Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of EXFO Inc.

Opinions on the financial statements and internal control over financial reporting

We have audited the accompanying consolidated balance sheets of EXFO Inc. and its subsidiaries (together, the "Company") as at August 31, 2019 and 2018, and the related consolidated statements of earnings, comprehensive income (loss), changes in shareholders' equity and cash flows for each of the three years in the period ended August 31, 2019, including the related notes (collectively referred to as the consolidated financial statements). We also have audited the Company's internal control over financial reporting as at August 31, 2019, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as at August 31, 2019 and 2018, and its financial performance and its cash flows for each of the three years in the period ended August 31, 2019 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS). Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of August 31, 2019, based on criteria established in Internal Control – Integrated Framework (2013) issued by the COSO.

Basis for opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in "Management's Annual Report on Internal Control over Financial Reporting" included in Item 15(b) of the Annual Report on Form 20-F for the fiscal year ended August 31, 2019. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the US 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, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

PricewaterhouseCoopers LLP[1]

Montréal, Canada
November 26, 2019

We have served as the Company's auditor since 1994.

[1] CPA auditor, CA, public accountancy permit No. A111799

EXFO Inc.
Consolidated Balance Sheets

(in thousands of US dollars)

	As at August 31, 2019	2018
Assets		
Current assets		
Cash	$ 16,518	$ 12,758
Short-term investments (note 6)	2,918	2,282
Accounts receivable (note 6)		
Trade	51,517	47,273
Other	3,396	4,137
Income taxes and tax credits recoverable (note 20)	3,159	4,790
Inventories (note 7)	38,017	38,589
Prepaid expenses	6,510	5,291
Other assets (note 19)	3,083	2,279
	125,118	117,399
Tax credits recoverable (note 20)	46,704	47,677
Property, plant and equipment (notes 8 and 22)	39,364	44,310
Intangible assets (notes 9 and 22)	21,654	29,866
Goodwill (notes 9 and 22)	38,648	39,892
Deferred income tax assets (note 20)	4,821	4,714
Other assets	1,293	686
	$ 277,602	$ 284,544
Liabilities		
Current liabilities		
Bank loan (note 10)	$ 5,000	$ 10,692
Accounts payable and accrued liabilities (note 11)	50,790	47,898
Provisions (note 11)	1,065	2,954
Income taxes payable	704	873
Deferred revenue (note 19)	24,422	16,556
Other liabilities	1,606	3,197
Current portion of long-term debt (note 12)	2,449	2,921
	86,036	85,091
Provisions (note 11)	2,737	2,347
Deferred revenue (note 19)	9,056	6,947
Long-term debt (note 12)	3,293	5,907
Deferred income tax liabilities (note 20)	3,598	5,910
Other liabilities	318	421
	105,038	106,623
Commitments (note 13)		
Shareholders' equity		
Share capital (note 14)	92,706	91,937
Contributed surplus	19,196	18,428
Retained earnings	112,173	114,906
Accumulated other comprehensive loss (note 15)	(51,511)	(47,350)
	172,564	177,921
	$ 277,602	$ 284,544

The accompanying notes are an integral part of these consolidated financial statements.

On behalf of the Board

/s/ Philippe Morin
PHILIPPE MORIN, Chief Executive Officer

/s/ Claude Séguin
CLAUDE SÉGUIN, Chairman, Audit Committee

EXFO Inc.
Consolidated Statements of Earnings

(in thousands of US dollars, except share and per share data)

	Years ended August 31, 2019	2018	2017
Sales (note 22)	$ 286,890	$ 269,546	$ 243,301
Cost of sales [(1)]	118,677	105,004	94,329
Selling and administrative	98,646	98,794	86,256
Net research and development	50,553	57,154	47,168
Depreciation of property, plant and equipment	5,469	5,444	3,902
Amortization of intangible assets	9,012	10,327	3,289
Change in fair value of cash contingent consideration	–	(670)	(383)
Interest and other expense	718	1,378	303
Foreign exchange (gain) loss	949	(1,309)	978
Share in net loss of an associate (note 3)	–	2,080	–
Gain on deemed disposal of the investment in an associate (note 3)	–	(2,080)	–
Earnings (loss) before income taxes	2,866	(6,576)	7,459
Income taxes (note 20)	5,346	5,678	6,608
Net earnings (loss) for the year	(2,480)	(12,254)	851
Net loss for the year attributable to non-controlling interest	–	(352)	–
Net earnings (loss) for the year attributable to parent interest	$ (2,480)	$ (11,902)	$ 851
Basic and diluted net earnings (loss) attributable to parent interest per share	$ (0.04)	$ (0.22)	$ 0.02
Basic weighted average number of shares outstanding (000's)	55,325	54,998	54,423
Diluted weighted average number of shares outstanding (000's) (note 21)	55,325	54,998	55,555

(1) The cost of sales is exclusive of depreciation and amortization, shown separately.

The accompanying notes are an integral part of these consolidated financial statements.

EXFO Inc.

Consolidated Statements of Comprehensive Income (Loss)

(in thousands of US dollars)

	Years ended August 31, 2019	2018	2017
Net earnings (loss) for the year	$ (2,480)	$ (12,254)	$ 851
Other comprehensive income (loss), net of income taxes			
Items that may be reclassified subsequently to net earnings			
Foreign currency translation adjustment	(4,177)	(6,491)	8,262
Unrealized gains/losses on forward exchange contracts	(795)	(1,476)	1,403
Reclassification of realized gains/losses on forward exchange contracts in net earnings	744	(972)	423
Deferred income tax effect of gains/losses on forward exchange contracts	67	554	(479)
Other comprehensive income (loss)	(4,161)	(8,385)	9,609
Comprehensive income (loss) for the year	(6,641)	(20,639)	10,460
Comprehensive loss for the year attributable to non-controlling interest	–	(352)	–
Comprehensive income (loss) for the year attributable to parent interest	$ (6,641)	$ (20,287)	$ 10,460

The accompanying notes are an integral part of these consolidated financial statements.

EXFO Inc.
Consolidated Statements of Changes in Shareholders' Equity

(in thousands of US dollars)

	Year ended August 31, 2017				
	Share capital	Contributed surplus	Retained earnings	Accumulated other comprehensive loss	Total shareholders' equity
Balance as at September 1, 2016	$ 85,516	$ 18,150	$ 126,309	$ (48,574)	$ 181,401
Issuance of share capital (note 14)	3,490	–	–	–	3,490
Reclassification of stock-based compensation costs (note 14)	1,405	(1,405)	–	–	–
Stock-based compensation costs	–	1,439	–	–	1,439
Net earnings for the year	–	–	851	–	851
Other comprehensive income					
Foreign currency translation adjustment	–	–	–	8,262	8,262
Changes in unrealized gains/losses on forward exchange contracts, net of deferred income taxes of $479	–	–	–	1,347	1,347
Total comprehensive income for the year					10,460
Balance as at August 31, 2017	$ 90,411	$ 18,184	$ 127,160	$ (38,965)	$ 196,790

	Year ended August 31, 2018					
	Share capital	Contributed surplus	Retained earnings	Accumulated other comprehensive loss	Non-controlling interest	Total shareholders' equity
Balance as at September 1, 2017	$ 90,411	$ 18,184	$ 127,160	$ (38,965)	$ –	$ 196,790
Reclassification of stock-based compensation costs (note 14)	1,526	(1,526)	–	–	–	–
Stock-based compensation costs	–	1,770	–	–	–	1,770
Business combination (note 3)	–	–	–	–	(3,662)	(3,662)
Acquisition of non-controlling interest on acquisition of subsidiary (note 3)	–	–	(352)	–	4,014	3,662
Net loss for the year	–	–	(11,902)	–	(352)	(12,254)
Other comprehensive loss						
Foreign currency translation adjustment	–	–	–	(6,491)	–	(6,491)
Changes in unrealized gains/losses on forward exchange contracts, net of deferred income taxes of $554	–	–	–	(1,894)	–	(1,894)
Total comprehensive loss for the year						(20,639)
Balance as at August 31, 2018	$ 91,937	$ 18,428	$ 114,906	$ (47,350)	$ –	$ 177,921

	Year ended August 31, 2019				
	Share capital	Contributed surplus	Retained earnings	Accumulated other comprehensive loss	Total shareholders' equity
Balance as at August 31, 2018	$ 91,937	$ 18,428	$ 114,906	$ (47,350)	$ 177,921
Adoption of IFRS 9 (note 2)	–	–	(253)	–	(253)
Adjusted balance as at September 1, 2018	91,937	18,428	114,653	(47,350)	177,668
Reclassification of stock-based compensation costs (note 14)	1,106	(1,106)	–	–	–
Redemption of share capital (note 14)	(337)	25	–	–	(312)
Stock-based compensation costs	–	1,849	–	–	1,849
Net loss for the year	–	–	(2,480)	–	(2,480)
Other comprehensive income (loss)					
Foreign currency translation adjustment	–	–	–	(4,177)	(4,177)
Changes in unrealized gains/losses on forward exchange contracts, net of deferred income taxes of $67	–	–	–	16	16
Total comprehensive loss for the year					(6,641)
Balance as at August 31, 2019	$ 92,706	$ 19,196	$ 112,173	$ (51,511)	$ 172,564

The accompanying notes are an integral part of these consolidated financial statements.

