for each NEO was not changed from 2018.

(2) Award amounts in these columns are calculated based on an IPF of 1.0. Mr. Mionis' IPF for 2019 was 0.95.

NEO Equity Awards and Mix

Target equity-based incentives were determined for the NEOs with reference to the median awards of the Comparator Group. Consideration was also given to individual performance, the roles and responsibilities of the NEOs, retention value and market trends. The mix of equity in respect of 2019 compensation was comprised of 40% RSUs and 60% PSUs (in accordance with executive compensation program design changes implemented in 2018). See *Compensation Elements for the Named Executive Officers – Equity-Based Incentives* for a general description of the process for determining the amounts of these awards.

In recognition of Mr. Phillips' commitment to his newly expanded responsibilities, he received a one-time award of 22,124 RSUs on August 6, 2019 based on a share price of \$6.78, which was the closing price of the SVS on the NYSE on August 5, 2019 (the last business day before the date of the grant). These RSUs vest ratably over a three-year period, commencing on the first anniversary of the date of grant.

The following table sets forth equity awards granted to the NEOs on February 6, 2019 as part of their 2019 compensation as well as the award granted to Mr. Phillips on August 6, 2019:

Table 12: NEO Equity Awards

Name	RSUs (#) ⁽¹⁾	PSUs (#) ⁽²⁾	Stock Options (#)	Value of Equity Award ⁽³⁾
Robert A. Mionis	358,208	537,313	-	\$7,200,000
Mandeep Chawla	79,601	119,402	-	\$1,600,000
Jack J. Lawless	87,064	130,597	-	\$1,750,000
Todd C. Cooper	79,601	119,402	-	\$1,600,000
Jason Phillips ⁽⁴⁾	94,263	108,208	-	\$1,600,000

- (1) Grants were based on a share price of \$8.04, which was the closing price of the SVS on the NYSE on February 5, 2019 (the last business day before the date of grant) other than as specified in footnote (4) below.
- (2) Assumes achievement of 100% of target level performance.
- (3) Represents the aggregate grant date fair value of the RSUs and PSUs.
- (4) Includes the one-time award of 22,124 RSUs granted to Mr. Phillips on August 6, 2019 based on a share price of \$6.78, which was the closing price of the SVS on the NYSE on August 5, 2019 (the last business day before the date of grant).

The RSUs vest ratably over a three-year period, commencing on the first anniversary of the date of grant. The value of the RSUs granted on February 6, 2019 was determined at the January 2019 meeting of the HRCC. The number of RSUs granted was determined using the closing price of the SVS on February 5, 2019 (the day prior to the date of grant) on the NYSE of \$8.04.

PSUs granted as set forth in the table above vest at the end of a three-year period subject to pre-determined performance criteria. For such awards, each NEO was granted a target number of PSUs ("Target Grant"). The number of PSUs that will actually vest ranges from 0% to 200% of the Target Grant and will be primarily based on the Corporation's non-IFRS operating margin in the final year of the three-year performance period ("EBIAT Result"), subject to modification by the Corporation's average annual non-IFRS adjusted ROIC achievement over the performance period ("ROIC Factor") and relative TSR achievement ("TSR Factor") over the performance period in accordance with the following:

Formula	Description												
Preliminary Vesting % based on EBIAT Result	The percentage of PSUs that will vest based on the EBIAT Result (the “Preliminary Vesting %”) can range between 0% and 200% of the Target Grant. The Preliminary Vesting % will be subject to initial adjustment based on the ROIC Factor and further adjustment based on the TSR Factor, as described below, provided that the maximum number of PSUs that may vest will not exceed 200% of the Target Grant.												
Preliminary Vesting % subject to modification by a factor of either -25%, 0% or +25% based on ROIC Factor	The Corporation’s ROIC Factor will be measured relative to a pre-determined non-IFRS adjusted ROIC range approved by the Board. The Preliminary Vesting % will not be modified if the ROIC Factor is within that pre-determined range. The Preliminary Vesting % will be increased or decreased by 25% if the ROIC Factor is above or below that predetermined range, respectively (as so adjusted, the “Secondary Vesting %”). The ROIC Factor cannot increase the actual number of PSUs that vest to more than 200% of the Target Grant.												
Secondary Vesting % subject to modification by a factor ranging from -25% to +25% based on TSR Factor	<p>TSR measures the performance of a company’s shares over time. It combines share price appreciation and dividends, if any, paid over the relevant period to determine the total return to the shareholder expressed as a percentage of the share price at the beginning of the performance period. With respect to each TSR Comparator (as defined below), TSR is calculated as the change in share price over the three-year performance period (plus any dividends) divided by the share price at the beginning of the period, where the average daily closing share price for the month of December 2018 is the beginning share price and the average daily closing price for the month of December 2021 will be the ending share price. The TSR of the Corporation is calculated in the same manner in respect of the SVS (the Corporation does not currently pay dividends).</p> <p>For purposes of determining modifications to the Secondary Vesting % based on the TSR Factor, the HRCC determined that for PSUs granted in 2019, the Corporation’s TSR will be measured relative to the S&P Americas BMI Technology Hardware & Equipment Index as of January 1, 2019 (the “BMI Index”), with the addition of Flex Ltd. (the only EMS-peer company not already included in the BMI Index), that remain publicly traded on an established U.S. stock exchange for the entire performance period (the “TSR Comparators”). The BMI Index is comprised of technology hardware and equipment subsector companies with business diversification. The HRCC determined that the attributes of the BMI Index, including its alignment with both the U.S. technology peers used for overall executive compensation benchmarking and Celestica’s business models were more appropriate for the PSU vesting determinations than the S&P 1500 Technology Index, which had been previously used. The Corporation’s market capitalization is positioned around the median of the TSR Comparators.</p> <p>After calculating the percentile rank for each TSR Comparator (by arranging the TSR results from highest to lowest), the Corporation’s TSR will be ranked against that of each of the TSR Comparators. The Secondary Vesting % will then be subject to modification (ranging from a decrease of 25% to an increase of 25%) by interpolating between the corresponding percentages immediately above and immediately below Celestica’s percentile position as set out in the table below, provided that the Corporation’s TSR performance cannot increase the actual number of PSUs that will vest to more than 200% of the Target Grant.</p> <table border="1" data-bbox="500 1318 1377 1570" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th data-bbox="638 1360 922 1392">Celestica’s TSR Positioning</th> <th data-bbox="1101 1360 1360 1392">TSR Modification Factor</th> </tr> </thead> <tbody> <tr> <td data-bbox="711 1413 849 1434">90th Percentile</td> <td data-bbox="1206 1413 1255 1434">25%</td> </tr> <tr> <td data-bbox="711 1434 849 1455">75th Percentile</td> <td data-bbox="1206 1434 1255 1455">15%</td> </tr> <tr> <td data-bbox="711 1455 849 1476">50th Percentile</td> <td data-bbox="1206 1455 1255 1476">0%</td> </tr> <tr> <td data-bbox="711 1476 849 1497">25th Percentile</td> <td data-bbox="1206 1476 1255 1497">-15%</td> </tr> <tr> <td data-bbox="711 1497 849 1518"><25th Percentile</td> <td data-bbox="1206 1497 1255 1518">-25%</td> </tr> </tbody> </table>	Celestica’s TSR Positioning	TSR Modification Factor	90 th Percentile	25%	75 th Percentile	15%	50 th Percentile	0%	25 th Percentile	-15%	<25 th Percentile	-25%
Celestica’s TSR Positioning	TSR Modification Factor												
90 th Percentile	25%												
75 th Percentile	15%												
50 th Percentile	0%												
25 th Percentile	-15%												
<25 th Percentile	-25%												
Summary	<p>Total PSU Vesting Percentage =</p> <p>(1) Preliminary Vesting % based on EBIAT Result;</p> <p>(2) Preliminary Vesting % is subject to modification by a factor of either -25%, 0% or +25%, based on ROIC Factor (Secondary Vesting %); and</p> <p>(3) Secondary Vesting % is subject to modification by a factor ranging from -25% to +25% based on TSR Factor.</p>												

Realized and Realizable Compensation

CEO Realized and Realizable Compensation

The following table is a look back at CEO compensation that compares the total target direct compensation awarded to Mr. Mionis for the years ended December 31, 2016 through December 31, 2019 to his realized and realizable compensation for each such year. The total target direct compensation value represents Mr. Mionis' salary, target CTI award and the target value of share-based awards. The realized and realizable value represents actual salary paid, actual CTI award paid and share-based awards at vest date value or, if the vest date is after December 31, 2019, at \$8.27 per share, the closing price of the SVS on the NYSE on December 31, 2019, which may not be the ultimate amount earned.

Table 13: CEO Realized and Realizable Compensation

	2016	2017	2018	2019
Total Target Direct Compensation	\$6,912,500	\$7,582,021	\$9,337,500	\$9,337,500
Realized and Realizable Compensation	\$6,327,548	\$4,367,532 ⁽¹⁾	\$7,659,534	\$8,739,522
Realized and Realizable Compensation as a % of Total Target Direct Compensation	92%	58%	82%	94%

- (1) Includes PSUs that vested on January 31, 2020 at 40% of target, which on December 31, 2019 was the Corporation's anticipated payout and actual payout; the value of which was determined using a share price of \$8.27, the closing price of the SVS on the NYSE on December 31, 2019.

NEO Realized and Realizable Compensation and Total Shareholder Return

The following graph compares the five-year trend in the Corporation's TSR to both total target direct compensation and the realized and realizable compensation for the NEOs for each year. The total target direct compensation value represents salary, target CTI award and the target value of share-based awards and option awards (if applicable) for all NEOs reported in the Corporation's Annual Report on Form 20-F each year. The realized and realizable value represents: actual salary paid; actual CTI award paid; share-based awards at vest date value or if the vest date is after December 31, 2019, at \$8.27 per share, the closing price of the SVS on the NYSE on December 31, 2019; and option awards (if applicable) at their intrinsic value; which may not be the ultimate amount earned. This look back at compensation demonstrates the comparison between actual pay and total target compensation intended at the time of grant. The difference between total target direct compensation and realized and realizable compensation was driven by the performance of the SVS and achievement relative to CTI and PSU performance measures, as well as changes in the reported NEOs in applicable years.

In 2019, we continued to operate in a highly competitive and volatile market environment in which we experienced uncertain market demand as well as materials shortages. We believe that this volatility in our business resulted in significant price and volume fluctuations in the market price of our SVS, and negatively impacted our TSR for 2019. In addition to TSR, we assess our performance based on various other measures, including revenue and non-IFRS operating margin. We also measure our performance against how well we have performed relative to our objectives, which are based on a complex and necessary business transformation strategy designed to diversify the Corporation's business, achieve portfolio optimization, streamline cost structure and drive more sustainable, long-term revenue and profitable growth. We utilize all such measures in assessing the alignment our executive pay with the Corporation's performance. We believe that the difficult work completed in 2019 will lead to profitable growth and thereby will have a positive impact on our TSR over the long term.

A significant portion of NEO compensation is provided in the form of long-term incentives and, commencing in 2018, we increased the proportion of PSUs in the annual equity grants to 60% (from 50% in 2017). The value of such PSUs will not be realizable by the NEOs until the end of the relevant three-year performance period. We believe the realized value of the long-term incentives granted to NEOs, and the performance of the PSUs in particular, will more closely mirror the trend in share price movement and serve to align the interests of management with those of our shareholders.

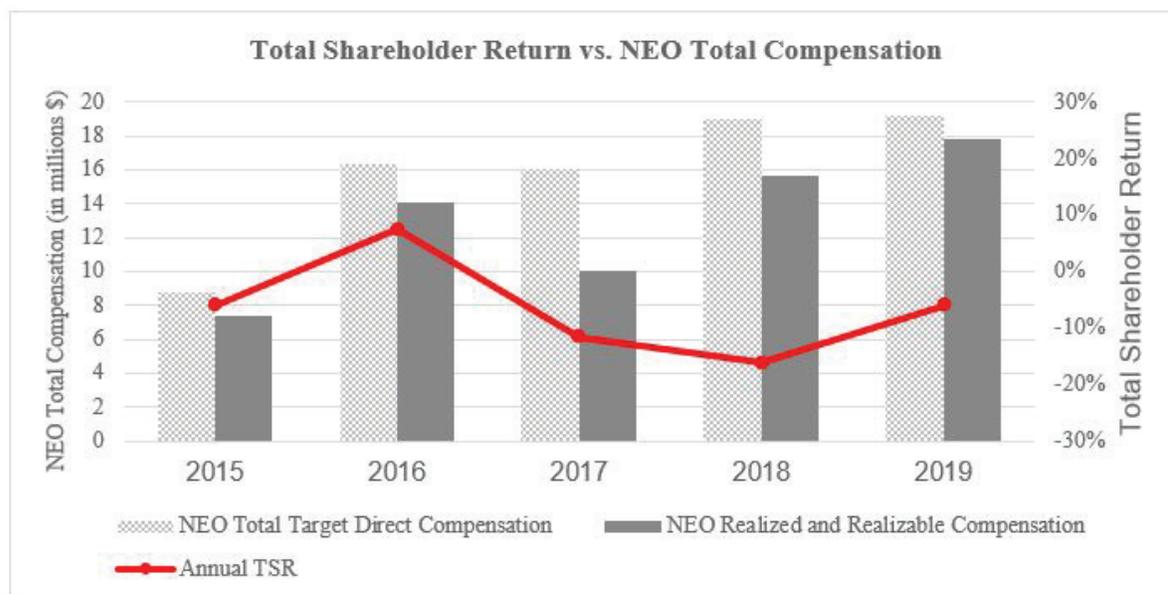


Table 14: NEO Realized and Realizable Compensation

	2015	2016	2017	2018	2019
Celestica Total Shareholder Return (1 year)	-6%	7%	-12%	-16%	-6%
Total Target Direct Compensation	\$8,727,784	\$16,375,500	\$16,088,075	\$19,049,426	\$19,155,708
Realized and Realizable Compensation	\$7,376,294	\$14,152,017	\$9,995,006 ⁽¹⁾	\$15,608,374	\$17,790,364
Realized and Realizable Compensation as a % of Total Target Direct Compensation	85%	86%	62%	82%	93%

- (1) Includes PSUs that vested on January 31, 2020 at 40% of target, which on December 31, 2019 was the Corporation's anticipated payout and actual payout; the value of which was determined using a share price of \$8.27, the closing price of the SVS on the NYSE on December 31, 2019.

EXECUTIVE COMPENSATION

This section contains references to operating margin and adjusted ROIC, each of which are non-IFRS measures. See *Compensation Discussion and Analysis – Note Regarding Non-IFRS Measures* for definitions of such non-IFRS measures, and where to find a discussion of the exclusions used to determine such measures, how they are used, as well as a reconciliation of historical non-IFRS operating margin and non-IFRS adjusted ROIC to the most directly comparable IFRS measures. These non-IFRS measures do not have any standardized meaning prescribed by IFRS and therefore may not be comparable to similar measures presented by other companies.

Summary Compensation Table

The following table sets forth the compensation of the NEOs for the years ended December 31, 2017 through December 31, 2019.

Table 15: Summary Compensation Table

Name & Principal Position	Year	Salary (\$)	Share-based Awards (\$) ⁽¹⁾⁽²⁾	Option-based Awards (\$) ⁽³⁾	Non-equity Incentive Plan Compensation	Pension Value (\$) ⁽⁵⁾	All Other Compensation (\$) ⁽⁶⁾	Total Compensation (\$)
					Annual Incentive Plans (\$) ⁽⁴⁾			
Robert A. Mionis ⁽⁷⁾ <i>President and Chief Executive Officer</i>	2019	\$950,000	\$7,200,000	–	\$383,562	\$131,850	\$691,354	\$9,356,766
	2018	\$950,000	\$7,200,000	–	\$902,500	\$132,613	\$1,051,189	\$10,236,302
	2017	\$925,342	\$5,500,000	–	\$912,041	\$155,821	\$721,898	\$8,215,102
Mandeep Chawla ⁽⁸⁾ <i>Chief Financial Officer</i>	2019	\$457,534	\$1,600,000	–	\$118,227	\$61,346	\$1,462	\$2,238,569
	2018	\$450,000	\$1,450,000	–	\$316,800	\$48,692	\$479	\$2,265,971
	2017	\$287,359	\$1,025,000	–	\$359,161	\$47,234	\$493	\$1,719,247
Jack J. Lawless ⁽⁹⁾ <i>President, ATS</i>	2019	\$460,000	\$1,750,000	–	\$118,864	\$46,357	\$19,247	\$2,394,468
	2018	\$460,000	\$1,650,000	–	\$323,840	\$44,230	\$41,194	\$2,519,264
	2017	\$447,671	\$1,500,000	–	\$297,254	\$52,975	\$34,522	\$2,332,422
Todd C. Cooper ⁽¹⁰⁾ <i>Chief Operations Officer</i>	2019	\$460,000	\$1,600,000	–	\$118,864	\$52,058	\$16,800	\$2,247,722
	2018	\$454,959	\$1,600,000	–	\$491,980	\$27,568	\$10,477	\$2,584,984
	2017	–	\$2,750,000	–	–	–	–	\$2,750,000
Jason Phillips ⁽¹¹⁾ <i>President, CCS</i>	2019	\$438,137	\$1,600,000	–	\$113,215	\$31,828	\$58,826	\$2,242,006
	2018	\$350,000	\$1,200,000	–	\$168,000	\$25,594	\$17,132	\$1,760,726
	2017	\$350,000	\$600,000	–	\$174,300	\$30,053	\$16,777	\$1,171,130

- (1) All amounts in this column represent the grant date fair value of share-based awards. Amounts in this column for 2019 represent RSU and PSU grants made on February 6, 2019 to all NEOs and a grant of 22,124 RSUs made to Mr. Phillips on August 6, 2019 in recognition of his expanded responsibilities. The February 2019 grants were based on a share price of \$8.04, which was the closing price of the SVS on the NYSE on February 5, 2019 (the day prior to the date of the grant) and the August 2019 grant to Mr. Phillips was based on a share price of \$6.78, which was the closing price of the SVS on the NYSE on August 5, 2019 (the day prior to the date of the grant). Amounts in this column for 2018 represent RSU and PSU grants made on January 30, 2018 to all NEOs. Grants were based on a share price of \$10.51, which was the closing price of the SVS on the NYSE on January 29, 2018 (the day prior to the date of the grant). Amounts in this column for 2017 represent: (i) RSU and PSU grants made on January 31, 2017 to all NEOs; (ii) for Mr. Chawla, includes the additional one-time RSU grant made on June 5, 2017; and (iii) for Mr. Cooper, includes a one-time RSU grant made on December 15, 2017. The one-time RSU grant to Mr. Cooper was made following the acceptance of his employment terms with Celestica in recognition of the forfeiture of his unvested equity with his previous employer and to incentivize Mr. Cooper to join Celestica in a timely fashion. Grants for 2017 were based on a share price of \$13.66, which was the closing price of the SVS on the NYSE on January 30, 2017 (the day prior to the date of the grant), except for (i) the one-time additional grant made to Mr. Chawla, which was based on a share price of \$14.01, which was the closing price of the SVS on the NYSE on June 2, 2017 (the last business day prior to the date of the grant); and (ii) the one-time grant made to Mr. Cooper, which was based on a share price of \$10.32, which was the closing price of the SVS on the NYSE on December 14, 2017 (the last business day prior to the date of the grant). See *Compensation Discussion and Analysis – Compensation Elements for the Named Executive Officers – Equity-Based Incentives* for a description of the process followed in determining the grants for 2019, and see *Compensation Discussion and Analysis – 2019 Compensation Decisions – Equity-Based Incentives* for a description of the vesting terms of the RSU and PSU awards. Grants made in-year are reported for such year.
- (2) The estimated accounting fair value of the share-based awards is calculated using the market price of SVS as defined under each of the plans and various fair value pricing models. The grant date fair value of the RSU portion of the share-based awards in Table 15 is the same as the accounting fair value of such awards. The accounting fair values for the PSU portion of the 2017, 2018 and 2019 share-based awards reflects various assumptions as to estimated vesting for such awards in accordance with applicable accounting standards. The grant date fair value for the PSU portion of the share-based awards reflects the dollar amount of the award intended for compensation purposes, based on the market value of the underlying shares on the grant

dates based on an assumption of the vesting of 100% of the target number of PSUs granted. The accounting fair value for all share-based awards in the table assumed a zero-forfeiture rate. The number of PSUs granted in 2019 and 2018 that will actually vest will range from 0% to 200% of the target number granted and will be primarily based on the Corporation's EBIAT Result in the final year of the three-year performance period, and then potentially modified by the Corporation's ROIC Factor and TSR Factor over the performance period, as described in detail under *NEO Equity Awards and Mix* above. For PSUs granted in 2019, the TSR will be measured relative to the BMI Index, with the addition of Flex Ltd. For PSUs granted in 2018, the TSR will be measured relative to the information technology companies within the S&P 1500 Technology Index as at January 1, 2018 with the addition of Flex Ltd. The Corporation estimated the grant date fair value of the TSR Factor using a Monte Carlo simulation model. The accounting grant date fair value is not subsequently adjusted regardless of the eventual number of awards that are earned based on TSR. The grant date fair value for the non-TSR-based performance measurement and modifier was based on the market value of our SVS at the time of grant and may be adjusted in subsequent periods to reflect a change in the estimated level of achievement related to the applicable performance condition. 60% of the PSUs granted with respect to 2017 performance vested in January 2020 based on the level of TSR achievement over a three-year period relative to the TSR of a pre-defined comparator group. The comparator group was the companies in the S&P 1500 Technology Index for 2017, with the addition of Flex Ltd., that remained publicly traded on an established U.S. stock exchange for the entire performance period. The cost the Corporation recorded for these PSUs was determined using a Monte Carlo simulation model. The number of awards expected to be earned was factored into the grant date Monte Carlo valuation for the award. The accounting grant date fair value was not subsequently adjusted regardless of the eventual number of awards that were earned based on the market performance condition. 40% of the PSUs granted with respect to 2017 vested in January 2020 based on the Corporation's average non-IFRS adjusted ROIC performance over the three-year vesting period relative to the average non-IFRS adjusted ROIC of a pre-determined EMS competitor group over the same period. The cost the Corporation recorded for these PSUs was determined based on the market value of the SVS at the time of grant, and such cost was adjusted during the last year of the three-year performance period based on management's estimate of the relative level of achievement of non-IFRS adjusted ROIC, as outlined above.

- (3) There were no stock options granted to the NEOs in 2017, 2018 or 2019.
- (4) Amounts in this column represent CTI incentive payments made to NEOs. See *Compensation Discussion and Analysis – Compensation Elements for the Named Executive Officers – Celestica Team Incentive Plan* for a description of the CTI. Amounts in this column for Mr. Cooper for 2018 also include the one-time cash award of \$200,000 paid to him in connection with his appointment as Chief Operations Officer. Amounts in this column for Mr. Chawla for 2017 also include the one-time cash award of C\$260,000 paid to him (in two equal instalments) in connection with his appointment as interim CFO.
- (5) Amounts in this column represent Celestica's contributions to defined contribution pension plans (other than 401(k) plans) on behalf of the NEOs - see *Pension Plans* for a full description of the plans. Contributions for Messrs. Mionis, Lawless, Cooper and Phillips are reported in U.S. dollars. Contributions for Mr. Chawla are reported in U.S. dollars, having been converted from Canadian dollars at the average exchange rate for 2019 of \$1.00 equals C\$1.3269.
- (6) Amounts in this column for Mr. Mionis include amounts for items provided for under the CEO Employment Agreement, which for 2019 consisted of tax equalization payments of \$578,947, housing expenses of \$72,569 while in Canada, group life insurance premiums of \$8,105 and a 401(k) contribution of \$16,800. For 2018, the amount in this column for Mr. Mionis includes tax equalization payments of \$948,353, housing expenses of \$76,261 while in Canada, group life insurance premiums of \$7,482 and a 401(k) contribution of \$16,500. For 2017, the amount in this column for Mr. Mionis includes tax equalization payments of \$624,011, housing expenses of \$73,669 while in Canada, a 401(k) contribution of \$16,200 and travel expenses between Toronto and Arizona of \$4,346. Amounts in this column for Mr. Lawless for 2019 include tax equalization payments of \$3,451 and a 401(k) contribution of \$15,796. For 2018, amounts in this column for Mr. Lawless include tax equalization payments of \$25,013 and a 401(k) contribution of \$15,681. Amounts in this column for Mr. Lawless for 2017 include tax equalization payments of \$17,610 and a 401(k) contribution of \$16,200. Amounts in this column for Mr. Cooper for 2019 include a 401(k) contribution of \$16,800. For 2018, the amount in this column for Mr. Cooper includes a 401(k) contribution of \$8,250. Amounts in this column for Mr. Phillips for 2019 include a tax equalization payment of \$41,719 and a 401(k) contribution of \$16,607. For 2018, the amount in this column for Mr. Phillips includes a 401(k) contribution of \$16,221. For 2017, the amount in this column for Mr. Phillips includes a 401(k) contribution of \$15,821. In accordance with the Corporation's Short-Term Business Travel Program, tax equalization payments for Messrs. Mionis, Lawless and Phillips were made in order to cover taxes on their compensation in excess of the taxes they would have incurred in the United States. Due largely to variables such as timing and tax rate differences between Canada and the U.S., tax equalization amounts may vary from one year to the next and the net benefit may be positive or negative in the year. While the Corporation is incorporated and headquartered in Canada, our business is global, and we compete for executive talent worldwide. As a result, we believe it is appropriate to make tax equalization payments under certain circumstances in order to attract and retain non-Canadian executive officers with specific capabilities.
- (7) In January 2017, the HRCC approved an increase in Mr. Mionis' annual base salary from \$850,000 to \$950,000 effective April 1, 2017 in order to align his salary to the median of the Corporation's competitive benchmark.
- (8) In connection with Mr. Chawla's appointment as CFO effective October 19, 2017, the HRCC approved an increase in his annual base salary from \$260,000 to \$450,000. In 2019, the HRCC approved an increase in Mr. Chawla's base salary from \$450,000 to \$460,000.
- (9) In January 2017, the HRCC approved an increase in Mr. Lawless' annual base salary from \$410,000 to \$460,000 effective April 1, 2017 in order to align his salary to the median of the Corporation's competitive benchmark.
- (10) Mr. Cooper was appointed as Chief Operations Officer of the Corporation effective January 4, 2018.
- (11) Mr. Phillips was appointed President, CCS effective January 1, 2019 and his base salary increased from \$350,000 to \$425,000. In August 2019, Mr. Phillips' base salary was increased from \$425,000 to \$460,000 to reflect his significantly expanded responsibilities.

Option-Based and Share-Based Awards

The following table provides details of each stock option grant outstanding (vested and unvested) and the aggregate number of unvested share-based awards for each of the NEOs as of December 31, 2019.

Table 16: Outstanding Option-Based and Share-Based Awards⁽¹⁾

Name	Option-Based Awards				Share-Based Awards				
	Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Value of Unexercised In-the-Money Options (\$)	Number of Shares or Units that have not Vested (#) ⁽²⁾	Payout Value of Share-Based Awards that have not Vested at Minimum (\$) ⁽³⁾	Payout Value of Share-Based Awards that have not Vested at Target (\$) ⁽³⁾	Payout Value of Share-Based Awards that have not Vested at Maximum (\$) ⁽³⁾	Payout Value of Vested Share-Based Awards Not Paid Out or Distributed (\$)
Robert A. Mionis									
Aug. 1, 2015	298,954	CS\$17.52	Aug. 1, 2025	–	–	–	–	–	–
Jan. 31, 2017	–	–	–	–	201,317	–	\$1,664,892	\$3,329,783	–
Jan. 30, 2018	–	–	–	–	593,720	\$1,510,788	\$4,910,064	\$8,309,340	–
Feb. 6, 2019	–	–	–	–	895,521	\$2,962,380	\$7,405,959	\$11,849,537	–
Total	298,954	–	–	–	1,690,558	\$4,473,168	\$13,980,915	\$23,488,660	–
Mandeep Chawla									
Jan. 31, 2017	–	–	–	–	12,811	–	\$103,983	\$207,965	–
Jan. 30, 2018	–	–	–	–	119,568	\$298,612	\$970,493	\$1,642,374	–
Feb. 6, 2019	–	–	–	–	199,003	\$646,094	\$1,615,240	\$2,584,386	–
Total	–	–	–	–	331,382	\$944,706	\$2,689,716	\$4,434,725	–
Jack J. Lawless									
Jan. 31, 2017	–	–	–	–	54,904	–	\$454,056	\$908,112	–
Jan. 30, 2018	–	–	–	–	136,061	\$346,224	\$1,125,224	\$1,904,225	–
Feb. 6, 2019	–	–	–	–	217,661	\$720,019	\$1,800,056	\$2,880,094	–
Total	–	–	–	–	408,626	\$1,066,243	\$3,379,336	\$5,692,431	–
Todd C. Cooper									
Dec. 15, 2017	–	–	–	–	177,649	\$1,469,157	\$1,469,157	\$1,469,157	–
Jan. 30, 2018	–	–	–	–	131,937	\$335,729	\$1,091,119	\$1,846,509	–
Feb. 6, 2019	–	–	–	–	199,003	\$658,300	\$1,645,755	\$2,633,209	–
Total	–	–	–	–	508,589	\$2,463,186	\$4,206,031	\$5,948,875	–
Jason Phillips									
Jan. 31, 2017	–	–	–	–	21,961	–	\$181,617	\$363,235	–
Jan. 30, 2018	–	–	–	–	57,722	\$146,883	\$477,361	\$807,838	–
May 7, 2018	–	–	–	–	42,052	\$347,770	\$347,770	\$347,770	–
Feb. 6, 2019	–	–	–	–	180,347	\$596,590	\$1,491,470	\$2,386,350	–
Aug. 6, 2019	–	–	–	–	22,124	\$182,965	\$182,965	\$182,965	–
Total	–	–	–	–	324,206	\$1,274,208	\$2,681,183	\$4,088,158	–

(1) See *Compensation Discussion and Analysis – 2019 Compensation Decisions – Equity-Based Incentives* for a discussion of the equity-based grants.

(2) Includes unvested RSUs, as well as PSUs assuming achievement of 100% of target level performance.

(3) Payout values at minimum vesting include the value of RSUs only, as the minimum value of PSUs would be \$0.00 if the minimum performance condition is not met. Payout value at target vesting is determined assuming vesting of 100% of the target number of PSUs granted and payout values at maximum vesting is determined assuming vesting of 200% of the target number of PSUs granted. Payout values for Mr. Chawla were determined using a share price of C\$10.77, which was the closing price of the SVS on the TSX on December 31, 2019, converted to U.S. dollars at the average exchange rate for 2019 of \$1.00 equals C\$1.3269. Payout values for Messrs. Mionis, Lawless, Cooper and Phillips were determined using a share price of \$8.27, which was the closing price of the SVS on the NYSE on December 31, 2019.

The following table provides details for each NEO of the value of option-based and share-based awards that vested during 2019 and the value of annual incentive awards earned in respect of 2019 performance.

Table 17: Incentive Plan Awards – Value Vested or Earned in 2019

Name	Option-based Awards – Value Vested During the Year (\$)	Share-based Awards – Value Vested During the Year (\$) ⁽¹⁾	Non-equity Incentive Plan Compensation – Value Earned During the Year (\$) ⁽²⁾
Robert A. Mionis	–	\$3,154,303	\$383,562
Mandeep Chawla	–	\$584,825	\$118,227
Jack J. Lawless	–	\$826,957	\$118,864
Todd C. Cooper	–	\$900,590	\$118,864
Jason Phillips	–	\$392,992	\$113,215

(1) Amounts in this column reflect: (i) share-based awards released in 2019 for Messrs. Mionis, Lawless, Cooper and Phillips based on the price of the SVS on the NYSE as follows:

Type of Award	Vesting Date	Price
PSU	February 1, 2019	\$8.25
RSU	January 30, 2019	\$9.62
RSU	January 31, 2019	\$9.82
RSU	February 5, 2019	\$7.94
RSU	December 2, 2019	\$7.57

and (ii) share-based awards released in 2019 for Messrs. Mionis and Chawla based on the price of the SVS on the TSX as follows:

Type of Award	Vesting Date	Price
PSU	February 1, 2019	\$10.66
RSU	January 30, 2019	\$12.70
RSU	January 31, 2019	\$12.90
RSU	February 5, 2019	\$10.34
RSU	December 2, 2019	\$10.09

Certain values in this column were converted to U.S. dollars from Canadian dollars at the average exchange rate for 2019 of \$1.00 equals C\$1.3269. With respect to previously-issued PSUs that vested in 2019, the Corporation’s relative TSR (determinative for 60% of such PSUs) ranked below the 25th percentile of the TSR Comparators, resulting in zero achievement for such PSUs and the Corporation’s relative non-IFRS adjusted ROIC (determinative for 40% of such PSUs) ranked 2nd among the ROIC competitors resulting in 125% achievement for an overall vesting level of 50%, i.e. ((60% * 0%) + (40% * 125%)).

(2) Consists of payments under the CTI made on February 21, 2020 in respect of 2019 performance. See *Compensation Discussion and Analysis – 2019 Compensation Decisions – Annual Incentive Award – Target Award*. These are the same amounts as disclosed in Table 15 under the column “Non-equity Incentive Plan Compensation – Annual Incentive Plans”.

No gains were realized by NEOs from exercising stock options in 2019.

Securities Authorized for Issuance Under Equity Compensation Plans

Table 18: Equity Compensation Plans as at December 31, 2019⁽¹⁾

Plan Category		Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (#)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (\$)	Securities Remaining Available for Future Issuance Under Equity Compensation Plans ⁽²⁾ (#)
Equity Compensation Plans Approved by Securityholders	LTIP (Options)	345,577	C\$16.27	N/A ⁽³⁾
	LTIP (RSUs)	-	N/A	N/A ⁽³⁾
	LTIP (PSUs) ⁽⁴⁾	1,293,916	N/A	N/A ⁽³⁾
	Total⁽⁵⁾	1,639,493	C\$16.27	8,670,833

- (1) This table sets forth information, as of December 31, 2019, with respect to SVS authorized for issuance under the LTIP, and does not include SVS purchased (or to be purchased) in the open market to settle equity awards under the LTIP or the Corporation's other equity compensation plans. The LTIP, which was approved by the Corporation's shareholders, is the only equity compensation plan pursuant to which the Corporation may issue new SVS to settle equity awards.
- (2) Excluding securities that may be issued upon exercise of outstanding stock options, warrants and rights.
- (3) The LTIP provides for a maximum number of securities that may be issued from treasury, but does not provide separate maximums for each type of award thereunder.
- (4) Assumes the maximum payout for all outstanding PSUs (200% of target).
- (5) The total number of securities issuable upon the exercise/settlement of outstanding grants under all equity compensation plans approved by shareholders represents 1.273% of the total number of outstanding shares at December 31, 2019 (LTIP (Options) – 0.268%; LTIP (RSUs) – 0%; and LTIP (PSUs) – 1.005%).

Equity Compensation Plans

Long-Term Incentive Plan

The LTIP (which was approved by the Corporation's shareholders) is the only securities-based compensation plan providing for the issuance of securities from treasury under which grants have been made and continue to be made by the Corporation since the company was listed on the TSX and the NYSE. Under the LTIP, the Board of Directors may in its discretion from time to time grant stock options, share units (in the form of RSUs and PSUs) and stock appreciation rights ("SARs") to employees and consultants of the Corporation and affiliated entities.

Up to 29,000,000 SVS may be issued from treasury pursuant to the LTIP. The number of SVS that may be issued from treasury under the LTIP to directors is limited to 2,000,000; however, the Corporation decided in 2004 that stock option grants under the LTIP would no longer be made to directors. Under the LTIP, as of February 19, 2020, 19,177,166 SVS have been issued from treasury, 345,577 SVS are issuable under outstanding stock options, no SVS are issuable under outstanding RSUs, and no SVS are issuable under outstanding PSUs. Accordingly, as of February 19, 2020, 9,822,834 SVS are reserved for issuance from treasury pursuant to current and potential future grants of securities-based compensation under the LTIP. In addition, the Corporation may satisfy obligations under the LTIP by acquiring SVS in the open market.

As of February 19, 2020, the Corporation had a "gross overhang" of 7.1% under the LTIP. "Gross overhang" refers to the total number of shares reserved for issuance from treasury under equity plans at any given time relative to the total number of shares outstanding, including shares reserved for outstanding equity-based awards under the LTIP. The Corporation's "net overhang" (*i.e.* the total number of shares that have been reserved for issuance from treasury to satisfy outstanding equity grants to employees and outstanding RSU grants to directors relative to the total number of shares outstanding) was 0.3%.

As of December 31, 2019, the Corporation had an "overhang" for stock options of 7.0%, representing the number of shares reserved for issuance from treasury for outstanding stock options as at such date, together with shares reserved for potential future grants of stock options, relative to the total number of shares outstanding as at such date.

The Corporation had a “burn rate” for the LTIP for each of the years 2019, 2018 and 2017, of 0.0%, 0.0% and 1.6%, respectively. “Burn rate” is calculated by dividing the number of awards granted during the applicable year (including the target amount of PSUs granted), by the weighted average number of securities outstanding for the applicable year.

The LTIP limits the number of SVS that may be (a) reserved for issuance to insiders (as defined under TSX rules for this purpose), and (b) issued within a one-year period to insiders pursuant to stock options, rights or share units granted pursuant to the LTIP, together with SVS reserved for issuance under any other employee-related plan of the Corporation or stock options for services granted by the Corporation, in each case to 10% of the aggregate issued and outstanding SVS and MVS of the Corporation. The LTIP also limits the number of SVS that may be reserved for issuance to any one participant pursuant to stock options, SARs or share units granted pursuant to the LTIP, together with SVS reserved for issuance under any other employee-related equity plan of the Corporation or stock options for services granted by the Corporation, to 5% of the aggregate issued and outstanding SVS and MVS.

Vested stock options issued under the LTIP may be exercised during a period determined as provided in the LTIP, which may not exceed ten years. The LTIP also provides that, unless otherwise determined by the Board of Directors, stock options will terminate within specified time periods following the termination of employment of an eligible participant with the Corporation or affiliated entities, including in connection with a change of control. The exercise price for stock options issued under the LTIP is the closing price for SVS on the last business day prior to the grant date. The TSX closing price is used for Canadian employees and the NYSE closing price is used for all other employees. The exercise of stock options may be subject to vesting conditions, including specific time schedules for vesting and performance-based conditions such as share price and financial results. The grant of stock options to, or exercise of stock options by, an eligible participant may also be subject to certain share ownership requirements.

The interest of any participant under the LTIP is generally not transferable or assignable. However, the LTIP does provide that a participant may assign his or her rights to a spouse, or a personal holding company or family trust controlled by the participant, of which any combination of the participant, the participant’s spouse, minor children or grandchildren are shareholders or beneficiaries, as applicable.

Under the LTIP, eligible participants may be granted SARs, a right to receive a cash amount equal to the amount, if any, by which the market price of the SVS at the time of exercise of the SAR exceeds the market price of the SVS at the time of the grant. The market price used for this purpose is the weighted average price for SVS during the five trading days preceding the date of determination. The TSX market price is used for Canadian employees and the NYSE market price is used for all other employees. Such amounts may also be payable by the issuance of SVS (at the discretion of the Corporation). The exercise of SARs may also be subject to conditions similar to those which may be imposed on the exercise of stock options. To date, the Corporation has not granted any SARs under the LTIP.

Under the LTIP, eligible participants may be allocated share units in the form of PSUs or RSUs. Each vested RSU and PSU entitles the holder to receive one SVS on the applicable release date (however, the number of PSUs that may vest range from 0% to 200% of a target amount). The issuance of such shares may be subject to vesting requirements similar to those described above with respect to the exercisability of stock options and SARs, including such time or performance-based conditions as may be determined by the Board of Directors in its discretion. Under the LTIP, the Corporation may authorize grantees to settle vested RSUs or PSUs either in cash or SVS. Absent such permitted election, RSUs and PSUs will be settled in SVS. The number of SVS that may be issued to any one person pursuant to the share unit program shall not exceed 1% of the aggregate issued and outstanding SVS and MVS. The number of SVS that may be issued under share units in the event of termination of employment without cause, death or long-term disability is subject to pro-rata, unless otherwise determined by the Corporation. The LTIP provides for the express designation of share units as either RSUs, which have time-based vesting conditions or PSUs, which have performance-based vesting conditions over a specified period. In the event a holder of PSUs retires, unless otherwise determined by the Corporation, the pro-rated vesting of such PSUs shall be determined based on the actual performance achieved during the period specified for the grant by the Corporation.

The following types of amendments to the LTIP or the entitlements granted under it require the approval of the holders of the voting securities by a majority of votes cast by shareholders present or represented by proxy at a meeting:

- (a) increasing the maximum number of SVS that may be issued under the LTIP;
- (b) reducing the exercise price of an outstanding stock option (including cancelling and, in conjunction therewith, regranting a stock option at a reduced exercise price);

- (c) extending the term of any outstanding stock option or SAR;
- (d) expanding the rights of participants to assign or transfer a stock option, SAR or share unit beyond that currently contemplated by the LTIP;
- (e) amending the LTIP to provide for other types of security-based compensation through equity issuance;
- (f) permitting a stock option to have a term of more than ten years from the grant date;
- (g) increasing or deleting the percentage limit on SVS issuable or issued to insiders under the LTIP;
- (h) increasing or deleting the percentage limit on SVS reserved for issuance to any one person under the LTIP (being 5% of the Corporation's total issued and outstanding SVS and MVS);
- (i) adding to the categories of participants who may be eligible to participate in the LTIP; and
- (j) amending the amendment provision,

subject to the application of the anti-dilution or re-organization provisions of the LTIP.

The Board may approve amendments to the LTIP or the entitlements granted under it without shareholder approval, other than those specified above as requiring approval of the shareholders, including, without limitation:

- (a) clerical changes (such as a change to correct an inconsistency or omission or a change to update an administrative provision);
- (b) a change to the termination provisions for the LTIP or for a stock option as long as the change does not permit the Corporation to grant a stock option with a termination date of more than ten years from the date of grant or extend an outstanding stock option's termination date beyond such date; and
- (c) a change deemed necessary or desirable to comply with applicable law or regulatory requirements.

Celestica Share Unit Plan

The CSUP provides for the issuance of RSUs and PSUs in the same manner as provided in the LTIP, except that the Corporation may not issue shares from treasury to satisfy its obligations under the CSUP and there is no limit on the number of share units that may be issued as RSUs and PSUs under the terms of the CSUP. Issuances under the CSUP may be settled in cash or SVS at the discretion of the Corporation. The share units may be subject to vesting requirements, including any time-based conditions established by the Board of Directors at its discretion. The vesting of PSUs also requires the achievement of specified performance-based conditions as determined by the HRCC. There is no "burn rate" for the CSUP because issuances under the CSUP are not from treasury and are therefore non-dilutive.

Pension Plans

The following table provides details of the amount of Celestica's contributions to its defined contribution pension plans on behalf of the NEOs, and the accumulated value thereunder as of December 31, 2019 for each NEO.

Table 19: Defined Contribution Pension Plan

Name	Accumulated Value at Start of Year (\$)	Compensatory (\$)	Accumulated Value at End of Year ⁽¹⁾ (\$)
Robert A. Mionis ⁽²⁾	\$502,862	\$131,850	\$773,018
Mandeep Chawla ⁽²⁾	\$210,841	\$61,346	\$306,224
Jack J. Lawless	\$143,159	\$46,357	\$239,211
Todd C. Cooper	\$26,141	\$52,058	\$87,360
Jason Phillips	\$208,069	\$31,828	\$302,381

- (1) The difference between (i) the sum of the Accumulated Value at Start of Year column plus the Compensatory column and (ii) the Accumulated Value at End of Year column is attributable to non-compensatory changes in the Corporation's accrued obligations during the year ended December 31, 2019.
- (2) The difference between the Accumulated Value at Start of Year reported here and the Accumulated Value at End of Year reported in the 2018 Annual Report for Messrs. Mionis and Chawla is attributable to different exchange rates used in the 2018 Annual Report and this Annual Report. The exchange rate used in the 2018 Annual Report was \$1.00 = C\$1.2957.

Canadian Pension Plans

Mr. Chawla participates in the Corporation's registered pension plan for Canadian employees (the "Canadian Pension Plan") which is a defined contribution plan. The Canadian Pension Plan allows employees to choose how the Corporation's contributions are invested on their behalf within a range of investment options provided by third-party fund managers. Retirement benefits depend upon the performance of the investment options chosen. Mr. Chawla also participates in an unregistered supplementary pension plan (the "Canadian Supplementary Plan"). This is also a defined contribution plan through which the Corporation provides an annual contribution of an amount equal to the difference between (i) the maximum annual contribution limit as determined in accordance with the formula set out in the Canadian Pension Plan and with Canada Revenue Agency rules and (ii) 8% of the total base salary and paid annual incentives. Notional accounts are maintained for each participant in the Canadian Supplementary Plan. Participants are entitled to select from among the investment options available in the Canadian Pension Plan for the purpose of determining the return on their Canadian Supplementary Plan notional accounts.

U.S. Pension Plans

Messrs. Mionis, Lawless, Cooper and Phillips participate in the Corporation's U.S. pension plans comprised of two defined contribution retirement programs, one of which qualifies as a deferred salary arrangement under section 401(k) of the Internal Revenue Code (United States) (the "401(k) Plan"). Under the 401(k) Plan, participating employees may defer 100% of their pre-tax earnings subject to any statutory limitations. The Corporation may make contributions for the benefit of eligible employees. The 401(k) Plan allows employees to choose how their account balances are invested on their behalf within a range of investment options provided by third-party fund managers. The Corporation contributes: (i) 3% of eligible compensation for the participant, and (ii) up to an additional 3% of eligible compensation by matching 50% of the first 6% contributed by the participant. The maximum contribution of the Corporation to the 401(k) Plan, based on the Internal Revenue Code rules and the 401(k) Plan formula for 2019 was \$19,000 (plus an additional \$6,000 for an individual over the age of 50). Messrs. Mionis, Lawless and Cooper also participate in a supplementary retirement plan that is also a defined contribution plan (the "U.S. Supplementary Plan"). Under the U.S. Supplementary Plan, the Corporation contributes to the participant an annual amount equal to the difference between 8% of the participant's salary and paid incentive and the amount that Celestica would contribute to the 401(k) Plan assuming the participant contributes the amount required to receive the matching 50% contribution by Celestica. A notional account is maintained for Messrs. Mionis, Lawless and Cooper, and they are entitled to select from among the investment options available in the 401(k) Plan for the purpose of determining the return on their notional accounts.

Termination of Employment and Change in Control Arrangements with Named Executive Officers

The Corporation has entered into employment agreements with certain of its NEOs in order to provide certainty to the Corporation and such NEOs with respect to issues such as obligations of confidentiality, non-solicitation and non-competition after termination of employment, the amount of severance to be paid in the event of termination of the NEO's employment, and to provide a retention incentive in the event of a change in control scenario.

Mr. Mionis

The CEO Employment Agreement provides that Mr. Mionis is entitled to certain severance benefits if, during a change of control period or a potential change of control period at the Corporation, he is terminated without cause or resigns for good reason as defined in his agreement (a “double trigger” provision) where good reason includes, without limitation, a material adverse change in position or duties or a specified reduction(s) in total compensation (including base salary, equity and CTI award). A change of control period is defined in his agreement as the 12-month period following a change of control. A potential change of control period is defined in his agreement as the period beginning upon the occurrence of a potential change of control and ending on the earlier of: (i) the end of the 6-month period following a potential change of control; and (ii) a change of control.

The amount of the severance payment for Mr. Mionis is equal to: (i) base salary up to and including the termination date; (ii) a lump sum amount equal to his target payment under the CTI prorated to the date of termination; (iii) a lump sum amount equal to any payments accrued under the CTI in respect of the fiscal year preceding the fiscal year during which his termination occurs, if any; (iv) a lump sum amount equal to two times his eligible earnings (such eligible earnings calculated as his annual base salary plus the lesser of (a) his target payment under the CTI for the fiscal year during which his termination occurs based on target achievement of the CPF of 1.0 and an IPF of 1.0, and (b) payment received under the CTI for the fiscal year preceding the fiscal year during which termination occurs); (v) vacation pay earned but unpaid up to and including the date of termination; (vi) a lump sum cash settlement of contributions to, or continuation of his pension and retirement plans for a two-year period; and (vii) a one-time lump sum payment of \$100,000 in lieu of all future benefits and perquisites. In addition, upon a change of control and termination without cause or for good reason (a) the stock options granted to him vest immediately, (b) the unvested PSUs granted to him vest immediately at the target level of performance specified in the terms of the PSU grant, and (c) the RSUs granted to him shall vest immediately.

Outside a change in control period, upon termination without cause or resignation for good reason as defined in his agreement, the amount of the severance payment for Mr. Mionis is equal to: (a) base salary up to and including the termination date; (ii) a lump sum amount equal to any payments accrued under the CTI in respect of the fiscal year preceding the fiscal year during which his termination occurs; (iii) a lump sum amount equal to two times his eligible earnings (as calculated in the paragraph above); (iv) vacation pay earned but unpaid up to and including the date of termination; (v) a one-time lump sum payment of \$100,000 in lieu of all future benefits and perquisites; and (vi) a lump sum cash settlement of contributions to, or continuation of his pension and retirement plans for a two-year period. In addition, (a) vested stock options may be exercised for a period of 30 days and unvested stock options are forfeited on the termination date, (b) RSUs shall vest immediately on a *pro rata* basis based on the ratio of (i) the number of full years of employment completed between the date of grant and termination of employment, to (ii) the number of years between the date of grant and the vesting date, and (c) PSUs vest based on actual performance on a *pro rata* basis based on the ratio of (i) the number of full years of employment completed between the date of grant and the termination of employment, to (ii) the number of years between the date of grant and the vesting date.

The foregoing entitlements are conferred on Mr. Mionis in part upon his fulfillment of certain confidentiality, non-solicitation and non-competition obligations for a period of two years following termination of employment. In the event of a breach of such obligations, the Corporation is entitled to seek appropriate legal, equitable and other remedies, including injunctive relief.

The following table summarizes the incremental payments and benefits to which Mr. Mionis would have been entitled upon a change in control occurring on December 31, 2019, or if his employment had been terminated on December 31, 2019 as a result of a change in control, retirement or termination without cause (or with good reason).

Table 20: Mr. Mionis’ Benefits

	Cash Portion	Value of Option-Based and Share-Based Awards ⁽¹⁾	Other Benefits ⁽²⁾	Total
Termination without Cause/with Good Reason or Change in Control with Termination	\$3,705,000	—	\$397,300	\$4,102,300
Change in Control with no Termination or Retirement	—	—	—	—

- (1) No incremental amount would be received in respect of accelerated vesting of options, RSUs and PSUs, if any, on the assumption that the discount rate applied to calculate the net present value of the accelerated entitlements is not greater than the rate at which the SVS would otherwise be expected to appreciate over the period of acceleration.
- (2) Other benefits consist of group health benefits and pension plan contribution.

Messrs. Chawla, Lawless, Cooper and Phillips

Messrs. Chawla, Lawless, Cooper and Phillips are subject to the Executive Policy Guidelines which provide the following:

Termination without cause	<ul style="list-style-type: none"> eligible to receive a severance payment up to two times annual base salary and the lower of target or actual annual incentive for the previous year (“Eligible Earnings”), subject to adjustment for factors including length of service, together with a portion of their annual incentive for the year, prorated to the date of termination (a) vested stock options may be exercised for a period of 30 days and unvested stock options are forfeited on the termination date, (b) RSUs shall vest immediately on a <i>pro rata</i> basis based on the ratio of (i) the number of full years of employment completed between the date of grant and termination of employment, to (ii) the number of years between the date of grant and the vesting date, and (c) PSUs vest based on actual performance on a <i>pro rata</i> basis based on the ratio of (i) the number of full years of employment completed between the date of grant and the termination of employment, to (ii) the number of years between the date of grant and the vesting date
Termination without cause within two years following a change in control of the Corporation (“double trigger” provision)	<ul style="list-style-type: none"> eligible to receive a severance payment up to two times Eligible Earnings, subject to adjustment for factors including length of service, together with a portion of their annual incentive for the year, prorated to the date of termination (a) all unvested stock options vest on the date of change in control, (b) all unvested RSUs vest on the date of change in control, and (c) all unvested PSUs vest on the date of change in control at target level of performance unless the terms of a PSU grant provide otherwise, or on such other more favorable terms as the Board may in its discretion provide
Termination with cause	<ul style="list-style-type: none"> no severance benefit is payable all unvested equity is forfeited on the termination date
Retirement	<ul style="list-style-type: none"> (a) stock options continue to vest and are exercisable until the earlier of three years following retirement and the original expiry date, (b) RSUs will continue to vest on their vesting dates, and (c) PSUs vest based on actual performance on a <i>pro rata</i> basis based on the percentage represented by the number of days between the date of grant and the date of retirement as compared to the total number of days from the date of grant to the scheduled release date for the issuance of shares in respect of vested PSUs
Resignation	<ul style="list-style-type: none"> no severance benefit is payable (a) vested stock options may be exercised for a period of 30 days and unvested stock options are forfeited on the resignation date and (b) all unvested RSUs and PSUs are forfeited on the resignation date

Additionally, the Executive Policy Guidelines provide that executives whose employment has been terminated will have their pension and benefits coverage treated according to the terms of the plans in which they participate.

The entitlements described in the above table are only conferred on eligible executives who fulfill certain confidentiality, non-solicitation and non-competition obligations for a period of two years following termination of their employment.

The following tables summarize the incremental payments to which Messrs. Chawla, Lawless, Cooper and Phillips would have been entitled upon a change in control occurring on December 31, 2019, or if their employment had been terminated on December 31, 2019 as a result of a change in control, retirement or termination without cause.

Table 21: Mr. Chawla’s Benefits

	Cash Portion ⁽¹⁾	Value of Option-Based and Share-Based Awards ⁽²⁾	Other Benefits	Total
Termination without Cause or Change in Control with Termination	\$1,553,600	—	—	\$1,553,600
Change in Control with no Termination or Retirement	—	—	—	—

(1) Amounts in this column assume a maximum severance payment of two times Eligible Earnings but the actual amounts payable could be less.

(2) No incremental amount would be received in respect of accelerated vesting of options, RSUs and PSUs, if any, on the assumption that the discount rate applied to calculate the net present value of the accelerated entitlements is not greater than the rate at which the SVS would otherwise be expected to appreciate over the period of acceleration.

Table 22: Mr. Lawless' Benefits

	Cash Portion ⁽¹⁾	Value of Option-Based and Share-Based Awards ⁽²⁾	Other Benefits	Total
Termination without Cause or Change in Control with Termination	\$1,567,680	—	—	\$1,567,680
Change in Control with no Termination or Retirement	—	—	—	—

- (1) Amounts in this column assume a maximum severance payment of two times Eligible Earnings but the actual amounts payable could be less.
- (2) No incremental amount would be received in respect of accelerated vesting of options, RSUs and PSUs, if any, on the assumption that the discount rate applied to calculate the net present value of the accelerated entitlements is not greater than the rate at which the SVS would otherwise be expected to appreciate over the period of acceleration.

Table 23: Mr. Cooper's Benefits

	Cash Portion ⁽¹⁾	Value of Option-Based and Share-Based Awards ⁽²⁾	Other Benefits	Total
Termination without Cause or Change in Control with Termination	\$1,503,960	—	—	\$1,503,960
Change in Control with no Termination or Retirement	—	—	—	—

- (1) Amounts in this column assume a maximum severance payment of two times Eligible Earnings but the actual amounts payable could be less.
- (2) No incremental amount would be received in respect of accelerated vesting of options, RSUs and PSUs, if any, on the assumption that the discount rate applied to calculate the net present value of the accelerated entitlements is not greater than the rate at which the SVS would otherwise be expected to appreciate over the period of acceleration.

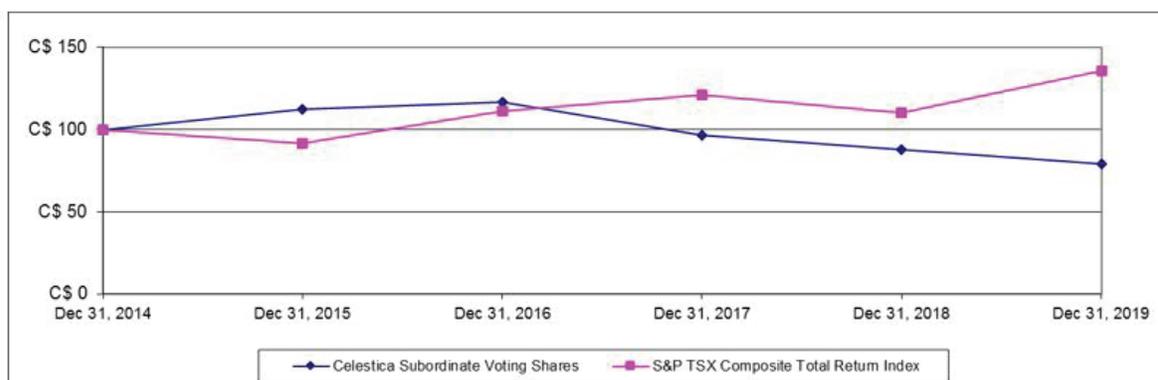
Table 24: Mr. Phillips' Benefits

	Cash Portion ⁽¹⁾	Value of Option-Based and Share-Based Awards ⁽²⁾	Other Benefits	Total
Termination without Cause or Change in Control with Termination	\$1,256,000	—	—	\$1,256,000
Change in Control with no Termination or Retirement	—	—	—	—

- (1) Amounts in this column assume a maximum severance payment of two times Eligible Earnings but the actual amounts payable could be less.
- (2) No incremental amount would be received in respect of accelerated vesting of options, RSUs and PSUs, if any, on the assumption that the discount rate applied to calculate the net present value of the accelerated entitlements is not greater than the rate at which the SVS would otherwise be expected to appreciate over the period of acceleration.

Performance Graph

The SVS have been listed and posted for trading under the symbol "CLS" on the NYSE and the TSX since June 30, 1998 (except for the period commencing on November 8, 2004 and ending on May 15, 2006 during which the symbol on the TSX was CLS.SV). The following chart compares the cumulative TSR of C\$100 invested in SVS with the cumulative TSR of the S&P/TSX Composite Total Return Index for the period from December 31, 2014 to December 31, 2019.



An investment in the Corporation on December 31, 2014 would have resulted in a 21.1% decrease in value over the five-year period ended December 31, 2019 compared with a 35.6% increase that would have resulted from an investment in the S&P/TSX Composite Total Return Index over the same period.

Over the same period, total NEO Compensation (as defined below) increased by 0.9%. In the medium to long term, compensation of the Corporation’s NEOs is directly impacted by the market value of the SVS, as a significant portion of NEO Compensation is awarded in the form of equity-based incentives with payout tied to the market value of the SVS.

For the purpose of the above discussion, “NEO Compensation” is defined as aggregate annual compensation (*i.e.* the sum of actual salary paid, actual CTI awards paid and the grant date fair value of share-based awards and option-based awards (if any) but excluding all other compensation). The executive compensation values have been calculated for the NEOs based on the same methodology set out in Table 15. This is a methodology adopted by Celestica solely for the purposes of this comparison. It is not a recognized or prescribed methodology for this purpose, and may not be comparable to methodologies used by other issuers for this purpose.

EXECUTIVE SHARE OWNERSHIP

The Corporation has executive share ownership guidelines (the “Executive Share Ownership Guidelines”) which require specified executives to hold a multiple of their base salary in securities of the Corporation as shown in Table 25. Executives subject to the Executive Share Ownership Guidelines are expected to achieve the specified ownership within a period of five years following the later of: (i) the date of hire, or (ii) the date of promotion to a level subject to ownership guidelines. Compliance is reviewed annually as of December 31 of each year. The HRCC reviewed the Executive Share Ownership Guidelines in April 2019 and no policy changes were required. The table below sets forth the compliance status of the applicable NEOs with the Executive Share Ownership Guidelines as of December 31, 2019:

Table 25: Share Ownership Guidelines

Name	Ownership Guidelines	Share and Share Unit Ownership (Value) ⁽¹⁾	Share and Share Unit Ownership (Multiple of Salary)
Robert A. Mionis ⁽²⁾	\$4,750,000 (5 × salary)	\$8,533,042	9.0x
Mandeep Chawla	\$1,380,000 (3 × salary)	\$1,417,026	3.1x
Jack J. Lawless	\$1,380,000 (3 × salary)	\$2,088,494	4.5x
Todd C. Cooper	\$1,380,000 (3 × salary)	\$2,947,420	6.4x
Jason Phillips	\$1,380,000 (3 × salary)	\$1,625,414	3.5x

(1) Includes the following, as of December 31, 2019: (i) SVS beneficially owned, (ii) all unvested RSUs, and (iii) PSUs that vested on January 31, 2020 at 40% of target, which, on December 31, 2019, was the Corporation’s anticipated payout and actual payout; the value of which was determined using a share price of \$8.27, the closing price of SVS on the NYSE on December 31, 2019.

(2) Mr. Mionis’ Share and Share Unit Ownership (Value) of \$8,533,042 consists of the following holdings: (i) \$3,393,917 of SVS, (ii) \$4,473,169 of unvested RSUs and (iii) \$665,956 of PSUs; the value of which was determined using a share price of \$8.27, being the closing price of SVS on the NYSE on December 31, 2019.

The CEO Employment Agreement provides that, in the event of the cessation of Mr. Mionis’ employment with the Corporation for any reason, he will be required to retain the share ownership level set out in the Executive Share Ownership Guidelines on his termination date for the 12 month period immediately following his termination date.

C. Board Practices

Members of the Board are elected until the close of the next annual meeting of shareholders or until their successors are elected or appointed (unless such position is earlier vacated in accordance with the Corporation's by-laws). Each member of our senior management is appointed to serve at the discretion of our Board (subject to the terms and conditions of their respective employment agreements, if any). See Item 6(A), "Directors and Senior Management" for details for the period during which each director has served in his/her office. Our non-management directors regularly meet *in camera* (i.e., without our chief executive officer, chief financial officer or other members of management present) to consider such matters as they deem appropriate. In accordance with NYSE listing standards, "non-management" directors are those directors who are not executive officers of the Corporation. We have designated the Chair of the Board as the presiding non-management director at all *in camera* sessions. The non-management directors can set their own agenda, maintain minutes and report back to the Board as a whole. Among the items that the non-management directors meet privately *in camera* to review is the performance of the Corporation's executive officers. In addition, the independent directors meet separately at least once annually. Our Audit Committee, which consists solely of independent, non-management directors, met *in camera* immediately following each Audit Committee meeting in 2019.

The Board has determined that Mr. Cascella, Mr. Chopra, Mr. DiMaggio, Mr. Etherington (until his retirement from the Board effective January 29, 2020), Ms. Koellner, Ms. Perry, Mr. Ryan and Mr. Wilson (constituting a majority of the Board) are independent directors under applicable independence standards in Canada and under NYSE listing standards.

Except for the right to receive deferred compensation, no director is entitled to benefits from Celestica under any service contracts when they cease to serve as a director. See Item 6(B), "Compensation."

Communications with the Board

Shareholders and other interested parties may confidentially communicate directly with the Chair of the Board, or all non-management or independent directors individually or as a group, by writing to any of the foregoing c/o Investor Relations, Celestica Inc., 5140 Yonge Street, Suite 1900, Toronto, Ontario, Canada M2N 6L7; phone 416-448-2211. Any such letters will be delivered unopened to the Chair of the Board or to the appropriate addressee(s).

Shareholders and other interested parties who have concerns or complaints relating to accounting, internal accounting controls or other matters may also contact the Audit Committee by writing to the address set out above or by reporting the matter through our Ethics Hotline toll free at 1-888-312-2689. Callers outside the United States or Canada can place a collect call to 1-503-726-2457. Alternatively, concerns or complaints can be reported using a secure on-line web-based tool at www.ethics.celestica.com.

All communications will be handled in a confidential manner, to the degree that Canadian and U.S. laws allow. Communications may be made on an anonymous basis; however, in these cases the reporting individual must provide sufficient details for the matter to be reviewed and resolved. The Corporation will not tolerate any retaliation against an employee who makes a good faith report.

Board Committees

The Board has three standing committees, each with a specific mandate (charter): the Audit Committee, the Human Resources and Compensation Committee (HRCC), and the Nominating and Corporate Governance Committee. All of these committees are composed solely of independent directors (as that term is defined by applicable Canadian and SEC rules and in the NYSE listing standards, as applicable).

Audit Committee

The Audit Committee in 2019 consisted of Ms. Koellner (Chair), Mr. Cascella (commencing upon his appointment to the committee effective February 1, 2019), Mr. Chopra, Mr. DiMaggio, Mr. Etherington (who retired from this committee and the Board effective January 29, 2020), Ms. Perry, Mr. Ryan and Mr. Wilson, all of whom the Board determined to be independent directors for audit committee purposes (as that term is defined by applicable Canadian and SEC rules and in the NYSE listing standards) and financially literate. All of the audit committee members have held executive positions with large corporations or financial services companies. The Audit Committee has a well-defined mandate which, among other things, sets out its relationship with, and expectations of, the external auditors, including the determination of the independence of the external auditors and approval of any non-audit services of the external auditor; the engagement, evaluation, remuneration and termination of the external auditor; its relationship with, and expectations of, the internal auditor function and its oversight of internal control; and the disclosure of financial and related information. In addition to fulfilling the responsibilities as set forth in its mandate, the Audit Committee has established procedures for a formal annual review of the qualifications, expertise, resources and the overall performance of the Corporation's external auditor, including conducting a survey of each member of the Audit Committee and of certain key

management personnel. The Audit Committee has direct communication channels with the internal and external auditors to discuss and review specific issues and has the authority to retain and fund such independent legal, accounting, or other advisors as it may consider appropriate. The Audit Committee reviews and approves the mandate and plan of the internal audit department on an annual basis. The Audit Committee's duties include responsibility for reviewing financial statements with management and the auditors, monitoring the adequacy of Celestica's internal control procedures, and reviewing the adequacy of Celestica's processes for identifying and managing risk.

The Audit Committee has established procedures for: (i) receipt, retention, and treatment of complaints regarding accounting, internal accounting controls, or auditing matters and (ii) confidential, anonymous submission by employees of concerns regarding questionable accounting or auditing matters. A copy of the Audit Committee Mandate is available on our website at www.celestica.com.

Members of the Audit Committee do not serve on more than three audit committees of public companies, including that of Celestica.

See Item 16A "Audit Committee Financial Expert" for a discussion of the Corporation's Audit Committee Financial Experts.

Audit Committee Report:

The Audit Committee has reviewed and discussed the audited financial statements with management;

The Audit Committee has discussed with the independent auditors the matters required to be discussed by the applicable requirements of the Public Company Accounting Oversight Board (PCAOB) and the SEC;

The Audit Committee has received the written disclosures and the letter from the independent auditor as required by applicable requirements of the PCAOB regarding the independent auditor's communications with the Audit Committee concerning independence, and has discussed with the independent auditor the independent auditor's independence; and

Based on such review and discussions, the Audit Committee recommended to the Board that the audited financial statements be included in this Annual Report for the year ended December 31, 2019 for filing with the SEC.

The Audit Committee:

Mr. Cascella
Mr. Chopra
Mr. DiMaggio
Ms. Koellner
Ms. Perry
Mr. Ryan
Mr. Wilson

Human Resources and Compensation Committee

The HRCC in 2019 consisted of Mr. Ryan (Chair), Mr. Cascella (commencing upon his appointment to the committee effective February 1, 2019), Mr. Chopra, Mr. DiMaggio, Mr. Etherington (who retired from this committee and the Board effective January 29, 2020), Ms. Koellner, Ms. Perry and Mr. Wilson, all of whom the Board determined to be independent directors for compensation committee purposes pursuant to the applicable Canadian and SEC rules and the NYSE listing standards. In July 2019, the Corporation's Compensation Committee was renamed the Human Resources and Compensation Committee, and its mandate updated to include responsibilities for certain human resources matters. It is the responsibility of the HRCC to define and communicate compensation policies and principles that reflect and support our strategic direction, business goals and desired culture. Pursuant to its mandate, the HRCC: reviews and approves Celestica's overall reward/compensation policy, including an executive compensation policy that is consistent with competitive practice and supports organizational objectives and shareholder interests; reviews the corporate goals and objectives relevant to the compensation of the CEO, as approved by the Board, evaluates the CEO's performance in light of these goals and objectives, and sets the compensation of the CEO based on this evaluation; reviews and approves the appointment and terms of employment (or any material changes to terms of employment) and, upon recommendation of the CEO, any changes to the base salary for all senior executive positions that report to the CEO and certain other senior executive positions, as well as any separation agreement or compensation arrangement for any such executive whose employment has been terminated; reviews, modifies, and approves the elements of the Corporation's incentive-based plans and equity-based plans, including plan design, performance targets, administration and total funds/shares reserved for payment; makes recommendations to the Board regarding director compensation in accordance with principles and guidelines established by the

Nominating and Corporate Governance Committee; maintains and reviews succession plans for the CEO, all positions that report to the CEO, and certain other executive positions; reviews and approves, in conjunction with management, public disclosure relating to executive compensation in accordance with applicable rules and regulations and prepares any report required by any applicable securities regulatory authority or stock exchange requirement to be included in applicable public disclosure documents; reviews the Corporation's talent management strategy and practices; reviews and approves insider trading and share ownership policies; regularly reviews the risks associated with the Corporation's compensation policies and practices; and performs any other activities consistent with the HRCC's mandate. See Item 6(B), "Compensation" for details regarding our processes and procedures for the consideration and determination of executive and director compensation and the role of our Compensation Consultant in making recommendations to the HRCC regarding executive officer and director compensation.

A copy of the HRCC Mandate is available on our website at www.celestica.com.

Human Resources and Compensation Committee Report:

The HRCC has reviewed and discussed the Compensation Discussion and Analysis with management and based on such review and discussions, the HRCC recommended to the Board that the Compensation Discussion and Analysis be included in this Annual Report for the year ended December 31, 2019.

The Human Resources and Compensation Committee:

- Mr. Cascella
- Mr. Chopra
- Mr. DiMaggio
- Ms. Koellner
- Ms. Perry
- Mr. Ryan
- Mr. Wilson

Nominating and Corporate Governance Committee

The Nominating and Corporate Governance Committee in 2019 consisted of Mr. Etherington (Chair) (who retired from this committee and the Board effective January 29, 2020), Mr. Cascella (commencing upon his appointment to the committee effective February 1, 2019), Mr. Chopra, Mr. DiMaggio, Ms. Koellner, Ms. Perry, Mr. Ryan and Mr. Wilson, all of whom were determined by the Board to be independent directors pursuant to applicable Canadian rules and NYSE listing standards. The Nominating and Corporate Governance Committee recommends to the Board the criteria for selecting candidates for nomination to the Board and the individuals to be nominated for election by our shareholders. The committee's mandate includes making recommendations to the Board relating to the Corporation's approach to corporate governance; reviewing the Corporation's corporate governance guidelines and recommending appropriate changes to the Board; and assessing the effectiveness of the Board and its committees.

A copy of the Nominating and Corporate Governance Committee Mandate is available on our website at www.celestica.com.

D. Employees

As of December 31, 2019, we employed approximately 24,600 permanent and temporary (contract) employees worldwide (December 31, 2018 — 28,700; December 31, 2017 — 27,500). Some of our employees in China, Japan, Mexico, Romania, Singapore and Spain are represented by unions or are covered by collective bargaining agreements. We believe we have a productive and collaborative working relationship between management and the relevant unions. We believe that our employee relationships are generally positive and stable.

The following table sets forth information concerning our employees (permanent and temporary) by geographic location for the past three financial years:

Date	Number of Employees			Total
	Americas	Europe	Asia	
December 31, 2017.....	5,900	2,800	18,800	27,500
December 31, 2018.....	6,900	3,900	17,900	28,700
December 31, 2019.....	5,500	3,100	16,000	24,600

Given the variable nature of our project flow and the quick response time required by our customers, it is critical that we be

able to quickly adjust our production up or down to maximize efficiency. To achieve this, our approach has been to employ a skilled temporary labor force, as required. As at December 31, 2019, approximately 3,100 temporary (contract) employees (December 31, 2018 — 5,100; December 31, 2017 — 4,100) were engaged by us worldwide. We used, on average for the year, approximately 3,800 temporary (contract) employees in 2019.

E. Share Ownership

The following table sets forth certain information concerning the direct and beneficial ownership of shares of Celestica at February 19, 2020 by each director, each NEO, each non-NEO executive officer, and all directors and executive officers of Celestica as a group as of such date. The address of each shareholder named below is Celestica's principal executive office.

<u>Name of Beneficial Owner</u> ⁽¹⁾⁽²⁾	<u>Number of Shares</u> ⁽³⁾	<u>Percentage of Class</u>	<u>Percentage of All Equity Shares</u> ⁽⁴⁾	<u>Percentage of Voting Power</u>
Robert A. Cascella	0 SVS	—	—	—
Deepak Chopra	0 SVS	—	—	—
Daniel P. DiMaggio	0 SVS	—	—	—
Laurette T. Koellner	0 SVS	—	—	—
Carol S. Perry	0 SVS	—	—	—
Tawfiq Popatia	0 SVS	—	—	—
Eamon J. Ryan	0 SVS	—	—	—
Michael M. Wilson	20,000 SVS	*	*	*
Robert A. Mionis	885,997 SVS	*	*	*
Mandeep Chawla	73,089 SVS	*	*	*
Elizabeth L. DelBianco	200,203 SVS	*	*	*
Todd C. Cooper	131,392 SVS	*	*	*
John ("Jack") J. Lawless	139,196 SVS	*	*	*
Jason Phillips	38,799 SVS	*	*	*
All directors and executive officers as a group (14 persons) ...	1,488,676 SVS	1.3%	1.2%	*

* Less than 1%.

- (1) As used in this table, beneficial ownership means sole or shared power to vote or direct the voting of the security, or the sole or shared investment power with respect to a security (*i.e.*, the power to dispose, or direct a disposition, of a security). A person is deemed at any date to have beneficial ownership of any security that such person has a right to acquire within 60 days of such date. More than one person may be deemed to have beneficial ownership of the same securities. Information with respect to stock options held by each executive officer, including exercise price and expiration date, is included in footnote 3 below.
- (2) Information as to shares beneficially owned or shares over which control or direction is exercised is not within Celestica's knowledge. Except as otherwise disclosed, such information has been provided by each individual.
- (3) Includes SVS subject to a total of 345,577 stock options that are currently exercisable as follows: Mr. Mionis — 298,954 stock options; Ms. DelBianco — 46,623 stock options. With respect to Mr. Mionis: all of his options have an exercise price of C\$17.52 and an expiration date of August 1, 2025. With respect to Ms. DelBianco: 22,742 of her options have an exercise price of C\$8.26 and an expiration date of January 31, 2022, and 23,881 of her options have an exercise price of C\$8.29 and an expiration date of January 28, 2023.
- (4) Represents the percentage beneficial ownership of the Company's SVS and MVS in the aggregate.

MVS and SVS have different voting rights. MVS entitle the holder to 25 votes per share and SVS entitle the holder to one vote per share. SVS represent approximately 19% of the aggregate voting rights attached to Celestica's shares. MVS represent approximately 81% of the voting rights attached to Celestica's shares. See Item 10(B), "Additional Information — Memorandum and Articles of Incorporation."

At February 19, 2020, 2 persons (each an executive officer) held stock options to acquire an aggregate of 0.345 million SVS (see footnote (3) in the table above). These stock options were issued pursuant to our Long-Term Incentive Plan. See Item 6(B), "Compensation" and note 13(b) to the Consolidated Financial Statements in Item 18 for a discussion of the different types of equity

awards, including stock options, RSUs and PSUs, issuable to our employees. The following table sets forth information with respect to stock options outstanding as at February 19, 2020. No other Celestica employees hold outstanding stock options.

Outstanding Options

Beneficial Holders	Number of SVS Under Option	Exercise Price	Date of Issuance	Date of Expiry
Executive Officers	22,742	C\$8.26	January 31, 2012	January 31, 2022
	23,881	C\$8.29	January 28, 2013	January 28, 2023
	298,954	C\$17.52	August 1, 2015	August 1, 2025

Item 7. Major Shareholders and Related Party Transactions

A. Major Shareholders

The following table sets forth certain information concerning the direct and beneficial ownership of the shares of Celestica as of February 19, 2020 by each person known to Celestica to own beneficially, directly or indirectly, 5% or more of the SVS or MVS. MVS and SVS have different voting rights (see Item 6(E) above). SVS represent approximately 19% of the aggregate voting rights attached to Celestica's shares, and MVS represent approximately 81% of the aggregate voting rights attached to Celestica's shares. See Item 4(B) "Information on the Company — Business Overview — Controlling Shareholder Interest" above for additional information regarding our controlling shareholder, and Item 10(B), "Additional Information — Memorandum and Articles of Incorporation" for additional information regarding our share capital.

Name of Beneficial Owner ⁽¹⁾	Number of Shares	Percentage of Class	Percentage of All Equity Shares	Percentage of Voting Power
Onex Corporation ⁽²⁾	18,600,193 MVS	100%	14.4%	80.8%
	397,045 SVS	*	*	*
Gerald W. Schwartz ⁽³⁾	18,600,193 MVS	100%	14.4%	80.8%
	517,702 SVS	*	*	*
Letko, Brosseau & Associates Inc. ⁽⁴⁾	20,539,951 SVS	18.6%	15.9%	3.6%
Guardian Capital LP ⁽⁵⁾	6,283,478 SVS	5.7%	4.9%	1.1%
Total percentage of all equity shares and total percentage of voting power			35.6%	85.6%

* Less than 1%.

- (1) As used in this table, beneficial ownership means sole or shared power to vote or direct the voting of the security, or the sole or shared investment power with respect to a security (*i.e.*, the power to dispose, or direct a disposition, of a security). A person is deemed at any date to have beneficial ownership of any security that such person has a right to acquire within 60 days of such date. More than one person may be deemed to have beneficial ownership of the same securities.
- (2) Includes 945,010 MVS held by a wholly-owned subsidiary of Onex. 814,546 of the MVS beneficially owned by Onex are subject to options granted to certain officers of Onex pursuant to certain Onex management investment plans, which options may be exercised upon specified dispositions by Onex (directly or indirectly) of Celestica's securities, with respect to which Onex has the right to vote or direct the vote ("MIP Options"), including 688,807 MIP Options granted to Mr. Schwartz (each of which MVS will, upon exercise of such options, be automatically converted into an SVS). The percentage ownership of SVS beneficially owned by Onex (assuming conversion of all MVS) was 13.3% as of February 14, 2018, 13.9% as of February 13, 2019, and 14.7% as of February 19, 2020.