EXFO Inc.
Consolidated Statements of Cash Flows

(in thousands of US dollars)

	Years ended August 31,		
	2019	2018	2017
Cash flows from operating activities			
Net earnings (loss) for the year	$ (2,480)	$ (12,254)	$ 851
Add (deduct) items not affecting cash			
Stock-based compensation costs	1,831	1,748	1,477
Depreciation and amortization	14,481	15,771	7,191
Gain on disposal of capital assets (note 4)	(1,732)	–	–
Writeoff of capital assets	1,386	592	–
Change in fair value of cash contingent consideration	–	(670)	(383)
Deferred revenue	10,477	1,998	1,723
Deferred income taxes	(2,103)	1,368	1,054
Share in net loss of an associate	–	2,080	–
Gain on deemed disposal of the investment in an associate	–	(2,080)	–
Changes in foreign exchange gain/loss	(46)	(181)	1,096
	21,814	8,372	13,009
Changes in non-cash operating items			
Accounts receivable	(4,786)	7,275	3,955
Income taxes and tax credits	1,536	86	(2,386)
Inventories	(134)	(1,020)	911
Prepaid expenses	(1,307)	57	(918)
Other assets	(1,459)	(1,311)	(121)
Accounts payable and accrued liabilities and provisions	3,184	1,033	(1,745)
Other liabilities	(1,606)	(122)	165
	17,242	14,370	12,870
Cash flows from investing activities			
Additions to short-term investments	(1,879)	(1,550)	(2,910)
Proceeds from disposal and maturity of short-term investments	1,168	234	6,374
Purchases of capital assets (notes 8 and 9)	(7,498)	(10,452)	(7,175)
Proceeds from disposal of capital assets (note 4)	3,318	–	–
Investment in an associate (note 3)	–	(12,530)	–
Business combinations, net of cash acquired (note 3)	–	(19,600)	(12,792)
	(4,891)	(43,898)	(16,503)
Cash flows from financing activities			
Bank loan	(5,195)	11,061	–
Repayment of long-term debt	(2,817)	(1,688)	(1,480)
Redemption of share capital (note 14)	(312)	–	–
Other liabilities	–	(1,449)	–
Acquisition of non-controlling interest (note 3)	–	(3,657)	–
	(8,324)	4,267	(1,480)
Effect of foreign exchange rate changes on cash	(267)	(416)	340
Change in cash	3,760	(25,677)	(4,773)
Cash – Beginning of year	12,758	38,435	43,208
Cash – End of year	$ 16,518	$ 12,758	$ 38,435
Supplementary information			
Income taxes paid	$ 2,577	$ 2,376	$ 2,866

The accompanying notes are an integral part of these consolidated financial statements.

EXFO Inc.
Notes to Consolidated Financial Statements

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

1 Nature of Activities and Incorporation

EXFO Inc. and its subsidiaries (together "EXFO" or the "company") develops smarter test, monitoring and analytics solutions for fixed and mobile network operators, webscale companies and equipment manufacturers in the global communications industry.

EXFO is a company incorporated under the Canada Business Corporations Act and is domiciled in Canada. The address of its headquarters is 400 Godin Avenue, Québec City, Quebec, Canada, G1M 2K2.

These consolidated financial statements were authorized for issue by the Board of Directors on November 26, 2019.

2 Basis of Presentation

These consolidated financial statements have been prepared in accordance with the *International Financial Reporting Standards* (IFRS), as issued by the *International Accounting Standards Board* (IASB). The company has consistently applied the same accounting policies through all periods presented, except as described below.

IFRS Pronouncements Adopted in Fiscal 2019

Financial instruments

The final version of IFRS 9, "*Financial Instruments*", was issued in July 2014 and replaces IAS 39, "*Financial Instruments: Recognition and Measurement*". IFRS 9 uses a single approach to determine whether a financial asset is measured at amortized cost or fair value, replacing the multiple rules in IAS 39. The approach in IFRS 9 is based on how an entity manages its financial instruments in the context of its business model and the contractual cash flow characteristics of its financial assets. Most of the requirements in IAS 39 for classification and measurement of financial liabilities were carried forward unchanged to IFRS 9. The new standard also requires a single impairment method to be used, replacing the multiple impairment methods in IAS 39. Requirements relating to hedge accounting, representing a new hedge accounting model, have also been added to IFRS 9. The new standard is effective for annual periods beginning on or after January 1, 2018 and must be applied retrospectively. The company adopted this new standard on September 1, 2018 using the modified retrospective method. The following table summarizes the impact of its adoption on the company's consolidated balance sheet as at September 1, 2018:

	As reported as at August 31, 2018	Adjustments	As adjusted as at September 1, 2018
Accounts receivable – Trade (note 6)	$ 47,273	$ (303)	$ 46,970
Income taxes recoverable	$ 4,790	$ 50	$ 4,840
Total assets	$ 284,544	$ (253)	$ 284,291
Retained earnings	$ 114,906	$ (253)	$ 114,653
Shareholders' equity	$ 177,921	$ (253)	$ 177,668

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

In addition, the company's consolidated financial instruments are accounted for as follows under IFRS 9 as compared to the company's previous accounting policy with IAS 39:

Financial assets	*Classification – IAS 39*	*Classification – IFRS 9*
Cash	Loans and receivables	Amortized cost
Short-term investments	Available for sale	Fair value through other comprehensive income
Accounts receivable	Loans and receivables	Amortized cost
Forward exchange contracts	Derivatives used for hedging	Fair value through other comprehensive income
Financial liabilities		
Bank loan	Other financial liabilities	Amortized cost
Accounts payable and accrued liabilities	Other financial liabilities	Amortized cost
Other liabilities	Other financial liabilities	Amortized cost
Long-term debt	Other financial liabilities	Amortized cost
Forward exchange contracts	Derivatives used for hedging	Fair value through other comprehensive income

Hedge accounting

All existing hedge relationships that were designated as effective hedging relationships under IAS 39 were re-designated, and continue to qualify for hedge accounting under IFRS 9. The adoption of IFRS 9 did not change the application of hedge accounting for the company's effective hedges.

Revenue from contracts with customers

IFRS 15, "*Revenue from Contracts with Customers*", was issued in May 2014. The objective of this new standard is to provide a single, comprehensive revenue recognition model for all contracts with customers to improve comparability. This new standard contains principles that an entity must apply to determine the measurement of revenue and timing of when it is recognized. The underlying principle is that an entity recognizes revenue to depict the transfer of goods or services to customers at an amount that the entity expects to be entitled to in exchange for those goods or services. This new standard is effective for annual periods beginning on or after January 1, 2018. The company adopted this new standard on September 1, 2018 using the modified retrospective method. The company applied this standard retrospectively only to contracts that were not completed at the date of initial application.

The company concluded that the main areas of impact relate to the allocation of the transaction price to the various performance obligations under the contracts, the timing of revenue recognition for sales arrangement that contain customer acceptance clauses, and the sale of licenses that provide customers with the "right to use" the company's intellectual property. The adoption of the new standard had no material impact on the company's consolidated financial statements.

Foreign currency transactions and advance consideration

IFRIC 22, "*Foreign Currency Transactions and Advance Consideration*", was issued in December 2016. IFRIC 22 addresses how to determine the date of the transaction for the purpose of determining the exchange rate to use on initial recognition of the related asset, expense or income (or part of it) and on the derecognition of a non-monetary asset or non-monetary liability arising from the payment or receipt of advance consideration in a foreign currency. IFRIC 22 is effective for annual periods beginning on or after January 1, 2018. The company adopted this interpretation retrospectively on September 1, 2018, and its adoption did not have a material impact on its consolidated financial statements.

Basis of measurement

These consolidated financial statements have been prepared under the historical cost convention, except for the revaluation of derivative financial instruments, short-term investments and the contingent liability.

Consolidation

These consolidated financial statements include the accounts of the company and its domestic and foreign subsidiaries. Intercompany accounts and transactions have been eliminated.

Revenue recognition under IFRS 15

The company exercises judgment and use estimates in connection with determining the amounts of product and services revenues to be recognized in each accounting period.

The company accounts for revenue once a legally enforceable contract with a customer has been approved by the parties and the related promises to transfer products or services have been identified. A contract is defined by the company as an arrangement with commercial substance identifying payment terms, each party's rights and obligations regarding the products or services to be transferred and collection is probable. The company's contracts usually take the form of a customer purchase order.

Customer contracts may include promises to transfer multiple products and services to a customer. Determining whether the products and services are considered distinct performance obligations that should be accounted for separately or as one single performance obligation may require significant judgment. The company assesses whether each promised good or service is distinct for the purpose of identifying the various performance obligations in each contract. Promised goods and services are considered distinct provided that: (i) the customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer; and (ii) the company's promise to transfer the good or service to the customer is separately identifiable or distinct from other promises in the contract. The company derives revenues from goods and services. Sales of goods, which represent the majority of the sales of the company, consist of standalone hardware products, hardware products with embedded software that are essential to providing customers the intended functionality of the solutions, standalone software licenses, as well as hardware products bundled with a software license. Sales of services mainly consist of professional services, consulting, stand-ready software-as-a-service (SAAS), maintenance contracts, extended warranties, installation, integration and training. The company's performance obligations consist of a variety of products and services.

Revenue is recognized when control of the products or services are transferred to the customers in an amount that reflects the consideration the company expects to be entitled to in exchange for products and services. Revenue is recognized at the point in time control is transferred to the customer. For hardware sales, transfer of control to the customer typically occurs at the point the product is shipped or delivered to the customer's designated location. For ''right of use'' software license sales, transfer of control to the customer typically occurs upon shipment, electronic delivery, or when the software is available for download by the customer. For instances where software license is sold along with essential services, such as integration or installation, transfer of control occurs, and revenue is typically recognized upon customer acceptance. In certain instances, acceptance is deemed to have occurred if all acceptance provisions lapse, or if the company has evidence that all acceptance provisions will be, or have been, satisfied. Revenue from software and hardware support is recognized ratably over the support period. Support services generally include rights to unspecified upgrades (when and if available), telephone and internet-based support, updates, bug fixes and hardware repair and replacement. SAAS services are recognized ratably over the contract term.