The Corporation's Restated Articles of Incorporation (Articles) provide "coat-tail" protection to the holders of the SVS by providing that the MVS will be converted automatically into SVS upon any transfer thereof, except (i) a transfer to Onex or any affiliate of Onex or (ii) a transfer of 100% of the outstanding MVS to a purchaser who also has offered to purchase all of the outstanding SVS for a per share consideration identical to, and otherwise on the same terms as, that offered for the MVS, and the MVS held by such purchaser thereafter shall be subject to the share provisions relating to conversion (including with respect to the provisions described herein) as if all references to Onex were references to such purchaser. In addition, if (i) any holder of any MVS ceases to be an affiliate of Onex, or (ii) Onex and its affiliates, collectively, cease to have the right, in all cases, to exercise the votes attached to, or to direct the voting of, any of the MVS held by Onex and its affiliates, such MVS shall convert automatically into SVS on a one-for-one basis. For these purposes, (i) Onex includes any successor corporation resulting from an amalgamation, merger, arrangement, sale of all or substantially all of its assets, or other business combination or reorganization involving Onex, provided that such successor corporation beneficially owns directly or indirectly all MVS beneficially owned directly or indirectly by Onex immediately prior to such transaction and is controlled by the same person or persons as controlled Onex prior to the consummation of such transaction; (ii) a corporation shall be deemed to be a subsidiary of

another corporation if, but only if, (a) it is controlled by that other, or that other and one or more corporations each of which is controlled by that other, or two or more corporations each of which is controlled by that other, or (b) it is a subsidiary of a corporation that is that other's subsidiary; (iii) "affiliate" means a subsidiary of Onex or a corporation controlled by the same person or company that controls Onex; and (iv) "control" means beneficial ownership of, or control or direction over, securities carrying more than 50% of the votes that may be cast to elect directors if those votes, if cast, could elect more than 50% of the directors. For these purposes, a person is deemed to beneficially own any security which is beneficially owned by a corporation controlled by such person. In addition, if at any time the number of outstanding MVS shall represent less than 5% of the aggregate number of the outstanding MVS and SVS, all of the outstanding MVS shall be automatically converted at such time into SVS on a one-for-one basis. Onex, which beneficially owns, controls or directs, directly or indirectly all of the outstanding MVS, has entered into an agreement with Celestica and Computershare Trust Company of Canada (as successor to the Montreal Trust Company of Canada), as trustee for the benefit of the holders of the SVS, for the purpose of ensuring that the holders of SVS will not be deprived of any rights under applicable take-over bid legislation to which they would be otherwise entitled in the event of a take-over bid (as that term is defined in applicable securities legislation) if MVS and SVS were of a single class of shares. Subject to certain permitted forms of sale, such as identical or better offers to all holders of SVS, Onex has agreed that it, and any of its affiliates that may hold MVS from time to time, will not sell any MVS, directly or indirectly, pursuant to a take-over bid (as that term is defined under applicable securities legislation) under circumstances in which any applicable securities legislation would have required the same offer or a follow-up offer to be made to holders of SVS if the sale had been a sale of SVS rather than MVS, but otherwise on the same terms.

The address of Onex is: c/o Onex Corporation, 161 Bay Street, P.O. Box 700, Toronto, Ontario, Canada M5J 2S1.

- (3) The number of shares beneficially owned, controlled or directed, directly or indirectly, by Mr. Schwartz consists of 120,657 SVS owned by a company controlled by Mr. Schwartz, and all of the 18,600,193 MVS and 397,045 SVS beneficially owned, or controlled or directed, directly or indirectly, by Onex (as described in note (2) above). Mr. Schwartz is the Chairman of the Board, President and Chief Executive Officer of Onex. In addition, he indirectly owns multiple voting shares of Onex carrying the right to elect a majority of the Onex board of directors. Accordingly, under applicable securities laws, Mr. Schwartz is deemed to be the beneficial owner of the Celestica shares owned by Onex; Mr. Schwartz has advised Celestica, however, that he disclaims beneficial ownership of such shares. The percentage ownership of SVS beneficially owned by Mr. Schwartz (assuming conversion of all MVS) was 13.4% as of February 14, 2018, 14.0% as of February 13, 2019, and 14.8% as of February 19, 2020.

The address of Mr. Schwartz is: 161 Bay Street, P.O. Box 700, Toronto, Ontario, Canada M5J 2S1.

- (4) Letko, Brosseau & Associates Inc. (Letko) is the beneficial owner of 20,539,951 SVS and has sole voting and dispositive power over these shares. Clients of Letko have the right to receive or the power to direct the receipt of dividends from, or the proceeds from sale of, the SVS reported as beneficially owned by Letko. No clients of Letko beneficially own more than five percent of the SVS. The address of Letko is: 1800 McGill College Av., Suite 2510, Montréal, Québec, Canada H3A 3J6. The number of shares reported as owned by Letko in this Major Shareholders Table and the information in this footnote is based on the Schedule 13G/A filed by Letko with the SEC on January 28, 2020, reporting beneficial ownership as of December 31, 2019. The percentage ownership of SVS beneficially owned by Letko was 16.4% as of February 14, 2018, 18.8% as of February 13, 2019, and 18.6% as of February 19, 2020.
- (5) Guardian Capital LP (Guardian) is the beneficial owner of 6,283,478 SVS and has sole voting and dispositive power over these shares. The address of Guardian is Commerce Court West, Suite 3100, PO Box 201, Toronto, Ontario, Canada M5L 1E8. The number of shares reported as owned by Guardian in this Major Shareholders Table and the information in this footnote is based on the Schedule 13G filed by Guardian with the SEC on February 13, 2020, reporting beneficial ownership as of December 31, 2019. This is the only year in the past three years that Guardian has been listed in this Major Shareholders Table.

There are no arrangements known to the Corporation, the operation of which may at a subsequent date result in a change of control of the Corporation.

Holders

As of February 19, 2020, based on information provided to us by our transfer agent, there were 1,644 holders of record of SVS, of which 385 holders, holding approximately 84.0% of the outstanding SVS, were resident in the United States and 364 holders, holding approximately 15.9% of the outstanding SVS, were resident in Canada. These numbers are not representative of the number of beneficial holders of our SVS nor are they representative of where such beneficial holders reside, since many of such shares are held of record by brokers or other nominees. The Corporation does not have knowledge of the identities of the beneficial owners of SVS registered through intermediaries. No MVS are held in the United States.

B. Related Party Transactions

Onex, which beneficially owns, controls or directs, directly or indirectly, all of our outstanding MVS, has entered into an agreement with Celestica and with Computershare Trust Company of Canada (as successor to the Montreal Trust Company of Canada), as trustee for the benefit of the holders of the SVS, for the purpose of ensuring that the holders of SVS will not be deprived of any rights under applicable take-over bid legislation to which they would be otherwise entitled in the event of a take-over bid (as that term is defined in applicable securities legislation) if MVS and SVS were of a single class of shares. Subject to certain permitted forms of sale, such as identical or better offers to all holders of SVS, Onex has agreed that it, and any of its affiliates that may hold MVS from time to time, will not sell any MVS, directly or indirectly, pursuant to a take-over bid (as that term is defined under applicable securities legislation) under circumstances in which any applicable securities legislation would have required the same offer or a follow-up offer to be made to holders of SVS if the sale had been a sale of SVS rather than MVS, but otherwise on the same terms.

We are party to a Services Agreement with Onex for the services of Mr. Tawfiq Popatia, an officer of Onex, as a director of Celestica, pursuant to which Onex receives compensation for such services. This agreement automatically renews for successive one-year terms unless either party provides a notice of intent not to renew. Under such agreement, the annual fee payable to Onex is \$235,000, payable in DSUs in equal quarterly installments in arrears. The Services Agreement terminates automatically and the rights of Onex to receive compensation (other than accrued and unpaid compensation) will terminate (a) 30 days after the first day on which Onex ceases to hold at least one MVS of Celestica or any successor company or (b) the date Mr. Popatia ceases to be a director of Celestica for any reason.

See Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — *Toronto Real Property and Related Transactions*" above for a description of the Property Sale Agreement (and related lease arrangements) with respect to the sale of our real property in Toronto, Ontario to the Property Purchaser, the terms of the September 2018 assignment of such agreement to the Assignee, and the consummation of such sale on March 7, 2019. Approximately 27% of the interests in the Property Purchaser are held by a privately-held partnership in which Mr. Schwartz has a material interest; and approximately 25% of the interests in the Property Purchaser are held by a partnership in which Mr. Schwartz has a non-voting interest. The Property Purchaser holds a 5% non-voting interest in the Assignee.

Given the interest in the transaction at the time of execution of the Property Sale Agreement of the Property Purchaser, our Board formed a special committee (Special Committee) in 2015, consisting solely of independent directors, which retained its own independent legal counsel, to review and supervise a competitive bidding process. The Special Committee, after considering, among other factors, that the purchase price for the property exceeded the valuation provided by an independent appraiser, determined that the Property Purchaser's transaction terms were in the best interests of Celestica. Our Board, at a meeting where Mr. Schwartz was not present, approved the transaction based on the unanimous recommendation of the Special Committee.

Our related party transactions are also disclosed in Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Related Party Transactions."

Indebtedness of Related Parties

As at February 19, 2020, other than inter-company loans among Celestica and its wholly-owned subsidiaries, no related parties (as defined in Form 20-F), were indebted to Onex, Celestica or its subsidiaries.

C. Interests of Experts and Counsel

Not applicable.

Item 8. Financial Information

A. Consolidated Statements and Other Financial Information

See Item 18, "Financial Statements."

Export Sales

For the year ended December 31, 2019, we had approximately \$5.6 billion of export sales (*i.e.*, sales to customers located outside of Canada), constituting approximately 94% of our \$5.9 billion in total sales for the year. For further information regarding the allocation of our revenues by geographic region over the last three years, see Item 4, "Information on the Company — Business Overview — Geographies."

Litigation

We are party to litigation from time-to-time. We are not currently (nor in the recent past have been) party to any legal or arbitration proceedings which management expects may have (or have had) significant effects on Celestica's financial position or profitability. There are no material proceedings in which any of our affiliates, directors, or members of senior management is either a party adverse to us or our subsidiaries or has a material interest adverse to us or our subsidiaries.

Information concerning the status of certain tax matters is disclosed in Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Litigation and contingencies" and note 24 to the Consolidated Financial Statements in Item 18.

Dividend Policy

We have not declared or paid any dividends to our shareholders. We intend to retain earnings for general corporate purposes to promote future growth; as such, our Board does not anticipate paying any dividends at this time. Our Board will review this policy from time-to-time, having regard to our financial condition, financing requirements and other relevant factors.

B. Significant Changes

Except as otherwise disclosed in this Annual Report, no significant change has occurred since December 31, 2019.

Item 9. The Offer and Listing

A. Offer and Listing Details

Market Information

The SVS are listed on the NYSE and the TSX (in each case under the symbol "CLS").

B. Plan of Distribution

Not applicable.

C. Markets

See Item 9A. — "Offer and Listing Details" above.

D. Selling Shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the Issue

Not applicable.

Item 10. Additional Information

A. Share Capital

Not applicable.

B. Memorandum and Articles of Incorporation

Objects and Purposes

Celestica (Ontario Corporation No. 1201522) can engage in any legal activity permitted under the OBCA. As set forth in Item 6 of our Restated Articles of Incorporation (Articles), there are no restrictions on the business we may carry on or on the powers we may exercise.

Certain Powers of Directors

Celestica's by-laws provide that the directors shall from time to time determine by resolution the remuneration to be paid to the directors, which shall be in addition to the salary paid to any officer or employee of Celestica who is also a director. The directors may also, by resolution, award special remuneration to any director in undertaking any special services on Celestica's behalf other than the normal work ordinarily required of a director of Celestica. The by-laws provide that confirmation of any such resolution by Celestica's shareholders is not required.

The Articles provide that the Board may, without shareholder authorization, from time to time in such amounts and on such terms as it deems expedient: (i) borrow money upon the credit of Celestica; (ii) issue, reissue, sell or pledge debt obligations of Celestica; (iii) give a guarantee on behalf of Celestica to secure performance of an obligation of any person; and (iv) mortgage, hypothecate, charge, pledge or otherwise create a security interest in all or any currently owned or subsequently acquired real and

personal, movable and immovable, property of Celestica, including book debts, rights, powers, franchises and undertakings, to secure Celestica's obligations.

There is no provision in our Articles or by-laws imposing a requirement for retirement or non-retirement of directors under an age limit requirement. However, the Board has a retirement policy which provides that, unless the Board authorizes an exception, a director shall not stand for re-election after his or her 75th birthday.

Section 132 of the OBCA provides, among other things, that a material contract between Celestica and one or more of its directors, or between Celestica and another person of which a director of Celestica is a director or officer or in which he or she has a material interest, is neither void nor voidable by reason only of that relationship or by reason only that the director is present at or is counted to determine the presence of a quorum at a meeting of directors or committee of directors that authorized the contract, if the director disclosed his or her interest, in accordance with the applicable provisions of the OBCA, and the contract or transaction was reasonable and fair to Celestica at the time it was approved. In addition, notwithstanding the other conflict of interest provisions in Section 132 of the OBCA, where such director is acting honestly and in good faith, such contract, if it was reasonable and fair to Celestica at the time it was approved, is neither void nor voidable by reason only of the director's interest therein where the contract is confirmed or approved by special resolution at a meeting of shareholders and the nature and extent of the director's interest in the contract is disclosed in reasonable detail in the notice calling the meeting or the applicable information circular.

Share Ownership

The OBCA provides that unless the articles of a corporation otherwise provide, a director of a corporation is not required to hold shares issued by the corporation. There is no provision in the Articles imposing a requirement that a director hold any shares issued by Celestica. Our Board, however, has established guidelines setting out minimum shareholding requirements for directors who are not employees or officers of Celestica or Onex. See the section entitled "Director Share Ownership Guidelines" under Item 6, "Directors, Senior Management and Employees — Compensation" for a summary of these minimum shareholding requirements.

Shareholder Rights and Limitations

The rights and preferences attached to our SVS and MVS, as well as additional information required by this Item 10(B), is included in Exhibit 2.3 attached hereto, which Exhibit is incorporated herein by reference thereto.

C. Material Contracts

Information with respect to material contracts, other than contracts entered into in the ordinary course of business, to which Celestica or its subsidiaries is a party, entered into during the two years immediately preceding the publication of this Annual Report, is included in Item 5, "Operating and Financial Review and Prospects — Liquidity and Capital Resources" and Item 6(B), "Compensation." These contracts include equity compensation plans, agreements related to our credit facility, our prior A/R sales program agreement (among Celestica, specified subsidiaries, the financial institutions names therein and Deutsche Bank AG New York Branch), our March 2020 A/R sales program agreement, and our acquisition agreement for Impakt. Material contracts to be performed in whole or in part at or after the filing of this Annual Report are included as exhibits to this Annual Report. See Item 19, "Exhibits."

D. Exchange Controls

Canada has no system of exchange controls. There are no Canadian restrictions on the repatriation of capital or earnings of a Canadian public company to non-resident investors. There are no laws of Canada or exchange restrictions affecting the remittance of dividends, interest, royalties or similar payments to non-resident holders of Celestica's securities, although there may be Canadian and other foreign tax considerations. See Item 10(E) — "Taxation."

E. Taxation

Material Canadian Federal Income Tax Considerations

The following is a summary of the material Canadian federal income tax considerations generally applicable to a person (a "U.S. Holder"), who acquires SVS and who, for purposes of the Income Tax Act (Canada) (the "Canadian Tax Act") and the Canada-United States Income Tax Convention (1980) (as amended, the "Tax Treaty") at all relevant times is resident in the United States and is neither resident nor deemed to be resident in Canada, is eligible for benefits under the Tax Treaty, deals at arm's length and is not affiliated with Celestica, holds such SVS as capital property, and does not use or hold, and is not deemed

to use or hold, the SVS in carrying on business in Canada. Special rules, which are not discussed in this summary, may apply to a U.S. Holder that is a financial institution (as defined in the Canadian Tax Act), or is an insurer to whom the SVS are designated insurance property (as defined in the Canadian Tax Act).

This summary is based on Celestica's understanding of the current provisions of the Tax Treaty, the Canadian Tax Act and the regulations thereunder, all specific proposals to amend the Canadian Tax Act or the regulations publicly announced by the Minister of Finance (Canada) prior to February 19, 2020, and the current published administrative policies and assessing practices of the Canada Revenue Agency.

This summary does not express an exhaustive discussion of all possible Canadian federal income tax considerations and, except as mentioned above, does not take into account or anticipate any changes in law, whether by legislative, administrative or judicial decision or action, nor does it take into account the tax legislation or considerations of any province or territory of Canada or any jurisdiction other than Canada, which may differ significantly from the considerations described in this summary.

This summary is of a general nature only and is not intended to be, nor should it be construed to be, legal or tax advice to any particular holder, and no representation with respect to the Canadian federal income tax consequences to any particular holder is made. Consequently, U.S. Holders of SVS should consult their own tax advisors with respect to the income tax consequences to them having regard to their particular circumstances.

All amounts relevant in computing a U.S. Holder's liability under the Canadian Tax Act are to be computed in Canadian dollars.

Taxation of Dividends

By virtue of the Canadian Tax Act and the Tax Treaty, dividends (including stock dividends) on SVS paid or credited or deemed to be paid or credited to a U.S. Holder who is the beneficial owner of such dividends will generally be subject to Canadian non-resident withholding tax at the rate of 15% of the gross amount of such dividends. Under the Tax Treaty, the rate of withholding tax on dividends is reduced to 5% if that U.S. Holder is a company that beneficially owns (or is deemed to beneficially own) at least 10% of the voting stock of Celestica. Moreover, under the Tax Treaty, dividends paid to certain religious, scientific, literary, educational or charitable organizations and certain pension organizations that are resident in, and generally exempt from tax in, the U.S., generally are exempt from Canadian non-resident withholding tax. Provided that certain administrative procedures are observed by such an organization, Celestica would not be required to withhold such tax from dividends paid or credited to such organization. Any such organization that has suffered withholding tax should consult its own advisors about the possibility of seeking a refund.

Disposition of SVS

A U.S. Holder will not be subject to tax under the Canadian Tax Act in respect of any gain realized on the disposition or deemed disposition of SVS unless the SVS constitute or are deemed to constitute "taxable Canadian property" other than "treaty-protected property," as defined in the Canadian Tax Act, at the time of such disposition. Generally, SVS will not be "taxable Canadian property" to a U.S. Holder at a particular time, where the SVS are listed on a designated stock exchange (which currently includes the TSX and NYSE) at that time, unless at any time during the 60-month period immediately preceding that time: (A) the U.S. Holder, persons with whom the U.S. Holder did not deal at arm's length, partnerships of which the U.S. Holder or persons not dealing at arm's length with the U.S. Holder holds a membership interest (directly or indirectly through another partnership) or the U.S. Holder together with all such persons or partnerships, owned 25% or more of the issued shares of any class or series of shares of the capital stock of Celestica; and (B) more than 50% of the fair market value of the SVS was derived directly or indirectly from one or any combination of (i) real or immovable properties situated in Canada, (ii) "Canadian resource properties", (iii) "timber resource properties" and (iv) options in respect of, or interests in, property described in (i) to (iii), in each case as defined in the Canadian Tax Act. In certain circumstances set out in the Canadian Tax Act, the SVS of a particular U.S. Holder could be deemed to be "taxable Canadian property" to that holder. Even if the SVS are "taxable Canadian property" to a U.S. Holder, they generally will be "treaty-protected property" to such holder by virtue of the Tax Treaty if the value of such shares at the time of disposition is not derived principally from "real property situated in Canada" as defined for these purposes under the Tax Treaty and the Canadian Tax Act. It is expected that the value of the SVS should not be considered derived principally from such "real property situated in Canada" at any relevant time; accordingly, any gain realized by the U.S. Holder upon the disposition of the SVS generally should be exempt from tax under the Canadian Tax Act.

Material U.S. Federal Income Tax Considerations

The following discussion describes the material U.S. federal income tax consequences to United States Holders (as defined below). For purposes of this discussion, a United States Holder means a beneficial owner of SVS that is a citizen or resident of the United States, a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) that is created or organized in or under the laws of the United States or of any state thereof, an estate, the income of which is includible in gross income for U.S. federal income tax purposes regardless of its source, or a trust, if either (i) a court within the United States is able to exercise primary supervision over the administration of the trust and one or more "United States persons" (within the meaning of Section 7701(a)(30) of the U.S. Internal Revenue Code of 1986, as amended (Internal Revenue Code)) have the authority to control all substantial decisions of the trust, or (ii) the trust has made an election under applicable U.S. Department of the Treasury regulations (Treasury Regulations) to be treated as a domestic trust for U.S. federal income tax purposes. If a partnership (or any other entity that is treated as a partnership for U.S. federal income tax purposes) holds SVS, the tax treatment of an equity owner of the partnership (or other entity that is treated as a partnership for U.S. federal income tax purposes) generally will depend upon the status of the equity owner and upon the activities of the partnership (or other entity that is treated as a partnership for U.S. federal income tax purposes). If you are an equity owner of a partnership (or other entity that is treated as a partnership for U.S. federal income tax purposes) holding SVS, we suggest that you consult with your tax advisor. This summary is for general information purposes only. It does not purport to be a comprehensive description of all of the tax considerations that may be relevant to your decision to purchase, hold or dispose of SVS. This summary considers only United States Holders who will own SVS as capital assets within the meaning of Section 1221 of the Internal Revenue Code. In this context, the term "capital assets" means, in general, assets held for investment by a taxpayer. A "Non-United States Holder" means a beneficial owner of SVS that is (i) not a United States Holder and (ii) not a partnership for U.S. federal income tax purposes. Certain material aspects of U.S. federal income tax relevant to Non-United States Holders are also discussed below.

This discussion is based on current provisions of the Internal Revenue Code, current and proposed Treasury Regulations promulgated thereunder, administrative rulings and pronouncements of the U.S. Internal Revenue Service (IRS), and judicial decisions, all as of February 19, 2020, and all of which are subject to change, possibly on a retroactive basis. This discussion does not address all aspects of U.S. federal income taxation that may be relevant to any particular United States Holder based on the United States Holder's individual circumstances. In particular, this discussion does not address the potential application of the alternative minimum tax or U.S. federal income tax consequences to United States Holders who are subject to special treatment, including, without limitation, taxpayers who are broker dealers or insurance companies, taxpayers who have elected mark-to-market accounting, individual retirement and other tax-deferred accounts, tax-exempt organizations, financial institutions or "financial services entities," real estate investment trusts, regulated investment companies, taxpayers subject to special accounting rules under Section 451(b) of the Internal Revenue Code, taxpayers who hold SVS as part of a "straddle," "hedge" or "conversion transaction" with other investments, taxpayers owning directly, indirectly or by attribution at least 10% of the voting power or value of our share capital, and taxpayers whose functional currency (as defined in Section 985 of the Internal Revenue Code) is not the U.S. dollar.

This discussion does not address any aspect of U.S. federal gift or estate tax or state, local or non-U.S. tax laws. Additionally, the discussion does not consider the tax treatment of persons who hold SVS through a partnership or other pass-through entity (such as an S corporation). For U.S. federal income tax purposes, income earned through a non-U.S. or domestic partnership or similar entity generally is attributed to its owners. You are advised to consult your own tax advisor with respect to the specific tax consequences to you of purchasing, holding or disposing of SVS.

Taxation of Dividends Paid on SVS

Subject to the discussion of the passive foreign investment company (PFIC) rules below, in the event that we pay a dividend, a United States Holder will be required to include in gross income as ordinary income the amount of any distribution paid on SVS, including any Canadian taxes withheld from the amount paid, on the date the distribution is received, to the extent that the distribution is paid out of our current or accumulated earnings and profits as determined for U.S. federal income tax purposes. In addition, distributions of the Corporation's current or accumulated earnings and profits will be foreign source "passive category income" for U.S. foreign tax credit purposes and generally will not qualify for the dividends received deduction available to corporations. Distributions in excess of such earnings and profits will be applied against and will reduce the United States Holder's tax basis in the SVS and, to the extent in excess of such basis, will be treated as capital gain.

Distributions of current or accumulated earnings and profits paid in Canadian dollars to a United States Holder will be includible in the income of the United States Holder in a dollar amount calculated by reference to the exchange rate on the date the distribution is received. A United States Holder who receives a distribution of Canadian dollars and converts the Canadian dollars into U.S. dollars subsequent to receipt will have foreign exchange gain or loss based on any appreciation or depreciation in the value

of the Canadian dollar against the U.S. dollar. Such gain or loss will generally be ordinary income and loss and will generally be U.S. source gain or loss for U.S. foreign tax credit purposes. United States Holders should consult their own tax advisors regarding the treatment of a foreign currency gain or loss.

United States Holders will generally have the option of claiming the amount of any Canadian income taxes withheld either as a deduction from gross income or as a dollar-for-dollar credit against their U.S. federal income tax liability, subject to specified conditions and limitations. Individuals who do not claim itemized deductions, but instead utilize the standard deduction, may not claim a deduction for the amount of the Canadian income taxes withheld, but these individuals generally may still claim a credit against their U.S. federal income tax liability. The amount of foreign income taxes that may be claimed as a credit in any year is subject to complex limitations and restrictions, which must be determined on an individual basis by each shareholder. The total amount of allowable foreign tax credits in an income category in any year cannot exceed the pre-credit U.S. tax liability for the year attributable to foreign source taxable income in such income tax category and further limitations may apply to individuals under the alternative minimum tax. A United States Holder will be denied a foreign tax credit with respect to Canadian income tax withheld from dividends received on SVS to the extent that he or she has not held the SVS for at least 16 days of the 31-day period beginning on the date which is 15 days before the ex-dividend date or to the extent that he or she is under an obligation to make related payments with respect to substantially similar or related property. Instead, a deduction may be allowed. Any days during which a United States Holder has substantially diminished his or her risk of loss on his or her SVS are not counted toward meeting the 16-day holding period.

Individuals, estates or trusts who receive "qualified dividend income" (excluding dividends from a PFIC) generally will be taxed at a current maximum U.S. federal income tax rate of 20% (rather than the higher tax rates generally applicable to items of ordinary income) provided certain holding period requirements are met. Subject to the discussion of the PFIC rules below, Celestica believes that dividends paid by it with respect to its SVS should constitute "qualified dividend income" for U.S. federal income tax purposes and that holders who are individuals (as well as certain trusts and estates) should be entitled to the reduced rate of tax, as applicable. Holders are urged to consult their own tax advisors regarding the impact of the "qualified dividend income" provisions of the Internal Revenue Code on their particular situations, including related restrictions and special rules.

Dividends received by certain high-income individuals, trusts and estates will also be subject to a 3.8% unearned Medicare contribution tax on passive income.

Taxation of Disposition of SVS

Subject to the discussion of the PFIC rules below, upon the sale, exchange or other disposition of SVS, a United States Holder will recognize capital gain or loss in an amount equal to the difference between his or her adjusted tax basis in his or her shares and the amount realized on the disposition.

A United States Holder's adjusted tax basis in SVS will generally be the initial cost, but may be adjusted for various reasons including the receipt by such United States Holder of a distribution that was not made up wholly of earnings and profits as described above under the heading "Taxation of Dividends Paid on SVS." A United States Holder that uses the cash method of accounting calculates the U.S. dollar value of the proceeds received on the sale as of the date that the sale settles, while a United States Holder who uses the accrual method of accounting generally calculates the U.S. dollar value of the sale proceeds as of the trade date, unless he or she has elected to use the settlement date to determine his or her U.S. dollar proceeds of the sale. Capital gain from the sale, exchange or other disposition of shares held more than one year is long-term capital gain. Long-term capital gain that is recognized by non-corporate taxpayers is eligible for a current maximum 20% U.S. federal income tax rate plus a 3.8% tax on passive income derived by certain high-income individuals, trusts and estates. A reduced rate does not apply to capital gains realized by a United States Holder that is a corporation. Capital losses are generally deductible only against capital gains and not against ordinary income. In the case of an individual, however, unused capital losses in excess of capital gains may offset up to \$3,000 annually of ordinary income. Gain or loss recognized by a United States Holder on a sale, exchange or other disposition of SVS generally will be treated as U.S. source income or loss for U.S. foreign tax credit purposes. A United States Holder who receives foreign currency upon disposition of SVS and converts the foreign currency into U.S. dollars subsequent to receipt will have foreign exchange gain or loss based on any appreciation or depreciation in the value of the foreign currency against the U.S. dollar. United States Holders should consult their own tax advisors regarding the treatment of a foreign currency gain or loss.

Tax Consequences if We Are a Passive Foreign Investment Company

A non-U.S. corporation will be a passive foreign investment company, or PFIC, if, in general, either (i) 75% or more of its gross income in a taxable year, including its pro rata share of the gross income of any U.S. or foreign company in which it is considered to own 25% or more of the shares by value, is passive income or (ii) 50% or more of its assets in a taxable year (determined based on a quarterly average), and ordinarily determined based on fair market value and including its pro rata share

of the assets of any company in which it is considered to own 25% or more of the shares by value, are held for the production of, or produce, passive income. If Celestica were a PFIC for any taxable year during which a United States Holder holds SVS and such United States Holder did not make an election to treat the Corporation as a "qualified electing fund" and did not make a "mark-to-market" election, each as described below, then:

- Such United States Holder would be subject to special and adverse tax rules with respect to any "excess distribution" received from Celestica. "Excess distributions" are amounts received by a United States Holder with respect to SVS in any taxable year that exceed 125% of the average distributions received by the United States Holder from the Corporation in the shorter of either the three previous years or his or her holding period for his or her shares before the present taxable year. Excess distributions must be allocated ratably to each day that a United States Holder has held SVS. A United States Holder must include amounts allocated to the current taxable year and to any non-PFIC years in his or her gross income as ordinary income for that year. A United States Holder must pay tax on amounts allocated to each prior taxable PFIC year at the highest marginal tax rate in effect for that year on ordinary income and the tax is subject to an interest charge at the rate applicable to deficiencies for income tax.
- The entire amount of gain that is realized by a United States Holder upon the sale or other disposition of shares would also be considered an excess distribution and would be subject to tax as described above.
- A United States Holder's tax basis in shares that were acquired from a decedent generally would not receive a step-up to fair market value as of the date of the decedent's death but instead would be equal to the decedent's tax basis, if lower than such value.

The special PFIC rules do not apply to a United States Holder if the United States Holder makes an election to treat the Corporation as a "qualified electing fund" in the first taxable year in which Celestica is a PFIC during the period that he or she owns SVS and if we comply with reporting requirements as described below. Instead, a shareholder of a qualified electing fund is required for each taxable year to include in income a pro rata share of the ordinary earnings of the qualified electing fund as ordinary income and a pro rata share of the net capital gain of the qualified electing fund as long-term capital gain, subject to a separate election to defer payment of taxes, which deferral is subject to an interest charge. We have agreed to supply United States Holders with the information needed to report income and gain pursuant to this election in the event that we are classified as a PFIC. The election is made on a shareholder-by-shareholder basis and may be revoked only with the consent of the IRS. A shareholder makes the election by attaching a completed IRS Form 8621, reflecting the information contained in the PFIC annual information statement, to a timely filed U.S. federal income tax return. Even if an election is not made, a shareholder in a PFIC who is a United States Holder generally must file a completed IRS Form 8621 every year.

A United States Holder who owns PFIC shares that are publicly traded could elect to mark the shares to market annually, recognizing as ordinary income or loss each year an amount equal to the difference as of the close of the taxable year between the fair market value of the PFIC shares and the United States Holder's adjusted tax basis in the PFIC shares, provided, that, in the case of any loss, it can be recognized only to the extent of any net mark-to-market income recognized in prior years. On an annual basis, a United States Holder's adjusted tax basis in SVS will be increased by the amount of any income inclusion and decreased by the amount of any deductions under the mark-to-market rules. If the mark-to-market election were made, then the rules set forth above would not apply for periods covered by the election. SVS would be treated as publicly traded for purposes of the mark-to-market election and, therefore, such election could be made if Celestica were classified as a PFIC. A mark-to-market election is, however, subject to complex and specific rules and requirements, and United States Holders are strongly urged to consult their tax advisors concerning this election if Celestica is classified as a PFIC.

Despite the fact that we are engaged in an active business, we are unable to conclude that Celestica was not a PFIC in 2019 or in prior years, though we believe, based on our internally performed analysis, that such status is unlikely. The tests for determining PFIC status include the determination of the value of all assets of the Corporation which is highly subjective. Further, the tests for determining PFIC status are applied annually, and it is difficult to make accurate predictions of future income and assets, which are relevant to the determination as to whether we will be a PFIC in the future. Accordingly, it is possible that Celestica could be a PFIC in 2020 or in a future year. A United States Holder who holds SVS during a period in which we are a PFIC will be subject to the PFIC rules, even if we cease to be a PFIC, unless he or she has made a qualified electing fund election. Although we have agreed to supply United States Holders with the information needed to report income and gain pursuant to this election in the event that Celestica is classified as a PFIC, if Celestica was determined to be a PFIC with respect to a year in which we had not thought that it would be so treated, the information needed to enable United States Holders to make a qualified electing fund election would not have been provided. United States Holders are strongly urged to consult their tax advisors about the PFIC rules, including the

consequences to them of making a mark-to-market or qualified electing fund elections with respect to SVS in the event that Celestica is treated as a PFIC.

Tax Consequences for Non-United States Holders of SVS

Except as described in "Information Reporting and Backup Withholding" below, a Non-United States Holder will not be subject to U.S. federal income or withholding tax on the payment of dividends on, and the proceeds from the disposition of, SVS unless:

- the item is effectively connected with the conduct by the Non-United States Holder of a trade or business in the United States and, generally, in the case of a resident of a country that has an income treaty with the United States, such item is attributable to a permanent establishment in the United States;
- the Non-United States Holder is an individual who holds SVS as a capital asset, is present in the United States for 183 days or more in the taxable year of the disposition and satisfies certain other requirements; or
- the Non-United States Holder is subject to tax pursuant to the provisions of U.S. tax law applicable to U.S. expatriates who expatriated prior to June 17, 2008.

Information Reporting and Backup Withholding

Payments made within the United States, or by a U.S. payor or U.S. middleman, of dividends and proceeds arising from certain sales or other taxable dispositions of SVS will be subject to information reporting. Backup withholding tax, at the then applicable rate, will apply if a United States Holder (a) fails to furnish the United States Holder's correct U.S. taxpayer identification number (generally on an IRS Form W-9), (b) is notified by the IRS that the United States Holder has previously failed to properly report items subject to backup withholding tax, or (c) fails to certify, under penalty of perjury, that the United States Holder has furnished the United States Holder's correct U.S. taxpayer identification number and that the IRS has not notified the United States Holder that the United States Holder is subject to backup withholding tax. However, United States Holders that are corporations generally are excluded from these information reporting and backup withholding tax rules. Any amounts withheld under the U.S. backup withholding tax rules will be allowed as a credit against a United States Holder's U.S. federal income tax liability, if any, or will be refunded, if the United States Holder follows the requisite procedures and timely furnishes the required information to the IRS. United States Holders should consult their own tax advisors regarding the information reporting and backup withholding tax rules.

U.S. individuals and "specified domestic entities" generally are required to report an interest in any "specified foreign financial asset" if the aggregate value of such assets owned by such person exceeds \$50,000 on the last day of the taxable year or \$75,000 at any time during the taxable year (or such higher threshold as may apply to a particular taxpayer pursuant to the instructions to IRS Form 8938). Stock issued by a non-U.S. corporation is treated as a specified foreign financial asset for this purpose.

Non-United States Holders generally are not subject to information reporting or backup withholding with respect to dividends paid on or upon the disposition of shares, provided, in some instances, that the Non-United States Holder certifies to his foreign status or otherwise establishes an exemption.

F. Dividends and Paying Agents

Not applicable.

G. Statement by Experts

Not applicable.

H. Documents on Display

Any statement in this Annual Report about any of our contracts or other documents is not exhaustive. If the contract or document is filed as an exhibit to this Annual Report or is incorporated herein by reference thereto, the contract or document is deemed to modify our description. You must review the exhibits themselves for a complete description of the contract or document.

You may access this Annual Report, including exhibits, on our website at www.celestica.com or request a copy free of charge through our website. Requests may also be directed: (i) to clsir@celestica.com; (ii) by mail to Celestica Investor Relations, to: 5140 Yonge Street, Suite 1900, Toronto, Ontario, Canada M2N 6L7; or (iii) by telephone at 416-448-2211.

The SEC maintains a website (www.sec.gov) that contains reports, proxy and information statements and other information regarding registrants. You may access the documents we file with or furnish to the SEC at that website (for submissions commencing

November 2000, the date we began to file electronically with the SEC). Our SEC filings are also available from commercial document retrieval services.

We also file reports, statements and other information with the Canadian Securities Administrators, or the CSA, and these can be accessed electronically at the CSA's System for Electronic Document Analysis and Retrieval website (www.sedar.com).

You may access other information about Celestica on our website at www.celestica.com. Information on our website is not incorporated by reference into this Annual Report.

I. Subsidiary Information

Not applicable.

Item 11. Quantitative and Qualitative Disclosures about Market Risk

Market Risk

Market risk is the potential loss arising from changes in market rates and market prices. Our market risk exposure results primarily from fluctuations in foreign currency exchange rates and interest rates.

We do not hold financial instruments for speculative trading purposes.

Exchange Rate Risk

Conducting business in currencies other than the U.S. dollar subjects us to translation and transaction risks associated with fluctuations in currency exchange rates. Although we conduct the majority of our business in U.S. dollars (our functional currency), our global operations subject us to foreign currency volatility. Our non-U.S. currency exposures consist of the Canadian dollar, Thai baht, Malaysian ringgit, Mexican peso, British pound sterling, Brazilian real, Czech koruna, Chinese renminbi, Euro, Romanian leu, Korean won, Lao kip, Japanese yen, Hong Kong dollar, Philippine peso, Indian rupee, Taiwan dollar, and Singapore dollar. As part of our risk management program, we enter into foreign exchange forward contracts and swaps, generally for periods up to 12 months, intended to hedge foreign currency transaction risk and local currency denominated balance sheet exposures. These contracts include, to varying degrees, elements of market risk. We enter into these contracts to lock in the exchange rates for future foreign currency transactions and balance sheet balances, which is intended to reduce the variability of our operating costs and future cash flows denominated in local currencies. While these contracts are intended to reduce the effects of fluctuations in foreign currency exchange rates, our hedging strategy does not mitigate the longer-term impacts of changes to foreign exchange rates.

Currency risk on our income tax expense arises as we are generally required to file our tax returns in the local currency for each particular country in which we have operations. Exchange rate volatility between the relevant local currency and the U.S. dollar will affect the recorded amounts of our foreign assets, liabilities, revenues and expenses in local currency for statutory financial statement purposes. In addition, we earn revenues and incur expenses in foreign currencies as part of our global operations. As a result, we are also exposed to foreign currency exchange transaction risk, such that fluctuations in currency exchange rates may significantly impact the amount of translated U.S. dollars required for expenses incurred in other currencies or received from non-U.S. dollar revenues. While our hedging program is designed to mitigate currency risk vis-à-vis the U.S. dollar, we remain subject to taxable foreign exchange impacts in our translated local currency financial results relevant for tax reporting purposes.

The table below presents the notional amounts (the U.S. dollar equivalent amounts of the foreign currency buy/sell contracts at hedge rates), weighted average exchange rates by expected (contractual) maturity dates, and the fair values of our outstanding foreign exchange forward contracts and swaps at December 31, 2019. These notional amounts are used to calculate the contractual payments to be exchanged under the contracts. At December 31, 2019, we had foreign currency contracts and swaps covering various currencies in an aggregate notional amount of \$523.9 million (December 31, 2018 — \$544.2 million). These contracts had a fair value net unrealized gain of \$4.5 million at December 31, 2019 (December 31, 2018 — \$14.2 million net unrealized loss).

At December 31, 2019, we had foreign exchange forward contracts and swaps to trade U.S. dollars in exchange for the following currencies:

	<u>Expected Maturity Date</u>				Fair Value Gain (Loss) (in millions)
	<u>2020</u>	<u>2021</u>	<u>2022 and thereafter</u>	<u>Total</u>	
Forward Exchange and Swap Agreements					
(Contract amounts in millions)					
Receive C\$/Pay U.S.\$					
Contract amount	\$ 195.6	\$ —	\$ —	\$ 195.6	\$ 2.1
Average exchange rate	0.76				
Receive Thai Baht/Pay U.S.\$					
Contract amount	\$ 98.8	—	—	\$ 98.8	\$ 2.1
Average exchange rate	0.03				
Receive Malaysian Ringgit/Pay U.S.\$					
Contract amount	\$ 54.1	—	—	\$ 54.1	\$ 0.4
Average exchange rate	0.24				
Receive Mexican Peso/Pay U.S.\$					
Contract amount	\$ 22.4	—	—	\$ 22.4	\$ 0.9
Average exchange rate	0.05				
Receive British Pound Sterling/Pay U.S.\$					
Contract amount	\$ 2.2	—	—	\$ 2.2	\$ 0.1
Average exchange rate	1.29				
Receive Chinese Renminbi/Pay U.S.\$					
Contract amount	\$ 48.8	—	—	\$ 48.8	\$ (0.7)
Average exchange rate	0.14				
Pay Euro/Receive U.S.\$					
Contract amount	\$ 26.1	—	—	\$ 26.1	\$ (0.5)
Average exchange rate	1.12				
Receive Romanian Leu/Pay U.S.\$					
Contract amount	\$ 33.5	—	—	\$ 33.5	\$ 0.1
Average exchange rate	0.23				
Receive Singapore Dollar/Pay U.S.\$					
Contract amount	\$ 23.9	—	—	\$ 23.9	\$ 0.2
Average exchange rate	0.74				
Pay Other/Receive U.S.\$					
Contract amount	\$ 18.5	—	—	\$ 18.5	\$ (0.2)
Average exchange rate	—				
Total	\$ 523.9	\$ —	\$ —	\$ 523.9	\$ 4.5

Interest Rate Risk

Borrowings under the Credit Facility bear interest at specified rates, plus specified margins. See note 12 to the Consolidated Financial Statements in Item 18. Our borrowings under this facility at December 31, 2019 totaled \$592.3 million, comprised of amounts outstanding under our Term Loans, and other than ordinary course letters of credit, no amounts outstanding under the

Revolver. These borrowings expose us to interest rate risk due to the potential variability in market interest rates. Assuming our outstanding aggregate borrowings under the Credit Facility as at December 31, 2019 as described above (December 31, 2018 — aggregate outstanding borrowings of \$757.3 million), and without accounting for the interest rate swap agreements described below, a one-percentage point increase in applicable interest rates would increase our interest expense by \$5.9 million annually (December 31, 2018 — an increase of \$7.6 million annually). Assuming aggregate borrowings of \$600.0 million under the Term Loans and \$450.0 million under the Revolver (the credit limit thereunder without further use of the accordion feature), and without accounting for the interest rate swap agreements described below, a one-percentage point increase in applicable interest rates would increase our interest expense by \$10.5 million annually.

As part of our risk management program, we attempt to mitigate interest rate risk through interest rate swaps. To partially hedge against our exposure to interest rate variability on our term loans, we entered into 5-year agreements with a syndicate of third-party banks in August and December 2018 to swap the variable interest rates (based on LIBOR plus a margin) with fixed rates of interest on an aggregate of \$350.0 million of the total borrowings under our Term Loans. The swap agreements include options that allow us to cancel up to \$150.0 million of the notional amount of the original swap agreements (\$75.0 million under the Incremental Term Loan starting in December 2020, and \$75.0 million under the Initial Term Loan starting in August 2021). The options to cancel in the swap agreements are aligned with our risk management strategy for the Term Loans as they allow us to make voluntary prepayments of outstanding amounts without premium or penalty, subject to certain conditions. Our unhedged borrowings under the Credit Facility at December 31, 2019 were \$242.3 million (comprised of unhedged amounts outstanding under our Term Loans, and other than ordinary course letters of credit, no amounts outstanding under the Revolver). A one-percentage point increase in the interest rates applicable to our unhedged borrowings outstanding as at December 31, 2019 would increase our interest expense by \$2.4 million annually (December 31, 2018 — \$4.1 million). The change in our exposure to interest rate risk as of December 31, 2019 as compared to December 31, 2018 is attributable to the general decrease in borrowings from 2018.

See note 21 to the Consolidated Financial Statements in Item 18 for further detail.

Credit and Counterparty Risk

Management monitors the institutions that hold our cash and cash equivalents. Management's emphasis is primarily on safety of principal. Management, in its discretion, has diversified our cash and cash equivalents among banking institutions to adjust our exposure to levels they deem acceptable with respect to any one of these entities. To date, we have experienced no loss or lack of access to our invested cash or cash equivalents; however, we cannot assure that access to these holdings will not be impacted by adverse conditions in the financial markets, or that third party institutions will retain acceptable credit ratings or investment practices.

Cash balances held at banking institutions in the United States with which we do business may exceed the Federal Deposit Insurance Corporation (FDIC) insurance limits. While management monitors the cash balances in these bank accounts, such cash balances could be impacted if the underlying banks were to become insolvent or could be subject to other adverse conditions in the financial markets.

Credit risk refers to the risk that a counterparty may default on its contractual obligations resulting in a financial loss to us. We believe our risk of counterparty non-performance is relatively low, however, if a key supplier (or any company within such supplier's supply chain) or customer experiences financial difficulties or fails to comply with their contractual obligations, this could result in a financial loss to us. With respect to our financial market activities, we have adopted a policy of dealing only with credit-worthy counterparties to help mitigate the risk of financial loss from defaults. We monitor the credit risk of the counterparties with whom we conduct business, through a combined process of credit rating reviews and portfolio reviews. To attempt to mitigate the risk of financial loss from defaults under our foreign currency forward contracts and swaps, and our interest rate swaps, our contracts are held by counterparty financial institutions, each of which had a Standard and Poor's rating of A-2 or above at December 31, 2019. In addition, we maintain cash and short-term investments in highly-rated investments or on deposit with major financial institutions. Each financial institution with which we had our A/R sales program and the SFPs in 2019 had a Standard and Poor's short-term rating of A-2 or above and a long-term rating of BBB+ or above at December 31, 2019. The financial institution with which we have our March 2020 A/R sales program had a Standard and Poor's short term rating of A-1 and a long term rating of A+ at the time of execution of the agreement. Each financial institution from which annuities have been purchased for the defined benefit component of our Canadian pension plan had a Standard and Poor's long-term rating of A+ or above at December 31, 2019. In addition, the financial institutions from which annuities have been purchased for the defined benefit component of our U.K. pension plans are governed by local regulatory bodies. If an institution from which we purchased annuities for our pension plans defaults on their contractual obligations, this would result in a financial loss to us, as we retain ultimate

responsibility for the payment of benefits to plan participants unless and until such pension plans are wound-up. We also provide unsecured credit to our customers in the normal course of business. From time to time, we extend the payment terms applicable to certain customers and/or provide longer payment terms when deemed commercially reasonable. Longer payment terms, which have become more prevalent, could adversely impact our working capital requirements, and increase our financial exposure and credit risk. We attempt to mitigate customer credit risk by monitoring our customers' financial condition and performing ongoing credit evaluations as appropriate. In certain instances, we obtain letters of credit or other forms of security from our customers. We may also purchase credit insurance from a financial institution to reduce our credit exposure to certain customers. We consider credit risk in determining our allowance for doubtful accounts, and we believe that such allowance, as adjusted from time to time, is adequate.

Item 12. Description of Securities Other than Equity Securities

A. Debt Securities

Not applicable.

B. Warrants and Rights

Not applicable.

C. Other Securities

Not applicable.

D. American Depositary Shares

Not applicable.

Part II.

Item 13. Defaults, Dividend Arrearages and Delinquencies

Although we were in technical non-compliance with certain restrictive covenants under the Credit Facility related to the Repurchase Restriction in May 2019 (with respect to approximately \$17.0 million in excess SVS repurchases), these defaults were waived by the required lenders (and we received required waivers for related cross-defaults under our A/R sales program and our interest rate swap agreements) in October 2019.

Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds

None.

Item 15. Controls and Procedures

The information required by this Item concerning our disclosure controls and procedures, and changes in our internal control over financial reporting, is set forth in Item 5, "Operating and Financial Review and Prospects — Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Controls and Procedures."

Management's Report on Internal Control over Financial Reporting is set forth on page F-1 of our Consolidated Financial Statements in Item 18.

The attestation report from our independent auditors, KPMG LLP (KPMG) is set forth on page F-2 of our Consolidated Financial Statements in Item 18.

Item 16. [Reserved]

Item 16A. Audit Committee Financial Expert

The Board has considered the extensive financial experience of Ms. Koellner and Ms. Perry, and has determined that each of them is an audit committee financial expert within the meaning of Item 16A(b) of Form 20-F, and each are independent directors, as that term is defined by the applicable Canadian and SEC rules and in the NYSE listing standards. The Board had also considered the extensive financial experience of Mr. Etherington (prior to his retirement from the Audit Committee and the Board effective January 29, 2020), and determined that during 2019 and until such retirement, he was an audit committee financial expert within

the meaning of Item 16A(b) of Form 20-F, and was an independent director, as that term is defined by the applicable Canadian and SEC rules and in the NYSE listing standards.

Item 16B. Code of Ethics

The Board has adopted a Finance Code of Professional Conduct for Celestica's Chief Executive Officer, our senior finance officers, and all personnel in its finance organization to deter wrongdoing and promote honest and ethical conduct in the practice of financial management, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships; full, fair, accurate, timely and understandable disclosure; compliance with all applicable laws, rules and regulations; prompt internal reporting of violations of the code and accountability for adherence to the code. These professionals are expected to abide by this code as well as Celestica's BCG policy and all of our other applicable business policies, standards and guidelines.

The Finance Code of Professional Conduct and the BCG policy can be accessed electronically at www.celestica.com. Celestica will provide a copy of such policies free of charge to any person who so requests. Requests should be directed: (i) to clsir@celestica.com; (ii) by mail to Celestica Investor Relations to: 5140 Yonge Street, Suite 1900, Toronto, Ontario, Canada M2N 6L7; or (iii) by telephone at 416-448-2211.

Item 16C. Principal Accountant Fees and Services

The external auditor is engaged to provide services pursuant to pre-approval policies and procedures established by the Audit Committee of the Board. The Audit Committee approves the external auditor's Audit Plan, the scope of the external auditor's quarterly reviews and all related fees. The Audit Committee must approve any non-audit services provided by the auditor and related fees and does so only if it considers that these services are compatible with the external auditor's independence.

Our auditors are KPMG. KPMG did not provide any financial information systems design or implementation services to us during 2018 or 2019. The Audit Committee has determined that the provision of the non-audit services by KPMG described below does not compromise KPMG's independence.

Audit Fees

KPMG billed \$3.0 million in 2019 (2018 — \$2.5 million) for audit services.

Audit-Related Fees

KPMG billed no amounts in 2019 for audit-related services (2018 — \$0.3 million for audit-related services, including pension audits and due diligence for acquisitions).

Tax Fees

KPMG billed \$0.1 million in 2019 (2018 — \$0.1 million) for tax compliance and tax advisory services.

All Other Fees

KPMG billed no other amounts in 2019 (2018 — \$0.1 million for a regulatory performance audit related to compliance with government accounting standards).

Pre-approval Policies and Procedures — Percentage of Services Approved by Audit Committee

All KPMG services and fees are approved by the Audit Committee as follows. The Audit Committee has established an Audit and Non-Audit Services Pre-Approval Policy to pre-approve all permissible audit and non-audit services provided by our independent auditors. On an annual basis, the Audit Committee reviews and provides pre-approval for certain types of services that may be rendered by the independent auditors and a budget for audit services for the applicable fiscal year. Upon pre-approval of the services on the initial list, management may engage the auditor for specific engagements that are within the definition of the pre-approved services. Any significant service engagements above a certain threshold will require separate pre-approval. The policy contains a provision delegating pre-approval authority to the Chair of the Audit Committee in instances when pre-approval is needed prior to a scheduled Audit Committee meeting. The Chair of the Audit Committee is required to report on such pre-approvals at the next scheduled Audit Committee meeting. A final detailed review of all audit and non-audit services and fees is performed by the Audit Committee prior to the issuance of the audit opinion at year-end.

Percentage of Hours Expended on KPMG's engagement not performed by KPMG's full-time, permanent employees (if greater than 50%): Not applicable.

Item 16D. Exemptions from the Listing Standards for Audit Committees

None.

Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers**ISSUER PURCHASES OF EQUITY SECURITIES**

Period	(a) Total number of SVS purchased (in millions)	(b) Average price paid per SVS	(c) Total number of SVS purchased as part of publicly announced plans or programs (in millions)	(d) Maximum number of SVS that may yet be purchased under the plans or programs (in millions) ⁽³⁾
January 1 — 31, 2019	—	—	—	9.5
February 1 — 28, 2019 ⁽¹⁾	3.8	\$8.67	3.8	5.7
March 1 — 31, 2019 ⁽¹⁾	1.3	\$9.10	1.3	4.4
April 1 — 30, 2019 ⁽¹⁾	0.7	\$7.21	0.7	3.7
May 1 — 31, 2019 ⁽¹⁾⁽³⁾	2.5	\$7.13	2.5	1.2
June 1 — 30, 2019	—	—	—	1.2
July 1 — 31, 2019	—	—	—	1.2
August 1 — 31, 2019	—	—	—	1.2
September 1 — 30, 2019	—	—	—	1.2
October 1 — 31, 2019	—	—	—	1.2
November 1 — 30, 2019 ⁽²⁾	0.7	\$7.68	0.7	0.5
December 1 — 31, 2019 ⁽²⁾	0.5	\$7.67	0.5	—
Total	9.5	\$8.09	9.5	

- (1) On December 14, 2018, the TSX accepted our notice to launch, and we announced, a normal course issuer bid (the 2018 NCIB). The 2018 NCIB allowed us to repurchase, at our discretion, until the earlier of December 17, 2019 or the completion of purchases thereunder, up to approximately 9.5 million SVS (representing approximately 7.0% of our total outstanding SVS and MVS at the time of launch) in the open market or as otherwise permitted, subject to the normal terms and limitations of such bids. During 2019, we repurchased and canceled a total of 8.3 million SVS under the 2018 NCIB at a weighted average price of \$8.15 per share. The maximum number of SVS we were permitted to repurchase for cancellation under the 2018 NCIB was reduced by 1.2 million SVS purchased in the open market during the term of the 2018 NCIB to satisfy delivery obligations under our stock-based compensation plans. See footnote (2) below. The 2018 NCIB expired on December 17, 2019.
- (2) From time-to-time, a broker has purchased SVS in the open market, on our behalf, to settle vested employee awards under our stock-based compensation plans. During 2019, 1.2 million SVS were purchased on our behalf by a broker for such purpose (all of which were purchased during the term of the 2018 NCIB). Shares purchased to settle employee awards were not cancelled.
- (3) Our Credit Facility prohibits share repurchases for cancellation if our leverage ratio (as defined in such facility) exceeds a specified amount. As previously disclosed, we received waivers in October 2019 of our non-compliance with certain covenants related to this restriction with respect to approximately \$17.0 million in excess repurchases made under the 2018 NCIB in May 2019. Although this restriction remains in effect (and no repurchases for cancellation were made under the 2018 NCIB after May 2019), it does not apply to purchases in the open market to settle vested employee awards under our stock-based compensation plans. See note footnote (2) above.

Item 16F. Change in Registrant's Certifying Accountant

Not applicable.

Item 16G. Corporate Governance

Corporate Governance

We are subject to a variety of corporate governance guidelines and requirements enacted by the TSX, the CSA, the NYSE and the SEC under its rules and those mandated by the United States Sarbanes Oxley Act of 2002 and Dodd-Frank. We are listed on the NYSE and, although we are not required to comply with all of the NYSE corporate governance requirements to which we would be subject if we were a U.S. corporation, our governance practices differ significantly in only one respect from those required of U.S. domestic issuers by the NYSE, as described below. Celestica complies with TSX rules, which require shareholder approval of share compensation arrangements involving new issuances of shares, and of certain amendments to such arrangements, but do not require such approval if the compensation arrangements involve only shares purchased by the Corporation in the open market. NYSE rules require shareholder approval of all equity compensation plans (and material revisions thereto) regardless of whether new issuances or treasury shares are used.

Our corporate governance guidelines can be accessed electronically at www.celestica.com.

Item 16H. Mine Safety Disclosure

Not applicable.

Part III.

Item 17. Financial Statements

Not applicable.

Item 18. Financial Statements

The following financial statements have been filed as part of this Annual Report:

	<u>Page</u>
Management's Report on Internal Control Over Financial Reporting	F-1
Reports of Independent Registered Public Accounting Firm	F-2, F-3
Consolidated Balance Sheet as at December 31, 2018 and December 31, 2019	F-5
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Consolidated Statement of Comprehensive Income for the years ended December 31, 2017, 2018 and 2019	F-7
Consolidated Statement of Changes in Equity for the years ended December 31, 2017, 2018 and 2019	F-8
Consolidated Statement of Cash Flows for the years ended December 31, 2017, 2018 and 2019	F-9
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Item 19. Exhibits

The following exhibits have been filed as part of this Annual Report:

Exhibit Number	Description	Incorporated by Reference			Exhibit No.	Filed Herewith
		Form	File No.	Filing Date		
1.1	Certificate and Restated Articles of Incorporation effective June 25, 2004	20-F	001-14832	March 23, 2010	1.10	
1.2	Bylaw No. 1	20-F	001-14832	March 23, 2010	1.11	
2	Instruments defining rights of holders of equity securities or long-term debt:					
2.1	See Certificate and Restated Articles of Incorporation identified above					
2.2	Form of Subordinate Voting Share Certificate	F-3ASR	333-221144	October 26, 2017	4.1	
2.3	Description of Securities					X
4	Certain Contracts:					
4.1	Services Agreement, dated as of January 1, 2009, between Celestica Inc. and Onex Corporation ("Services Agreement")	20-F	001-14832	March 23, 2010	4.1	
4.2	Amending Agreement to Services Agreement made as of January 1, 2017	20-F	001-14832	March 13, 2017	4.2	
4.3	Executive Employment Agreement, dated as of January 1, 2008, between Celestica Inc., Celestica International Inc. and Elizabeth L. DelBianco	20-F	001-14832	March 25, 2008	4.6	
4.4	Amended and Restated Celestica Inc. Long-Term Incentive Plan as of January 29, 2014	6-K	001-14832	July 9, 2014	99.1	
4.5	Amended and Restated Celestica Inc. Long-Term Incentive Plan as of July 22, 2015	6-K	001-14832	July 29, 2015	99.1	
4.6	Amended and Restated Celestica Inc. Long-Term Incentive Plan as of October 19, 2015	20-F	001-14832	March 7, 2016	4.5	
4.7	Amended and Restated Celestica Inc. Long-Term Incentive Plan as of October 19, 2016	20-F	001-14832	March 13, 2017	4.7	
4.8	Amended and Restated Celestica Share Unit Plan as of January 29, 2014	6-K	001-14832	July 9, 2014	99.2	
4.9	Amended and Restated Celestica Share Unit Plan as of July 22, 2015	6-K	001-14832	July 29, 2015	99.2	
4.10	Amended and Restated Celestica Share Unit Plan as of October 19, 2015	20-F	001-14832	March 7, 2016	4.8	
4.11	Coattail Agreement, dated June 29, 1998, between Onex Corporation, Celestica Inc. and Montreal Trust Company of Canada.	SC TO-I	005-55523	October 29, 2012	(d)(1)	
4.12	Directors' Share Compensation Plan (2008)	SC TO-I	005-55523	October 29, 2012	(d)(3)	

Exhibit Number	Description	Incorporated by Reference			Exhibit No.	Filed Herewith
		Form	File No.	Filing Date		
4.13	Directors' Share Compensation Plan, amended and restated as of July 25, 2013	20-F	001-14832	March 14, 2014	4.16	
4.14	Directors' Share Compensation Plan, amended and restated as of January 1, 2016	20-F	001-14832	March 7, 2016	4.22	
4.15	Directors' Share Compensation Plan, amended and restated as of January 1, 2019	20-F	001-14832	March 11, 2019	4.27	
4.16	Credit Agreement, dated as of June 27, 2018, among Celestica Inc, and the subsidiaries identified therein as Borrowers, Celestica Inc, and specified subsidiaries identified therein as Guarantors, Bank of America, N.A. as Administrative Agent, Swing Line Lender and an L/C Issuer, and the financial institutions named therein as Lenders	20-F	001-14832	March 11, 2019	4.28	
4.17	First Incremental Facility Amendment, dated as of November 14, 2018, by and among Celestica Inc., Celestica International LP, Celestica (USA) Inc., the guarantors party thereto, the Incremental Term B-2 Lender (as defined therein), and Bank of America, N.A., as Administrative Agent	20-F	001-14832	March 11, 2019	4.29	
4.18	Second Amendment to Credit Agreement, dated as of December 21, 2018, by and among Celestica Inc., Celestica International LP, Celestica (USA) Inc., the Guarantors party thereto, and Bank of America, N.A., as Administrative Agent	20-F	001-14832	March 11, 2019	4.30	
4.19	Securities Purchase and Merger Agreement, dated as of October 9, 2018, by and among Impakt Holdings, LLC, Graycliff Private Equity Partners III Parallel (A-1 Blocker) LLC, Graycliff Private Equity Partners III Parallel LP, Celestica (USA) Inc., Iron Man Acquisition Inc., Iron Man Merger Sub, LLC, and Fortis Advisors LLC, in its capacity as Holder Representative†	20-F	001-14832	March 11, 2019	4.31	
4.20	First Amendment to the Securities Purchase and Merger Agreement, dated as of November 9, 2018, by and among Graycliff Private Equity Partners III Parallel LP, Iron Man Acquisition Inc., and Impakt Holdings, LLC†	20-F	001-14832	March 11, 2019	4.32	

Exhibit Number	Description	Incorporated by Reference			Exhibit No.	Filed Herewith
		Form	File No.	Filing Date		
4.21	Third Amendment and Waiver, dated as of October 23, 2019, by and among Celestica Inc., Celestica International LP, Celestica (USA) Inc., the Guarantors party hereto, the Lenders party hereto and Bank of America, N.A., as Administrative Agent					X
4.22	Revolving Trade Receivables Purchase Agreement, dated as of March 6, 2020, among Celestica LLC, Celestica Holdings Pte Ltd., Celestica Hong Kong Ltd., Celestica (Romania) S.R.L., Celestica Japan KK, Celestica Oregon LLC, Celestica Precision Machining Ltd., Celestica Electronics (M.) Sdn. Bhd, and Celestica International LP, as Sellers, Celestica Inc., as Servicer, and Credit Agricole Corporate and Investment Bank, New York Branch and Credit Agricole Corporate and Investment Bank (Canada Branch), as Purchasers					X
8.1	Subsidiaries of Registrant					X
11.1	Finance Code of Professional Conduct	20-F	001-14832	March 23, 2010	11.1	
12.1	Principal Executive Officer Certification pursuant to Rule 13(a)-14(a)					X
12.2	Principal Financial Officer Certification pursuant to Rule 13(a)-14(a)					X
13.1	Certification required by Rule 13a-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code*					X
15.1	Consent of KPMG LLP, Chartered Professional Accountants					X
101.INS*	XBRL Instance Document					X
101.SCH*	XBRL Taxonomy Extension Schema Document					X
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document					X

* Will not be deemed "filed" for purposes of Section 18 of the U.S. Exchange Act, or otherwise subject to the liability of Section 18 of the U.S. Exchange Act, and will not be incorporated by reference into any filing under the U.S. Securities Act, or the U.S. Exchange Act, except to the extent that the registrant specifically incorporates it by reference.

† Certain portions of this exhibit have been omitted because they are both: (i) not material; and (ii) would likely cause competitive harm to the Company if publicly disclosed.

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

CELESTICA INC.

By: /s/ ELIZABETH L. DELBIANCO

Elizabeth L. DelBianco

Chief Legal and Administrative Officer

Date: March 16, 2020

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MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Celestica Inc. (the Company) is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. The Company's internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board. All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

Our internal control over financial reporting includes those policies and procedures that: pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with applicable accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2019 based on the criteria set forth in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management has concluded that, as of December 31, 2019, the Company's internal control over financial reporting is effective.

The Company's independent auditors, KPMG LLP, have audited the effectiveness of our internal control over financial reporting as of December 31, 2019, as stated in their report appearing on page F-2.

March 12, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Celestica Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Celestica Inc.'s (the Company) internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively, the consolidated financial statements), and our report dated March 12, 2020 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying "Management's Report on Internal Control over Financial Reporting". Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Toronto, Canada
March 12, 2020

/s/ KPMG LLP
Chartered Professional Accountants,
Licensed Public Accountants

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Celestica Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Celestica Inc. (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended December 31, 2019, and related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and its financial performance and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 12, 2020 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in note 2(a) to the consolidated financial statements, the Company has changed its method of accounting for leases in 2019 due to the adoption of IFRS 16, *Leases*, and in connection therewith, applied the modified retrospective approach.

Basis for Opinion

The consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the Company's audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinions on such critical audit matter or on the accounts or disclosures to which it relates.

Evaluation of the carrying value of goodwill relating to the capital equipment cash generating unit

As discussed in notes 2(j) and 9 to the consolidated financial statements, the Company performs impairment testing of cash generating units with goodwill on an annual basis and whenever events or changes in circumstances indicate that the carrying value of a cash generating unit might exceed its recoverable amount. The goodwill balance as of December 31, 2019 amounted to \$198.3 million. Of this amount, \$132.0 million, related to the capital equipment cash generating unit.

We identified the evaluation of the carrying value of goodwill relating to the capital equipment cash generating unit as a critical audit matter. Subjective and challenging auditor judgment was required to evaluate certain assumptions in the impairment model used in the Company's estimate of the recoverable amount of the capital equipment cash generating unit. Specifically, certain assumptions used to estimate the recoverable amount were challenging to assess, as minor changes to the future revenue growth rate, profitability, and the discount rate assumptions had a significant effect on the recoverable amount.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's impairment assessment process, including controls related to the approval of the future revenue growth rate, profitability, and the discount rate assumptions included in the impairment model. In addition, we evaluated the Company's future revenue growth rates and profitability by comparing to the underlying business strategies and growth plans, evidence of future customer demand, industry reports and historical results. We performed sensitivity analyses by changing the future revenue growth rates and profitability assumptions to assess the impact on recoverable amount. We compared the Company's historical forecasts of the capital equipment cash generating unit to actual results to assess the Company's ability to accurately forecast. We also involved a valuation professional with specialized skills and knowledge, who assisted in evaluating the discount rate used in the valuation, by comparing to a discount rate range that was independently developed using publicly available market data for comparable entities.

Toronto, Canada
March 12, 2020

/s/ KPMG LLP
Chartered Professional Accountants,
Licensed Public Accountants

We have served as the Company's auditor since 1997.

CELESTICA INC.
CONSOLIDATED BALANCE SHEETS
(in millions of U.S. dollars)

	Note	December 31 2018	December 31 2019
Assets			
Current assets:			
Cash and cash equivalents	21	\$ 422.0	\$ 479.5
Accounts receivable	4	1,206.6	1,052.7
Inventories	5	1,089.9	992.2
Income taxes receivable		5.0	7.7
Assets classified as held for sale	6	27.4	0.7
Other current assets		72.6	59.2
Total current assets		2,823.5	2,592.0
Property, plant and equipment	7	365.3	355.0
Right-of-use assets	8	—	104.1
Goodwill	9	198.4	198.3
Intangible assets	9	283.6	251.3
Deferred income taxes	20	36.7	33.6
Other non-current assets	10	30.2	26.4
Total assets		<u>\$ 3,737.7</u>	<u>\$ 3,560.7</u>
Liabilities and Equity			
Current liabilities:			
Current portion of borrowings under credit facility & lease obligations	12	\$ 107.7	\$ 139.6
Accounts payable		1,126.7	898.0
Accrued and other current liabilities		320.4	370.9
Income taxes payable	20	42.3	46.7
Current portion of provisions	11	23.2	26.1
Total current liabilities		1,620.3	1,481.3
Long-term portion of borrowings under credit facility & lease obligations	12	650.2	559.1
Pension and non-pension post-employment benefit obligations	19	88.8	107.1
Provisions and other non-current liabilities	11	20.6	28.6
Deferred income taxes	20	25.5	28.4
Total liabilities		2,405.4	2,204.5
Equity:			
Capital stock	13	1,954.1	1,832.1
Treasury stock	13	(20.2)	(14.8)
Contributed surplus		906.6	982.6
Deficit		(1,481.7)	(1,420.1)
Accumulated other comprehensive loss	14	(26.5)	(23.6)
Total equity		1,332.3	1,356.2
Total liabilities and equity		<u>\$ 3,737.7</u>	<u>\$ 3,560.7</u>

Commitments, contingencies and guarantees (note 24), Transitional adjustment related to adoption of IFRS 16 (note 2), Subsequent events (notes 4, 13, 21 and 22)

Signed on behalf of the Board of Directors

[Signed] Michael M. Wilson, Director

[Signed] Laurette T. Koellner, Director

The accompanying notes are an integral part of these consolidated financial statements.

CELESTICA INC.
CONSOLIDATED STATEMENT OF OPERATIONS
(in millions of U.S. dollars, except per share amounts)

	Note	<u>Year ended December 31</u>		
		<u>2017</u>	<u>2018</u>	<u>2019</u>
Revenue		\$ 6,142.7	\$ 6,633.2	\$ 5,888.3
Cost of sales	5 & 15	<u>5,724.2</u>	<u>6,202.7</u>	<u>5,503.6</u>
Gross profit		418.5	430.5	384.7
Selling, general and administrative expenses (SG&A)	15	203.2	219.0	227.3
Research and development		26.2	28.8	28.4
Amortization of intangible assets	9	8.9	15.4	29.6
Other charges (recoveries)	16	<u>37.0</u>	<u>61.0</u>	<u>(49.9)</u>
Earnings from operations		143.2	106.3	149.3
Finance costs	17	<u>10.1</u>	<u>24.4</u>	<u>49.5</u>
Earnings before income taxes		133.1	81.9	99.8
Income tax expense (recovery)	20			
Current		39.1	39.7	22.8
Deferred		<u>(11.5)</u>	<u>(56.7)</u>	<u>6.7</u>
		<u>27.6</u>	<u>(17.0)</u>	<u>29.5</u>
Net earnings		<u>\$ 105.5</u>	<u>\$ 98.9</u>	<u>\$ 70.3</u>
Basic earnings per share		\$ 0.74	\$ 0.71	\$ 0.54
Diluted earnings per share		\$ 0.73	\$ 0.70	\$ 0.53
Shares used in computing per share amounts (in millions):				
Basic	23	143.1	139.4	131.0
Diluted	23	145.2	140.6	131.8

The accompanying notes are an integral part of these consolidated financial statements.

CELESTICA INC.
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
(in millions of U.S. dollars)

	Note	<u>Year ended December 31</u>		
		<u>2017</u>	<u>2018</u>	<u>2019</u>
Net earnings		\$ 105.5	\$ 98.9	\$ 70.3
Other comprehensive income (loss), net of tax	14			
Items that will not be reclassified to net earnings:				
Losses on pension and non-pension post-employment benefit plans	19	(18.2)	(54.9)	(8.7)
Items that may be reclassified to net earnings:				
Currency translation differences for foreign operations		0.7	0.1	(0.2)
Changes from currency forward derivatives designated as hedges		17.3	(15.5)	10.8
Changes from interest rate swap derivatives designated as hedges	21	—	(4.4)	(7.7)
Total comprehensive income		<u>\$ 105.3</u>	<u>\$ 24.2</u>	<u>\$ 64.5</u>

The accompanying notes are an integral part of these consolidated financial statements.

CELESTICA INC.
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
(in millions of U.S. dollars)

	Note	Capital stock	Treasury stock	Contributed surplus	Deficit	Accumulated other comprehensive loss ^(a)	Total equity
Balance — December 31, 2016		\$ 2,048.2	\$ (15.3)	\$ 862.6	\$ (1,613.0)	\$ (24.7)	\$ 1,257.8
Capital transactions:	13						
Issuance of capital stock		30.4	—	(16.8)	—	—	13.6
Repurchase of capital stock for cancellation		(30.3)	—	10.4	—	—	(19.9)
Purchase of treasury stock for stock-based plans		—	(16.7)	—	—	—	(16.7)
Stock-based compensation (SBC) and other		—	23.3	6.8	—	—	30.1
Total comprehensive income:							
Net earnings for 2017		—	—	—	105.5	—	105.5
Losses on pension and non-pension post-employment benefit plans	19	—	—	—	(18.2)	—	(18.2)
Currency translation differences for foreign operations		—	—	—	—	0.7	0.7
Changes from currency forward derivatives designated as hedges		—	—	—	—	17.3	17.3
Balance — December 31, 2017		\$ 2,048.3	\$ (8.7)	\$ 863.0	\$ (1,525.7)	\$ (6.7)	\$ 1,370.2
Capital transactions:	13						
Issuance of capital stock		14.9	—	(14.5)	—	—	0.4
Repurchase of capital stock for cancellation		(109.1)	—	33.6	—	—	(75.5)
Purchase of treasury stock for stock-based plans		—	(22.4)	—	—	—	(22.4)
SBC and other		—	10.9	24.5	—	—	35.4
Total comprehensive income:							
Net earnings for 2018		—	—	—	98.9	—	98.9
Losses on pension and non-pension post-employment benefit plans	19	—	—	—	(54.9)	—	(54.9)
Currency translation differences for foreign operations		—	—	—	—	0.1	0.1
Changes from currency forward derivatives designated as hedges		—	—	—	—	(15.5)	(15.5)
Changes from interest rate swap derivatives designated as hedges	21	—	—	—	—	(4.4)	(4.4)
Balance — December 31, 2018		\$ 1,954.1	\$ (20.2)	\$ 906.6	\$ (1,481.7)	\$ (26.5)	\$ 1,332.3
Capital transactions:	13						
Issuance of capital stock		10.4	—	(10.4)	—	—	—
Repurchase of capital stock for cancellation		(132.4)	—	65.1	—	—	(67.3)
Purchase of treasury stock for stock-based plans		—	(9.2)	—	—	—	(9.2)
SBC and other		—	14.6	21.3	—	—	35.9
Total comprehensive income:							
Net earnings for 2019		—	—	—	70.3	—	70.3
Losses on pension and non-pension post-employment benefit plans	19	—	—	—	(8.7)	—	(8.7)
Currency translation differences for foreign operations		—	—	—	—	(0.2)	(0.2)
Changes from currency forward derivatives designated as hedges		—	—	—	—	10.8	10.8
Changes from interest rate swap derivatives designated as hedges	21	—	—	—	—	(7.7)	(7.7)
Balance — December 31, 2019		<u>\$ 1,832.1</u>	<u>\$ (14.8)</u>	<u>\$ 982.6</u>	<u>\$ (1,420.1)</u>	<u>\$ (23.6)</u>	<u>\$ 1,356.2</u>

(a) Accumulated other comprehensive loss is net of tax. See note 14.

The accompanying notes are an integral part of these consolidated financial statements.

CELESTICA INC.
CONSOLIDATED STATEMENT OF CASH FLOWS
(in millions of U.S. dollars)

	Note	Year ended December 31		
		2017	2018	2019
Cash provided by (used in):				
Operating activities:				
Net earnings		\$ 105.5	\$ 98.9	\$ 70.3
Adjustments to net earnings for items not affecting cash:				
Depreciation and amortization		76.5	89.1	135.4
Equity-settled SBC	13	30.1	33.4	34.1
Other charges (recoveries)	16	5.7	1.4	(86.1)
Finance costs		10.1	24.4	49.5
Income tax expense (recovery)		27.6	(17.0)	29.5
Other		(1.6)	(7.5)	24.2
Changes in non-cash working capital items:				
Accounts receivable		(6.3)	(155.4)	153.7
Inventories		(139.6)	(224.0)	97.7
Other current assets		(2.0)	7.6	16.5
Accounts payable, accrued and other current liabilities and provisions		51.8	227.0	(158.8)
Non-cash working capital changes		(96.1)	(144.8)	109.1
Net income tax paid		(30.8)	(44.8)	(21.0)
Net cash provided by operating activities		<u>127.0</u>	<u>33.1</u>	<u>345.0</u>
Investing activities:				
Acquisitions	3	—	(467.1)	2.7
Purchase of computer software and property, plant and equipment		(102.6)	(82.2)	(80.5)
Proceeds from sale of assets	7	0.8	3.7	116.5
Repayment of advances from solar supplier		12.5	—	—
Net cash provided by (used in) investing activities		<u>(89.3)</u>	<u>(545.6)</u>	<u>38.7</u>
Financing activities:				
Borrowing under prior credit facility	12	—	163.0	—
Repayments under prior credit facility	12	(40.0)	(350.5)	—
Borrowing under current credit facility	12	—	759.0	48.0
Repayments under current credit facility	12	—	(1.7)	(213.0)
Lease payments	12	(6.5)	(17.0)	(38.2)
Issuance of capital stock	13	13.6	0.4	—
Repurchase of capital stock for cancellation	13	(19.9)	(75.5)	(67.3)
Purchase of treasury stock for stock-based plans	13	(16.7)	(22.4)	(9.2)
Finance costs and waiver fees paid ^(a)		(10.2)	(36.0)	(46.5)
Net cash provided by (used in) financing activities		<u>(79.7)</u>	<u>419.3</u>	<u>(326.2)</u>
Net increase (decrease) in cash and cash equivalents		(42.0)	(93.2)	57.5
Cash and cash equivalents, beginning of year		<u>557.2</u>	<u>515.2</u>	<u>422.0</u>
Cash and cash equivalents, end of year		<u>\$ 515.2</u>	<u>\$ 422.0</u>	<u>\$ 479.5</u>

(a) Finance costs paid includes debt issuance costs paid of \$2.9 in 2019 (2018 — \$12.9; 2017 — nil). We paid \$2.0 in fees in Q4 2019 in connection with obtaining the Q4 2019 Waivers (see note 12).

The accompanying notes are an integral part of these consolidated financial statements.

CELESTICA INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(in millions of U.S. dollars, except percentages and per share amounts)

1. REPORTING ENTITY:

Celestica Inc. (Celestica) is incorporated in Ontario with its corporate headquarters located in Toronto, Ontario, Canada. Celestica's subordinate voting shares (SVS) are listed on the Toronto Stock Exchange (TSX) and the New York Stock Exchange (NYSE). Since the first quarter of 2018 (Q1 2018), Celestica's operating and reportable segments consist of its Advanced Technology Solutions (ATS) segment and its Connectivity & Cloud Solutions (CCS) segment. Financial information for 2017 was previously reclassified to reflect this segment structure. See note 25 for further detail.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES:

Statement of compliance:

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). The consolidated financial statements were authorized for issuance by our Board of Directors on March 12, 2020.

Functional and presentation currency:

The consolidated financial statements are presented in U.S. dollars, which is also our functional currency. Unless otherwise noted, all financial information is presented in millions of U.S. dollars (except percentages and per share amounts).