If the contract contains a single performance obligation, the entire transaction price is attributed to that performance obligation. Some of the company's contracts include multiple distinct performance obligations with a combination of products and services, maintenance and support, professional services and/or training. The company allocates the transaction price among the performance obligations in an amount that depicts the relative standalone selling prices (SSP) of each obligation. Judgment is required to determine the SSP for each distinct performance obligation. The company assesses SSP based on historical pricing for products and services, whether sold alone or as part of a multiple element transaction. The company reviews sales of the product and services elements on a regular basis and updates, when appropriate, its SSP for such elements to ensure that it reflects recent pricing experience.

Payments for products and services are typically due up front with payment terms of 30 to 90 days. However, the company has contracts pursuant to which payments are due over a certain period generally not exceeding one year based on agreed-upon payments terms either prior or following the transfer of control for the contracted performance obligations. Payments on multi-year maintenance, consulting services are typically due in annual, quarterly or monthly installments over the contract term. The company did not have any material variable consideration such as obligations for returns, refunds or warranties as at August 31, 2019.

Presentation currency

The functional currency of the company is the Canadian dollar. The company has adopted the US dollar as its presentation currency as it is the most commonly used reporting currency in its industry. The consolidated financial statements are translated into the presentation currency as follows: assets and liabilities are translated at the exchange rate in effect on the date of the consolidated balance sheet; revenues and expenses are translated at the monthly average exchange rate. The foreign currency translation adjustment arising from such translation is included in accumulated other comprehensive income in shareholders' equity.

Foreign currency translation

(a) Foreign currency transactions

Transactions denominated in currencies other than the functional currency are translated into the relevant functional currency as follows: Monetary assets and liabilities are translated at the exchange rate in effect on the date of the consolidated balance sheet, and revenues and expenses are translated at the exchange rate in effect on the date of the transaction. Non-monetary assets and liabilities measured at historical cost and denominated in a foreign currency are translated using the exchange rate at the date of the transaction, whereas non-monetary items that are measured at fair value and denominated in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Foreign exchange gains and losses arising from such translation are included in the consolidated statements of earnings.

(b) Foreign operations

Each foreign operation determines its own functional currency and items included in the financial statements of each foreign operation are measured using that functional currency. The financial statements of each foreign operation that has a functional currency different from the company are translated into Canadian dollars as follows: assets and liabilities are translated at the exchange rate in effect on the date of the consolidated balance sheet; revenues and expenses are translated at the monthly average exchange rate. The foreign currency translation adjustment arising from such translation is included in accumulated other comprehensive income in shareholders' equity.

Financial instruments

The classification of financial instruments depends on the intended purpose when the financial instruments were acquired or issued, as well as on their characteristics and designation by the company.

Financial assets at amortized cost

Financial assets are measured at amortized cost if they are held within a business model whose objective is to hold assets to collect contractual cash flows, and their contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. Otherwise, they are classified at fair value through profit or loss through other comprehensive income.

Financial liabilities at amortized cost

Financial liabilities are measured at amortized cost.

Financial assets at fair value through other comprehensive income

Financial assets at fair value through other comprehensive income are initially recognized at fair value plus transaction costs and are subsequently measured at fair value. After their initial recognition, any changes in their fair value are reflected in the consolidated statements of comprehensive income.

Derivative financial instruments and hedging activities

Forward exchange contracts are utilized by the company to manage its foreign currency exposure. Forward exchange contracts are entered into by the company to hedge anticipated US-dollar-denominated sales and the related accounts receivable as well as Indian-rupee-denominated operating expenses and the related accounts payable. The company's policy is not to utilize those derivative financial instruments for trading or speculative purposes.

The company's forward exchange contracts, which are designated as cash flow hedging instruments, qualify for hedge accounting.

Forward exchange contracts are classified as financial instruments at fair value through other comprehensive income. They are initially recorded at fair value and subsequently measured at fair value. The fair value of forward exchange contracts is determined using observable prices and forward exchange rates at the consolidated balance sheet date, with the resulting value discounted back to present value. After initial recognition, the effective portion of changes in their fair value is reflected in other comprehensive income. Any ineffective portion is recognized immediately in the consolidated statements of earnings. Upon recognition of related hedged sales and operating expenses, accumulated changes in fair value of forward exchange contracts are respectively reclassified in sales and net research and development expenses in the consolidated statements of earnings.

At the inception of a hedge relationship, the company formally designates and documents the hedge relationship to which the company wishes to apply hedge accounting, the risk management objectives, the hedging instrument, the hedged item and the method used to test effectiveness. The company assesses effectiveness of the hedge relationship at inception and on an ongoing basis using the dollar-offset method.

Fair value hierarchy

The company classifies its derivative and non-derivative financial assets and financial liabilities measured at fair value using the fair value hierarchy as follows:

Level 1: Quoted prices (unadjusted) in an active market for identical assets or liabilities;

Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset and liability, either directly or indirectly; and

Level 3: Unobservable inputs for the asset or liability.

The company's short-term investments and forward exchange contracts are measured at fair value at each balance sheet date. The company's short-term investments are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in active markets. The company's forward exchange contracts are classified within Level 2 of the fair value hierarchy because they are valued using observable prices and forward foreign exchange rates at the balance sheet dates.

Short-term investments

All investments with original terms to maturity of three months or less and that are not required for the purposes of meeting short-term cash requirements are classified as short-term investments. Short-term investments can be hold to maturity or sold and are classified as financial assets at fair value through other comprehensive income; therefore, they are carried at fair value in the consolidated balance sheet, and any changes in their fair value are reflected in other comprehensive income. Upon the disposal or maturity of these assets, accumulated changes in their fair value are reclassified from other comprehensive income to the consolidated statements of earnings.

Inventories

Inventories are valued on an average cost basis, at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs necessary to make the sale.

The cost of work in progress and finished goods includes material, labor and an allocation of manufacturing overhead.

Property, plant and equipment and depreciation

Property, plant and equipment are recorded at cost, net of accumulated depreciation and accumulated impairment losses. Such cost is reduced by related research and development tax credits.

Depreciation is provided on a straight-line basis over the estimated useful lives of the asset as follows:

	Term
Land improvements	15 years
Buildings	20 to 60 years
Equipment	3 to 15 years
Leasehold improvements	The lesser of useful life and remaining lease term

The assets' residual values and useful lives are reviewed at each financial year-end and are adjusted prospectively, if appropriate.

Intangible assets, goodwill and amortization

Intangible assets

Intangible assets with finite useful lives primarily include the cost of core technology, customer relationships and software. The cost of intangible assets acquired in a business combination is the fair value of the assets at the date of acquisition. Following initial recognition, intangible assets are carried at cost less accumulated amortization and accumulated impairment losses. Amortization is provided on a straight-line basis over the estimated useful lives of two to eight years for core technologies, three months to five years for customer relationships, one year for brand name, and two and eight years for software. None of the company's intangible assets were developed internally.

The amortization method and the useful lives of intangible assets are reviewed at each financial year-end, and adjusted prospectively, if appropriate.

Goodwill

Goodwill represents the excess of the purchase price of acquired businesses over the estimated fair value of net identifiable assets acquired and is allocated to each cash-generating unit (CGU) or group of CGUs that are expected to benefit from the related business combination. A group of CGUs represents the lowest level within the company at which the goodwill is monitored for internal management purposes, which is not higher than an operating segment. Goodwill is not amortized but must be tested for impairment on an annual basis or more frequently if events or circumstances indicate that it might be impaired.

Research and development

All costs related to research are expensed as incurred, net of related tax credits and grants. Development costs are expensed as incurred, net of related tax credits and grants, unless they meet the recognition criteria of IAS 38, "*Intangible Assets*'', in which case they are capitalized, net of related tax credits and grants and amortized on a straight-line basis over the estimated benefit period. Research and development expenses mainly comprise salaries and related expenses, material costs as well as fees paid to third-party consultants. As at August 31, 2018 and 2019, the company had not capitalized any development costs.

The company elected to account for non-refundable research and development tax credits under IAS 20, "*Accounting for Governmental Grants and Disclosures of Governmental Assistance*'', and as such, these tax credits are presented against gross research and development expenses in the consolidated statements of earnings. Non-refundable research and development tax credits are included in earnings or deducted from the related assets, provided there is reasonable assurance that the company has complied and will comply with the conditions related to the tax credits and that the tax credits will be received.

Impairment of non-financial assets

The company assesses at each reporting date whether there is an indication that the carrying value of property, plant and equipment and finite-life intangible assets may not be recoverable. Non-financial assets that are not amortized (such as goodwill) are subject to an annual impairment test. If any indication exists, or when annual impairment testing is required, the company estimates the asset or asset group's recoverable amount. For the purpose of measuring recoverable amounts, assets are grouped at the lowest levels for which there are separately identifiable cash flows (CGUs). The recoverable amount is the higher of an asset or CGU's fair value less costs of disposal and its value in use. Where the carrying value of an asset or CGU exceeds its recoverable amount, the asset or the CGU is considered impaired and is written down to its recoverable amount. The company performs its annual goodwill impairment test in the fourth quarter of each fiscal year.

For property, plant and equipment and finite-life intangible assets, the reversal of impairment is limited so that the carrying value of the asset does not exceed its recoverable amount, nor exceed the carrying value that would have been determined, net of depreciation or amortization, had no impairment loss been recognized for the asset in prior periods. Impairment losses on goodwill are not reversed.

Leases

Operating leases are leases for which the company does not assume substantially all the risks and rewards of ownership of the asset. Operating lease rentals are charged to the consolidated statements of earnings on a straight-line basis over the lease term.

As at August 31, 2018 and 2019, all significant leases of the company were classified as operating leases.

Government grants

Grants related to operating expenses are included in earnings when the related expenses are incurred. Grants related to capital expenditures are deducted from the related assets. Grants are included in the consolidated statements of earnings or deducted from the related assets, provided there is reasonable assurance that the company has complied and will comply with all the conditions related to the grants and that the grants will be received.