Use of estimates and judgments:

The preparation of financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities, revenue and expenses, and related disclosures with respect to contingent assets and liabilities. We base our judgments, estimates and assumptions on current facts, historical experience and various other factors that we believe are reasonable under the circumstances. The economic environment could also impact certain estimates necessary to prepare our consolidated financial statements, including significant estimates and discount rates applicable to the determination of the recoverable amounts used in our impairment testing of our non-financial assets. Our assessment of these factors forms the basis for our judgments on the carrying values of our assets and liabilities, and the accrual of our costs and expenses. Actual results could differ materially from our estimates and assumptions. We review our estimates and underlying assumptions on an ongoing basis and make revisions as determined necessary by management. Revisions are recognized in the period in which the estimates are revised and may impact future periods as well.

Key sources of estimation uncertainty and judgment: We have applied significant estimates, judgment and assumptions in the following areas which we believe could have a significant impact on our reported results and financial position: our determination of the timing of revenue recognition; our measurement of income taxes; the determination of our cash generating units (CGUs*); whether events or changes in circumstances are indicators that an impairment review of our assets or CGUs should be conducted; the measurement of our CGUs' recoverable amounts, which includes estimating future growth, profitability, discount and terminal growth rates, and the fair value of any real property; and the allocation of the purchase price and other valuations related to our business acquisitions.

We describe our use of judgment and estimation uncertainties in greater detail in the accounting policies described under "Significant Accounting Policies" below.

* CGUs are the smallest identifiable group of assets that cannot be tested individually and generate cash inflows that are largely independent of those of other assets or groups of assets, and can be comprised of a single site, a group of sites, or a line of business.

CELESTICA INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
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Recently adopted accounting standards:

Initial adoption and application of IFRS 16, Leases:

Effective January 1, 2019, we adopted IFRS 16, *Leases*, which brings most leases on-balance sheet for lessees under a single model, eliminating the distinction between operating and finance leases. IFRS 16 supersedes IAS 17, *Leases*, and related interpretations. In connection therewith, as of such date, we recognize right-of-use (ROU) assets and related lease obligations as of the applicable lease commencement date. ROU assets represent our right to use such leased assets, and our lease obligations represent our related lease payment obligations. In adopting this standard, we applied the modified retrospective approach, permitting us to recognize the cumulative effect of such adoption as an adjustment to our opening balance sheet as of January 1, 2019, without restatement of prior period comparative information. Upon initial adoption of IFRS 16, we recognized ROU assets of \$111.5 and related lease obligations of \$112.0 (see below), and reduced our accrued liabilities by \$0.5 on our consolidated balance sheet as of January 1, 2019. There was no net impact on our deficit as of January 1, 2019. When measuring our lease obligations, we discounted our lease payments using a weighted-average rate of 4.7% as of January 1, 2019 (representing our incremental borrowing rate as of such date). In computing the initial adjustment, we elected to apply the practical expedients available under IFRS 16, and accordingly did not recognize ROU assets and related lease obligations for low-value leases, or for leases with terms of 12 months or less. We continue to expense the costs of these low-value and short-term leases in our consolidated statement of operations on a straight-line basis over the lease term. In addition, as IFRS 16 did not require us to reassess whether a contract is, or contains, a lease as of the date of initial application, we maintained the lease determinations used under previous accounting rules. The amortization of the ROU assets is recognized as a depreciation charge, and the interest expense on the related lease obligations is recognized as finance costs in our consolidated statement of operations. Prior to the adoption of IFRS 16, we recognized operating lease expenses on a straight-line basis over the lease term generally in cost of sales or SG&A in our consolidated statement of operations. There were no changes to our existing finance leases required by the adoption of IFRS 16, which we continue to capitalize at their commencement (included in property, plant and equipment on our consolidated balance sheet), and include the corresponding liability, net of finance costs, on our consolidated balance sheet (see note 12).

The following table sets forth the adjustments to our operating lease commitments at December 31, 2018 used to derive the lease obligations recognized on our initial application of IFRS 16 at January 1, 2019:

Operating lease commitments at December 31, 2018.....	\$	107.4
Discounted using our incremental borrowing rate at January 1, 2019.....		(13.2)
Recognition exemption for short-term and low-value leases.....		(1.9)
Extension options reasonably certain to be exercised.....		19.7
Lease obligations recognized at January 1, 2019 under IFRS 16.....		<u>112.0</u>
Lease obligations previously classified as finance leases under IAS 17.....		<u>10.4</u>
Total lease obligations at January 1, 2019.....	<u>\$</u>	<u>122.4</u>

SIGNIFICANT ACCOUNTING POLICIES:

The accounting policies below are in compliance with IFRS and have been applied consistently to all periods presented in these consolidated financial statements.

(a) Basis of measurement:

These consolidated financial statements have been prepared primarily on the historical cost basis. Other measurement bases, where used, are described in the applicable notes.

CELESTICA INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(in millions of U.S. dollars, except percentages and per share amounts)

(b) Basis of consolidation:

These consolidated financial statements include our direct and indirect subsidiaries, all of which are wholly-owned. Any subsidiaries that are formed or acquired during the year are consolidated from their respective dates of formation or acquisition. Inter-company transactions and balances are eliminated on consolidation.

(c) Business combinations:

We use the acquisition method to account for any business combinations. All identifiable assets and liabilities are recorded at fair value as of the acquisition date. Any goodwill that arises from business combinations is tested annually for impairment (see note 2(j)). Potential obligations for contingent consideration and other contingencies are also recorded at fair value as of the acquisition date. We record subsequent changes in the fair value of such potential obligations from the date of acquisition to the settlement date in our consolidated statement of operations. We expense integration costs (for the establishment of business processes, infrastructure and information systems for acquired operations) and acquisition-related consulting and transaction costs as incurred in our consolidated statement of operations.

We use judgment to determine the estimates used to value identifiable assets and liabilities, and the fair value of potential obligations, if applicable, at the acquisition date. We may engage third parties to determine the fair value of certain inventory, property, plant and equipment and intangible assets. We use estimates to determine cash flow projections, including the period of expected future benefit, and future growth and discount rates, among other factors, to value intangible assets and contingent consideration. The fair value of acquired tangible assets are measured by applying the market, cost or replacement cost, or the income approach (using discounted cash flows and forecasts by management), as appropriate.

(d) Foreign currency translation:

The majority of our subsidiaries have a U.S. dollar functional currency, which represents the currency of the primary economic environment in which they operate. For these subsidiaries, we translate monetary assets and liabilities denominated in foreign currencies into U.S. dollars at the period-end exchange rates. We translate non-monetary assets and liabilities denominated in foreign currencies into U.S. dollars at historic rates, and we translate revenue and expenses into U.S. dollars at the average exchange rates prevailing during the month of the transaction. Exchange gains and losses also arise on the settlement of foreign-currency denominated transactions. We recognize foreign currency differences arising on translation in our consolidated statement of operations.

For our subsidiaries with a non-U.S. dollar functional currency, we translate assets and liabilities into U.S. dollars using the period-end exchange rates, and we translate revenue and expenses into U.S. dollars at the average exchange rates prevailing during the month of the transaction. We defer gains and losses arising from the translation of these operations in the foreign currency translation account included in accumulated other comprehensive income (loss) (OCI).

(e) Cash and cash equivalents:

Cash and cash equivalents include cash on account and short-term investments with original maturities of three months or less. These instruments are subject to an insignificant risk of change in fair value over their terms and, as a result, we carry cash and cash equivalents at cost.

(f) Inventories:

We procure inventory and manufacture based on specific customer orders and forecasts and value our inventory on a first-in, first-out basis at the lower of cost and net realizable value. The cost of our finished goods and work in progress includes direct materials, labor and overhead. We may require valuation adjustments if actual market conditions or demand for our customers' products or services are less favorable than originally projected. The determination of net realizable value involves significant management judgment. We consider factors such as shrinkage, the aging of and future demand for the inventory, and contractual arrangements with customers. We attempt to utilize excess inventory in other products we manufacture or return inventory to the relevant suppliers or customers. We use future sales volume forecasts to estimate excess inventory on-hand. A change to these assumptions may impact our inventory valuation and our gross margins. Should circumstances change, we may adjust our previous write-downs in our consolidated statement of operations in the period a change in estimate occurs.

CELESTICA INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
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(g) Property, plant and equipment:

We carry property, plant and equipment at cost less accumulated depreciation and accumulated impairment losses. Cost consists of expenditures directly attributable to the acquisition of the asset. We capitalize the cost of an asset when the economic benefits associated with that asset are probable and when the cost can be measured reliably. We capitalize the costs of major renovations and we write-off the carrying amount of replaced assets. We expense all other maintenance and repair costs in our consolidated statement of operations as incurred. We do not depreciate land. We recognize depreciation expense on a straight-line basis over the estimated useful life of the asset as follows:

Buildings	Up to 40 years
Building/leasehold improvements	Up to 40 years or term of lease
Machinery and equipment	3 to 15 years

We estimate the useful life of property, plant and equipment based on the nature of the asset, historical experience, expected changes in technology, and the expected duration of related customer programs. When major components of an asset have a significantly different useful life than their primary asset, the components are accounted for and depreciated separately. We review our estimates of residual values, useful lives and the methods of depreciation annually at year end and, if required, adjust for these prospectively. We determine gains and losses on the disposal or retirement of property, plant and equipment by comparing the proceeds from disposal with the carrying amount of the asset and we recognize these gains and losses in our consolidated statement of operations in the period of disposal. Also see note 2(j).

(h) Leases:

We are the lessee of property, plant and equipment, primarily buildings and machinery. At the inception of a contract, we assess whether an arrangement is, or contains, a lease in accordance with IFRS 16. Where we determine there is a lease under IFRS 16, we recognize an ROU asset (representing our right to use such leased asset) and a related lease obligation on the applicable lease commencement date. An ROU asset is first measured based on the initial amount of the related lease obligation, subject to certain adjustments, if any, and then subsequently measured at such cost less accumulated depreciation and accumulated impairment losses (see note 2(j)). Depreciation expense on an ROU asset is recorded on a straight-line basis over the lease term in cost of sales or SG&A in our consolidated statement of operations, primarily based on the nature and use of the asset. The lease obligation is initially measured at the present value of the unpaid lease payments on the commencement date, discounted using the interest rate implicit in the lease (if readily determinable) or otherwise on our incremental borrowing rate (taking country-specific risks into consideration) on the lease commencement date. We generally use our incremental borrowing rate as the discount rate. The interest expense on the related lease obligation is recognized as finance costs in our consolidated statement of operations. The lease obligation is remeasured when there are adjustments to future lease payments arising from a change in applicable indices or rates, changes in the estimated amount expected to be payable under a residual value guarantee, or if we change our assessments of whether we will exercise an applicable purchase, extension or termination option. Upon any such remeasurement, a corresponding adjustment is made to the carrying amount of the related ROU asset, or is recorded in our consolidated statement of operations if the carrying amount of such ROU asset has been impaired.

We expense the costs of the low-value and short-term leases in our consolidated statement of operations on a straight-line basis over the lease term. We capitalize finance leases at their commencement, at the lower of the fair value of the leased asset and the present value of the minimum lease payments (included in property, plant and equipment on our consolidated balance sheet), and include the corresponding liability, net of finance costs, on our consolidated balance sheet. Prior to the adoption of IFRS 16, we recognized operating lease expenses on a straight-line basis over the lease term generally in cost of sales or SG&A in our consolidated statement of operations.

(i) Goodwill and intangible assets:

Goodwill:

We initially record goodwill related to acquisitions on our consolidated balance sheet in the amount of the excess of the fair value of the aggregate consideration paid (including the estimated fair value of any contingent consideration) over the

CELESTICA INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
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fair value of the identifiable net assets acquired. In subsequent reporting periods, we measure goodwill at cost less accumulated impairment losses, if any. We do not amortize goodwill. For purposes of impairment testing, we allocate goodwill to the CGU, or group of CGUs, that we expect will benefit from the related acquisition. See note 2(j), “Impairment of goodwill, intangible assets, property, plant and equipment, and ROU assets.”

Intangible assets:

We record intangible assets on our consolidated balance sheet at fair value on the date of acquisition. We capitalize intangible assets when the economic benefits associated with the asset are probable and when the cost can be measured reliably. We estimate the useful life of intangible assets based on the nature of the asset, historical experience and the projected period of expected future economic benefits to be provided by the asset. In subsequent reporting periods, we measure intangible assets at cost less accumulated amortization and accumulated impairment losses, if any. We amortize these assets on a straight-line basis over their estimated useful lives as follows:

Intellectual property	3 to 5 years
Other intangible assets	4 to 15 years
Computer software assets	1 to 10 years

Intellectual property assets consist primarily of certain non-patented intellectual property and process technology. Other intangible assets consist primarily of customer relationships and contract intangibles. Computer software assets consist primarily of software licenses. We review our estimates of residual values, useful lives and the methods of amortization annually at year end and, if required, adjust for these prospectively. We reflect changes in useful lives on a prospective basis.

(j) Impairment of goodwill, intangible assets, property, plant and equipment, and ROU assets:

We review the carrying amount of goodwill, intangible assets, property, plant and equipment, and commencing in 2019, ROU assets for impairment whenever events or changes in circumstances (triggering events) indicate that the carrying amount of such assets, or the related CGU or CGUs, may not be recoverable. If any such indication exists, we test the carrying amount of such assets or CGUs for impairment. In addition to an assessment of triggering events during the year, we conduct an annual impairment assessment of CGUs with goodwill in the fourth quarter of each year to correspond with our annual planning cycle (Annual Impairment Assessment). Judgment is required in the determination of: (i) our CGUs, which includes an assessment of whether the relevant asset, or group of assets, largely generates independent cash inflows, and an evaluation of how management monitors the business operations pertaining to such asset, or asset group; and (ii) whether events or changes in circumstances during the year are indicators that a review for impairment should be conducted.

We recognize an impairment loss when the carrying amount of an asset, CGU or group of CGUs exceeds its recoverable amount. The recoverable amount of an asset, CGU or group of CGUs is measured as the greater of its expected value-in-use and its estimated fair value less costs of disposal. The process of determining the recoverable amount is subjective and requires management to exercise significant judgment in estimating future growth, profitability, discount and terminal growth rates, the fair value of any real property, and in projecting future cash flows, among other factors. Determination of our expected value-in-use is based on a discounted cash flow analysis of the relevant asset, CGU or group of CGUs. The process of determining the estimated fair value less costs of disposal requires valuations and use of appraisals. Future events and changing market conditions may impact our assumptions as to prices, costs or other factors that may result in changes in our estimates of future cash flows. Where applicable, we engage independent brokers to obtain market prices to estimate our real property and other asset values. We recognize impairment losses in our consolidated statement of operations. If it is determined that an impairment exists, we first allocate the impairment losses to the relevant CGU (or group of CGUs) to reduce the carrying amount of its (or their) goodwill, and then to reduce the carrying amount of other assets in such CGU (or group of CGUs), generally on a pro-rata basis. See notes 7, 8 and 9.

We do not reverse impairment losses for goodwill in future periods. We reverse impairment losses for property, plant and equipment, ROU assets and intangible assets if the losses we recognized in prior periods no longer exist or have decreased as a result of changes in circumstances. At each reporting date, we review for indicators that could change the estimates we used

CELESTICA INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
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to determine the recoverable amount of the relevant assets. The amount of the reversal will be limited to the carrying amount that would have been determined, net of depreciation or amortization, had we recognized no impairment loss in prior periods.

(k) Provisions:

We recognize a provision for legal or constructive obligations arising from past events when the amount can be reliably estimated and it is probable that an outflow of resources will be required to settle an obligation. The nature and type of provisions vary and management judgment is required to determine the extent of an obligation and whether the outflow of resources is probable. At the end of each reporting period, we evaluate the appropriateness of the remaining balances. We may require adjustments to the recorded amounts to reflect actual experience or changes in estimates in future periods.

Restructuring:

We incur restructuring charges relating to workforce reductions, site consolidations, and costs associated with businesses we are downsizing or exiting. Our restructuring charges include employee severance and benefit costs, consultant costs, gains, losses or impairments related to owned sites and equipment we no longer use and which are available for sale, impairment of related intangible assets, and costs or impairments related to leased sites and equipment we no longer use.

The recognition of restructuring charges requires management to make certain judgments and estimates regarding the nature, timing and amounts associated with our restructuring actions. Our assumptions include the timing of employees to be terminated, the measurement of termination costs, any anticipated sublease recoveries from exited sites, and the timing of disposition and estimated fair values less costs of disposal for assets we no longer use and which are available for sale. We develop detailed plans and record termination costs in the period the employees are informed of their termination. For owned sites and equipment that are no longer in use and are available for sale, we recognize an impairment loss based on their estimated fair value less costs of disposal, with fair value estimated based on market prices for similar assets. We may engage third parties to assist in the determination of the estimated fair values less costs of disposal for these assets. For leased sites that we intend to exit in connection with restructuring activities, we assess the recoverability of our ROU assets, and write down such assets (recorded as restructuring charges) if the carrying value exceeds any estimated sublease recoveries. To estimate future sublease recoveries, we may engage independent brokers to determine the estimated tenant rents we can expect to realize. At the end of each reporting period, we evaluate the appropriateness of our restructuring charges and balances. Adjustments to the recorded amounts may be required to reflect actual experience or changes in estimates for future periods. See note 16(a).

Legal and other contingencies:

In the normal course of our operations, we may be subject to lawsuits, investigations and other claims, including, but not limited to, environmental, labor, product, customer disputes, and other matters. The filing of a suit or formal assertion of a claim does not automatically trigger a requirement to record a provision. We record a provision for loss contingencies, including legal claims, based on management's estimate of the probable outcome. Judgment is required when there is a range of possible outcomes. Management considers the degree of probability of the outcome and the ability to make a reasonable estimate of the loss. We may also use third party advisors in making our determination. The ultimate outcome, including the amount and timing of any payments required, may vary significantly from our original estimates. Potential material legal and other material contingent obligations that have not been recognized as provisions, as the outcome is remote or not probable, or the amount cannot be reliably estimated, are disclosed as contingent liabilities. See note 24.

Warranty:

We offer product and service warranties to our customers. We record a provision for future warranty costs based on management's estimate of probable claims under these warranties. In determining the amount of the provision, we consider several factors including the terms of the warranty (which vary by customer, product or service), the current volume of products sold or services rendered during the warranty period, and historical warranty information. We review and adjust these estimates as necessary to reflect our experience and new information. The amount and aging of our provision will vary depending on various factors including the length of the warranty offered, the remaining life of the warranty and the extent and timing of warranty claims. We classify the portion of our warranty provision for which payment is expected in the next 12 months as current, and the remainder as non-current.

CELESTICA INC.
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(l) Employee benefits:

Pension and non-pension post-employment benefits:

We classify pension and non-pension post-employment benefits as either defined contribution plans or defined benefit plans.

Under defined contribution plans, our obligation is to make a fixed contribution to a separate entity. The related investment risk is borne by the employee. We recognize our obligations to make contributions to defined contribution plans as an employee benefit expense in our consolidated statement of operations in the period the employee services are rendered.

Under defined benefit plans, our obligation is to provide an agreed-upon benefit to specified plan participants. We remain exposed to the actuarial and investment risks with respect to defined benefit plans. Our obligation is actuarially determined using the projected unit credit method, based on service and management's estimates. Actuarial valuations require management to make certain judgments and estimates relating to salary escalation, compensation levels at the time of retirement, retirement ages, the discount rate used in measuring the net interest on the net defined benefit asset or liability, and expected healthcare costs (as applicable). These actuarial assumptions could change from period-to-period and actual results could differ materially from the estimates originally made by management. We evaluate our assumptions on a regular basis, taking into consideration current market conditions and historical data. Market driven changes may affect the actual rate of return on plan assets compared to our assumptions, as well as our discount rates and other variables which could cause actual results to differ materially from our estimates. Changes in assumptions could impact our defined benefit pension plan valuations and our future defined benefit pension expense and required funding.

Our obligation for each defined benefit plan consists of the present value of the defined benefit obligation less the fair value of plan assets, and is presented on a net basis on our consolidated balance sheet. When the actuarial calculation results in a benefit, the asset we recognize is restricted to the present value of economic benefits available in the form of future refunds from the plan or reductions in future contributions to the plan. To calculate the present value of economic benefits, we also consider any minimum funding requirements that apply to the plan. An economic benefit is available if it is realizable during the life of the plan, or on settlement of the plan liabilities.

We recognize past service costs or credits arising from plan amendments, whether vested or unvested, immediately in our consolidated statement of operations. We determine the net interest expense (income) on the net defined benefit liability (asset) for each year by applying the discount rate used to measure the defined benefit obligation at the beginning of the year to the net defined benefit liability (asset) position, taking into account any changes in the net defined benefit liability (asset) during the year as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognized in our consolidated statement of operations. The difference between the interest income on plan assets and the actual net return on plan assets is included in the re-measurement of the net defined benefit liability (asset). We recognize actuarial gains and losses on plan assets or obligations, as well as any year over year change in the impairment of the balance sheet position in OCI and we reclassify the amounts to deficit. Curtailment gains or losses may arise from significant changes to a plan. We record curtailment gains or losses in our consolidated statement of operations when the curtailment occurs.

To mitigate the actuarial and investment risks of our defined benefit pension plans, we from time to time purchase annuities (using existing plan assets) from third party insurance companies for certain, or all, plan participants. The purchase of annuities by the pension plan substantially hedges the financial risks associated with our pension obligations. Where the annuities are purchased on behalf of, and held by the pension plan, the relevant employer retains the ultimate responsibility for the payment of benefits to plan participants, and we retain the pension assets and liabilities on our consolidated balance sheet. Our annuity purchases have resulted (and future annuity purchases may result) in losses, due to a reduction in the value of the plan assets relative to plan obligations as of the date of the annuity purchase. We record these non-cash losses in OCI on our consolidated balance sheet and simultaneously reclassify such amounts to deficit in the same period. Alternatively, where we purchase annuities from insurance companies on behalf of applicable plan participants with the intention of winding-up the relevant plan in the future (with the expectation of transferring the annuities to the individual plan members), the insurance company assumes responsibility for the payment of benefits to the relevant plan participants once the wind-up is complete. In this case, settlement accounting is applied to the purchase of the annuities and the loss (if any) is recorded in other charges in our consolidated statement of operations. In addition, both the pension assets and liabilities will be removed from our consolidated balance sheet once the wind-up of the plan is complete.

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Stock-based compensation (SBC):

We generally grant performance share units (PSUs) and restricted share units (RSUs), and from time to time grant stock options, to employees under our SBC plans. Stock options and RSUs vest in installments over the vesting period. Stock options generally vest 25% per year over a four-year period, and RSUs generally vest one-third per year over a three-year period. We treat each installment under a grant of stock options and RSUs as a separate grant in determining the compensation expense. PSUs vest at the end of their respective terms, generally three years from the grant date, to the extent that specified performance conditions have been met.

Stock options:

Stock options are exercisable for SVS. We recognize the grant date fair value of stock options granted to employees as compensation expense in our consolidated statement of operations, with a corresponding charge to contributed surplus on our consolidated balance sheet, over the vesting period. We adjust compensation expense to reflect the estimated number of options we expect to vest at the end of the vesting period. When options are exercised, we credit the proceeds to capital stock on our consolidated balance sheet. We measure the fair value of stock options using the Black-Scholes option pricing model. Measurement inputs include the price of our SVS on the grant date, the exercise price of the stock option, and our estimates of the following: expected price volatility of our SVS (based on weighted average historic volatility), weighted average expected life of the stock option (based on historical experience and general option holder behavior), and the risk-free interest rate.

RSUs:

The cost we recorded for RSUs is based on the market value of our SVS at the time of grant. We amortize the cost of RSUs to compensation expense in our consolidated statement of operations, with a corresponding charge to contributed surplus on our consolidated balance sheet, over the vesting period. Unless a grantee has been authorized, and elects, to settle RSUs in cash, we generally intend to settle these awards with SVS purchased in the open market by a broker, or issued from treasury.

PSUs granted in 2017:

The cost we recorded for 40% of PSUs granted in 2017 was based on the market value of our SVS at the time of grant. The cost we recorded for these PSUs, which vested based on a non-market performance condition related to the achievement of pre-determined financial targets over a specified period, was based on our estimate of the outcome of such performance condition. During 2019, these PSUs were modified to more closely align the performance condition with the Company's strategic objectives. As a result, vesting of these PSUs was revised to be based on the Company's average performance on such measure over the three-year vesting period relative to the average performance on such measure of a pre-determined EMS competitor group over such period (instead of the Company's relative performance in the final year of the vesting period). The modification impacted the vesting expectation for these awards but did not result in any incremental fair value. We adjusted the cost of these PSUs as new facts and circumstances arose; the timing of these adjustments was subject to judgment. We recorded adjustments to the cost of these PSUs in the final year of the three-year term based on management's estimate of the expected level of achievement of such performance condition. We amortized the cost of these PSUs to compensation expense in our consolidated statement of operations, with a corresponding charge to contributed surplus on our consolidated balance sheet, over the vesting period. We settled the vested PSUs with SVS primarily issued from treasury. We determined the cost we recorded for 60% of PSUs granted in 2017 using a Monte Carlo simulation model. The number of awards expected to vest was factored into the grant date Monte Carlo valuation for the award. The number of these PSUs that vested depended on the level of achievement of total shareholder return (TSR), which is a market performance condition, relative to the TSR of a pre-defined group of companies over a three-year period. We did not adjust the grant date fair value regardless of the eventual number of awards that vested based on the level of achievement of the market performance condition. We recognized compensation expense in our consolidated statement of operations on a straight-line basis over the requisite service period and we reduced this expense for the estimated PSU awards that were not expected to vest because the employment conditions were not expected to be satisfied. We settled the vested PSUs with SVS primarily issued from treasury.

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PSUs granted in 2018 and 2019:

The cost we recorded for the PSUs granted in each of 2018 and 2019 was based on our estimate of the outcome of specified performance conditions. The number of PSUs granted in each of 2018 and 2019 that will actually vest will vary from 0% to 200% of a target amount granted based on the level of achievement of a pre-determined non-market performance measurement in the final year of the three-year performance period, subject to modification by a separate pre-determined non-market financial target and our relative TSR performance (compared to a pre-defined group of companies) over the three-year vesting period. We estimated the grant date fair value of the TSR modifier for these awards using a Monte Carlo simulation model. The grant date fair value for the non-TSR-based performance measurement and modifier was based on the market value of our SVS at the time of grant and is subject to adjustment in subsequent periods to reflect changes in the estimated level of achievement related to the applicable performance condition. We recognize compensation expense in our consolidated statement of operations on a straight-line basis over the requisite service period and we reduce this expense for the estimated PSU awards that are not expected to vest because the employment conditions are not expected to be satisfied. Unless a grantee has been authorized, and elects, to settle PSUs in cash, we generally intend to settle these awards with SVS purchased in the open market by a broker or issued from treasury.

DSUs:

The compensation of our Board of Directors is comprised of annual Board retainer fees, annual Audit and Compensation Committee Chair retainer fees (for the Chairs of those committees) and travel fees (collectively, Annual Fees) payable in quarterly installments in arrears. In 2017 and 2018, directors were required to elect to have either 75% or 100% of their Annual Fees paid in deferred share units (DSUs). Commencing January 1, 2019, directors must elect to receive 0%, 25% or 50% of their Annual Fees in cash, with the balance in DSUs, until such director satisfies the requirements of the Company's Director Share Ownership Guidelines. Once a director has satisfied such requirements, the director may then elect to receive 0%, 25% or 50% of their Annual Fees in cash, with the balance either in DSUs or in RSUs (if no election is made, 100% of such director's Annual Fees will be paid in DSUs). The number of DSUs or RSUs we grant is determined by dividing the elected percentage of the dollar value of the Annual Fees earned in the quarter by the closing price of our SVS on the NYSE on the last business day of such quarter. Each DSU represents the right to receive one SVS or an equivalent value in cash after the individual ceases to serve as a director, and is neither an employee of the Company, nor a director or employee of any corporation that does not deal at arm's length with the Company (Retires). DSUs granted prior to January 1, 2007 may be settled with SVS issued from treasury or purchased in the open market, or with cash (at the discretion of the Company). DSUs granted after January 1, 2007 to directors as compensation may only be settled with SVS purchased in the open market, or with cash (at the discretion of the Company). Each quarterly grant of RSUs to directors vests ratably over a three-year period. Such RSUs are governed by the terms of our Long-Term Incentive Plan. Each vested RSU entitles the holder thereof to one SVS; however, if permitted by the Company under the terms of the grant, a director may elect to receive a payment of cash in lieu of SVS. Unvested RSUs will vest immediately on the date the director Retires. We expense the cost of DSUs and RSUs for directors through SG&A in our consolidated statement of operations in the period the services are rendered.

(m) *Deferred financing costs:*

Deferred financing costs consist of costs relating to the establishment or amendment of our credit facility. We defer financing costs related to our revolving facility as other assets on our consolidated balance sheet which we amortize to our consolidated statement of operations on a straight-line basis over the term of the revolving facility. We record financing costs relating to the issuance of our term loans as a reduction to the cost of the related debt (see note 12) which we amortize to our consolidated statement of operations using the effective interest rate method over the term of the related debt or when the debt is retired, if earlier.

(n) *Income taxes:*

Our income tax expense for a reporting period is comprised of current and deferred income taxes. Current income taxes and deferred income taxes are recognized in our consolidated statement of operations, except to the extent that they relate to items recognized in OCI or directly in equity, in which case the taxes are also recognized in OCI or directly in equity, respectively.

In the ordinary course of business, there are many transactions for which the ultimate tax outcome is uncertain until we resolve it with the relevant tax authority, which may take many years. The final tax outcome of these matters may be different

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from the estimates management originally made in determining our tax provision. Management periodically evaluates the positions taken in our tax returns with respect to situations in which applicable tax rules are subject to interpretation. We establish provisions related to tax uncertainties where appropriate, based on our estimate of the amount that ultimately will be paid to or received from the tax authorities. We recognize accrued interest and penalties relating to tax uncertainties in current income tax expense. The various judgments and estimates by management in establishing provisions related to tax uncertainties can significantly affect the amounts we recognize in our consolidated financial statements.

We use the liability method of accounting for deferred income taxes. Under this method, we recognize deferred income tax assets and liabilities for future income tax consequences attributable to temporary differences between the financial statement carrying amounts of assets and liabilities and their respective income tax bases, and on unused tax losses and tax credit carryforwards. We measure deferred income taxes using tax rates and laws that have been enacted or substantively enacted at the reporting date and that we expect will apply when the related deferred income tax asset is realized or the deferred income tax liability is settled. We recognize deferred income tax assets to the extent we believe it is probable, based on management's estimates, that future taxable profit will be available against which the deductible temporary differences as well as unused tax losses and tax credit carryforwards can be utilized. Estimates of future taxable profit in different tax jurisdictions are an area of estimation uncertainty. We review our deferred income tax assets at each reporting date and reduce them to the extent it is no longer probable that we will realize the related tax benefits; such reductions are reversed when the probability of future taxable profits improves. Unrecognized deferred tax assets are reassessed at each reporting date and recognized to the extent that it has become probable that future taxable profits will be available against which they can be used. We recognize the effect of a change in income tax rates in the period of enactment or substantive enactment.

We do not recognize deferred income taxes if they arise from the initial recognition of goodwill, or for temporary differences arising from the initial recognition of an asset or a liability in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss. We also do not recognize deferred income taxes on temporary differences relating to investments in subsidiaries to the extent we are able to control the timing of the reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.

During each period, we record current income tax expense or recovery based on taxable income earned or loss incurred in each tax jurisdiction where we operate, and for any adjustments to taxes payable in respect of previous years, using tax laws that are enacted or substantively enacted at the balance sheet date.

(o) *Financial assets and financial liabilities:*

We recognize financial assets and financial liabilities initially at fair value and subsequently measure these at either fair value or amortized cost based on their classification as described below.

See note 2(q), "Impairment of financial assets."

Fair value through profit or loss (FVTPL):

Financial assets and any financial liabilities that we purchase or incur, respectively, with the intention of generating earnings in the near term, and derivatives other than cash flow hedges, are classified as FVTPL. This category includes short-term investments in money market funds (if applicable) that we group with cash equivalents, and derivative assets and derivative liabilities that do not qualify for hedge accounting. For investments that we classify as FVTPL, we initially recognize such financial assets on our consolidated balance sheet at fair value and recognize subsequent changes in our consolidated statement of operations. We expense transaction costs as incurred in our consolidated statement of operations. We do not currently hold any liabilities designated as FVTPL.

Amortized cost:

Financial assets that we hold with the intention of collecting the contractual cash flows (in the form of payment of principal and related interest) are measured at amortized cost, and include our trade receivables, term deposits and non-customer receivables. We initially recognize the carrying amount of such assets on our consolidated balance sheet at fair value plus directly attributable transaction costs, and subsequently measure these at amortized cost using the effective interest rate method, less any impairment losses.

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Other financial liabilities:

This category is for our financial liabilities that are not classified as FVTPL, and includes our accounts payable (A/P), the majority of our accrued liabilities and certain other provisions, as well as borrowings under our credit facility, including our term loans. We record these financial liabilities at amortized cost on our consolidated balance sheet.

(p) Derivatives and hedge accounting:

We enter into forward exchange and swap contracts to hedge the cash flow risk associated with firm purchase commitments and forecasted transactions in foreign currencies that we consider to be highly probable, and to hedge foreign-currency denominated balances. We use estimates to forecast future cash flows and the future financial position of net monetary assets or liabilities denominated in foreign currencies. We enter into interest rate swap agreements to mitigate a portion of the interest rate risk on our term loan borrowings. We apply hedge accounting to those hedge transactions that are considered effective. Management assesses the effectiveness of hedges by comparing actual outcomes against our estimates on a regular basis. Subsequent revisions in estimates of future cash flow forecasts, if significant, may result in the discontinuation of hedge accounting for that hedge. We do not enter into derivative contracts for speculative purposes.

At the inception of a hedging relationship, we formally document the relationship between our hedging instrument and the hedged item, as well as our risk management objectives and strategy for undertaking the various hedge transactions. Our process includes linking all derivatives to specific assets and liabilities on our consolidated balance sheet or to specific firm commitments or forecasted transactions. We also formally assess, both at the hedge's inception and at the end of each quarter, whether the derivatives used in hedged transactions are highly effective in offsetting changes in the cash flows of the hedged items. We record the gain or loss from these forward exchange and swap contracts in the same line item where the underlying exposures are recognized in our consolidated statement of operations. For our non-designated hedges against our balance sheet exposures denominated in foreign currencies, we record the gain or loss from these forward exchange and swap contracts in SG&A in our consolidated statement of operations.

Forward exchange and swap contracts that are not designated as hedges are marked to market each period, resulting in a gain or loss in our consolidated statement of operations. We measure all derivative contracts at fair value on our consolidated balance sheet. The majority of our derivative assets and liabilities arise from the foreign currency forward contracts and interest rate swaps that we designate as cash flow hedges. In a cash flow hedge, we defer the changes in the fair value of the hedging derivative, to the extent effective, in OCI until we recognize the asset, liability or forecasted transactions being hedged in our consolidated statement of operations. Any cash flow hedge ineffectiveness is recognized in our consolidated statement of operations immediately. For hedges that we discontinue before the end of the original hedge term, we amortize the unrealized hedge gain or loss in OCI in our consolidated statement of operations over the remaining term of the hedge. If the hedged item ceases to exist before the end of the original hedge term, we recognize the unrealized hedge gain or loss in OCI immediately in our consolidated statement of operations. For our current currency forward and swap cash flow hedges, the majority of the underlying expenses we hedge are included in cost of sales. For our interest rate swap agreements, the underlying interest expenses that we hedge are included in finance costs in our consolidated statement of operations.

We value our derivative assets and liabilities based on inputs that are either readily available in public markets or derived from information available in public markets. The inputs we use include discount rates, forward exchange rates, interest rate yield curves and volatility, and credit risk adjustments. Changes in these inputs can cause significant volatility in the fair value of our financial instruments in the short-term.

(q) Impairment of financial assets:

We review financial assets at each reporting date. Financial assets are deemed to be impaired when objective evidence resulting from one or more events subsequent to the initial recognition of the asset indicates the estimated future cash flows of the asset have decreased. We use a forward-looking expected credit loss (ECL) model in determining our allowance for doubtful accounts as it relates to trade receivables, contract assets (under IFRS 15), and other financial assets. Our allowance is based on historical experience, and includes consideration of the aging of the balances, the customer's creditworthiness, current economic conditions, expectation of bankruptcies, and political and economic volatility in the markets/location of our customers, among other factors. We measure an impairment loss as the excess of the carrying amount over the present value of the estimated future cash flows discounted using the financial asset's original discount rate, and we recognize this loss in our consolidated

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statement of operations. A financial asset is written off or written down to its net realizable value as soon as it is known to be impaired. We adjust previous write-downs to reflect changes in estimates or actual experience.

(r) Revenue and deferred investment costs:

We derive the majority of our revenue from the sale of electronic products and services that we manufacture and provide to customer specifications. We recognize revenue from the sale of products and services rendered when our performance obligations have been satisfied or when the associated control over the products has passed to the customer and no material uncertainties remain as to the collection of our receivables. Under IFRS 15, where products are custom-made to meet a customer's specific requirements, and such customer is obligated to compensate us for the work performed to date, we recognize revenue over time as production progresses to completion, or as services are rendered. We generally estimate revenue for our work in progress based on costs incurred to date plus a reasonable profit margin for eligible products for which we do not have alternative uses. For other contracts that do not qualify for revenue recognition over time, we recognize revenue at the point in time where control is passed to the customer, which is generally upon shipment when no further performance obligation remains except for our standard manufacturing or service warranties. We apply significant estimates, judgment and assumptions in interpreting our customer contracts, determining the timing of revenue recognition and measuring work in progress. As our invoices are typically issued at the time of the delivery of final products to the customers, the earlier recognition of revenue on certain custom-made products has resulted in unbilled contract assets which we include in accounts receivable (A/R) on our consolidated balance sheet.

We record certain investment costs, comprised of contract acquisition or fulfillment costs, to the extent the recoverability of these costs is probable, in other current and non-current assets on our consolidated balance sheet. We subsequently amortize these investment costs over the projected period of expected future economic benefits, or as recoveries are realized, from the new contracts. We monitor these deferred costs for potential impairment on a regular basis.

3. ACQUISITIONS:

In April 2018, we completed the acquisition of U.S.-based Atrenne Integrated Solutions, Inc. (Atrenne), a designer and manufacturer of ruggedized electromechanical solutions, primarily for military and commercial aerospace applications, with operations in Minnesota and Massachusetts. The final purchase price for Atrenne was \$140.3, net of cash acquired. The original purchase price was reduced by \$1.4 in connection with a working capital adjustment finalized in the first quarter of 2019 (Q1 2019). The purchase price was financed with borrowings under our then-applicable credit facility. The goodwill from the acquisition (attributable to our ATS segment) arose primarily from the specific knowledge and capabilities of the acquired workforce and expected synergies from the combination of our operations, and was not tax deductible.

In November 2018, we completed the acquisition of U.S.-based Impakt Holdings, LLC (Impakt), a highly-specialized, vertically integrated company providing manufacturing solutions for leading original equipment manufacturers in the display and semiconductor industries, as well as other markets requiring complex fabrication services, with operations in California and South Korea. The final purchase price for Impakt was \$324.1, net of cash acquired. The original purchase price was reduced by \$1.3 in connection with a working capital adjustment finalized in the third quarter of 2019. The purchase price was financed with borrowings under our current credit facility. The goodwill from the acquisition (attributable to our ATS segment), arose primarily from the specific knowledge and capabilities of the acquired workforce and expected synergies from the combination of our operations, and was not tax deductible.

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Acquired assets and liabilities are recorded on our consolidated balance sheet at their fair values as of the date of acquisition. Details of our final purchase price allocation for the Atrenne and Impakt acquisitions are as follows:

	Atrenne	Impakt
Current assets*, net of cash acquired (\$1.1 for Atrenne and \$5.9 for Impakt).....	\$ 31.5	\$ 49.2
Property, plant and equipment and other long-term assets	7.8	20.6
Customer intangible assets and computer software assets	51.0	219.3
Goodwill	62.6	112.6
Current liabilities	(8.5)	(25.8)
Deferred income taxes and other-long-term liabilities	(4.1)	(51.8)
	<u>\$ 140.3</u>	<u>\$ 324.1</u>

* In connection with our purchase of Atrenne, we recorded a \$1.6 fair value adjustment to write up the value of the acquired inventory as of the acquisition date, representing the difference between the inventory's cost and its fair value. During the second quarter of 2018, we recognized the full \$1.6 fair value adjustment through cost of sales, as all such acquired inventory was sold during that quarter.

We engaged third-party consultants to provide valuations of certain inventory, property, plant and equipment and intangible assets in connection with our purchases of Atrenne and Impakt. The fair value of the acquired tangible assets was measured based on their value in-use, by applying the market (sales comparison, brokers' quotes), cost or replacement cost, or the income (discounted cash flow) approach, as deemed appropriate. The valuation of the intangible assets by the third-party consultants was primarily based on the income approach using a discounted cash flow model and forecasts based on management's subjective estimates and assumptions. Various Level 2 and 3 data inputs of the fair value measurement hierarchy (described in note 21) were used in the valuation of these assets. Annual amortization of intangible assets increased by approximately \$6 as a result of the Atrenne acquisition and approximately \$15 as a result of the Impakt acquisition.

We incur consulting, transaction and integration costs relating to potential and completed acquisitions, including with respect to Atrenne and Impakt. We also incurred charges related to the subsequent re-measurement of indemnification assets recorded in connection with our Impakt acquisition of \$2.2 in 2019 (2018 and 2017 — nil). Collectively, these costs and charges are referred to as Acquisition Costs. During 2019, we recorded Acquisition Costs of \$3.9 (2018 — \$11.0; 2017 — \$4.5) in other charges in our consolidated statement of operations.

4. ACCOUNTS RECEIVABLE:

Accounts receivable (A/R) sales program and supplier financing programs (SFPs):

Our agreement to sell up to \$250.0 in A/R on an uncommitted basis (subject to pre-determined limits by customer) to two third-party banks was scheduled to expire in November 2019, but was extended to January 15, 2020 pursuant to its terms, at which time it expired. Based on a review of our requirements at that time, we reduced the sales program limit from \$250.0 to \$200.0 during the extension period. In addition, we participate in two SFPs (one with a CCS segment customer, and commencing in the fourth quarter of 2019 (Q4 2019), one with an ATS segment customer), pursuant to which we sell A/R from the relevant customer to third-party banks on an uncommitted basis. At December 31, 2019, we sold \$90.6 of A/R under our A/R sales program (December 31, 2018 — \$130.0) and \$50.4 of A/R under the SFPs (December 31, 2018 — \$50.0). We utilize the SFPs to substantially offset the effect of extended payment terms required by these customers on our working capital for the period. Under our previous A/R sales program (and the current one described below), we collect cash from our customers, and remit the cash to the banks once collected. Under our SFPs, the third-party banks collect the relevant receivables directly from the customers.

To replace our previous A/R sales program, and based on a recent review of our requirements, we entered into an agreement in March 2020 with a new third-party bank to sell up to \$235.0 in A/R (based on currently approved obligors) on an uncommitted basis, subject to pre-determined limits by customer. This agreement provides for a one-year term, with automatic annual one-year extensions, and may be terminated at any time by the bank or by us upon 3 month's prior notice, or by the bank upon specified defaults.

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The A/R sold under the foregoing programs are de-recognized from our A/R balance and removed from our consolidated balance sheet, and the proceeds are reflected as cash provided by operating activities in our consolidated statement of cash flows. Upon sale, we assign the rights to the A/R to the banks. We pay discount charges which we record as finance costs in our consolidated statement of operations.

Contract assets:

At December 31, 2019, our A/R balance included \$226.7 of contract assets recognized as revenue under IFRS 15, *Revenue from Contracts with Customers* (December 31, 2018 — \$267.8).

5. INVENTORIES:

Inventories are comprised of the following:

	December 31	
	2018	2019
Raw materials	\$ 948.8	\$ 868.3
Work in progress	101.5	77.1
Finished goods	39.6	46.8
	\$ 1,089.9	\$ 992.2

We record inventory provisions, net of valuation recoveries, in cost of sales. Inventory provisions reflect write-downs in the value of our inventory to net realizable value, and valuation recoveries primarily reflect realized gains on the disposition of previously written-down inventory. During 2019, we recorded net inventory provisions of \$4.1 (2018 — \$13.5; 2017 — \$3.3), comprised of new provisions (approximately two-thirds of which related to specified aged inventory in our ATS segment), which were partially offset by \$5.8 of valuation recoveries (relatively equal between our two segments) recorded in Q4 2019. Our net inventory provisions for 2018 were primarily due to increases in our overall aged inventory levels as compared to 2017, more than half of which related to customers in our ATS segment, comprised of new provisions which were partially offset by \$4.6 of valuation recoveries recorded in the fourth quarter of 2018. We regularly review our estimates and assumptions used to value our inventory through analysis of historical performance.

Certain of our contracts provide for customer cash deposits to cover our risk of excess and obsolete inventory and/or for working capital requirements. Such deposits as of December 31, 2019 (primarily covering our aged inventory) totaled \$121.9 (December 31, 2018 — \$57.9), and were recorded in accrued and other current liabilities on our consolidated balance sheet.

6. ASSETS CLASSIFIED AS HELD FOR SALE:

As a result of previously announced restructuring actions, we have reclassified certain assets as held for sale. These assets were reclassified at the lower of their carrying value and estimated fair value less costs of disposal at the time of such reclassification. At December 31, 2019, we had \$0.7 of assets classified as held for sale, consisting of equipment in Europe (December 31, 2018 — \$27.4, consisting of land and buildings in Europe and Canada). The decrease from 2018 resulted from: (i) the sale of our Toronto real property in March 2019, and (ii) the reclassification of the land and building we own in Europe (totaling \$12.9) to property, plant and equipment as of December 31, 2019, as such assets no longer meet the criteria required to be classified as held for sale on our consolidated balance sheet. See note 7.

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7. PROPERTY, PLANT AND EQUIPMENT:

Property, plant and equipment are comprised of the following:

	2018		
	Cost	Accumulated Depreciation and Impairment	Net Book Value
Land	\$ 26.8	\$ 12.0	\$ 14.8
Buildings including improvements	375.5	218.0	157.5
Machinery and equipment	781.2	588.2	193.0
	<u>\$ 1,183.5</u>	<u>\$ 818.2</u>	<u>\$ 365.3</u>
	2019		
	Cost	Accumulated Depreciation and Impairment	Net Book Value
Land	\$ 35.6	\$ 12.0	\$ 23.6
Buildings including improvements	351.7	197.1	154.6
Machinery and equipment	720.8	544.0	176.8
	<u>\$ 1,108.1</u>	<u>\$ 753.1</u>	<u>\$ 355.0</u>

The following table details the changes to the net book value of property, plant and equipment for the years indicated:

	Note	Land	Buildings including Improvements	Machinery and Equipment	Total
Balance — January 1, 2018		\$ 11.1	\$ 141.6	\$ 171.2	\$ 323.9
Additions		—	25.4	62.3	87.7
Acquisitions through business combinations	3	3.6	10.8	13.9	28.3
Depreciation		—	(20.4)	(53.3)	(73.7)
Write down of assets and other disposals		—	—	(0.9)	(0.9)
Foreign exchange and other		0.1	0.1	(0.2)	—
Balance — December 31, 2018 ⁽ⁱ⁾		<u>14.8</u>	<u>157.5</u>	<u>193.0</u>	<u>365.3</u>
Transferred from assets held for sale	6	11.2	1.7	—	12.9
Additions		—	21.7	55.1	76.8
Adjustment through business combinations ⁽ⁱⁱ⁾	3	—	—	(0.3)	(0.3)
Depreciation		—	(20.1)	(53.2)	(73.3)
Write down of assets and other disposals ^{(iii) (iv)}		(2.5)	(6.1)	(17.6)	(26.2)
Foreign exchange and other		0.1	(0.1)	(0.2)	(0.2)
Balance — December 31, 2019 ⁽ⁱ⁾		<u>\$ 23.6</u>	<u>\$ 154.6</u>	<u>\$ 176.8</u>	<u>\$ 355.0</u>

- (i) The net book value of property, plant and equipment at December 31, 2019 included \$7.5 (December 31, 2018 — \$12.8) of leases financed through third parties. See note 12 for the future minimum lease payments under these leases.
- (ii) Adjustments were made in 2019 to reflect the fair value of assets acquired in connection with the Impakt acquisition.
- (iii) Includes the disposal of our Toronto real property in March 2019. See "Toronto Real Property and Related Transactions" below.
- (iv) Includes the write-down of equipment primarily related to our capital equipment business and other disengaged programs (recorded as restructuring charges). See note 16(a).

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We review the carrying amount of property, plant and equipment for impairment whenever events or changes in circumstances (triggering events) indicate that the carrying amount of such assets (or the related CGU or CGUs) may not be recoverable. If any such indication exists, we test the carrying amount of such assets or CGUs for impairment. We did not identify any triggering event during the course of 2017 to 2019 indicating that the carrying amount of such assets or CGUs may not be recoverable. However, we recorded non-cash restructuring charges: (i) in 2017, to write down our then-remaining solar panel manufacturing equipment; (ii) in 2018, to reflect losses on the sale of surplus equipment; and (iii) in 2019, to write-down certain equipment primarily related to our capital equipment business and disengaged programs, in each case in connection with our restructuring activities. See note 16(a).

Toronto Real Property and Related Transactions:

On July 23, 2015, we entered into an agreement of purchase and sale (Property Sale Agreement) to sell our real property located in Toronto, Ontario, which included the site of our corporate headquarters and our Toronto manufacturing operations, to a special purpose entity (the Property Purchaser), a consortium of four real estate partnerships (approximately 27% of the interests of which are held by a privately-held partnership in which Mr. Gerald Schwartz (a controlling shareholder of Celestica) has a material interest; and approximately 25% of the interests of which are held by a partnership in which Mr. Schwartz has a non-voting interest). In September 2018, the Property Sale Agreement was assigned to a new purchaser (Assignee). The Property Purchaser holds a 5% non-voting interest in the Assignee.

On March 7, 2019, we completed the sale of our Toronto real property and received total additional proceeds of \$113.0 (Toronto Proceeds), including a high density bonus and an early vacancy incentive related to the temporary relocation of our corporate headquarters. We recorded a gain of \$102.0 (Property Gain) on the sale in other charges (recoveries) during Q1 2019 (see note 16(c)). No net tax impact was recorded from this sale, as the gain was offset by the utilization of previously unrecognized tax losses. See note 20.

We completed the relocation of our Toronto manufacturing operations in February 2019 (under a long-term lease executed in November 2017). We also entered into a 10-year lease in March 2019 with the Assignee for our new corporate headquarters, to be built by the Assignee on the site of our former location. In connection therewith, we completed the temporary relocation of our corporate headquarters in the second quarter of 2019 (Q2 2019) (pursuant to a 3-year lease executed in September 2018) while our new corporate headquarters is under construction. In connection with such relocations, we capitalized building improvements and equipment costs related to our new manufacturing site (\$1.2 in 2019; approximately \$15 in 2018; nil in 2017) and our temporary corporate headquarters (\$5.0 in 2019; nil prior thereto), and we incurred transition-related costs (\$3.8 in 2019; \$13.2 in 2018; \$1.6 in 2017) which we recorded in other charges. Transition costs are comprised of direct relocation and duplicate costs (such as rent expense, utility costs, depreciation charges, and personnel costs) incurred during the transition periods, as well as cease-use costs incurred in connection with idle or vacated portions of the relevant premises that we would not have incurred but for these relocations.

8. RIGHT-OF-USE ASSETS:

The following table details the changes to the net book value of ROU assets during 2019:

	Land	Buildings	Other	Total
Balance — January 1, 2019	\$ 7.3	\$ 103.5	\$ 0.7	\$ 111.5
Additions	—	27.5	2.1	29.6
Depreciation	(0.6)	(31.6)	(0.3)	(32.5)
Write down of assets and lease terminations ⁽ⁱ⁾	—	(4.7)	—	(4.7)
Foreign exchange and other	0.3	—	(0.1)	0.2
Balance — December 31, 2019	<u>\$ 7.0</u>	<u>\$ 94.7</u>	<u>\$ 2.4</u>	<u>\$ 104.1</u>

(i) During 2019, we recorded \$1.0 (as restructuring charges) to write down certain ROU assets in connection with restructuring actions pertaining to vacated properties, resulting in part from sublet recoveries that were lower than the carrying value of the related leases. See note 16(a). We also terminated several leases in connection with restructuring actions and de-recognized \$3.7 of ROU assets in connection therewith.

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We review the carrying amount of ROU assets for impairment whenever events or changes in circumstances (triggering events) indicate that the carrying amount of such assets (or the related CGU or CGUs) may not be recoverable. If any such indication exists, we test the carrying amount of such assets or CGUs for impairment. We did not identify any triggering event during the course of 2019 indicating that the carrying amount of our ROU assets or related CGUs may not be recoverable. However, we recorded non-cash restructuring charges in 2019 to write-down certain ROU assets related to vacated properties in connection with actions pertaining to our cost efficiency initiative. See note 16(a).

9. GOODWILL AND INTANGIBLE ASSETS:

Goodwill and intangible assets are comprised of the following:

	2018		
	Cost	Accumulated Amortization and Impairment	Net Book Value
Goodwill	\$ 253.8	\$ 55.4	\$ 198.4
Intellectual property	\$ 111.3	\$ 111.3	\$ —
Other intangible assets	508.0	238.2	269.8
Computer software assets	290.1	276.3	13.8
	<u>\$ 909.4</u>	<u>\$ 625.8</u>	<u>\$ 283.6</u>
	2019		
	Cost	Accumulated Amortization and Impairment	Net Book Value
Goodwill	\$ 253.7	\$ 55.4	\$ 198.3
Intellectual property	\$ 111.3	\$ 111.3	\$ —
Other intangible assets	503.2	260.9	242.3
Computer software assets	291.1	282.1	9.0
	<u>\$ 905.6</u>	<u>\$ 654.3</u>	<u>\$ 251.3</u>

The following table details the changes to the net book value of goodwill and intangible assets for the years indicated:

	Note	Goodwill	Other Intangible Assets	Computer Software Assets	Total
Balance — January 1, 2018		\$ 23.2	\$ 10.4	\$ 11.2	\$ 44.8
Additions		—	—	3.3	3.3
Acquisitions through business combinations	3	175.2	271.0	3.0	449.2
Amortization		—	(11.6)	(3.8)	(15.4)
Foreign exchange and other		—	—	0.1	0.1
Balance — December 31, 2018		<u>198.4</u>	<u>269.8</u>	<u>13.8</u>	<u>482.0</u>
Additions		—	—	1.8	1.8
Adjustment through business combinations ⁽ⁱ⁾	3	—	(3.0)	(0.7)	(3.7)
Amortization		—	(24.6)	(5.0)	(29.6)
Write down of assets		—	—	(0.8)	(0.8)
Foreign exchange and other		(0.1)	0.1	(0.1)	(0.1)
Balance — December 31, 2019		<u>\$ 198.3</u>	<u>\$ 242.3</u>	<u>\$ 9.0</u>	<u>\$ 449.6</u>

(i) Adjustments were made in 2019 to reflect the fair value of assets acquired in connection with the Impact acquisition.

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We review the carrying amount of goodwill and intangible assets for impairment whenever events or changes in circumstances (triggering events) indicate that the carrying amount of such assets (or the related CGU or CGUs) may not be recoverable. If any such indication exists, we test the carrying amount of such assets or CGUs for impairment. In addition to an assessment of triggering events during the year, we conduct an Annual Impairment Assessment of CGUs with goodwill in the fourth quarter of each year. We recorded no impairment charges against goodwill or intangible assets during 2017 to 2019, or as a result of our 2017, 2018 or 2019 Annual Impairment Assessments. However, see note 16(a) for a discussion of non-cash restructuring charges recorded in 2017 to 2019 to write-down certain equipment and ROU assets in connection with our restructuring activities.

For our Annual Impairment Assessments, we used cash flow projections based primarily on our plan for the following year and, to a lesser extent, on our three-year strategic plan and other financial projections. Our plans, which are primarily based on financial projections submitted by our subsidiaries along with input from our customer teams, are reviewed by various levels of management as part of our annual planning cycle. The plan for 2020 (used for our 2019 Annual Impairment Assessment) was approved by management and presented to our Board of Directors in December 2019.

The process of determining the recoverable amount of a CGU is subjective and requires management to exercise significant judgment in estimating future growth, profitability, discount and terminal growth rates, among other factors. The assumptions used in our 2019 Annual Impairment Assessment were determined based on past experiences adjusted for expected changes in future conditions. Where applicable, we also engaged independent brokers to obtain market prices to estimate our real property and other asset values. For our 2019 Annual Impairment Assessment, we used cash flow projections over a 5-year period, and applied a perpetuity growth rate of 2% thereafter (consistent with long-term inflation guidance).

Our goodwill balance at December 31, 2019 was \$198.3 (December 31, 2018 — \$198.4; December 31, 2017 — \$23.2). Our capital equipment CGU consists of \$112.5 of goodwill attributable to our acquisition of Impakt in November 2018 and \$19.5 attributable to prior acquisitions. Our A&D CGU consists of goodwill of \$3.7 attributable to our November 2016 acquisition of Lorenz, Inc. and Suntek Manufacturing Technologies, SA de CV, collectively known as Karel Manufacturing. Our Atrenne CGU consists of goodwill of \$62.6 attributable to our April 2018 Atrenne acquisition. See note 3 for further details.

We used the following assumptions for purposes of our Annual Impairment Assessments of goodwill for the periods shown:

Assumption	Capital equipment CGU	A&D CGU	Atrenne CGU
Annual revenue growth rate ⁽¹⁾	2019 — 13% over 5 year period; 2018 — 4% over 5 year period; 2017 — 9% over 6 year period	2019 — modest growth over 5 year period; 2018 — modest growth over 5 year period; 2017 — modest growth over 4 year period	2019 — 4% over 5 year period; 2018 — 12% over 4 year period; 2017 — N/A
Average annual margins	2019 — above company margins; 2018 — above company margins; 2017 — slightly above company margins	2019 — slightly above company margins; 2018 — slightly above company margins; 2017 — used company margins	2019 — above company margins; 2018 — above company margins; 2017 — N/A
Discount rate	2019 — 13%; 2018 — 13%; 2017 — 17%	2019 — 10%; 2018 — 11%; 2017 — 9%	2019 — 10%; ⁽²⁾ 2018 — 13%; 2017 — N/A

(1) Supported by new business awarded in recent years, the expectation of future new business awards, and growth due to our acquisitions.

(2) The decrease in the discount rate used for our Atrenne CGU is supported by the overall decrease in our weighted average cost of capital, as well as the overall strong performance of this business since its acquisition.

Although our capital equipment CGU generated a net operating loss in 2019, our assumptions for this CGU for our 2019 Annual Impairment Assessment reflect our expectation of market recovery in the capital equipment business. Future growth in revenue and margins are supported by new business awarded recently, near-term customer forecasts, improved demand and

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performance commencing in Q4 2019, assumptions for additional future program wins based on our current revenue pipeline, margin improvements based on restructuring actions completed during 2019, and external industry outlooks.

Future events and market conditions may impact our assumptions as to prices, costs or other factors that may result in changes to our estimates of future cash flows. Failure to realize the assumed revenues at an appropriate profit margin of a CGU could result in impairment losses in such CGU in future periods, especially with respect to our capital equipment CGU.

10. OTHER NON-CURRENT ASSETS:

	Note	December 31	
		2018	2019
Net pension assets.....	19	\$ 4.5	\$ 5.1
Land rights.....		10.1	9.7
Deferred investment costs.....		2.9	1.9
Deferred financing costs.....		2.1	2.2
Other.....		10.6	7.5
		<u>\$ 30.2</u>	<u>\$ 26.4</u>

11. PROVISIONS:

Our provisions include restructuring, warranty, legal and other provisions. We have included a description of our restructuring, warranty and legal provisions in note 2(k). We include details of our restructuring provision in note 16(a). The following chart details the changes in our provisions for the year indicated:

	Restructuring	Warranty	Legal ⁽ⁱ⁾	Other ⁽ⁱⁱ⁾	Total
Balance — December 31, 2018.....	\$ 10.3	\$ 18.7	\$ 1.1	\$ 7.5	\$ 37.6
Provisions.....	28.9	11.2	—	0.6	40.7
Reversal of prior year provisions ⁽ⁱⁱⁱ⁾	(0.8)	(3.0)	—	(0.3)	(4.1)
Payments/usage.....	(26.5)	(5.0)	—	(0.4)	(31.9)
Accretion, foreign exchange and other.....	(0.7)	0.2	(0.1)	0.2	(0.4)
Balance — December 31, 2019.....	<u>\$ 11.2</u>	<u>\$ 22.1</u>	<u>\$ 1.0</u>	<u>\$ 7.6</u>	<u>\$ 41.9</u>
Current.....	\$ 11.2	\$ 13.5	\$ 1.0	\$ 0.4	\$ 26.1
Non-current ^(iv)	—	8.6	—	7.2	15.8
December 31, 2019.....	<u>\$ 11.2</u>	<u>\$ 22.1</u>	<u>\$ 1.0</u>	<u>\$ 7.6</u>	<u>\$ 41.9</u>

(i) Legal represents our aggregate provisions recorded for various legal actions based on our estimates of the likely outcomes.

(ii) Other represents our asset retirement obligations relating to properties that we currently lease.

(iii) During 2019, we reversed prior year warranty provisions as a result of expired warranties.

(iv) Non-current balances are included in provisions and other non-current liabilities on our consolidated balance sheet.

At the end of each reporting period, we evaluate the appropriateness of our provisions, and adjustments may be made to reflect actual experience or changes in our estimates.

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12. CREDIT FACILITIES AND LEASE OBLIGATIONS:

In June 2018, we entered into an \$800.0 credit agreement (Credit Facility) with Bank of America, N.A., as Administrative Agent, and the other lenders party thereto, which provides for a \$350.0 term loan (Initial Term Loan) that matures in June 2025, and a \$450.0 revolving credit facility (Revolver) that matures in June 2023. In November 2018, we utilized the accordion feature under our Credit Facility to add an incremental term loan of \$250.0 (Incremental Term Loan), maturing in June 2025. The Initial Term Loan and the Incremental Term Loan are collectively referred to as the Term Loans. Prior to execution of the Credit Facility, we were party to a credit facility (Prior Facility) that consisted of a \$300.0 revolver (Prior Revolver) and a \$250.0 term loan (Prior Term Loan). Our Prior Facility is described in note 12 to our 2017 audited consolidated financial statements.

During Q1 2019, we borrowed \$48.0 under the Revolver, primarily to fund share repurchases (see note 13), and later during that quarter, repaid \$110.0 of the outstanding amount under the Revolver, using the proceeds from the sale of our Toronto real property (see note 7). During the second and third quarters of 2019, we repaid an aggregate of \$97.0 of the amount outstanding under the Revolver.

During the second quarter of 2018 (Q2 2018), we borrowed \$163.0 under the Prior Revolver, primarily to fund the Atrenne acquisition (see note 3) and for working capital requirements. We repaid the then-outstanding amounts under the Prior Revolver (\$163.0) and the Prior Term Loan (\$175.0) in June 2018 using proceeds from the Initial Term Loan. Our Prior Facility was terminated upon such repayments. During the third quarter of 2018, we borrowed \$55.0 under the Revolver for working capital purposes. During the fourth quarter of 2018, we borrowed \$339.5 under the Revolver to fund the Impakt acquisition (see note 3). The net proceeds of the Incremental Term Loan were used to repay \$245.0 of the outstanding amounts under the Revolver.

We made aggregate scheduled principal repayments of \$6.0 under the Term Loans in 2019 (2018 — principal repayments of \$12.5 under the Prior Term Loan and \$1.7 under the Initial Term Loan).

The Initial Term Loan requires quarterly principal repayments of \$0.875, commencing September 30, 2018, and the Incremental Term Loan requires quarterly principal repayments of \$0.625, commencing March 31, 2019, and in each case a lump sum repayment of the remainder outstanding at maturity. Commencing in 2020, we are also required to make an annual prepayment (\$107.0 in 2020) of outstanding obligations under the Credit Facility (applied first to the Term Loans, then to the Revolver, in the manner set forth in the Credit Facility) ranging from 0% — 50% (based on a defined leverage ratio) of specified excess cash flow (as defined in the Credit Facility) for the prior fiscal year. The Toronto Proceeds (note 7) were included in the determination of excess cash flow for 2019. In addition, prepayments of outstanding obligations under the Credit Facility (applied as described above) may also be required in the amount of specified net cash proceeds received above a specified annual threshold (including proceeds from the disposal of certain assets, but excluding the Toronto Proceeds). Except under specified circumstances, and subject to the payment of breakage costs (if any), we are generally permitted to make voluntary prepayments of outstanding amounts under the Revolver and the Term Loans without any other premium or penalty. Repaid amounts on the term loans may not be re-borrowed.

The Credit Facility has an accordion feature that allows us to increase the term loans and/or revolving loan commitments thereunder by approximately \$110, plus an unlimited amount to the extent that a specified leverage ratio on a pro forma basis does not exceed specified limits, in each case on an uncommitted basis and subject to the satisfaction of certain terms and conditions. The Revolver also includes a \$50.0 sub-limit for swing line loans, providing for short-term borrowings up to a maximum of ten business days, as well as a \$150.0 sub-limit for letters of credit, in each case subject to the overall Revolver credit limit. The Revolver permits us and certain designated subsidiaries to borrow funds (subject to specified conditions) for general corporate purposes, including for capital expenditures, certain acquisitions, and working capital needs. Borrowings under the Revolver bear interest at LIBOR, Canadian Prime or Base Rate (each as defined in the Credit Facility) plus a specified margin, or in the case of any bankers' acceptance, at the B/A Discount Rate (as defined in the Credit Facility). The margin for borrowings under the Revolver ranges from 0.75% to 2.5%, and commitment fees range between 0.35% and 0.50%, in each case depending on the rate we select and our consolidated leverage ratio. The Initial Term Loan currently bears interest at LIBOR plus 2.125%. The Incremental Term Loan currently bears interest at LIBOR plus 2.5%. The Credit Facility provides that when the Administrative Agent, the majority of lenders or the Company determines that LIBOR is unavailable or being replaced, the Administrative Agent and the Company may amend the underlying credit agreement to reflect a successor rate. Once LIBOR becomes unavailable, if no successor rate has been established, loans under the Credit Facility will convert to Base Rate loans.

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We are required to comply with certain restrictive covenants under the Credit Facility, including those relating to the incurrence of certain indebtedness, the existence of certain liens, the sale of certain assets (excluding real property then held for sale), specified investments and payments, sale and leaseback transactions, and certain financial covenants relating to a defined interest coverage ratio and leverage ratio that are tested on a quarterly basis. Our Credit Facility also prohibits share repurchases for cancellation if our leverage ratio (as defined in such facility) exceeds a specified amount (Repurchase Restriction). At December 31, 2019, we were in compliance with all restrictive and financial covenants under the Credit Facility. As previously disclosed in the notes to our unaudited interim condensed consolidated financial statements for the third quarter of 2019, we had been in non-compliance with certain restrictive covenants related to the Repurchase Restriction with respect to approximately \$17 in excess share repurchases made in May 2019 under our normal course issuer bid (NCIB). These defaults, as well as related cross defaults, were waived in October 2019 (Waivers). Upon receipt of the Waivers, the Terms Loans were no longer subject to potential acceleration, and our interest rate swap agreements were no longer subject to potential termination, and therefore reverted to their prior long-term classification (they had previously been reclassified to current as of September 30, 2019).

The obligations under the Credit Facility are guaranteed by us and certain specified subsidiaries. Subject to specified exemptions and limitations, all assets of the guarantors are pledged as security for the obligations under the Credit Facility. The Credit Facility contains customary events of default. If an event of default occurs and is continuing (and is not waived), the administrative agent may declare all amounts outstanding under the Credit Facility to be immediately due and payable and may cancel the lenders' commitments to make further advances thereunder. In the event of a payment or other specified defaults, outstanding obligations accrue interest at a specified default rate.

The following table sets forth our borrowings under our Credit Facility*, and our lease obligations, as of December 31, 2019 and 2018:

	Note	December 31 2018	December 31 2019
Borrowings under the Revolver ⁽¹⁾		\$ 159.0	\$ —
Borrowings under the Term Loans ⁽²⁾		598.3	592.3
Total borrowings under Credit Facility		757.3	592.3
Less: unamortized debt issuance costs related to our Term Loans ⁽²⁾		(9.8)	(9.7)
Lease obligations, comprised of lease obligations under IFRS 16 and lease obligations financed through third parties ⁽³⁾	2	10.4	116.1
		<u>\$ 757.9</u>	<u>\$ 698.7</u>
Comprised of:			
Current portion of borrowings under Credit Facility and lease obligations		\$ 107.7	\$ 139.6
Long-term portion of borrowings under Credit Facility and lease obligations		650.2	559.1
		<u>\$ 757.9</u>	<u>\$ 698.7</u>

* excluding ordinary course letters of credit.

- (1) Debt issuance costs were incurred in connection with our Prior Revolver in 2014 (\$1.7) and the Revolver in 2018 (\$3.1) and 2019 (\$1.1), which we deferred as other assets on our consolidated balance sheets and amortize over the term of the relevant revolver. See note 10 for the long-term portion of the deferred financing costs. We accelerated the amortization of \$0.6, representing the remaining portion of unamortized deferred financing costs related to the Prior Revolver, upon termination of the Prior Facility, and recorded it to other charges in June 2018.
- (2) Debt issuance costs were incurred in connection with our Prior Term Loan in 2015 (\$2.1), the Term Loans in 2018 (\$10.3) and 2019 (\$1.6), which we deferred as long-term debt on our consolidated balance sheets and amortize over the term of the relevant term loan using the effective interest rate method. We accelerated the amortization of \$0.6, representing the remaining portion of unamortized deferred financing costs related to the Prior Term Loan, upon termination of the Prior Facility, and recorded it to other charges in June 2018.
- (3) As of December 31, 2019, the current portion of lease obligations was \$28.4 (2018 — \$3.2) and the long-term portion was \$87.7 (2018 — \$7.2). The balance at December 31, 2019 included \$111.2 of lease obligations under IFRS 16.

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The Term Loans require aggregate quarterly principal repayments of \$1.5, and a lump sum repayment of the remainder outstanding at maturity, as well as mandatory prepayments under specified conditions (as described above). At December 31, 2019, the aggregate remaining mandatory principal repayments of the Term Loans were as follows, including a mandatory Term Loan prepayment of \$107.0 due in 2020 based on specified excess cash flow for 2019 (we are currently unable to determine whether further mandatory principal repayments of the Term Loans based on specified excess cash flow or cash proceeds will be required subsequent to 2020):

Years ending December 31	Amount
2020	\$ 113.0
2021	6.0
2022	6.0
2023	6.0
2024	6.0
2025 (to maturity in June 2025)	455.3
	<u>\$ 592.3</u>

We entered into 5-year interest rate swap agreements with a syndicate of third-party banks in August and December 2018 to partially hedge against our exposures to the interest rate variability on our Term Loans. The derivative instruments swap the variable rate of interest for a fixed rate of interest on \$175.0 of the amounts outstanding under each of our Initial Term Loan and our Incremental Term Loan, for an aggregate hedged amount of \$350.0. See note 21.

At December 31, 2019, we had \$21.2 outstanding in letters of credit under the Revolver (December 31, 2018 — \$21.3). We also arrange letters of credit and surety bonds outside of the Revolver. At December 31, 2019, we had \$13.3 (December 31, 2018 — \$14.4) of such letters of credit and surety bonds outstanding. At December 31, 2019, we also had a total of \$142.5 (December 31, 2018 — \$132.8) in uncommitted bank overdraft facilities available for intraday and overnight operating requirements. There were no amounts outstanding under these overdraft facilities at December 31, 2019 or December 31, 2018.

See note 17 for a discussion of finance costs.

At December 31, 2019, the contractual undiscounted cash flows for our lease obligations (comprised of lease obligations under IFRS 16 and lease obligations financed through third-parties) were as follows:

Years ending December 31	Leases financed through third-parties		Other leases	Total
2020	\$ 1.6	\$ 32.5	\$ 34.1	
2021	1.6	25.8	27.4	
2022	1.4	20.7	22.1	
2023	0.9	16.2	17.1	
2024	—	11.2	11.2	
Thereafter	—	23.0	23.0	
	<u>\$ 5.5</u>	<u>\$ 129.4</u>	<u>\$ 134.9</u>	

Other lease related expenses that were recognized in the consolidated statement of operations for 2019 are as follows:

Year ended December 31	2019
Interest expense on lease obligations	\$ 6.6
Variable lease payments not included in the measurement of lease obligations	\$ 0.7
Expenses relating to short-term leases or low-value leases	\$ 4.6

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13. CAPITAL STOCK:

We are authorized to issue an unlimited number of SVS, which entitle the holder to one vote per share, and an unlimited number of multiple voting shares (MVS), which entitle the holder to 25 votes per share. The SVS and MVS vote together as a single class on all matters submitted to a vote of shareholders, including the election of directors, except as otherwise required by law. The holders of the SVS and MVS are entitled to share ratably, as a single class, in any dividends declared subject to any preferential rights of any outstanding preferred shares in respect of the payment of dividends. Each MVS is convertible at any time at the option of the holder thereof and automatically, under certain circumstances, into one SVS. We are also authorized to issue an unlimited number of preferred shares, issuable in series. No preferred shares have been issued to date.

(a) Capital transactions:

<u>Number of shares (in millions)</u>	<u>SVS</u>	<u>MVS</u>
Issued and outstanding at December 31, 2016	121.9	18.9
Issued from treasury ⁽ⁱ⁾	2.8	—
Cancelled under NCIB	(1.9)	—
Other ⁽ⁱⁱ⁾	0.35	(0.35)
Issued and outstanding at December 31, 2017	123.2	18.6
Issued from treasury ⁽ⁱ⁾	1.3	—
Cancelled under NCIB	(6.8)	—
Issued and outstanding at December 31, 2018	117.7	18.6
Issued from treasury ⁽ⁱ⁾	0.8	—
Cancelled under NCIB	(8.3)	—
Issued and outstanding at December 31, 2019	<u>110.2</u>	<u>18.6</u>

(i) During 2019, we issued nil (2018 — 0.1 million; 2017 — 1.7 million) SVS from treasury upon the exercise of stock options for aggregate cash proceeds of nil (2018 — \$0.4; 2017 — \$13.6). We issued 0.8 million (2018 — 1.2 million; 2017 — 1.1 million) SVS from treasury with ascribed values of \$10.4 (2018 — \$14.3; 2017 — \$9.8) upon the vesting of certain RSUs and PSUs. We also settled RSUs and PSUs with SVS purchased in the open market. Settlement of these awards is described below.

(ii) During 2017, Onex Corporation converted 346,175 MVS into SVS. Onex Corporation did not convert any MVS in 2018 or 2019.

We have repurchased SVS in the open market and otherwise for cancellation in recent years pursuant to NCIBs, which allow us to repurchase a limited number of SVS during a specified period. However, our Credit Facility prohibits share repurchases for cancellation if our leverage ratio (as defined in such facility) exceeds a specified amount. This prohibition (Repurchase Restriction) was in effect at December 31, 2019. The maximum number of SVS we are permitted to repurchase for cancellation under each NCIB (when permitted) is reduced by the number of SVS purchased by a broker in the open market during the term of such NCIB to satisfy obligations under our SBC plans. The Repurchase Restriction is not applicable to open market purchases for this purpose.

In December 2018, we launched an NCIB (2018 NCIB) which was completed in December 2019. The 2018 NCIB allowed us to repurchase, at our discretion, up to approximately 9.5 million SVS in the open market, or as otherwise permitted. In November 2017, we launched an NCIB (2017 NCIB) which was completed in November 2018. The 2017 NCIB allowed us to repurchase, at our discretion, up to approximately 10.5 million SVS in the open market, or as otherwise permitted.

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Information regarding share repurchase activities under our NCIBs for the years indicated is set forth below:

	Year ended December 31		
	2017	2018	2019
Aggregate cost ⁽¹⁾ of SVS repurchased for cancellation	\$ 19.9	\$ 75.5	\$ 67.3
Number of SVS repurchased for cancellation (in millions)	1.9	6.8	8.3
Weighted average price per share for repurchases	\$ 10.58	\$ 11.10	\$ 8.15
Aggregate cost ⁽¹⁾ of SVS repurchased for delivery under SBC plans	\$ 16.7	\$ 22.4	\$ 9.2
Number of SVS repurchased for delivery under SBC plans (in millions)	1.4	2.1	1.2

⁽¹⁾ Includes transaction fees.

	December 31		
	2017	2018	2019
Number of SVS held by trustee for delivery under SBC plans ⁽¹⁾ (in millions)	0.8	1.9	1.7
Value of SVS held by trustee for delivery under SBC plans ⁽¹⁾	\$ 8.7	\$ 20.2	\$ 14.8

⁽¹⁾ For accounting purposes, we classify these shares as treasury stock until they are delivered pursuant to the plans.

(b) Employee SBC:

Long-Term Incentive Plan (LTIP):

Under the LTIP, we may grant stock options, stock appreciation rights, RSUs and PSUs to eligible employees, consultants and directors. We may, at the time of grant, authorize the grantees to settle these awards either in cash or in SVS. Absent such permitted election, such grants under the LTIP will be settled in SVS (on a one-for-one basis), which we may purchase in the open market, or issue from treasury (up to a maximum aggregate of 29.0 million SVS). As of December 31, 2019, 10.3 million SVS remain reserved for issuance from treasury, covering potential issuances of SVS for outstanding awards and for potential future grants of SBC under the LTIP.

Celestica Share Unit Plan (CSUP):

Under the CSUP, we may grant RSUs and PSUs to eligible employees. We have the option to settle RSUs and PSUs issued thereunder in SVS (on a one-for-one basis) purchased in the open market, or in cash.

For RSUs and DSUs issued to eligible directors under our Directors' Share Compensation Plan (DSC Plan), see paragraph (c) below.

Information regarding employee SBC expense for the years indicated is set forth below:

	Year ended December 31		
	2017	2018	2019
Employee SBC expense in cost of sales	\$ 14.6	\$ 14.7	\$ 14.6
Employee SBC expense in SG&A	15.5	18.7	19.5
Total	<u>\$ 30.1</u>	<u>\$ 33.4</u>	<u>\$ 34.1</u>

Employee SBC expense varies from period-to-period. The portion of such expense that relates to performance-based compensation generally varies depending on our level of achievement of pre-determined performance goals and financial targets.