Warranty

The company offers its customers basic warranties of one to three years, depending on the specific products and terms of the purchase agreement. The company's typical warranties require it to repair or replace defective products during the warranty period at no cost to the customer. Costs related to basic warranties are accrued at the time of shipment, based upon estimates of expected rework and warranty costs to be incurred. Costs associated with separately priced extended warranties are expensed as incurred.

Income taxes

Income taxes comprise current and deferred income taxes.

Current income taxes

Current income tax assets and liabilities for the current and prior years are measured at the amount expected to be recovered or paid to the taxation authorities. Income tax rates used to calculate the amount are those that are enacted or substantively enacted at the balance sheet dates in the tax jurisdictions where the company generates taxable income/loss.

Deferred income taxes

The company provides for deferred income taxes using the liability method. Under this method, deferred income tax assets and liabilities are determined based on deductible or taxable temporary differences between financial statement values and tax values of assets and liabilities as well as the carry-forward of unused tax losses and deductions, using enacted or substantively enacted income tax rates at the balance sheet dates, that are expected to be in effect for the years in which the assets are expected to be recovered or the liabilities to be settled.

Deferred income tax assets are recognized only to the extent that it is probable that future taxable income will be available against which the deductible temporary differences as well as unused tax losses and deductions can be utilized.

Deferred tax liabilities are recognized for all taxable temporary differences and for taxable temporary differences arising on investments in subsidiaries, except where the reversal of these temporary differences can be controlled, and it is probable that the differences will not reverse in the foreseeable future.

Deferred income tax assets and liabilities are presented as non-current in the consolidated balance sheets.

Uncertain tax positions

The company is subject to income tax laws and regulations in several jurisdictions. There are many transactions and calculations during the course of business for which the ultimate tax determination is uncertain. The company maintains provisions for uncertain tax positions that it believes appropriately reflect its risk. These provisions are made using the best estimate of the amount expected to be paid based on a qualitative assessment of all relevant factors. The company reviews the adequacy of these provisions at the end of the reporting periods and any changes in the provisions are recognized in the consolidated statements of earnings when they occur. However, it is possible that at some future dates, liabilities in excess of the company's provisions could result from audits by, or litigation with, the relevant taxing authorities. Where the final outcome of these tax-related matters is different from the amounts that were initially recorded, such differences will be recognized in the consolidated statement of earnings in the period in which such determination is made.

Earnings per share

Basic earnings per share are calculated by dividing net earnings attributable to common equity holders of the company by the weighted average number of common shares outstanding during the year.

Diluted earnings per share are calculated by dividing net earnings attributable to common equity holders of the company by the weighted average number of common shares outstanding during the year, plus the effect of dilutive potential common shares outstanding during the year. This method requires that diluted earnings per share be calculated (using the treasury stock method) as if all dilutive potential common shares had been exercised at the latest at the beginning of the year or on the date of issuance, as the case may be, and that the funds obtained thereby (plus an amount equivalent to the unamortized portion of related stock-based compensation costs) be used to purchase common shares of the company at the average market price of the common shares during the year.

Stock-based compensation

Equity-settled awards

The company's stock options, restricted share units and deferred share units are equity-settled awards. The company accounts for stock-based compensation costs on equity-settled awards using the Black-Scholes option valuation model. The fair value of equity-settled awards is measured at the date of grant. Stock-based compensation costs are amortized to expense over the vesting periods together with a corresponding change in contributed surplus in shareholders' equity. For equity-settled awards with graded vesting, each tranche is considered a separate grant with a different vesting date and fair value, and each tranche is accounted for separately.

Cash-settled awards

The company's stock appreciation rights are cash-settled awards. The company accounts for stock-based compensation costs on cash-settled awards using the Black-Scholes option valuation model. The fair value of the cash-settled awards is remeasured at the end of each reporting period, with any changes in the fair value recognized in the consolidated statements of earnings.

Operating segments

Operating segments are defined as components of an entity engaged in business activities from which it may earn revenues and incur expenses, and whose operating results are regularly reviewed by the chief operating decisionmaker (CODM) to make decisions about resources to be allocated to segments and assess their performance and for which discrete information is available. The function of the CODM is performed by the Chief Executive Officer who reviews consolidated results for the purposes of allocating resources and evaluating performance. Accordingly, the company determines that it has one operating segment as of, and for the years ended August 31, 2017, 2018 and 2019. Entity-wide disclosures are presented in note 22.

Critical accounting judgments in applying accounting policies and estimates

The preparation of financial statements in accordance with IFRS requires management to make judgments, estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses as well as the disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those judgments, estimates and assumptions.

Critical judgments, estimates and assumptions are the following:

Critical judgments in applying accounting policies

(a) Determination of functional currency

The company operates in multiple countries and generates revenue and incurs expenses in several currencies, namely the Canadian dollar, the US dollar, the euro, the British pound, the Indian rupee and the CNY (Chinese currency). The determination of the functional currency of the company and its subsidiaries may require significant judgment. In determining the functional currency of the company and its subsidiaries, management takes into account primary, secondary and tertiary indicators. When indicators are mixed, and the functional currency is not obvious, management uses its judgment to determine the functional currency.

(b) Determination of cash generating units and allocation of goodwill

For the purpose of impairment testing, goodwill must be allocated to each CGU or group of CGUs that are expected to benefit from the synergies of the business combination. Initial allocation and possible reallocation of goodwill to a CGU or a group of CGUs requires judgment.

Critical estimates and assumptions

(a) Inventories

The company states its inventories at the lower of cost, determined on an average cost basis, and net realizable value, and provides reserves for excess and obsolete inventories. The company determines its reserves for excess and obsolete inventories based on the quantities on hand at the reporting dates compared to foreseeable needs, taking into account changes in demand, technology or market.

(b) Income taxes

The company is subject to income tax laws and regulations in several jurisdictions. Under these laws and regulations, uncertainties exist with respect to the interpretation of complex tax laws and regulations and the amount and timing of future taxable income. The company maintains provisions for uncertain tax positions that it believes appropriately reflect its risk based on its interpretation of laws and regulations. In addition, management has made reasonable estimates and assumptions to determine the amount of deferred tax assets that can be recognized in the consolidated financial statements, based upon the likely timing and level of anticipated future taxable income together with tax planning strategies. The ultimate realization of the company's deferred income tax assets is dependent upon the generation of sufficient future taxable income during the periods in which those assets are expected to be realized.

(c) Tax credits recoverable

Tax credits are recorded if there is reasonable assurance that the company has complied and will comply with all the conditions related to the tax credits and that the tax credits will be received. The ultimate recovery of the company's non-refundable tax credits is dependent upon the generation of sufficient future taxable income during the tax credits carry-forward periods. Management has made reasonable estimates and assumptions to determine the amount of non-refundable tax credits that can be recognized in the consolidated financial statements, based upon the likely timing and level of anticipated future taxable income together with tax planning strategies (note 20).

(d) Impairment of non-financial assets

Impairment exists when the carrying value of an asset or group of assets (CGU) exceeds its recoverable amount, which is the higher of its fair value less costs of disposal and its value in use. The fair value less costs of disposal calculation for the company's CGUs is based on a market approach that relies on unobservable inputs based on valuation multiples and recent transactions for comparable assets or businesses, within the same industry. The company applies judgment in making adjustments to the unobservable inputs for factors such as size, risk profile or profitability. The company also considers the company's value derived from its market capitalization, adjusting for a control premium considered appropriate based on other comparable companies with significant controlling interests. Depending on the market evidence available, the company, from time to time, may further supplement this market approach with an income approach that considers discounted cash flows to determine fair value less costs of disposal, as well as the nature and magnitude of research and development activities carried out by the CGU. The discounted cash flow model involves significant judgment with respect to estimating cash flows (based on market participant assumptions) and the appropriate discount rate.

(e) Purchase price allocation in business combinations

The fair value of the total consideration transferred in business combinations (purchase price) must be allocated based on estimated fair value of acquired net assets at the date of acquisition. Allocating the purchase price requires management to make estimates and judgments to determine assets acquired and liabilities assumed, useful lives of certain long-lived assets and the respective fair value of assets acquired, and liabilities assumed; this may require the use of unobservable inputs, including management's expectations of future revenue growth, operating costs and profit margins as well as discount rates.

(f) Identification of performance obligations

Customer contracts may include promises to transfer multiple products and services to a customer. Determining whether the products and services are considered distinct performance obligations that should be accounted for separately or as one single performance obligation may require significant judgment. The company assesses whether each promised good or service is distinct for the purpose of identifying the various performance obligations in each contract. Promised goods and services are considered distinct provided that: (i) the customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer; and (ii) the company's promise to transfer the good or service to the customer is separately identifiable or distinct from other promises in the contract.

Recently issued IFRS Pronouncements Not Yet Adopted

Leases

IFRS 16, "*Leases*", was issued in January 2016. IFRS 16 sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract, i.e., the customer (lessee) and the supplier (lessor). IFRS 16 will supersede IAS 17, "*Leases*", and related interpretations. Under IFRS 16, lessees will recognize a right-of-use asset and a lease liability measured at the present value of lease payments for virtually all of their leases. Short-term leases with a term of 12 months or less are not required to be recognized. This new standard is effective for annual periods beginning on or after January 1, 2019.

The company will adopt this new standard on September 1, 2019, using the modified retrospective method, which does not require adjustments to comparative periods. The company will apply IFRS 16 at the adoption date and recognize right-of-use assets and lease liabilities in the period of adoption. The new standard provides a number of optional practical expedients in transition. Upon implementation of the new standard, the company intends to elect the practical expedients to combine lease and non-lease components, and to not recognize right-of-use assets and lease liabilities for short-term leases. The company is in the process of identifying appropriate changes to its accounting policies, information technology systems, business processes, and related internal controls to support recognition and disclosure requirements under IFRS 16. The company expects that the adoption of IFRS 16 will increase its assets and liabilities by approximately $11 million, as it will recognize a right-of-use asset and a lease liability for all its long-term leases. However, the company does not expect the adoption of this standard to have a significant impact on net earnings. The lease expense, previously recorded under cost of sales, selling and administrative expenses and net research and development expenses line items will be recorded as depreciation expenses for the right-of-use asset and as interest expenses on the lease liability in the consolidated statements of earnings. In addition, lease payments for the right-of-use asset, previously reported in cash flow from operating activities will be reported in cash flow from financing activities in the consolidated statements of cash flows.