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(i) Stock options:

We are permitted to grant stock options under our LTIP, although no stock options have been granted in 2017, 2018 or 2019. When granted, stock options are granted at prices equal to the closing market price on the day prior to the grant date and are exercisable during a period not to exceed 10 years from the grant date.

Stock option transactions were as follows for the years indicated:

	<u>Number of Options</u> (in millions)	<u>Weighted Average Exercise Price</u>
Outstanding at January 1, 2017	2.1	\$ 8.46
Exercised	(1.7)	\$ 7.87
Outstanding at December 31, 2017	0.4	\$ 12.14
Exercised	(0.1)	\$ 6.20
Outstanding at December 31, 2018	0.3	\$ 11.93
Exercised	—	\$ —
Outstanding at December 31, 2019	<u>0.3</u>	<u>\$ 12.50</u>

The following stock options* were outstanding as at December 31, 2019:

<u>Range of Exercise Prices</u>	<u>Outstanding Options</u> (in millions)	<u>Weighted Average Exercise Price</u>	<u>Weighted Average Remaining Life of Outstanding Options</u> (years)	<u>Exercisable Options</u> (in millions)	<u>Weighted Average Exercise Price</u>
\$6.35 - \$13.46	0.3	\$12.50	5.2	0.3	\$12.50

* The exercise prices used in the above tables were determined by converting the grant date fair value into U.S. dollars at the year-end exchange rate.

We amortize the estimated grant date fair value of stock options to expense over the vesting period (generally four years). The grant date fair value of outstanding stock options was determined using the Black-Scholes option pricing model and the following assumptions in the year of the grant: risk-free interest rate (based on U.S. government bond yields), expected volatility of the market price of our shares (based on historical volatility of our share price), and the expected option life (in years) (based on historical option holder behavior).

(ii) RSUs and PSUs:

We grant RSUs and PSUs to employees pursuant to our LTIP and CSUP. Each vested unit generally entitles the holder to receive one SVS. Under the CSUP, we have the option to satisfy the delivery of shares upon vesting of the awards by purchasing SVS in the open market or by settling such awards in cash. Under the LTIP, we may (at the time of grant) authorize the grantees to settle awards in either cash or SVS (absent such permitted election, grants will be settled in SVSs, which we may purchase in the open market or issue from treasury, subject to certain limits). We have generally settled these awards with SVS purchased in the open market by a broker, or issued from treasury. Unless a grantee has been authorized, and elects, to settle these awards in cash, Celestica intends to, settle all RSUs and PSUs with shares purchased in the open market. As a result, we have accounted for these awards as equity-settled awards. We amortize the grant date fair value of RSUs and PSUs to expense over the vesting period.

The grant date fair value of RSUs is based on the market value of our SVS at the time of grant.

With respect to PSUs, employees are granted a target number of PSUs (set forth for the years indicated in the table below). The number of PSUs that will actually vest will vary from 0% to 200% of the target amount granted based on the level of achievement of the relevant performance conditions. PSUs (representing in each case 100% of target) were primarily granted in the first quarter of each of 2017, 2018 and 2019. The PSUs granted in 2018 and 2019 vest based on the level of achievement of a pre-determined non-market performance measurement in the final year of the three-year performance period, subject to

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modification by a separate pre-determined non-market financial target and our relative TSR performance over the three-year vesting period. See note 2(l) for a description of TSR. We estimated the grant date fair value of the TSR modifier using a Monte Carlo simulation model and a premium of 102% (2018 — 106%). The grant date fair value of the non TSR-based performance measurement and modifier was based on the market value of our SVS at the time of grant and is subject to adjustment in subsequent years to reflect a change in the estimated level of achievement related to the applicable performance condition. 60% of the PSUs granted in 2017 vested based on the achievement of a market performance condition tied to TSR, and the balance vested based on a pre-determined non-market performance measurement in the final year of the three-year performance period. We estimated the grant date fair value of the 2017 TSR-based PSUs using a Monte Carlo simulation model (premium of 143%). The grant date fair value of the 2017 non-TSR-based PSUs was based on the market value of our SVS at the time of grant and was subject to adjustment in subsequent years to reflect a change in the estimated level of achievement related to the applicable performance condition. Vested awards were settled with SVS purchased in the open market by a broker or issued from treasury.

Information regarding RSU and PSU grants to employees and directors (see below), as applicable, for the years indicated is set forth below:

	Year ended December 31		
	2017	2018	2019
<i>RSUs Granted:</i>			
Number of awards (in millions).....	1.9	2.6	3.0
Weighted average grant date fair value per unit.....	\$ 13.05	\$ 10.48	\$ 7.88
<i>PSUs Granted:</i>			
Number of awards (in millions, representing 100% of target).....	0.9	1.6	2.1
Weighted average grant date fair value per unit.....	\$ 17.18	\$ 11.11	\$ 8.14
	December 31		
	2017	2018	2019
Number of outstanding RSUs (in millions).....	3.2	3.8	4.6
Number of outstanding PSUs (in millions, representing 100% of target granted).....	2.5	3.2	3.8

(c) Director SBC:

We grant DSUs to certain members of our Board of Directors under our DSC Plan. Commencing in 2019, we also grant RSUs (under specified circumstances) to directors as compensation under the DSC Plan. DSUs granted prior to January 1, 2007 may be settled with SVS issued from treasury or purchased in the open market, or with cash (at the discretion of the Company). DSUs granted after January 1, 2007 to directors as compensation may only be settled with SVS purchased in the open market, or with cash (at the discretion of the Company). RSUs granted to directors vest ratably over a three-year period. Such RSUs are governed by the terms of our LTIP. Each vested RSU entitles the holder thereof to one SVS; however, if permitted by the Company under the terms of the grant, a director may elect to receive a payment of cash in lieu of SVS. Unvested RSUs will vest immediately on the date the director Retires. See note 2(l) for details. During 2017, two of our directors resigned from the Board and in connection therewith, we settled their outstanding DSUs in 2017 in accordance with the provisions of the DSC Plan. Specifically, we paid \$1.7 in cash to Joseph M. Natale to settle his outstanding DSUs, and we settled the outstanding DSUs of Thomas S. Gross with 14,098 SVS that we purchased in the open market. As Celestica is permitted to, and currently intends to, settle all other DSUs with shares purchased in the open market, we have accounted for these awards as equity-settled awards.

On January 29, 2020, William A. Etherington, our former Chair of the Board, retired from Celestica's Board of Directors and Michael M. Wilson (a director since 2011) was immediately appointed as Chair of the Board. In accordance with the DSC Plan, the DSUs held by Mr. Etherington will be redeemed and payable on or prior to the 90th day following the date on which he is no longer a director or employee of any corporation that does not deal at arm's length with the Company. As of January 29, 2020, Mr. Etherington held 0.47 million DSUs.

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Information regarding director SBC expense for the years indicated is set forth below:

	Year ended December 31		
	2017	2018	2019
Director SBC expense in SG&A	\$ 2.2	\$ 2.0	\$ 2.4

	December 31		
	2017	2018	2019
Number of DSUs outstanding (in millions)	1.5	1.6	1.8
Number of RSUs issued to directors outstanding (in millions)	—	—	0.02

14. ACCUMULATED OTHER COMPREHENSIVE LOSS, NET OF TAX:

	Note	Year ended December 31		
		2017	2018	2019
Opening balance of foreign currency translation account		\$ (15.2)	\$ (14.5)	\$ (14.4)
Foreign currency translation adjustments		0.7	0.1	(0.2)
Closing balance		(14.5)	(14.4)	(14.6)
Opening balance of unrealized net gain (loss) on currency forward cash flow hedges		\$ (9.5)	\$ 7.8	\$ (7.7)
Net gain (loss) on currency forward cash flow hedges ⁽ⁱ⁾		27.9	(14.7)	6.7
Reclassification of net loss (gain) on currency forward cash flow hedges to operations ⁽ⁱⁱ⁾		(10.6)	(0.8)	4.1
Closing balance ⁽ⁱⁱⁱ⁾		7.8	(7.7)	3.1
Opening balance of unrealized net gain (loss) on interest rate swap cash flow hedges		\$ —	\$ —	\$ (4.4)
Net loss on interest rate swap cash flow hedges		—	(4.8)	(10.2)
Reclassification of net loss on interest rate swap cash flow hedges to operations		—	0.4	2.5
Closing balance ^(iv)		—	(4.4)	(12.1)
Actuarial gains (losses) on pension and non-pension post-employment benefit plans	19	\$ (1.2)	\$ 8.4	\$ (8.7)
Reclassification of actuarial losses (gains) to deficit		1.2	(8.4)	8.7
Loss on purchase of pension annuities	19	(17.0)	(63.3)	—
Reclassification of loss on purchase of pension annuities to deficit	19	17.0	63.3	—
Closing balance		—	—	—
Accumulated other comprehensive loss		<u>\$ (6.7)</u>	<u>\$ (26.5)</u>	<u>\$ (23.6)</u>

- (i) Net of income tax expense of \$0.2 for 2019 (2018 — net of \$1.0 income tax benefit; 2017 — net of \$2.8 income tax expense).
- (ii) Net of release of income tax benefit of \$0.5 associated with the reclassification of net hedge (gain) loss to operations for 2019 (2018 — net of release of \$0.7 of income tax expense; 2017 — net of release of \$0.3 of income tax expense).
- (iii) Net of income tax expense of \$0.2 as of December 31, 2019 (December 31, 2018 — net of \$0.5 of income tax benefit; December 31, 2017 — net of \$1.2 of income tax expense).
- (iv) No income tax impact as of December 31, 2019 or December 31, 2018.

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We expect that the majority of net gains or losses on foreign exchange cash flow hedges reported in the 2019 accumulated other comprehensive loss balance will be reclassified to operations during 2020, primarily in cost of sales, as the underlying expenses that are being hedged are primarily included in cost of sales. The gains or losses on interest rate swap cash flow hedges will be released from OCI to finance costs in each of the respective interest payment periods during the 5-year term of the swap agreements, which mature in 2023 if the options to cancel remain unexercised.

15. EXPENSES BY NATURE:

We have presented our consolidated statement of operations by function.

Items included in our cost of sales and SG&A for the years indicated are set forth below:

	Year ended December 31		
	2017	2018	2019
Employee-related costs	\$ 726.4	\$ 804.7	\$ 815.2
SBC expense included in above employee-related costs	30.1	33.4	34.1
Freight and transportation costs	79.3	97.0	90.3
Depreciation expense (including depreciation on ROU assets in 2019) ⁽ⁱ⁾	67.6	73.7	105.8
Rental expense ⁽ⁱ⁾	28.5	35.4	5.3

(i) Effective January 1, 2019, we adopted the new lease accounting standards under IFRS 16 and recognized ROU assets and related lease obligations on our balance sheet. The amortization of the ROU assets is recorded as a depreciation expense (\$32.5 for 2019), and the interest expense on the related lease obligations is recognized as finance costs in our consolidated statement of operations. Prior to the adoption of IFRS 16, we recognized rental expenses on a straight-line basis over the lease term generally in cost of sales or SG&A in our consolidated statement of operations. We continue to expense the costs of low-value and short-term leases in our consolidated statement of operations on a straight-line basis over the lease term as rental expense (\$5.3 for 2019). See note 12 for disclosure of lease expenses.

16. OTHER CHARGES (RECOVERIES):

	Note	Year ended December 31		
		2017	2018	2019
Restructuring charges (a)		\$ 28.9	\$ 35.4	\$ 37.9
Losses on pension and non-pension post-employment benefit plans (b)	19	1.9	—	4.1
Transition Costs (Recoveries) (c)	7	1.6	13.2	(95.8)
Credit Facility-related charges (d)		—	1.2	2.0
Acquisition Costs and other (e)		4.6	11.2	1.9
		<u>\$ 37.0</u>	<u>\$ 61.0</u>	<u>\$ (49.9)</u>

(a) *Restructuring:*

Our restructuring charges for the years indicated were comprised of the following:

	Year ended December 31		
	2017	2018	2019
Cash charges	\$ 25.1	\$ 35.2	\$ 28.1
Non-cash charges	3.8	0.2	9.8
	<u>\$ 28.9</u>	<u>\$ 35.4</u>	<u>\$ 37.9</u>

We recorded an aggregate of \$81.3 in restructuring charges from the commencement of our cost efficiency initiative (CEI) in the fourth quarter of 2017 through its completion at the end of 2019. The CEI included actions related to our previously-disclosed CCS segment portfolio review (CCS Review) and our capital equipment business, and resulted in reductions to our workforce, as well as consolidation of certain sites to better align capacity and infrastructure with current and anticipated customer

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demand, related transfers of customer programs and production, re-alignment of business processes, management reorganizations, and other associated activities.

We recorded restructuring charges of \$37.9 in 2019, all in connection with our CEI, consisting of cash charges of \$28.1, primarily for employee termination costs, and non-cash charges of \$9.8. The non-cash restructuring charges recorded in 2019 represented the write-down of certain equipment, primarily related to our capital equipment business and disengaged programs, and the write down of ROU assets (\$1.0) pertaining to vacated properties, resulting in part from certain sublet recoveries that were lower than the carrying value of the related leases. Our restructuring provision at December 31, 2019 was \$11.2 (December 31, 2018 — \$10.3), which we recorded in the current portion of provisions on our consolidated balance sheet. See note 11.

We recorded restructuring charges of \$35.4 in 2018, all in connection with our CEI, consisting of cash charges of \$35.2, primarily for consultant costs, and employee and lease termination costs, and non-cash charges of \$0.2, representing losses on the sale of surplus equipment. We recorded restructuring charges of \$28.9 in 2017. Our restructuring charges for 2017 consisted of cash charges of \$25.1, comprised of employee termination costs related to our Organizational Design and Global Business Services initiatives (each of which were completed in 2017), costs in connection with the rationalization of certain operations in the third quarter of 2017, and \$8.0 of charges in connection with our CEI in the fourth quarter of 2017, and net non-cash charges of \$3.8 to write down the carrying value of our solar panel manufacturing equipment which we have since sold.

See notes 2(k) and 11 for further details regarding our restructuring provisions.

(b) Losses on pension and non-pension post-employment benefit plans:

In April 2017, the trustees of our U.K. supplementary pension plan entered into an agreement with a third party insurance company to purchase an annuity for all participants of this plan, all of whom are retired. The cost of the annuity resulted in a non-cash loss of \$1.9 which we recorded during the second quarter of 2017 in other charges in our consolidated statement of operations. Also see note 19 for a discussion of non-cash losses recorded in OCI in each of March 2017 and June 2018 in connection with annuities we purchased for participants in our U.K. main pension plan.

During Q4 2019, we recorded non-cash charges of \$4.1, representing additional obligations under our Thailand post-employment benefit plan as a result of recent changes in labor protection laws in Thailand that increase severance benefits for specified employees upon termination.

(c) Transition Costs (Recoveries):

Transition Costs are comprised of transition-related relocation and duplicate costs pertaining to: (i) the relocation of our Toronto manufacturing operations and our corporate headquarters in connection with the sale of our Toronto real property (Toronto Transition Costs); and (ii) the transfer of certain capital equipment manufacturing lines from closed sites to other sites within our global network in response to the current capital equipment demand environment (Internal Relocation Costs). Transition Costs consist of direct relocation and duplicate costs (such as rent expense, utility costs, depreciation charges, and personnel costs) incurred during the transition periods, as well as cease-use costs incurred in connection with idle or vacated portions of the relevant premises. Transition Recoveries consist of the \$102.0 Property Gain we recorded in Q1 2019. See note 7 for a discussion of Toronto Transition Costs and the sale of our Toronto real property. We recorded \$2.4 of Internal Relocation Costs in 2019 (no such costs were recorded prior to the third quarter of 2019).

(d) Credit Facility-related charges:

During the second quarter of 2018, we recorded a \$1.2 charge to accelerate the amortization of unamortized deferred financing costs related to the extinguishment of the Prior Facility. See note 12. During Q4 2019, we incurred \$2.0 in fees in connection with obtaining the Waivers in October 2019 (Waiver Fees).

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(e) *Acquisition Costs and other:*

During 2019, we recorded \$3.9 (2018 — \$11.0; 2017 — \$4.5) in Acquisition Costs. See note 3. Acquisition Costs in 2019 and 2017 were offset in part by legal recoveries in connection with the settlement of class action lawsuits in which we were a plaintiff. The 2017 recoveries of \$1.1 were partially offset by costs we recorded for unrelated legal matters.

17. FINANCE COSTS:

Finance costs consist of interest expense and fees related to our Credit Facility (including debt issuance and related amortization costs), our interest rate swap agreements, our A/R sales program and SFPs, and, commencing in Q1 2019, interest expense on our lease obligations under IFRS 16, net of interest income earned. We paid finance costs of \$44.5 in 2019 (2018 — \$36.0; 2017 — \$10.2). See notes 4 and 12. We paid \$2.0 in Waiver Fees in 2019, which we recorded in Other Charges (see note 16(d)).

18. RELATED PARTY TRANSACTIONS:

Onex Corporation (Onex) beneficially owns, controls, or directs, directly or indirectly, all of our outstanding MVS. Accordingly, Onex has the ability to exercise significant influence over our business and affairs and generally has the power to determine all matters submitted to a vote of our shareholders where the SVS and MVS vote together as a single class. Mr. Gerald Schwartz, the Chairman of the Board, President and Chief Executive Officer of Onex, indirectly owns shares representing the majority of the voting rights of the shares of Onex.

We are party to a Services Agreement with Onex for the services of Mr. Tawfiq Popatia, an officer of Onex, as a director of Celestica, pursuant to which Onex receives compensation for such services. This agreement automatically renews for successive one-year terms unless either party provides a notice of intent not to renew. Under such agreement, the annual fee payable to Onex is \$0.235, payable in DSUs in equal quarterly installments, in arrears. The Services Agreement terminates automatically and the rights of Onex to receive compensation (other than accrued and unpaid compensation) will terminate (a) 30 days after the first day on which Onex ceases to hold at least one MVS of Celestica or any successor company or (b) the date Mr. Popatia ceases to be a director of Celestica for any reason.

See note 7 for details with respect to Mr. Schwartz's interest in the Property Purchaser, and the Property Purchaser's 5% non-voting interest in the Assignee.

Compensation of key management personnel:

Our key management team consists of directors and senior executive officers. The aggregate compensation expenses we recognized under IFRS for our directors and senior executive officers were as follows:

	Year ended December 31		
	2017	2018	2019
Short-term employee benefits and costs	\$ 7.5	\$ 6.2	\$ 4.4
Post-employment and other long-term benefits	0.6	0.3	0.3
SBC (including DSUs and RSUs to eligible directors)	12.4	14.8	15.6
	\$ 20.5	\$ 21.3	\$ 20.3

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19. PENSION AND NON-PENSION POST-EMPLOYMENT BENEFIT PLANS:

(a) Plan summaries:

We provide pension and non-pension post-employment benefit plans for our employees. At December 31, 2019, such plans included a defined benefit pension plan for our employees in the United Kingdom (U.K.) (U.K. main pension plan), that generally provides participants with stated benefits on retirement based on their pensionable service, either in annuities and/or lump sum payments. The U.K. main pension plan is closed to new members, and approximately 1% of such plan members remain active employees of the Company. Our previous supplementary pension plan for U.K. employees (described below) was wound-up in 2019. Defined contribution pension plans are offered to certain employees, mainly in Canada and the U.S. We provide non-pension post-employment benefits (under other benefit plans) to retired and terminated employees in Canada, the U.S., Mexico and Thailand. These benefits may include one-time retirement and specified termination benefits, medical, surgical, hospitalization coverage, supplemental health, dental and/or group life insurance.

In March 2017, the trustees of our U.K. main pension plan entered into an agreement with a third party insurance company to purchase an annuity for participants in such plan who have retired. The cost of the annuity was £123.7 million (approximately \$154.3 at the exchange rate at the time of recording) and was funded with existing plan assets. The annuity is held as an asset of the main pension plan. Although we retain ultimate responsibility for the payment of benefits to plan participants, the annuity substantially hedges the financial risk component of the associated pension obligations for such retired participants. The purchase of the annuity resulted in a non-cash loss of \$17.0 which we recorded in OCI and simultaneously re-classified to deficit during the first quarter of 2017. We also reduced the value of our pension assets by \$17.0 during the first quarter of 2017, which was recorded in other non-current assets on our consolidated balance sheet.

In April 2017, the trustees of our U.K. supplementary pension plan entered into an agreement with a third party insurance company to purchase an annuity for all participants of this plan, all of whom were retired. The cost of the annuity was £9.1 million (approximately \$11.7 at the exchange rate at the time of recording) and was funded with existing plan assets. The annuity was held as an asset of such plan. The purchase of the annuity resulted in a non-cash loss of \$1.9 which we recorded during the second quarter of 2017 in other charges (see note 16(b)) in our consolidated statement of operations, with a corresponding reduction in the value of our pension assets which was recorded in other non-current assets on our consolidated balance sheet. As we anticipated winding up this plan after the purchase of the annuity, the non-cash loss was recorded through our consolidated statement of operations.

In June 2018, the trustees of the U.K. main pension plan entered into an agreement with a third party insurance company to purchase an annuity for participants in such plan who have not yet retired. The cost of the annuity was £156.1 million (approximately \$209.2 at the exchange rate at the time of recording) and was funded with existing plan assets. The purchase of the annuity resulted in a non-cash loss of \$63.3 for the second quarter of 2018 which we recorded in OCI and simultaneously re-classified to deficit, and the recognition of an additional pension obligation on our consolidated balance sheet after we fully reduced the pension asset to zero. The cost of the annuities is subject to a true-up adjustment in the near term, and we may be required to pay additional premium amounts after completion of data verification of all participants.

The overall governance of our pension plans is conducted by our Human Resources and Compensation Committee which, through annual reviews, approves material plan changes, reviews funding levels, investment performance, compliance matters and plan assumptions, and ensures that the plans are administered in accordance with local statutory requirements. We have established a Pension Committee to govern our Canadian pension plans. The U.K. pension plan is governed by a Board of Trustees, composed of employee and company representation. Both the Canadian Pension Committee and the U.K. Board of Trustees review funding levels, investment performance and compliance matters for their respective plans. Our pension funding policy is to contribute amounts sufficient, at minimum, to meet local statutory funding requirements. For our defined benefit pension plans (primarily U.K.), local regulatory bodies either define the minimum funding requirement or approve the funding plans submitted by us. We may make additional discretionary contributions taking into account actuarial assessments and other factors. The contributions that we make to support ongoing plan obligations are recorded in the respective asset or liability accounts on our consolidated balance sheet.

Our U.K. plan requires an actuarial valuation to be completed every three years. The actuarial valuation was completed using a measurement date of April 2019; the next valuation will have a measurement date of April 2022.

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We currently fund our non-pension post-employment benefit plans as we incur benefit payment obligations thereunder. Excluding our mandatory plans, the most recent actuarial valuations for our largest non-pension post-employment benefit plans were completed using measurement dates of May 2019 (Canada) and December 2019 (U.S.). The next actuarial valuations for these plans will have measurement dates of May 2022 and December 2020, respectively. We accrue the expected costs of providing non-pension post-employment benefits during the periods in which the employees render service. We used a measurement date of December 31, 2019 for the accounting valuation for pension and non-pension post-employment benefits.

Our pension plans are exposed to market risks such as changes in interest rates, inflation, and fluctuations in investment values, as well as financial risks including counterparty risks of financial institutions from which annuities have been purchased for specified plans. See note 21(c). Our plans are also exposed to non-financial risks, including the membership's mortality and demographic changes, as well as regulatory changes.

We manage the funding level risk of defined benefit pension plans through our asset allocation strategy for each plan. In the U.K., the majority of the obligations under our remaining U.K. defined benefit pension plan have been hedged with the purchase of annuities with insurance companies as described above.

Pension fund assets are invested primarily in fixed income and equity securities. Asset allocation between fixed income and equity securities is adjusted based on the expected life of the plan and the expected retirement dates of the plan participants. Our pension funds do not invest directly in our shares, but may invest indirectly as a result of the inclusion of our shares in certain investment funds. All of our plan assets are measured at their fair value using inputs described in the fair value hierarchy in note 21. At December 31, 2019, \$28.7 (December 31, 2018 — \$26.5) of our plan assets were measured using Level 1 inputs of the fair value hierarchy and \$299.8 (December 31, 2018 — \$266.5) of our plan assets (comprised of insurance annuities) were measured using Level 3 inputs of the fair value hierarchy. At December 31, 2019, none (December 31, 2018 — none) of our plan assets were measured using Level 2 inputs of the fair value hierarchy. Approximately 97% of our plan assets consist of annuities purchased with insurance companies and assets held with financial institutions with a Standard and Poor's long-term rating of A- or above at December 31, 2019. The annuities purchased for the U.K. pension plans are held with financial institutions that are governed by local regulatory bodies. The remaining assets are held with financial institutions where ratings are not available or are below A-. For these institutions, Celestica monitors counterparty risk based on the diversification of plan assets. These plan assets are maintained in segregated accounts by a custodian that is independent from the fund managers. We believe that the counterparty risk is low.

Plan assets are measured at their fair values; however, the amounts we are permitted to record for defined benefit plan assets may be restricted under IFRS. See note 2(1) for a description of this restriction. Based on a review of the terms, conditions, and statutory minimum funding requirements of our defined benefit plans, we have determined that the present value of future pension refunds or reductions in future contributions to our pension plans exceeds the total of the fair value of plan assets net of the present value of related obligations. This determination was made on a plan-by-plan basis. As a result of our assessment, there were no reductions to the amounts we recorded for defined benefit plan assets as at December 31, 2019 or 2018.

(b) Plan financials:

The table below presents the market value of plan assets:

	Fair Market Value at December 31		Actual Asset Allocation (%) at December 31	
	2018	2019	2018	2019
Quoted market prices:				
Debt investment funds	\$ 10.2	\$ 10.3	4%	3%
Equity investment funds	6.6	7.4	2%	2%
Non-quoted market prices:				
Insurance annuities	266.5	299.8	91%	91%
Other	9.7	11.0	3%	4%
Total	\$ 293.0	\$ 328.5	100%	100%

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The following tables provide a summary of the financial position of our pension and other benefit plans:

	Pension Plans		Other Benefit Plans	
	Year ended December 31		Year ended December 31	
	2018	2019	2018	2019
Plan assets, beginning of year	\$ 395.5	\$ 293.0	\$ —	\$ —
Interest income	9.4	8.0	—	—
Actuarial gains (losses) in other comprehensive income ⁽ⁱ⁾	(82.2)	27.8	—	—
Administrative expenses paid from plan assets	(1.4)	(1.2)	—	—
Employer contributions	2.7	2.9	—	0.9
Employer direct benefit payments	1.0	0.8	2.3	3.0
Employer direct settlement payments	—	—	2.5	5.2
Settlement payments from employer	—	—	(2.5)	(5.2)
Settlement payments from plan	0.1	—	—	(0.2)
Benefit payments from plan	(12.7)	(12.0)	—	(0.2)
Benefit payments from employer	(1.0)	(0.8)	(2.3)	(3.0)
Foreign currency exchange rate changes and other	(18.4)	10.0	—	1.3
Plan assets, end of year	<u>\$ 293.0</u>	<u>\$ 328.5</u>	<u>\$ —</u>	<u>\$ 1.8</u>

- (i) Actuarial gains or losses are determined based on actual return on plan assets less interest income as set forth in the table above. For 2018, includes a \$63.3 loss resulting from the purchase of annuities in June 2018 (see note 19(a) above).

	Pension Plans		Other Benefit Plans	
	Year ended December 31		Year ended December 31	
	2018	2019	2018	2019
Accrued benefit obligations, beginning of year	\$ 355.8	\$ 309.6	\$ 75.5	\$ 68.1
Current service cost	1.8	1.9	2.2	2.6
Past service cost and settlement/curtailment losses ⁽ⁱ⁾	0.1	—	1.2	8.0
Interest cost	8.6	8.6	2.6	2.6
Actuarial losses (gains) in other comprehensive income from:				
— Changes in demographic assumptions	(3.7)	(0.4)	—	(1.7)
— Changes in financial assumptions	(19.9)	31.1	(3.5)	11.4
— Experience adjustments	0.2	(2.9)	(0.5)	(0.7)
Settlement payments from employer	—	—	(2.5)	(5.2)
Settlement payments from plan	0.1	—	—	(0.2)
Benefit payments from plan	(12.7)	(12.0)	—	(0.2)
Benefit payments from employer	(1.0)	(0.8)	(2.3)	(3.0)
Foreign currency exchange rate changes and other	(19.7)	10.9	(4.6)	5.7
Accrued benefit obligations, end of year	<u>\$ 309.6</u>	<u>\$ 346.0</u>	<u>\$ 68.1</u>	<u>\$ 87.4</u>
Weighted average duration of benefit obligations (in years)	18	18	13	13

- (i) For 2019, past service costs of \$4.1 were incurred for additional obligations under our Thailand post-employment benefit plan as a result of recent changes in labor protection laws in Thailand that increase severance benefits for specified employees upon termination. See note 16(b). The settlement losses relate to employee terminations in connection with 2019 restructuring actions.

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The present value of the defined benefit obligations, the fair value of plan assets and the surplus or deficit in our defined benefit pension and other benefit plans are summarized as follows:

	Pension Plans December 31		Other Benefit Plans December 31	
	2018	2019	2018	2019
Accrued benefit obligations, end of year	\$ (309.6)	\$ (346.0)	\$ (68.1)	\$ (87.4)
Plan assets, end of year	293.0	328.5	—	1.8
Deficiency of plan assets over accrued benefit obligations	<u>\$ (16.6)</u>	<u>\$ (17.5)</u>	<u>\$ (68.1)</u>	<u>\$ (85.6)</u>

The following table outlines the plan balances as reported on our consolidated balance sheet:

	December 31 2018			December 31 2019		
	Pension Plans	Other Benefit Plans	Total	Pension Plans	Other Benefit Plans	Total
Pension and non-pension post-employment benefit obligations	\$ (21.1)	\$ (67.7)	\$ (88.8)	\$ (22.6)	\$ (84.5)	\$ (107.1)
Current other post-employment benefit obligations	—	(0.4)	(0.4)	—	(1.1)	(1.1)
Non-current net pension assets (note 10)	4.5	—	4.5	5.1	—	5.1
	<u>\$ (16.6)</u>	<u>\$ (68.1)</u>	<u>\$ (84.7)</u>	<u>\$ (17.5)</u>	<u>\$ (85.6)</u>	<u>\$ (103.1)</u>

The following table outlines the net expense recognized in our consolidated statement of operations for pension and non-pension post-employment benefit plans:

	Pension Plans Year ended December 31			Other Benefit Plans Year ended December 31		
	2017	2018	2019	2017	2018	2019
Current service cost	\$ 2.1	\$ 1.8	\$ 1.9	\$ 2.0	\$ 2.2	\$ 2.6
Net interest cost (income)	(1.3)	(0.8)	0.6	2.6	2.6	2.6
Past service cost and settlement/curtailment losses	1.9	0.1	—	0.6	1.2	8.0
Plan administrative expenses and other	1.3	1.3	1.5	—	—	—
	<u>4.0</u>	<u>2.4</u>	<u>4.0</u>	<u>5.2</u>	<u>6.0</u>	<u>13.2</u>
Defined contribution pension plan expense (note 19(c)) ..	9.4	9.6	10.1	—	—	—
Total expense for the year	<u>\$ 13.4</u>	<u>\$ 12.0</u>	<u>\$ 14.1</u>	<u>\$ 5.2</u>	<u>\$ 6.0</u>	<u>\$ 13.2</u>

We generally record the expenses for pension plans and non-pension post-employment benefits in cost of sales, SG&A expenses, or other charges (see note 16), depending on the nature of the expenses. Our settlement loss in 2017 of \$1.9 arose as a result of annuity purchases for our U.K. supplementary pension plan in April 2017. See note 19(a) above. Our past service cost and settlement losses in 2019 relate to recent labor law changes in Thailand and employee terminations (see footnote (i) to the accrued benefit obligations table above).

The following table outlines the gains and losses, net of tax, recognized in OCI and reclassified directly to deficit:

	Year ended December 31		
	2017	2018	2019
Cumulative losses (gains), beginning of year	\$ (4.1)	\$ 14.1	\$ 69.0
Loss on pension annuity purchases (note 19(a))	17.0	63.3	—
Actuarial losses (gains) recognized during the year ⁽ⁱ⁾	1.2	(8.4)	8.7
Cumulative losses (gains), end of year ⁽ⁱⁱ⁾	<u>\$ 14.1</u>	<u>\$ 69.0</u>	<u>\$ 77.7</u>

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- (i) Net of income tax recovery of \$0.3 for 2019 (2018 — net of \$0.1 income tax recovery; 2017 — nil income tax recovery).
- (ii) Net of income tax recovery of \$1.1 as at December 31, 2019 (December 31, 2018 — net of \$0.8 income tax recovery; December 31, 2017 — net of \$0.7 income tax recovery).

The following percentages and assumptions were used in measuring the plans for the years indicated:

	Pension Plans			Other Benefit Plans		
	2017	2018	2019	2017	2018	2019
Weighted average discount rate at December 31 ⁽ⁱ⁾ for:						
Benefit obligations	2.5	2.9	2.1	3.6	3.8	2.9
Net pension cost	2.6	2.5	2.9	3.9	3.6	3.8
Weighted average rate of compensation increase for:						
Benefit obligations	4.0	4.1	3.8	4.6	4.2	4.6
Net pension cost	3.9	4.0	4.1	4.6	4.6	4.2
Healthcare cost trend rates:						
Immediate trend	—	—	—	5.8	5.7	5.3
Ultimate trend	—	—	—	4.5	4.0	4.0
Year the ultimate trend rate is expected to be achieved ...	—	—	—	2030	2040	2040

- (i) The weighted average discount rate is determined using publicly available rates for highly-rated bonds by currency in countries where we have a pension or non-pension benefit plan. A lower discount rate would increase the present value of the benefit obligation.

Management applied significant judgment in determining these assumptions. We evaluate these assumptions on a regular basis taking into consideration current market conditions and historical market data. Actual results could differ materially from those estimates and assumptions.

A one percentage-point increase or decrease in one of the following actuarial assumptions, holding other assumptions constant in each case, would increase (decrease) our benefit obligations as follows:

	Pension Plans		Other Benefit Plans	
	Year ended December 31, 2019		Year ended December 31, 2019	
	1% Increase	1% Decrease	1% Increase	1% Decrease
Discount rate	\$ (54.5)	\$ 70.6	\$ (10.5)	\$ 12.9
Healthcare cost trend rate	\$ —	\$ —	\$ 7.2	\$ (5.9)

The sensitivity figures shown above were calculated by determining the change in our benefit obligations as at December 31, 2019 due to a 100 basis point increase or decrease to each of our significant actuarial assumptions used, primarily the discount rate and healthcare cost trend rate, in isolation, leaving all other assumptions unchanged from the original calculation.

(c) Plan contributions:

We made the following plan contributions for the years indicated below and estimate our contribution for 2020 to be as follows:

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	Year ended December 31			Estimated Contribution *
	2017	2018	2019	2020
Defined contribution plan	\$ 9.4	\$ 9.6	\$ 10.1	\$ 10.1
Defined benefit plan	2.5	3.7	3.7	3.0
Total	<u>\$ 11.9</u>	<u>\$ 13.3</u>	<u>\$ 13.8</u>	<u>\$ 13.1</u>
Non-pension post-employment benefit plans ⁽ⁱ⁾	\$ 4.5	\$ 4.8	\$ 9.1	\$ 4.4

* Our actual contributions could differ materially from these estimates.

(i) For 2019, includes higher settlement payments related to employee terminations in connection with our restructuring actions taken during the year. See note 16(a).

20. INCOME TAXES:

	Year ended December 31		
	2017	2018	2019
Current income tax expense:			
Current year ⁽ⁱ⁾	\$ 39.3	\$ 44.4	\$ 35.1
Adjustments for prior years, including changes to net provisions related to tax uncertainties ⁽ⁱⁱ⁾	<u>(0.2)</u>	<u>(4.7)</u>	<u>(12.3)</u>
	39.1	39.7	22.8
Deferred income tax expense (recovery):			
Origination and reversal of temporary differences ⁽ⁱ⁾⁽ⁱⁱⁱ⁾	(5.6)	6.2	15.4
Changes in previously unrecognized tax losses and deductible temporary differences, including adjustments for prior years ^{(iii)(iv)}	<u>(5.9)</u>	<u>(62.9)</u>	<u>(8.7)</u>
	<u>(11.5)</u>	<u>(56.7)</u>	<u>6.7</u>
Income tax expense (recovery)	<u>\$ 27.6</u>	<u>\$ (17.0)</u>	<u>\$ 29.5</u>

A reconciliation of income taxes calculated at the statutory income tax rate to the income tax expense at the effective tax rate is as follows:

	Year ended December 31		
	2017	2018	2019
Earnings before income taxes	\$ 133.1	\$ 81.9	\$ 99.8
Income tax expense at Celestica's statutory income tax rate of 26.5% (2018 and 2017 — 26.5%)	\$ 35.3	\$ 21.7	\$ 26.4
Impact on income taxes from:			
Manufacturing and processing deduction	(0.1)	(0.1)	—
Foreign income taxed at different rates	(7.6)	(9.1)	(6.7)
Foreign exchange	(6.8)	3.8	5.0
Other, including non-taxable/non-deductible items and changes to net provisions related to tax uncertainties ⁽ⁱ⁾⁽ⁱⁱ⁾⁽ⁱⁱⁱ⁾	3.4	11.3	(5.8)
Change in tax rates	—	—	(0.8)
Change in unrecognized tax losses and deductible temporary differences ^{(iii)(iv)}	3.4	(44.6)	11.4
Income tax expense (recovery)	<u>\$ 27.6</u>	<u>\$ (17.0)</u>	<u>\$ 29.5</u>

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- (i) These line items for 2017 in the two tables above were negatively impacted by a deferred tax expense of \$4.0 related to taxable temporary differences associated with the then-anticipated repatriation of undistributed earnings from certain of our Chinese subsidiaries, of which \$3.5 was realized as a current tax expense for withholding tax on dividends paid in 2018. These line items for 2019 in the two tables above were negatively impacted by a deferred tax expense of \$6.0 related to taxable temporary differences associated with the anticipated repatriation of undistributed earnings from certain of our Chinese and Thai subsidiaries.
- (ii) These line items for 2019 in the two tables above include tax benefits related to return-to-provision adjustments and reversals of previously-recorded tax liabilities and uncertainties (discussed below).
- (iii) These line items for 2019 in the two tables above include the tax expense related to the taxable portion of the Property Gain and the recognition of offsetting previously-unrecognized tax losses (discussed below).
- (iv) These line items for 2018 in the two tables above include the recognition of an aggregate of \$53.3 of deferred tax assets in our U.S. group of subsidiaries (discussed below).

Our effective income tax rate can vary significantly period-to-period for various reasons, including as a result of the mix and volume of business in various tax jurisdictions within the Americas, Europe and Asia, in jurisdictions with tax holidays and tax incentives, and in jurisdictions for which no net deferred income tax assets have been recognized because management believed it was not probable that future taxable profit would be available against which tax losses and deductible temporary differences could be utilized. Our effective income tax rate can also vary due to the impact of restructuring charges, foreign exchange fluctuations, operating losses, cash repatriations, and changes in our provisions related to tax uncertainties.