Uncertainty over income tax treatments

IFRIC 23, "*Uncertainty over Income Tax Treatments*", was issued in June 2017. IFRIC 23 provides guidance on how to value uncertain income tax positions based on the probability of whether the relevant tax authorities will accept the company's tax treatments. A company is to assume that a taxation authority with the right to examine any amounts reported to it will examine those amounts and will have full knowledge of all relevant information when doing so. IFRIC 23 is effective for annual periods beginning on or after January 1, 2019. The company will adopt this interpretation on September 1, 2019 and we do not expect its adoption will have a material impact on its consolidated financial statements.

3 Business Combinations

Fiscal 2018

Astellia S.A. (renamed EXFO Solutions S.A.S.) - Business combination achieved in stages

On September 8, 2017, the company acquired a 33.1% interest in Astellia S.A. (EXFO Solutions), a publicly traded company on the NYSE Euronext Paris stock exchange. EXFO Solutions is a provider of network and subscriber intelligence-enabling mobile operators to drive service quality, maximize operational efficiency, reduce churn and increase revenue. Its vendor-independent, real-time monitoring and troubleshooting solution is used to optimize networks end-to-end from radio to core. The purchase price amounted to €10 per share for a total cash consideration of €8,567,500 (US$10,311,100).

On October 10, 2017, the company reached an agreement with EXFO Solutions to acquire EXFO Solutions' remaining shares, at a share price of €10, for a total consideration of €17,321,380 (US$21,357,500) by way of a public tender offer. The public offering opened on December 15, 2017 and closed on January 26, 2018.

On December 21 and 22, 2017, the company acquired additional interests of 6.0% and 1.2% respectively in EXFO Solutions at a purchase price of €10 per share for a total cash consideration of €1,878,610 (US$2,218,600), which brought the company's investment in EXFO Solutions to 40.3%.

On January 26, 2018, upon the closing of the public tender offer, the company acquired additional interest of 48.1% in EXFO Solutions at a purchase price of €10 per share for a total cash consideration of €12,452,090 (US$15,476,900), which brought the company's investment in EXFO Solutions to 88.4% and provided the company with control over EXFO Solutions.

The company re-opened the public tender offer to acquire the remaining shares of EXFO Solutions from February 9, 2018 to February 22, 2018. During that period, the company acquired an additional interest of 8.9% in EXFO Solutions at a purchase price of €10 per share for a total cash consideration of €2,318,530 (US$2,841,400), which brought the company's investment in EXFO Solutions to 97.3%.

Finally, on February 28, 2018, the company entered into a squeeze-out process to acquire the remaining 2.7% interest in EXFO Solutions at a share price of €10, for a total cash consideration of €672,150 (US$820,600). The binding terms of the squeeze-out process gave the company control over EXFO Solutions' remaining shares as at February 28, 2018 and consequently, as of that date the company controlled 100% of EXFO Solutions' shares.

The fair value of the total consideration paid for all shares of EXFO Solutions amounted to €25,888,880 (US$32,137,800) and consisted of €21,102,880 (US$26,241,000) in cash, net of EXFO Solutions' cash of €4,786,000 (US$5,896,800) at the date of acquisition of control.

From September 8, 2017 to January 25, 2018, the investment in EXFO Solutions provided the company with significant influence over EXFO Solutions, and it was therefore accounted for under the equity method as required by IAS 28, "*Investments in Associates and Joint Ventures*". Under this method, on initial recognition this investment was recognized at cost, and the carrying amount decreased to recognize the company's share of the net loss of EXFO Solutions after the acquisition date. Included in the consolidated statement of earnings for the year ended August 31, 2018 is an equity loss pick-up of $2,079,800.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

Upon the acquisition of an additional 48.1% interest in EXFO Solutions on January 26, 2018 (the "acquisition date"), the acquisition has been considered a business combination, and the acquisition was accounted for by applying the acquisition method as required by IFRS 3, "*Business Combinations*", and the requirements of IFRS 10, "*Consolidated Financial Statements*". Consequently, the fair value of the total consideration was allocated to the assets acquired and liabilities assumed based on management's estimate of their fair value as at the acquisition date. The results of operations of the acquired business have been included in the consolidated financial statements of the company since January 26, 2018. The company recognized the non-controlling interest in EXFO Solutions at fair value. At the acquisition date, the carrying value of the 40.3% interest in EXFO Solutions held prior to the business combination was re-measured at fair value, that is, €10 per share, and was deemed to have been disposed of on that date. This acquisition-date re-measurement and deemed disposal resulted in a gain of $2,079,800 that was accounted for in the consolidated statement of earnings for the year ended August 31, 2018.

In addition, upon the successive acquisitions of the non-controlling interest in February 2018, the company recorded a gain in the amount of $352,000 in shareholders' equity, representing the excess of the carrying value of the non-controlling interest and the purchase price paid.

The following table summarizes EXFO Solutions' contributed sales and net loss attributable to the parent interest for the period from January 26, 2018 to August 31, 2018:

Sales (1)	$	16,377
Net loss attributable to the parent interest (1, 2)	$	12,850

If the acquisition had occurred on September 1, 2017, consolidated pro forma sales and net loss attributable to the parent interest of the combined entities for the year ended August 31, 2018 would have been $292,134,000 and $18,768,000 respectively.

(1) Includes acquisition-related deferred revenue fair value adjustment of $2,095,000.
(2) Includes amortization of acquired intangible assets of $5,077,000.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

The fair value of the total consideration was allocated based on an estimate of fair value of acquired net assets at the date of acquisition as follows:

Assets acquired		
Accounts receivable	$	16,374
Income taxes and tax credits recoverable		11,259
Inventories		3,045
Prepaid expenses		1,229
Property, plant and equipment		1,944
Core technologies		12,869
Customer relationships		8,381
Brand name		846
Other intangible assets		498
Other assets		1,402
		57,847
Liabilities assumed		
Accounts payable and accrued liabilities		11,068
Deferred revenue		4,748
Long-term debt (note 12)		8,888
Deferred income tax liabilities		2,692
Other liabilities		6,715
Net identifiable assets acquired		23,736
Goodwill		2,505
Fair value of the total consideration, net of cash acquired	$	26,241

The fair value of the total consideration, net of cash acquired, consisted of the following at the acquisition date:

Cash paid net of cash acquired	$	9,580
Fair value of shares held		12,967
Non-controlling interest (purchased in February 2018)		3,694
	$	26,241

The estimated fair value of acquired accounts receivable amounted to $16,374,000 as at January 26, 2018. The gross contractual amount of accounts receivable amounted to $18,758,000 as at January 26, 2018. The estimate at the acquisition date of the gross contractual cash flows not expected to be collected amounted to $2,384,000.

Acquired intangible assets are amortized on a straight-line basis over their estimated useful lives of four and eight years for core technologies, two to five years for customer relationships, and one year for brand name.

Acquired goodwill mainly represents synergies with the company's products as well as EXFO Solutions' acquired workforce. Acquired goodwill is not deductible for tax purposes. Goodwill was allocated to the EXFO Solutions CGU up to August 31, 2018. Since then, it has been allocated to the service assurance, systems and services CGU (note 9).

The functional currency of EXFO Solutions is the euro and as such it is considered a foreign operation. The financial operations of EXFO Solutions are translated into Canadian dollars as follows: assets and liabilities are translated at the exchange rate in effect on the date of the balance sheet; revenue and expenses are translated at the monthly average exchange rate. The foreign currency translation adjustment arising from such translation is included in accumulated other comprehensive loss in shareholders' equity.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

Yenista Optics S.A.S. (renamed EXFO Optics S.A.S.)

On October 2, 2017, the company acquired all issued and outstanding shares of Yenista Optics S.A.S. (EXFO Optics), a privately held company located in France and a supplier of advanced optical test equipment for the research and development and manufacturing markets. The acquisition-date fair value of the total consideration amounted to €9,400,000 (US$11,052,000) and consisted of €8,114,000 (US$9,540,000) in cash, net of EXFO Optics' cash of €1,286,000 (US$1,512,000) at the acquisition date.

This acquisition was accounted for by applying the acquisition method as required by IFRS 3, "*Business Combinations*", and the requirements of IFRS 10, "*Consolidated Financial Statements*"; consequently, the fair value of the total consideration was allocated to the assets acquired and liabilities assumed based on management's estimate of their fair value as at the acquisition date. The results of operations of the acquired business have been included in the consolidated financial statements of the company since October 2, 2017, being the acquisition date.

The fair value of the total consideration was allocated based on an estimate of the fair value of acquired net assets at the date of acquisition as follows:

Assets acquired		
Accounts receivable	$	1,889
Inventories		2,384
Property, plant and equipment		1,424
Core technologies		3,686
Customer relationships		811
In-process research and development		305
Other intangible assets		132
Prepaid expenses		171
		10,802
Liabilities assumed		
Accounts payable and accrued liabilities		1,035
Long-term debt (note 12)		2,143
Deferred income taxes		1,510
Net identifiable assets acquired		6,114
Goodwill		3,426
Fair value of the total consideration, net of cash acquired	$	9,540

Acquired intangible assets are amortized on a straight-line basis over their estimated useful life of two to five years for core technologies and three months for customer relationships.

Acquired goodwill mainly represents synergies with the company's products as well as EXFO Optics' acquired workforce. Acquired goodwill is not deductible for tax purposes. Goodwill is allocated to the EXFO Optics CGU (note 9).