During 2019, we recorded a net income tax expense of \$29.5, which was favorably impacted by \$6.4 in tax benefits arising from return-to-provision adjustments for changes in estimates related to prior years, based on changes in facts or circumstances, and an aggregate of \$4.5 in reversals of certain previously-recorded tax liabilities and uncertainties, offset in part by \$6.0 of deferred tax expense arising from taxable temporary differences associated with the anticipated repatriation of undistributed earnings from certain of our Chinese and Thai subsidiaries. While our net income tax expense included taxable foreign exchange impacts (Currency Impacts) from fluctuations in foreign currencies relative to the U.S. dollar during each quarter of 2019, overall net Currency Impacts for 2019 were not significant. In connection with the sale of our Toronto real property, there was no net tax impact (see note 16(c)), as the deferred tax expenses of \$5.7 was offset by the recognition of previously unrecognized tax losses.

During 2018, we recorded a net income tax recovery of \$17.0 which was favorably impacted by the recognition of \$3.7 and \$49.6 of previously unrecognized deferred tax assets in our U.S. group of subsidiaries as a result of our Atrenne and Impakt acquisitions, respectively (which largely offset the net deferred tax liabilities of \$56.6 that arose in connection with such acquisitions), as well as the reversal in Q2 2018 of \$6.0 of previously-accrued Mexican income taxes to reflect the terms of an approved bi-lateral advance pricing arrangement. These income tax benefits were offset, in part, by adverse Currency Impacts arising from the weakening of the Malaysian ringgit and Chinese renminbi relative to the U.S. dollar.

During 2017, we recorded a net income tax expense of \$27.6 which was favorably impacted by the recognition of a deferred income tax benefit of \$4.3 (Solar Benefit) related to our solar assets (described below), as well as favorable Currency Impacts resulting from the strengthening of the Malaysian ringgit and Chinese renminbi relative to the U.S. dollar, which were offset in part by \$4.0 in deferred tax expense related to taxable temporary differences associated with the then-anticipated repatriation of undistributed earnings from certain of our Chinese subsidiaries, and a \$2.0 deferred tax expense related to the U.S. Tax Reform (defined below). In connection with our exit from the solar panel manufacturing business, we withdrew one of our tax incentives in Thailand (which related solely to such operations) during the second quarter of 2017. The withdrawal of this incentive allowed us to apply tax losses arising from the disposition of our solar assets against other taxable profits in Thailand, resulting in the recognition of the Solar Benefit in 2017 and ultimately realized in 2018.

The United States Tax Cuts and Jobs Act (U.S. Tax Reform) became effective January 1, 2018. We believe that we recorded all significant one-time impacts resulting from enactment of the U.S. Tax Reform in the fourth quarter of 2017 (consisting of a non-cash increase to our deferred income tax expense of \$2.0 to re-value our previously recognized net deferred tax assets), but will continue to assess additional impacts, if any, as they become known due to changes in our interpretations and assumptions, as well as applicable changes in our business and additional regulatory guidance that may be issued. No significant amounts resulting from the U.S. Tax Reform were recorded during 2018 or 2019.

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Changes in deferred tax assets and liabilities for the periods indicated are as follows:

	Unrealized foreign exchange gains	Accounting provisions not currently deductible	Pensions and non-pension post- retirement benefits	Tax losses carried forward	Property, plant and equipment and intangibles	Other	Reclassification between deferred tax assets and deferred tax liabilities ⁽ⁱ⁾	Total
Deferred tax assets:								
Balance — January 1, 2018	\$ —	\$ 8.8	\$ —	\$ 34.6	\$ 6.3	\$ —	\$ (12.1)	\$ 37.6
Credited (charged) to net earnings ..	—	2.1	—	36.8	—	17.1	—	56.0
Credited (charged) directly to equity	—	—	—	(9.8)	—	1.7	—	(8.1)
Effects of foreign exchange	—	(0.1)	—	(2.1)	—	0.1	—	(2.1)
Other	—	—	—	—	(6.3)	(4.1)	(36.3)	(46.7)
Balance — December 31, 2018	—	10.8	—	59.5	—	14.8	(48.4)	36.7
Credited (charged) to net earnings ..	—	(1.0)	0.6	2.1	—	(3.1)	—	(1.4)
Credited (charged) directly to equity	—	—	—	0.3	—	(0.6)	—	(0.3)
Additions from business combinations	—	(0.1)	—	—	—	—	—	(0.1)
Effects of foreign exchange	—	(0.1)	—	1.0	—	0.3	—	1.2
Other	—	—	(0.8)	—	—	—	(1.7)	(2.5)
Balance — December 31, 2019	\$ —	\$ 9.6	\$ (0.2)	\$ 62.9	\$ —	\$ 11.4	\$ (50.1)	\$ 33.6
Deferred tax liabilities:								
Balance — January 1, 2018	\$ 25.2	\$ —	\$ 10.6	\$ —	\$ —	\$ 4.1	\$ (12.1)	\$ 27.8
Charged (credited) to net earnings ..	1.5	—	—	—	(2.3)	—	—	(0.8)
Charged (credited) directly to equity	—	—	(9.9)	—	—	—	—	(9.9)
Additions from business combinations	—	—	—	—	56.6	—	—	56.6
Effects of foreign exchange	(2.1)	—	0.1	—	0.5	—	—	(1.5)
Other	—	—	—	—	(6.3)	(4.1)	(36.3)	(46.7)
Balance — December 31, 2018	24.6	—	0.8	—	48.5	—	(48.4)	25.5
Charged (credited) to net earnings ..	0.8	—	—	—	4.5	—	—	5.3
Additions from business combinations	—	—	—	—	(0.9)	—	—	(0.9)
Effects of foreign exchange	1.0	—	—	—	—	—	—	1.0
Other	—	—	(0.8)	—	—	—	(1.7)	(2.5)
Balance — December 31, 2019	\$ 26.4	\$ —	\$ —	\$ —	\$ 52.1	\$ —	\$ (50.1)	\$ 28.4

(i) This reclassification reflects the offsetting of deferred tax assets and deferred tax liabilities to the extent they relate to the same taxing authorities and there is a legally enforceable right to such offset.

The amount of deductible temporary differences and unused tax losses for which no deferred tax assets have been recognized at December 31, 2019 is \$1,783.2 (December 31, 2018 — \$1,780.4). We have not recognized deferred tax assets in respect of these items because, based on management's estimates, it is not probable that future taxable profit will be available against which we can utilize the benefits. A portion of these unused tax losses expires between 2020 and 2039 and a portion can be carried forward indefinitely to offset taxable profits. The deductible temporary differences do not expire under current tax legislation.

The aggregate amount of temporary differences associated with investments in subsidiaries for which we have not recognized deferred tax liabilities is \$5.0 (December 31, 2018 — \$5.8). As of December 31, 2019, we have recorded aggregate net deferred tax assets of \$6.8 for one of our Asian subsidiaries which realized losses in 2019 and our U.S. group of subsidiaries which realized losses in 2018 and 2019 (December 31, 2018 — \$5.0 for losses incurred in our U.S. subsidiaries in 2018). We

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recognize deferred tax assets based on our estimate of the future taxable profit we expect these subsidiaries to achieve based on our review of financial projections. We did not record any deferred tax assets related to losses incurred in 2017 for any of our subsidiaries.

Certain countries in which we do business grant tax incentives to attract or retain our business. Our tax expense could increase significantly if certain tax incentives from which we benefit are retracted. A retraction could occur if we fail to satisfy the conditions on which these tax incentives are based, or if they are not renewed or replaced upon expiration. Our tax expense could also increase if tax rates applicable to us in such jurisdictions are otherwise increased, or due to changes in legislation or administrative practices. Changes in our outlook in any particular country could impact our ability to meet the required conditions.

Our tax incentives currently consist of tax holidays for the profits of our Thailand and Laos subsidiaries, as well as tax incentives for dividend withholding taxes for these subsidiaries. These tax incentives are subject to certain conditions with which we intend to comply, and expire between 2020 and 2027. The aggregate tax benefit arising from all of our tax incentives was approximately \$1.5 or \$0.01 per diluted share for 2019, \$4.7 or \$0.03 per diluted share for 2018, and \$7.6 or \$0.05 per diluted share for 2017.

We have three income tax incentives in Thailand (one previous incentive expired in October 2019, and we had withdrawn another in 2017 in connection with our exit from the solar panel manufacturing business). Two of these incentives initially allow for a 100% income tax exemption (including distribution taxes), which after eight years transition to a 50% income tax exemption for the next five years (excluding distribution taxes). The third incentive, obtained in 2019, allows for a 100% income tax exemption for eight years. Upon full expiry of each of the incentives, taxable profits associated with such expired tax incentives become fully taxable. One of our remaining Thailand tax incentives expires in 2020, another will transition to the 50% exemption in 2022 and expire in 2027, and the third will expire in 2027.

See note 24 regarding a Brazilian sales tax contingency.

21. FINANCIAL INSTRUMENTS AND RISK MANAGEMENT:

Our financial assets are comprised primarily of cash and cash equivalents, A/R, and derivatives used for hedging purposes. Our financial liabilities are comprised primarily of A/P, certain accrued and other liabilities and provisions, the Term Loans, borrowings under the Revolver, lease obligations, and derivatives. We record the majority of our financial assets and liabilities at amortized cost except for derivative assets and liabilities, which we measure at fair value. We classify our short-term investments in money market funds (if applicable) as FVTPL, and initially recognize such assets on our consolidated balance sheet at fair value with subsequent changes recorded in our consolidated statement of operations. The carrying value of the Term Loans approximates their fair value as they bear interest at a variable market rate. We classify the financial assets and liabilities that we measure at fair value based on the inputs used to determine fair value at the measurement date.

Cash and cash equivalents are comprised of the following:

	December 31	
	2018	2019
Cash	\$ 409.1	\$ 446.3
Cash equivalents	12.9	33.2
	\$ 422.0	\$ 479.5

Our current portfolio of cash equivalents consists of bank deposits. The majority of our cash and cash equivalents are held with financial institutions each of which had at December 31, 2019 a Standard and Poor's short-term rating of A-1.

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Financial risk management objectives:

We have exposures to a variety of financial risks through our operations. We regularly monitor these risks and have established policies and business practices to mitigate the adverse effects of these potential exposures. We have used derivative financial instruments, such as foreign currency forward and swap contracts, as well as interest rate swaps, to reduce the effects of some of these risks. We do not enter into or trade financial instruments, including derivative financial instruments, for speculative purposes.

(a) *Currency risk:*

Due to the global nature of our operations, we are exposed to exchange rate fluctuations on our financial instruments denominated in various currencies. The majority of our currency risk is driven by operational costs, including income tax expense, incurred in local currencies by our subsidiaries. As part of our risk management program, we attempt to mitigate currency risk through a hedging program using forecasts of our anticipated future cash flows and balance sheet exposures denominated in foreign currencies. We enter into foreign exchange forward contracts and swaps, generally for periods up to 12 months, to lock in the exchange rates for future foreign currency transactions, which is intended to reduce the variability of our operating costs and future cash flows denominated in local currencies. While these contracts are intended to reduce the effects of fluctuations in foreign currency exchange rates, our hedging strategy does not mitigate the longer-term impacts of changes to foreign exchange rates. Although our functional currency is the U.S. dollar, currency risk on our income tax expense arises as we are generally required to file our tax returns in the local currency for each particular country in which we have operations. While our hedging program is designed to mitigate currency risk vis-à-vis the U.S. dollar, we remain subject to taxable foreign exchange impacts in our translated local currency financial results relevant for tax reporting purposes.

Our major currency exposures at December 31, 2019 are summarized in U.S. dollar equivalents in the following table. The local currency amounts have been converted to U.S. dollar equivalents using spot rates at December 31, 2019.

	<u>Canadian dollar</u>	<u>Romanian Leu</u>	<u>Euro</u>	<u>Thai baht</u>	<u>Chinese renminbi</u>
Cash and cash equivalents	\$ 2.0	\$ 0.6	\$ 19.5	\$ 2.7	\$ 37.1
A/R	3.1	0.5	46.4	1.0	12.1
Income taxes and value-added taxes receivable	—	0.5	1.1	1.2	2.4
Other financial assets	—	0.7	1.7	0.6	0.3
Pension and non-pension post-employment liabilities	(69.8)	(0.1)	(0.6)	(13.3)	(0.7)
Income taxes and value-added taxes payable	(1.4)	—	(0.6)	(2.1)	(6.7)
A/P and certain accrued and other liabilities and provisions	(54.4)	(10.5)	(39.2)	(31.9)	(28.3)
Net financial assets (liabilities)	<u>\$ (120.5)</u>	<u>\$ (8.3)</u>	<u>\$ 28.3</u>	<u>\$ (41.8)</u>	<u>\$ 16.2</u>

Foreign currency risk sensitivity analysis:

The financial impact of a one-percentage point strengthening or weakening of the following currencies against the U.S. dollar for our financial instruments denominated in such non-functional currencies is summarized in the following table as at December 31, 2019. The financial instruments impacted by a change in exchange rates include our exposures to the above financial assets or liabilities denominated in non-functional currencies and our foreign exchange forward contracts and swaps.

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	<u>Canadian dollar</u>	<u>Romanian Leu</u>	<u>Euro</u>	<u>Thai baht</u>	<u>Chinese renminbi</u>
	Increase (decrease)				
1% Strengthening					
Net earnings.....	\$ (0.2)	\$ (0.1)	\$ 0.1	\$ (0.1)	\$ —
Other comprehensive income.....	1.0	0.3	—	0.7	0.3
1% Weakening					
Net earnings.....	0.2	0.1	(0.1)	0.1	—
Other comprehensive income.....	(1.0)	(0.3)	—	(0.7)	(0.3)

(b) *Interest rate risk:*

Borrowings under the Credit Facility bear interest at specified rates, plus specified margins. See note 12. Our borrowings under this facility at December 31, 2019 totaled \$592.3 (December 31, 2018 — \$757.3), comprised of an aggregate of \$592.3 under the Term Loans (December 31, 2018 — \$598.3), and other than ordinary course letters of credit (described below), no amounts outstanding under the Revolver (December 31, 2018 — \$159.0 outstanding under the Revolver). Such borrowings expose us to interest rate risk due to the potential variability of market interest rates. Without accounting for the interest rate swaps described below, a one-percentage point increase in these rates would increase interest expense, based on outstanding borrowings of \$592.3 as at December 31, 2019, by \$5.9 annually.

As part of our risk management program, we attempt to mitigate interest rate risk through interest rate swaps. To partially hedge against our exposure to interest rate variability on the Term Loans, we entered into 5-year agreements with a syndicate of third-party banks in August and December 2018 to swap the variable interest rates (based on LIBOR plus a margin) with fixed rates of interest on \$350.0 of the total borrowings under the Term Loans. The terms of the interest rate swap agreements on the floating market rate and the interest payment dates match that of the underlying debt, such that any hedge ineffectiveness is not expected to be significant. The swap agreements include options that allow us to cancel up to \$150.0 of the notional amount of the original swap agreements (\$75.0 under the Incremental Term Loan starting in December 2020, and \$75.0 under the Initial Term Loan starting in August 2021). These options to cancel are aligned with our risk management strategy for the Term Loans as they allow us to make voluntary prepayments of outstanding amounts without premium or penalty, subject to certain conditions. Our unhedged borrowings under the Credit Facility at December 31, 2019 were \$242.3 (comprised of an aggregate of \$242.3 under the Term Loans and \$0.0 under the Revolver). A one-percentage point increase in relevant interest rates would increase interest expense, based on the outstanding unhedged borrowings of \$242.3 as at December 31, 2019, by \$2.4 annually.

We obtain third-party valuations of the swaps under the interest rate swap agreements. The valuations of the swaps are primarily measured through various pricing models or discounted cash flow analyses that incorporate observable market parameters, such as interest rate yield curves and volatility, and credit risk adjustments. The valuations of the interest rate swaps are measured primarily based on Level 2 data inputs of the fair value measurement hierarchy. The unrealized portion of the hedge gain or loss of the swaps is recorded in accumulated OCI. The realized portion of the hedge gain or loss of the swaps is released from OCI and recognized under finance costs in our consolidated statement of operations in the respective interest payment periods. At December 31, 2019, the fair value of our interest rate swap agreements was a net unrealized loss of \$12.1 which we recorded in other non-current liabilities on our consolidated balance sheet. As we have swapped \$350.0 of our borrowings under the Term Loans from floating to fixed rates, the financial impact of a 25 basis point increase in the floating market interest rate would decrease the net unrealized loss by \$2.1 and a 25 basis point decrease in the floating interest rate would increase our unrealized loss on the interest rate swaps by \$2.0.

(c) *Credit risk:*

Credit risk refers to the risk that a counterparty may default on its contractual obligations resulting in a financial loss to us. We believe the risk of counterparty non-performance is relatively low, however, if a key supplier (or any company within such supplier's supply chain) or customer experiences financial difficulties or fails to comply with their contractual obligations, this could result in a financial loss to us. With respect to our financial market activities, we have adopted a policy of dealing only with credit-worthy counterparties to help mitigate the risk of financial loss from defaults. We monitor the credit risk of the counterparties with whom we conduct business, through a combined process of credit rating reviews and portfolio reviews. To

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attempt to mitigate the risk of financial loss from defaults under our foreign currency forward contracts and swaps, and our interest rate swaps, our contracts are held by counterparty financial institutions, each of which had a Standard and Poor's rating of A-2 or above at December 31, 2019. In addition, we maintain cash and short-term investments in highly-rated investments or on deposit with major financial institutions. Each financial institution with which we had our A/R sales program and our SFPs during 2019 had a Standard and Poor's short-term rating of A-2 or above and a long-term rating of BBB+ or above at December 31, 2019. The financial institution with which we have our March 2020 A/R sales program had a Standard and Poor's short term rating of A-1 and a long term rating of A+ at the time of execution of the agreement. Each financial institution from which annuities have been purchased for the defined benefit component of our Canadian pension plan had a Standard and Poor's long-term rating of A+ or above at December 31, 2019. In addition, the financial institutions from which annuities have been purchased for the defined benefit component of our U.K. pension plans are governed by local regulatory bodies. If an institution from which we purchased annuities for our pension plans defaults on their contractual obligations, this would result in a financial loss to us, as we retain ultimate responsibility for the payment of benefits to plan participants unless and until such pension plans are wound-up.

We also provide unsecured credit to our customers in the normal course of business. Customer exposures that potentially subject us to credit risk include our A/R, inventory on hand, and non-cancellable purchase orders in support of customer demand. From time to time, we extend the payment terms applicable to certain customers, and/or provide longer payment terms when deemed commercially reasonable. Longer payment terms, which have become more prevalent, could adversely impact our working capital requirements, and increase our financial exposure and credit risk. We attempt to mitigate customer credit risk by monitoring our customers' financial condition and performing ongoing credit evaluations as appropriate. In certain instances, we obtain letters of credit or other forms of security from our customers. We may also purchase credit insurance from a financial institution to reduce our credit exposure to certain customers. We consider credit risk in determining our allowance for doubtful accounts, and we believe that such allowance, as adjusted from time to time, is adequate. The carrying amount of financial assets recorded in our consolidated financial statements, net of our allowance for doubtful accounts, represents our estimate of maximum exposure to credit risk. At December 31, 2019, less than 2% of our gross A/R are over 90 days past due (2018 — approximately 1%). A/R are net of an allowance for doubtful accounts of \$4.2 at December 31, 2019 (December 31, 2018 — \$5.3).

(d) Liquidity risk:

Liquidity risk is the risk that we may not have cash available to satisfy our financial obligations as they come due. The majority of our financial liabilities recorded in accounts payable, accrued and other current liabilities and provisions are due within 90 days. We manage liquidity risk by maintaining a portfolio of liquid funds and investments and having access to a revolving credit facility, intraday and overnight bank overdraft facilities, an A/R sales program and our SFPs. Since our A/R sales program and the SFPs are each on an uncommitted basis, there can be no assurance that any participant bank will purchase all the A/R that we wish to sell thereunder. However, we believe that cash flow from operating activities, together with cash on hand, cash from the sale of A/R, and borrowings available under the Revolver and intraday and overnight bank overdraft facilities are sufficient to fund our currently anticipated financial obligations.

Fair values:

We estimate the fair value of each class of financial instruments. The carrying values of cash and cash equivalents, our A/R, A/P, accrued liabilities and provisions, and our borrowings under the Revolver approximate the fair values of these financial instruments due to the short-term nature of these instruments. The carrying value of the Term Loans approximate their fair value as they bear interest at a variable market rate. The fair values of foreign currency contracts are estimated using generally accepted valuation models based on a discounted cash flow analysis with inputs of observable market data, including currency rates and discount factors. Discount factors are adjusted by our own credit risk or the credit risk of the counterparty, depending on whether the fair values are in liability or asset positions, respectively. We obtained third-party valuations of the swaps under our interest rate swap agreements. The valuations of the swaps are primarily measured through various pricing models or discounted cash flow analyses that incorporate observable market parameters, such as interest rate yield curves and volatility, and credit risk adjustments, and are based on Level 2 data inputs of the fair value measurement hierarchy (described below).

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Fair value measurements:

In the table below, we have segregated our financial assets and liabilities that are measured at fair value, based on the inputs used to determine fair value at the measurement date. The three levels within the fair value hierarchy, based on the reliability of inputs, are as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 inputs are inputs other than quoted prices included in Level 1 that are observable for the asset or liability either directly (*i.e.* prices) or indirectly (*i.e.* derived from prices); and
- Level 3 inputs are inputs for the asset or liability that are not based on observable market data (*i.e.* unobservable inputs).

	December 31, 2018		December 31, 2019	
	Level 1	Level 2	Level 1	Level 2
Assets:				
Foreign currency forwards and swaps	\$ —	\$ 2.1	\$ —	\$ 7.4
Liabilities:				
Interest rate swaps	\$ —	\$ (4.4)	\$ —	\$ (12.1)
Foreign currency forwards and swaps	—	(16.3)	—	(2.9)
	\$ —	\$ (20.7)	\$ —	\$ (15.0)

See note 19 for the input levels used to measure the fair value of our pension assets. See note 3 for the input levels used to measure the fair value of acquired assets. Foreign currency forward and swap contracts are valued using an income approach, by comparing the current quoted market forward rates to our contract rates and discounting the values with appropriate market observable credit risk adjusted rates. We have not valued any of the financial instruments described in the table above using Level 3 (unobservable) inputs. There were no transfers of fair value measurements between Level 1 and Level 2 of the fair value hierarchy in 2019 or 2018.

Currency derivatives and hedging activities:

We enter into foreign exchange forward contracts to hedge our cash flow exposures and foreign currency swaps to hedge our balance sheet exposures. At December 31, 2019 and 2018, we had foreign exchange forwards and swaps to trade U.S. dollars in exchange for the following currencies:

As at December 31, 2019 Currency	Contract amount of U.S. dollars	Weighted average exchange rate in U.S. dollars	Maximum period in months	Fair value gain/(loss)
Canadian dollar	\$ 195.6	\$ 0.76	12	\$ 2.1
Thai baht	98.8	0.03	12	2.1
Malaysian ringgit	54.1	0.24	12	0.4
Mexican peso	22.4	0.05	12	0.9
British pound	2.2	1.29	4	0.1
Chinese renminbi	48.8	0.14	12	(0.7)
Euro	26.1	1.12	12	(0.5)
Romanian leu	33.5	0.23	12	0.1
Singapore dollar	23.9	0.74	12	0.2
Other	18.5	—	4	(0.2)
Total	\$ 523.9			\$ 4.5

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As at December 31, 2018 Currency	Contract amount of U.S. dollars	Weighted average exchange rate in U.S. dollars	Maximum period in months	Fair value gain/(loss)
Canadian dollar	\$ 210.2	\$ 0.76	12	\$ (10.3)
Thai baht	81.1	0.03	12	(0.7)
Malaysian ringgit	53.4	0.24	12	(0.8)
Mexican peso	25.6	0.05	12	0.2
British pound	5.3	1.27	4	—
Chinese renminbi	66.8	0.15	12	(1.6)
Euro	35.8	1.17	12	0.3
Romanian leu	40.4	0.25	12	(0.9)
Singapore dollar	22.1	0.74	12	(0.3)
Other	3.5	—	1	(0.1)
Total	<u>\$ 544.2</u>			<u>\$ (14.2)</u>

At December 31, 2019, the fair value of our outstanding contracts was a net unrealized gain of \$4.5 (December 31, 2018 — net unrealized loss of \$14.2), resulting from fluctuations in foreign exchange rates between the contract execution and the period-end date. Changes in the fair value of hedging derivatives to which we apply cash flow hedge accounting, to the extent effective, are deferred in OCI until the expenses or items being hedged are recognized in our consolidated statement of operations. Any hedge ineffectiveness, which at December 31, 2019 was not significant, is recognized immediately in our consolidated statement of operations. At December 31, 2019, we recorded \$7.4 of derivative assets in other current assets and \$2.9 of derivative liabilities in accrued and other current liabilities (December 31, 2018 — \$2.1 of derivative assets in other current assets and \$16.3 of derivative liabilities in accrued and other current liabilities).

Certain foreign currency forward and swap contracts to trade U.S. dollars do not qualify as hedges, most significantly certain Canadian dollar contracts, and we have marked these contracts to market each period in our consolidated statement of operations. See note 2(p).

22. CAPITAL DISCLOSURES:

Our main objectives in managing our capital resources are to ensure liquidity and to have funds available for working capital or other investments we determine are required to grow our business. Our capital resources consist of cash provided by operating activities, access to the Revolver, intraday and overnight bank overdraft facilities, an A/R sales program, the SFPs (while available) and our ability to issue debt or equity securities.

We regularly review our borrowing capacity and make adjustments, as permitted, for changes in economic conditions and changes in our requirements. In June 2018, we entered into our \$800.0 Credit Facility, which provides for the \$350.0 Initial Term Loan that matures in June 2025, and the \$450.0 Revolver that matures in June 2023. In November 2018, we utilized the accordion feature under our Credit Facility to add the incremental \$250.0 Incremental Term Loan, maturing in June 2025. The Credit Facility has an accordion feature that allows us to increase the term loans and/or revolving loan commitments thereunder by approximately \$110, plus an unlimited amount to the extent that a specified leverage ratio on a pro forma basis does not exceed specified limits, in each case on an uncommitted basis and subject to the satisfaction of certain terms and conditions. The Revolver also includes a \$50.0 sub-limit for swing line loans, providing for short-term borrowings up to a maximum of ten business days, as well as a \$150.0 sub-limit for letters of credit, in each case subject to the overall revolving credit limit. See note 12 for amounts outstanding under the Credit Facility at December 31, 2019. We had \$428.8 available as of December 31, 2019 under the Revolver for future borrowings. As of December 31, 2019, we also had access to \$142.5 in intraday and overnight bank overdraft facilities, our then-existing \$200.0 uncommitted A/R sales program, and the uncommitted SFPs to provide short-term liquidity. At December 31, 2019, we sold \$90.6 of A/R under our then-effective A/R sales program and \$50.4 under the SFPs. We replaced our previous A/R sales program with a new uncommitted \$235.0 A/R sales program that we executed in

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March 2020 (see note 4). The timing and amounts we may borrow and repay under these facilities can vary significantly from month-to-month depending on our working capital and other cash requirements.

We have commenced NCIBs in the past few years, pursuant to which we have repurchased and canceled SVS. See note 13 for details. In addition, we have purchased SVS from time-to-time in the open market through a broker for delivery under our SBC plans. We have not distributed, nor do we have any current plan to distribute, any dividends to our shareholders.

Our strategy on capital risk management has not changed significantly since the end of 2018. Other than the restrictive and financial covenants associated with the Credit Facility described in note 12, we are not subject to any contractual or regulatory capital requirements. While some of our international operations are subject to government restrictions on the flow of capital into and out of their jurisdictions, these restrictions have not had a material impact on our operations or cash flows.

23. WEIGHTED AVERAGE NUMBER OF SHARES DILUTED (in millions):

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Weighted average number of shares (basic)	143.1	139.4	131.0
Dilutive effect of outstanding awards under SBC plans	<u>2.1</u>	<u>1.2</u>	<u>0.8</u>
Weighted average number of shares (diluted)	<u><u>145.2</u></u>	<u><u>140.6</u></u>	<u><u>131.8</u></u>

For the year ended December 31, 2019, we excluded 0.3 million stock options (year ended December 31, 2018 — 0.3 million; year ended December 31, 2017 — 0.2 million) from the diluted weighted average per share calculation as they were out-of-the-money. References to shares in this note 23 are to our SVS and MVS taken collectively.

24. COMMITMENTS, CONTINGENCIES AND GUARANTEES:

At December 31, 2019, we have commitments under IT support agreements that require future minimum payments as follows:

2020	\$	24.4
2021		18.6
2022		14.9
2023		14.5
2024		12.6
Thereafter		49.8
Total future minimum payments	<u>\$</u>	<u><u>134.8</u></u>

As at December 31, 2019, management had approved \$23.1 for capital expenditures, primarily for machinery and equipment to support new customer programs, and issued \$6.0 of such amount in purchase orders to third-party vendors. We have contingent liabilities in the form of letters of credit, letters of guarantee and surety bonds (collectively, Guarantees) which we have provided to various third parties. The Guarantees cover various payments, including customs and excise taxes, utility commitments and certain bank guarantees. At December 31, 2019, we had \$34.5 of Guarantees (December 31, 2018 — \$35.7), including \$21.2 (December 31, 2018 — \$21.3) of letters of credit outstanding under our Revolver. We are required to make contributions to our pension and non-pension post-employment benefit plans, quarterly mandatory principal repayments under the Term Loans, certain annual mandatory prepayments under the Credit Facility under specified circumstances, payments of outstanding amounts under the Credit Facility at maturity, and contractual payments under our lease obligations (see notes 12 and 19). We are also required to make interest payments on amounts outstanding under the Credit Facility, and to pay fees and charges related to our Credit Facility, our A/R sales program and SFPs, and under our interest rate swap agreements, the amounts under the swap to be determined based on market rates at the time the interest payments are due (see notes 12 and 21). See note 21 for our obligations under the foreign exchange contracts we held at December 31, 2019.

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In addition to the Guarantees described above, we provide routine indemnifications, the terms of which range in duration and often are not explicitly defined. These may include indemnifications against third-party intellectual property infringement claims and certain third-party negligence claims for property damage. We have also provided indemnifications in connection with the sale of certain businesses and real property. The maximum potential liability from these indemnifications cannot be reasonably estimated. In some cases, we have recourse against other parties to mitigate our risk of loss from these indemnifications. Historically, we have not made significant payments relating to these types of indemnifications.

In March 2019, as part of the Toronto property sale (see note 7), we entered into a 10-year lease for our new corporate headquarters, to be built by the Assignee on the site of our former location. The commencement date of the lease will be determined by the Assignee, and is currently targeted to be May 2022. Upon such commencement, our estimated annual basic rent will be approximately \$2.5 million Canadian dollars for each of the first five years, and approximately \$2.7 million Canadian dollars for each of the remaining five years. We may, at our option, extend the lease for two further consecutive five-year periods.

Litigation:

In the normal course of our operations, we may be subject to lawsuits, investigations and other claims, including environmental, labor, product, customer disputes, and other matters. Management believes that adequate provisions have been recorded where required. Although it is not always possible to estimate the extent of potential costs, if any, management believes that the ultimate resolution of all such pending matters will not have a material adverse impact on our financial performance, financial position or liquidity.

Income taxes:

We are subject to tax audits in various jurisdictions. Reviews by tax authorities generally focus on, but are not limited to, the validity of our inter-company transactions, including financing and transfer pricing policies which may involve subjective areas of taxation and significant judgment. The successful pursuit of assertions made by any taxing authority could result in our owing significant amounts of tax, interest and possibly penalties. We believe we adequately accrue for any probable potential adverse tax ruling. However, there can be no assurance as to the final resolution of any claims and any resulting proceedings. If any claims and any ensuing proceedings are determined adversely to us, the amounts we may be required to pay could be material, in excess of amounts accrued, and/or have a significant adverse impact on our earnings and cash flows.

Other matters:

In 2017, the Brazilian Ministry of Science, Technology, Innovation and Communications issued assessments seeking to disqualify certain research and development (R&D) expenses for the years 2006 to 2009, which entitled our Brazilian subsidiary (which ceased operations in 2009) to charge reduced sales tax levies to its customers. The assessments against our Brazilian subsidiary, which (including interest and penalties) total approximately 39 million Brazilian real (approximately \$10 at year-end exchange rates) for such years, remain under appeal. Although we cannot predict the outcome of this matter, we believe that our R&D activities for the period are supportable, and it is probable that our position will be sustained upon full examination by the appropriate Brazilian authorities and, if necessary, upon consideration by the Brazilian judicial courts. Our position is supported by our Brazilian legal advisers. There were no changes in the status of this matter during either 2018 or 2019.

25. SEGMENT AND GEOGRAPHIC INFORMATION:

Operating segments are defined as components of an enterprise that engage in business activities from which they may earn revenue and incur expenses; for which discrete financial information is available; and whose operating results are regularly reviewed by the chief operating decision maker in deciding how to allocate resources and to assess performance. No operating segments have been aggregated to determine our reportable segments.

During Q1 2018, we completed a reorganization of our reporting structure, including our sales, operations and management systems, into two operating and reportable segments: ATS and CCS. Previously, we operated in one reportable segment (Electronic Manufacturing Services), which was comprised of multiple end markets (ATS, Communications and Enterprise during 2017). The change resulted from modifications to our organizational and internal management structure initiated in 2017 and completed in early 2018. As a result, commencing in Q1 2018, our Chief Executive Officer (CEO), who

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is our chief operating decision maker, reviews segment revenue, segment income and segment margin (described below) to assess performance and make decisions about resource allocation. Our 2017 financial information was previously reclassified to reflect the reorganized segment structure.

Factors considered in determining the two reportable segments included the nature of applicable business activities, management structure, market strategy and margin profiles. Our ATS segment consists of our ATS end market, and is comprised of our aerospace and defense, industrial, energy, healthtech, and capital equipment (including semiconductor, display, and power & signal distribution equipment) businesses. Products and services in this segment are extensive and are often more regulated than in our CCS segment, and can include the following: government-certified and highly-specialized manufacturing, electronic and enclosure-related services for aerospace and defense-related customers; high-precision equipment and integrated subsystems used in the manufacture of semiconductors and displays; a wide range of industrial automation, controls, test and measurement devices; advanced solutions for surgical instruments, diagnostic imaging and patient monitoring; and efficiency products to help manage and monitor the energy and power industries. Our ATS segment businesses typically have a higher margin profile, higher working capital requirements, and longer product life cycles than the businesses in our CCS segment. Our CCS segment consists of our Communications and Enterprise end markets. Our Enterprise end market is comprised of our servers and storage businesses. Products and services in this segment consist predominantly of enterprise-level data communications and information processing infrastructure products, and can include routers, switches, servers and storage-related products used by a wide range of businesses and cloud-based and other service providers to manage digital connectivity, commerce and social media applications. Our CCS segment businesses typically have a lower margin profile, lower working capital requirements, and higher volumes than the businesses in our ATS segment, and have been impacted in recent periods (and continue to be impacted) by aggressive pricing, rapid shifts in technology, model obsolescence and the commoditization of certain products.

Segment performance is evaluated based on segment revenue, segment income and segment margin (segment income as a percentage of segment revenue). Revenue is attributed to the segment in which the product is manufactured or the service is performed. Segment income is defined as a segment's net revenue less its cost of sales and its allocable portion of selling, general and administrative expenses and research and development expenses (collectively, Segment Costs). Identifiable Segment Costs are allocated directly to the applicable segment while other Segment Costs, including indirect costs and certain corporate charges, are allocated to our segments based on an analysis of the relative usage or benefit derived by each segment from such costs. Segment income excludes finance costs (defined in note 17), employee SBC expense, amortization of intangible assets (excluding computer software), Other Charges (recoveries) (defined below), other solar charges (consisting of non-cash charges we recorded in 2017 to write-down the carrying value of our then-remaining solar panel inventory and A/R balances), and fair value adjustments for acquired inventory (see note 3), as these costs and charges/recoveries are managed and reviewed by our CEO at the company level. Other Charges (recoveries) consist of, in applicable periods, restructuring charges (recoveries), impairment charges (recoveries), Acquisition Costs (defined in note 3), legal settlements (recoveries), Transition Costs (Recoveries) (defined in note 16(c)), Credit Facility-related charges (described in note 16(d)), and losses incurred on specified benefit plans (described in note 16(b)). Our segments do not record inter-segment revenue. Although segment income and segment margin are used to evaluate the performance of our segments, we may incur operating costs in one segment that may also benefit the other segment. Our accounting policies for segment reporting are the same as those applied to the company as a whole.

Information regarding each reportable segment for the periods indicated is set forth below:

Revenue by segment:	Year ended December 31					
	2017		2018		2019	
		% of total		% of total		% of total
ATS	\$ 1,958.6	32%	\$ 2,209.7	33%	\$ 2,285.6	39%
CCS	4,184.1	68%	4,423.5	67%	3,602.7	61%
Total	<u>\$ 6,142.7</u>		<u>\$ 6,633.2</u>		<u>\$ 5,888.3</u>	

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Segment income, segment margin, and reconciliation of segment income to IFRS earnings before income taxes:

	Year ended December 31					
	2017		2018		2019	
		Segment Margin		Segment Margin		Segment Margin
ATS segment income and margin	\$ 96.8	4.9%	\$ 102.5	4.6%	\$ 64.2	2.8%
CCS segment income and margin	120.4	2.9%	111.4	2.5%	93.9	2.6%
Total segment income	<u>217.2</u>		<u>213.9</u>		<u>158.1</u>	
Reconciling items:						
Finance costs	10.1		24.4		49.5	
Employee SBC expense	30.1		33.4		34.1	
Amortization of intangible assets (excluding computer software)	5.5		11.6		24.6	
Other Charges (Recoveries) (note 16)	37.0		61.0		(49.9)	
Inventory fair value adjustment (note 3)	—		1.6		—	
Other solar charges (inventory and A/R write-down)	1.4		—		—	
IFRS earnings before income taxes	<u>\$ 133.1</u>		<u>\$ 81.9</u>		<u>\$ 99.8</u>	

The following table details our external revenue allocated by manufacturing location among countries that generated 10% or more of total revenue for the years indicated:

	Year ended December 31		
	2017	2018	2019
Thailand	34%	32%	34%
China	21%	20%	18%
Malaysia	12%	12%	12%

The following table details our allocation of property, plant and equipment and, commencing in 2019, ROU assets among countries that represented 10% or more of total property, plant and equipment and ROU assets for the years indicated:

	December 31	
	2018	2019
China	19%	14%
Thailand	16%	16%
Malaysia	13%	*
Romania	15%	11%
United States	15%	16%
Canada	*	*

* Less than 10%.

The following table details our allocation of intangible assets and goodwill* among countries that represented 10% or more of total intangible assets and goodwill for the years indicated:

	December 31	
	2018	2019
United States	96%	86%
South Korea	*	10%

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(in millions of U.S. dollars, except percentages and per share amounts)

* For purposes of this table, intangible assets and goodwill acquired as part of our Impakt acquisition were originally allocated in full to the United States in 2018. In 2019, however, upon finalizing the purchase price allocation, we allocated Impakt's intangible assets and goodwill between the United States and South Korea.

Customers:

The following table sets forth the customers that individually represented 10% or more of total revenue for the years indicated, and their segments:

	Segment	Year ended December 31		
		2017	2018	2019
Cisco Systems, Inc.....	CCS	18%	14%	12%
Dell Technologies.....	CCS	*	10%	*
Juniper Networks, Inc.....	CCS	13%	*	*
Total.....		31%	24%	12%

* Less than 10%.

At December 31, 2019, we had two customers that individually represented 10% or more of total A/R (one from each of our segments) (December 31, 2018 — two customers (in our CCS segment); December 31 2017 — two customers (one from each of our segments)).