The functional currency of EXFO Optics is the euro, and, as such, it is considered a foreign operation. The financial operations of EXFO Optics are translated into Canadian dollars as follows: assets and liabilities were translated at the exchange rate in effect on the date of the balance sheet; revenue and expenses are translated at the monthly average exchange rate. The foreign currency translation adjustment arising from such translation is included in accumulated other comprehensive loss in shareholders' equity.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

In connection with business combinations completed in fiscal 2018, the company incurred acquisition-related costs of $2,484,000, of which $2,236,000 were presented in selling and administrative expenses and $248,000 were presented in interest and other expense.

4 Restructuring Charges

Fiscal 2018

In August 2018, the company implemented a restructuring plan to accelerate the integration of its acquired monitoring and analytics technologies from EXFO Solutions and simplify its cost structure and optimize resources as the company converges toward fewer sites and reduces its workforce.

This plan resulted in expenses mainly comprising severance expenses, costs for remaining non-cancellable operating leases, writeoff of research and development income tax credits and impairment of long-lived assets, net of related income taxes. During the fourth quarter of fiscal 2018, the company recorded severance expenses of $2,072,000, costs for remaining non-cancelable operating lease of $1,137,000, writeoff of research and development income tax credits of $1,200,000 and impairment of long-lived assets of $150,000, net of related income taxes of $1,150,000, for total after-tax restructuring charges of $3,409,000. The additional restructuring charges of $3,305,000, and related income taxes of $63,000, for total after-tax restructuring charges of $3,242,000 (note 18), was recorded in fiscal 2019. Restructuring charges in fiscal 2019 comprised severance expenses and were part of the fiscal 2018 restructuring plan.

In fiscal 2019, as part of this restructuring plan and the shutdown of its facilities in Toronto, Canada, the company sold one of its buildings for net proceeds of $3,318,000. The transaction resulted in a pre-tax gain of $1,732,000 that was recorded in the consolidated statement of earnings for the year ended August 31, 2019.

In addition, in fiscal 2019, as part of this restructuring plan and the shutdown of some of its facilities in the United States, the company transferred the ownership of certain intellectual properties held in the United States to Canada. This created a deductible tax asset in Canada and resulted in the recognition of a deferred income tax recovery of $2,383,000 in fiscal 2019 as the recovery of this asset is probable. This deferred income tax recovery was recorded in the consolidated statement of earnings for the year ended August 31, 2019.

The following tables summarize changes in restructuring accrual during the years ended August 31, 2018 and 2019:

	Years ended August 31,	
	2019	**2018**
Balance – Beginning of year	$ 3,167	$ 2,477
Addition	3,305	3,209
Payments	(5,339)	(2,052)
Reversal	–	(467)
Balance – End of year (note 11)	$ 1,133	$ 3,167

Fiscal 2017

In May 2017, the company implemented a restructuring plan to streamline its passive monitoring solutions portfolio. This plan resulted in severance expenses of $4,049,000 and inventory writeoffs of $1,030,000, for total restructuring charges of $5,079,000 during the year. All expenses related to this plan were fully paid as at August 31, 2018.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

5 Capital Disclosures

The company is not subject to any external restrictions on its capital.

The company's objectives when managing capital are:

- To maintain a flexible capital structure that optimizes the cost of capital at acceptable risk;
- To sustain future development of the company, including research and development activities, market development and potential acquisitions of complementary businesses or products; and
- To provide the company's shareholders with an appropriate return on their investment.

No changes were made to the objectives and policies during the years ended August 31, 2018 and 2019.

The company defines its capital as shareholders' equity, excluding accumulated other comprehensive loss. The capital of the company amounted to $225,271,000 and $224,075,000 as at August 31, 2018 and 2019 respectively.

6 Financial Instruments

The following tables summarize financial instruments by category:

	As at August 31, 2019		
	Amortized cost	Fair value through other comprehensive income	Total
Financial assets			
Cash	$ 16,518	$ –	$ 16,518
Short-term investments	$ –	$ 2,918	$ 2,918
Accounts receivable	$ 54,834	$ –	$ 54,834
Forward exchange contracts	$ –	$ 79	$ 79
Financial liabilities			
Bank loan	$ 5,000	$ –	$ 5,000
Accounts payable and accrued liabilities	$ 49,945	$ –	$ 49,945
Other liabilities	$ 1,606	$ –	$ 1,606
Long-term debt	$ 5,742	$ –	$ 5,742
Forward exchange contracts	$ –	$ 1,057	$ 1,057

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

	As at August 31, 2018 – IAS 39				
	Loans and receivables	**Available for sale**	**Other financial liabilities**	**Derivatives used for hedging**	**Total**
Financial assets					
Cash	$ 12,758	$ –	$ –	$ –	$ 12,758
Short-term investments	$ –	$ 2,282	$ –	$ –	$ 2,282
Accounts receivable	$ 46,955	$ –	$ –	$ –	$ 46,955
Other assets	$ 352	$ –	$ –	$ –	$ 352
Forward exchange contracts	$ –	$ –	$ –	$ 318	$ 318
Financial liabilities					
Bank loan	$ –	$ –	$10,692	$ –	$ 10,692
Accounts payable and accrued liabilities	$ –	$ –	$47,308	$ –	$ 47,308
Other liabilities	$ –	$ –	$ 3,197	$ –	$ 3,197
Long-term debt	$ –	$ –	$ 8,828	$ –	$ 8,828
Forward exchange contracts	$ –	$ –	$ –	$ 807	$ 807

Fair value

Cash, accounts receivable, bank loan, accounts payable and accrued liabilities and other liabilities are financial instruments whose carrying values approximate their fair values due to their short-term maturities. The fair value of the long-term debt amounted to $8,879,000 and $5,644,000 as at August 31, 2018 and 2019.

The fair value of derivative and non-derivative financial assets and financial liabilities measured at fair value by level of hierarchy is as follows:

	As at August 31, 2019		As at August 31, 2018	
	Level 1	**Level 2**	**Level 1**	**Level 2**
Financial assets				
Short-term investments	$ 2,918	$ –	$ 2,282	$ –
Forward exchange contracts	$ –	$ 79	$ –	$ 318
Financial liabilities				
Forward exchange contracts	$ –	$ 1,057	$ –	$ 807

Valuation techniques used to value financial instruments are as follows:

The fair value of the long-term debt is estimated by discounting expected cash flows at rates currently offered to the company for debts of the same remaining maturities and conditions.

The fair value of forward exchange contracts is based on the amount at which they could be settled based on estimated current market rates.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

Market risk

Currency risk

The functional currency of the company is the Canadian dollar. The company is exposed to currency risk as a result of its export sales of products manufactured in Canada, China, France and Finland, the majority of which are denominated in US dollars and euros. This risk is partially hedged by forward exchange contracts and certain cost of sales and operating expenses (US dollars and euros). In addition, the company is exposed to currency risk as a result of its research and development activities in India (Indian rupees). This risk is partially hedged by forward exchange contracts. Forward exchange contracts, which are designated as cash flow hedging instruments, qualify for hedge accounting.

As at August 31, 2018 and 2019, the company held contracts to sell US dollars for Canadian dollars and Indian rupees at various forward rates, which are summarized as follows:

US dollars – Canadian dollars

Expiry dates	Contractual amounts	Weighted average contractual forward rates
As at August 31, 2018		
September 2018 to August 2019	$ 26,400	1.3029
September 2019 to August 2020	15,700	1.2756
September 2020 to May 2021	3,700	1.2703
Total	$ 45,800	1.2909
As at August 31, 2019		
September 2019 to August 2020	$ 35,500	1.3013
September 2020 to August 2021	19,900	1.3107
September 2021 to July 2022	6,000	1.3216
Total	$ 61,400	1.3063

US dollars – Indian rupees

Expiry dates	Contractual amounts	Weighted average contractual forward rates
As at August 31, 2018		
September 2018 to May 2019	$ 4,600	67.68
As at August 31, 2019		
September 2019 to August 2020	$ 3,500	71.48

The carrying amount of forward exchange contracts is equal to fair value, which is based on the amount at which they could be settled based on estimated current market rates.

As at August 31, 2019, forward exchange contracts in the amount of $79,000 are presented as current assets in other accounts receivable, forward exchange contracts in the amount of $845,000 are presented as current liabilities in accounts payable and accrued liabilities, and forward exchange contracts in the amount of $212,000 are presented as long-term liabilities in other long-term liabilities in the consolidated balance sheet. Forward exchange contracts of $167,000, included in other accounts payable and accrued liabilities, for which related hedged sales are recognized, are recorded in the consolidated statement of earnings. Otherwise, other forward exchange contracts are not yet recorded in the consolidated statement of earnings and are recorded in other comprehensive income.

As at August 31, 2018, forward exchange contracts in the amount of $318,000 are presented as current assets in other accounts receivable, forward exchange contracts in the amount of $590,000 are presented as current liabilities in accounts payable and accrued liabilities, and forward exchange contracts in the amount of $217,000 are presented as long-term liabilities in other long-term liabilities in the consolidated balance sheet. Forward exchange contracts of $64,000, included in other accounts receivable, for which related hedged sales are recognized, are recorded in the consolidated statement of earnings. Otherwise, other forward exchange contracts are not yet recorded in the consolidated statement of earnings and are recorded in other comprehensive income.

Based on the portfolio of forward exchange contracts as at August 31, 2019, the company estimates that the portion of net unrealized losses on these contracts as of that date, which will be realized and reclassified from accumulated other comprehensive income to net earnings over the next 12 months, amounts to $599,000.

For the years ended August 31, 2017, 2018 and 2019, the company recorded within its sales the following foreign exchange gains (losses) on forward exchange contracts:

	Years ended August 31, 2019	2018	2017
Gains (losses) on forward exchange contracts	$ (591)	$ 875	$ (468)

The following table summarizes significant derivative and non-derivative financial assets and financial liabilities that are subject to currency risk as at August 31, 2018 and 2019 and for which such risk is charged to earnings:

	As at August 31, 2019		2018	
	Carrying/nominal amount (in thousands of US dollars)	Carrying/nominal amount (in thousands of euros)	Carrying/nominal amount (in thousands of US dollars)	Carrying/nominal amount (in thousands of euros)
Financial assets				
Cash	$ 5,531	€ 3,129	$ 2,790	€ 3,352
Accounts receivable	30,451	6,389	30,306	3,787
	35,982	9,518	33,096	7,139
Financial liabilities				
Bank loan	5,000	–	7,197	3,000
Accounts payable and accrued liabilities	12,563	2,218	13,017	2,107
Forward exchange contracts (nominal value)	5,800	–	5,000	–
	23,363	2,218	25,214	5,107
Net exposure	$ 12,619	€ 7,300	$ 7,882	€ 2,032

In addition to these assets and liabilities, the company has derivative financial liabilities for its outstanding forward exchange contracts in the amount (nominal value) of $45,800,000 and $61,400,000 as at August 31, 2018 and 2019 respectively for which the currency risk is charged to other comprehensive income.

The value of the Canadian dollar compared to the US dollar was CA$1.3055 = US$1.00 and CA$1.3294 = US$1.00 as at August 31, 2018 and 2019 respectively.

The value of the Canadian dollar compared to the euro was CA$1.5210 = €1.00 and CA$1.4672 = €1.00 as at August 31, 2018 and 2019 respectively.

The following sensitivity analysis summarizes the effect that a change in the value of the Canadian dollar (compared to the US dollar and euro) on derivative and non-derivative financial assets and financial liabilities denominated in US dollars and euros would have on net earnings, net earnings per diluted share and comprehensive income, based on the foreign exchange rates as at August 31, 2018 and 2019:

- An increase (decrease) of 10% in the period-end value of the Canadian dollar compared to the US dollar would decrease (increase) net earnings by $844,000, or $0.02 per diluted share, and $1,166,000, or $0.02 per diluted share, as at August 31, 2018 and 2019 respectively.

- An increase (decrease) of 10% in the period-end value of the Canadian dollar compared to the euro would decrease (increase) net earnings by $335,000, or $0.01 per diluted share, and $769,000 or $0.01 per diluted share, as at August 31, 2018 and 2019 respectively.

- An increase (decrease) of 10% in the period-end value of the Canadian dollar compared to the US dollar would increase (decrease) other comprehensive income by $2,956,000 and $4,072,000 as at August 31, 2018 and 2019 respectively.

The impact of the change in the value of the Canadian dollar compared to the US dollar and the euro on these derivative and non-derivative financial assets and financial liabilities is recorded in the foreign exchange gain or loss line item in the consolidated statements of earnings, except for outstanding forward contracts, and except for those of foreign operations, whose impact is recorded in other comprehensive income. The change in the value of the Canadian dollar compared to the US dollar and the euro also affects the company’s balances of income tax recoverable or payable, as well as deferred income tax assets and liabilities denominated in US dollars and euros; this may result in additional and significant foreign exchange gains or losses. However, these tax-related assets and liabilities are not considered financial instruments and are therefore excluded from the sensitivity analysis above. The foreign exchange rate fluctuations also flow through the consolidated statements of earnings line items, as a significant portion of the company’s cost of sales and operating expenses are denominated in Canadian dollars, euros, British pounds and Indian rupees, and the company reports its results in US dollars; that effect is not reflected in the sensitivity analysis above.

Interest rate risk

The company has limited exposure to interest rate risk. The company is mainly exposed to interest rate risks through its cash, short-term investments, bank loan and long-term debt.

The company analyzes its interest risk exposure on an ongoing basis. A change in interest rate of 1% would have an insignificant impact on net earnings and comprehensive income.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

Short-term investments

Short-term investments consist of the following:

	As at August 31, 2019	2018
Term deposits denominated in Indian rupees, bearing interest at annual rates of 5.0% to 6.8% in 2018 and 5.1% to 7.0% in 2019, maturing on different dates between October 2018 and August 2019 in 2018 and September 2019 and May 2020 in 2019	$ 2,548	$ 1,909
Other	370	373
	$ 2,918	$ 2,282

Due to their short-term maturity, the company's short-term investments are not subject to a significant fair value interest rate risk. Accordingly, changes in fair value have been nominal to the degree that amortized cost approximates the fair value. Any change in the fair value of the company's short-term investments, all of which are classified as financial assets at fair value through other comprehensive income, is recorded in the consolidated statements of comprehensive income.

Other financial instruments

Short-term other liabilities bear interest at EURIBOR, plus a margin. Accounts receivable and accounts payable and accrued liabilities are non-interest-bearing financial assets and financial liabilities.

Credit risk

Financial instruments that potentially subject the company to credit risk consist of cash, short-term investments, accounts receivable, other assets and forward exchange contracts (with a positive fair value). As at August 31, 2019, the company's short-term investments consist of debt instruments issued by high-credit-quality corporations. These debt instruments are not expected to be affected by a significant credit risk. The company's cash and forward exchange contracts are held with or issued by high-credit-quality financial institutions; therefore, the company considers the risk of non-performance on these instruments to be limited.

The company applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade accounts receivable and contract assets. To measure the expected credit losses, trade accounts receivable and contract assets have been grouped based on shared credit risk characteristics and the days past due. The contract assets relate to unbilled work in progress and have substantially the same risk characteristics as the trade accounts receivable for the same type of contracts. The company has therefore concluded that the expected loss rates for trade accounts receivable are a reasonable approximation of the loss rates for the contract assets. The expected loss rates are based on the payment profiles of sales over a period of 60 months. The historical loss rates are adjusted to reflect current and forward-looking information on economic factors affecting the ability of the customers to settle the accounts receivable.

For the years ended August 31, 2018 and 2019, no customer represented more than 10% of sales. For the year ended August 31, 2017, the company's top customer represented 10.1% of sales.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

The following table summarizes the age of trade accounts receivable:

	As at August 31, 2019	2018
Current	$ 39,054	$ 34,344
Past due, 0 to 30 days	3,529	6,011
Past due, 31 to 60 days	2,006	2,556
Past due, more than 60 days	6,928	4,362
	$ 51,517	$ 47,273

Changes in the allowance for doubtful accounts are as follows:

	Years ended August 31, 2019	2018
Balance – Beginning of year	$ 772	$ 2,960
IFRS 9 adoption initial adjustment (note 2)	303	–
Addition charged to earnings	864	834
Writeoff of uncollectible accounts and reversal	(404)	(3,022)
Balance – End of year	$ 1,535	$ 772

Liquidity risk

Liquidity risk is defined as the potential that the company cannot meet its obligations as they become due.

The following tables summarize the contractual maturity of the company's derivative and non-derivative financial liabilities:

	As at August 31, 2019		
	No later than one year	Later than 1 year and no later than 5 years	Later than 5 years
Bank loan	$ 5,000	$ –	$ –
Accounts payable and accrued liabilities	49,945	–	–
Forward exchange contracts			
Outflow	39,000	25,900	–
Inflow	(38,252)	(25,585)	–
Long-term debt	2,449	3,237	56
Other liabilities	1,606	–	–
Total	$ 59,748	$ 3,552	$ 56

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

	As at August 31, 2018		
	No later than one year	Later than 1 year and no later than 5 years	Later than 5 years
Bank loan	$ 10,692	$ –	$ –
Accounts payable and accrued liabilities	47,308	–	–
Forward exchange contracts			
Outflow	31,000	19,400	–
Inflow	(30,738)	(18,940)	–
Long-term debt	2,921	5,745	162
Other liabilities	3,197	–	–
Total	$ 64,380	$ 6,205	$ 162

As at August 31, 2019, the company had $19,436,000 in cash and short-term investments and $54,913,000 in accounts receivable. In addition to these financial assets, the company has unused available lines of credit totaling $56,496,000 for working capital and general corporate purposes, including potential acquisitions as well as unused lines of credit totaling $21,948,000 for foreign currency exposure related to its forward exchange contracts (note 10).

7 Inventories

	As at August 31,	
	2019	2018
Raw materials	$ 24,115	$ 24,561
Work in progress	1,009	869
Finished goods	12,893	13,159
	$ 38,017	$ 38,589

The cost of sales comprised almost exclusively the amount of inventory recognized as an expense during the reporting years, and amounts to $98,503,000, $116,923,000 and $127,725,000 for the years ended August 31, 2017, 2018 and 2019 respectively, including related depreciation and amortization, which are shown separately in operating expenses (note 18).

Inventory writedown amounted to $3,259,000, $2,541,000 and $3,270,000 for the years ended August 31, 2017, 2018 and 2019 respectively.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

8 Property, Plant and Equipment

	Land and land improvements	Buildings	Equipment	Leasehold improvements	Total
Cost as at September 1, 2017	$ 4,522	$ 31,951	$ 35,574	$ 3,048	$ 75,095
Additions	17	3,048	5,677	46	8,788
Business combinations (note 3)	–	–	3,105	263	3,368
Disposals	–	(1,413)	(3,651)	(175)	(5,239)
Foreign currency translation adjustment	(180)	(1,240)	(1,617)	(134)	(3,171)
Cost as at August 31, 2018	4,359	32,346	39,088	3,048	78,841
Additions	–	1,116	3,700	164	4,980
Disposals	(192)	(3,378)	(4,623)	(164)	(8,357)
Foreign currency translation adjustment	(76)	(592)	(1,329)	(153)	(2,150)
Cost as at August 31, 2019	$ 4,091	$ 29,492	$ 36,836	$ 2,895	$ 73,314
Accumulated depreciation as at September 1, 2017	$ 1,295	$ 7,333	$ 25,207	$ 1,128	$ 34,963
Depreciation for the year	48	604	4,420	372	5,444
Disposals	–	(994)	(3,440)	(30)	(4,464)
Foreign currency translation adjustment	(53)	(282)	(1,024)	(53)	(1,412)
Accumulated depreciation as at August 31, 2018	1,290	6,661	25,163	1,417	34,531
Depreciation for the year	47	667	4,391	364	5,469
Disposals	–	(1,452)	(3,673)	(114)	(5,239)
Foreign currency translation adjustment	(53)	(120)	(602)	(36)	(811)
Accumulated depreciation as at August 31, 2019	$ 1,284	$ 5,756	$ 25,279	$ 1,631	$ 33,950
Net carrying value as at:					
August 31, 2018	$ 3,069	$ 25,685	$ 13,925	$ 1,631	$ 44,310
August 31, 2019	$ 2,807	$ 23,736	$ 11,557	$ 1,264	$ 39,364

As at August 31, 2018 and 2019, unpaid additions to property, plant and equipment amounted to $1,788,000 and $894,000 respectively.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

9 Intangible Assets and Goodwill

Intangible assets

	Core technology	Customer relationships	In-process research and development	Brand name	Software	Total
Cost as at September 1, 2017	$ 12,893	$ 1,689	$ –	$ –	$ 11,901	$ 26,483
Additions	89	–	–	–	3,049	3,138
Business combinations (note 3)	16,555	9,192	305	846	630	27,528
Disposal	(60)	–	–	–	(2,474)	(2,534)
Foreign currency translation adjustment	(1,419)	(590)	(13)	(50)	(446)	(2,518)
Cost as at August 31, 2018	28,058	10,291	292	796	12,660	52,097
Additions	363	–	–	–	1,719	2,082
Disposal	(27)	–	(293)	–	(222)	(542)
Foreign currency translation adjustment	(1,955)	(618)	1	(46)	(240)	(2,858)
Cost as at August 31, 2019	$ 26,439	$ 9,673	$ –	$ 750	$ 13,917	$ 50,779
Accumulated amortization as at September 1, 2017	$ 5,130	$ 169	$ –	$ –	$ 10,001	$ 15,300
Amortization for the year	4,878	3,949	–	519	981	10,327
Disposal	(45)	–	–	–	(2,462)	(2,507)
Foreign currency translation adjustment	(353)	(185)	–	(7)	(344)	(889)
Accumulated amortization as at August 31, 2018	9,610	3,933	–	512	8,176	22,231
Amortization for the year	4,926	2,372	–	284	1,430	9,012
Disposal	(19)	–	–	–	(219)	(238)
Foreign currency translation adjustment	(1,080)	(424)	–	(46)	(330)	(1,880)
Accumulated amortization as at August 31, 2019	$ 13,437	$ 5,881	$ –	$ 750	$ 9,057	$ 29,125
Net carrying value as at:						
August 31, 2018	$ 18,448	$ 6,358	$ 292	$ 284	$ 4,484	$ 29,866
August 31, 2019	$ 13,002	$ 3,792	$ –	$ –	$ 4,860	$ 21,654
Remaining amortization period as at August 31, 2019	4 years	2 years	–	–	3 years	

Goodwill

	Years ended August 31, 2019	2018
Balance – Beginning of year	$ 39,892	$ 35,077
Business combinations (note 3)	–	5,931
Foreign currency translation adjustment	(1,244)	(1,116)
Balance – End of year	$ 38,648	$ 39,892

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

In the fourth quarter of fiscal 2018 and 2019, the company performed its annual goodwill impairment test for all CGUs.

Goodwill has been allocated to the lowest level within the company at which it is monitored by management to make business decisions, which are the following CGUs:

	As at August 31,	
	2019	**2018**
EXFO CGU	$ 12,949	$ 13,185
EXFO Optics CGU (note 3)	3,376	3,562
Service assurance, systems and services CGU	22,323	–
Brix CGU	–	13,327
Ontology CGU (note 3)	–	7,471
EXFO Solutions CGU (note 3)	–	2,347
Total	$ 38,648	$ 39,892

Prior to fiscal 2019, the Brix, Ontology and EXFO Solutions CGUs have been identified as three separate CGUs for goodwill impairment testing as they represented the lowest level at which the goodwill was monitored for internal management purposes, and the smallest group of assets that generated cash inflows that were largely independent of the cash inflows from other CGUs.

However, at the end of August 2018, management implemented a restructuring plan to fast-track the integration of newly acquired EXFO Solutions' and Ontology's technologies with those of the company's service assurance on a common monitoring and analytics platform to better position the company's offering and reduce its costs (note 4).

Consequently, starting September 1, 2018, following the announcement of this plan, all future operating and investing decisions related to these three CGUs have been aligned with the restructuring plan and related goodwill, previously allocated to each of these three CGUs, has been monitored for internal management purposes on a combined basis under the Service assurance, systems and services (SASS) CGU, which represented the smallest group of assets that would generate future cash inflows that would largely be independent of the cash inflows from the other CGUs.

In fiscal 2018, the goodwill impairment test had been performed closely to the date of the goodwill reallocation from the Brix, Ontology and EXFO Solutions' CGUs to the SASS CGU, and the goodwill of each of the three CGUs was not impaired. Consequently, no goodwill impairment test was performed on the date of goodwill reallocation to the combined CGU.

In performing the fiscal 2019 goodwill impairment review of its CGUs, the company determined the recoverable amount of goodwill based on fair value less costs of disposal. In estimating the recoverable amount of its CGUs, the company used a market approach, which is based on sales multiples within the range of 1.0 to 7.6 times sales for comparable businesses with similar operations within the same industry over the past year. The company applied judgment in making certain adjustments for factors such as size, risk profile or profitability of the comparable businesses, when compared to the company's CGUs. In addition, for the SASS CGU, the company also used a liquidation approach based on the level of research and development expenses incurred over the last two years.

As at August 31, 2019, the recoverable amount for all CGUs exceeded their carrying value.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

10 Credit Facilities

The company has revolving credit facilities of up to CA$70,000,000 (US$52,655,000) and US$9,000,000. These credit facilities are used to finance working capital and for other general corporate purposes. The Canadian dollar revolving credit facility bears interest at the Canadian prime rate or LIBOR, plus a margin, and the US dollar revolving credit facility bears interest at the US prime rate or LIBOR plus a margin. These revolving credit facilities are secured by a movable mortgage over the universality of the company's Canadian movable assets, present and future, as well as over the universality of movable assets, present and future, of certain US and UK subsidiaries. The company is subject to covenants under this credit facility that were met as at August 31, 2019. As at August 31, 2019, an amount of $5,433,000 was drawn from these credit facilities for the bank loan of $5,000,000 and letters of guarantee of $433,000.

The company also has credit facilities of up to €500,000 (US$552,000) for which an amount of €251,000 (US$277,000) was drawn from these lines of credit for letters of guarantee. These credit facilities are unsecured and bear interest at EURIBOR, plus a margin.

In addition, the company has lines of credit totaling $26,179,000 for the foreign currency risk exposure related to its US dollar – Canadian dollar forward exchange contracts (note 6). As at August 31, 2019, an amount of $5,818,000 was reserved from these lines of credit.

Finally, the company has a line of credit of INR128,571,000 (US$1,800,000) for the foreign currency risk exposure related to its US dollar – Indian rupee forward exchange contracts (note 6). As at August 31, 2019, an amount of INR15,214,000 (US$213,000) was reserved from this line of credit.

11 Accounts Payable and Accrued Liabilities and Provisions

Accounts payable and accrued liabilities

	As at August 31,	
	2019	**2018**
Trade	$ 27,996	$ 26,052
Salaries and social benefits	19,716	18,101
Forward exchange contracts (note 6)	845	590
Other	2,233	3,155
	$ 50,790	$ 47,898

Provisions

	As at August 31,	
	2019	**2018**
Warranty	$ 356	$ 417
Restructuring charges (note 4)	1,133	3,167
Other	2,313	1,717
	$ 3,802	$ 5,301

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

12 Long-Term Debt

As part of the acquisitions of EXFO Optics and EXFO Solutions, the company assumed long-term debt (note 3).

	As at August 31, 2019	2018
Unsecured, non-interest-bearing loans, denominated in euros, repayable in quarterly instalments, maturing in March 2024 and March 2025	$ 866	$ 883
Unsecured loans, denominated in euros, repayable in monthly, quarterly or bi-annual instalments, bearing interest at annual rates of nil to 5.0%, maturing at different dates between December 2018 and September 2023 in 2018 and March 2020 and September 2023 in 2019	3,111	4,853
Loans, secured by the universality of the assets of a subsidiary, denominated in euros, repayable in monthly instalments, bearing interest at annual rates of 0.7% to 2.0%, maturing at different dates between December 2018 and August 2022 in 2018 and April 2020 and August 2022 in 2019	459	828
Loans, secured by the universality of the assets of a subsidiary, denominated in euros, repayable in monthly or quarterly instalments, bearing interest at annual rates of 1.1% to 2.9%, maturing at different dates between March 2020 and July 2022	1,306	2,264
	5,742	8,828
Current portion of long-term debt	2,449	2,921
	$ 3,293	$ 5,907

The company is subject to certain covenants under its long-term debt that were met as at August 31, 2019.

Principal repayments of long-term debt over the forthcoming years are as follows as at August 31, 2019:

No later than one year	$ 2,449
Later than one year and no later than five years	3,237
Later than five years	56
	$ 5,742

13 Commitments

The company entered into operating leases for certain of its premises and equipment, which expire at various dates through 2024. Minimum rentals payable under operating leases are as follows:

	As at August 31, 2019	2018
No later than 1 year	$ 2,895	$ 3,365
Later than 1 year and no later than 5 years	6,323	9,519
Later than 5 years	23	502
	$ 9,241	$ 13,386

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

For the years ended August 31, 2017, 2018 and 2019, rental expenses under operating leases amounted to $2,945,000, $3,884,000 and $4,026,000 respectively.

The company also entered into license agreements for certain intellectual property which expire at various dates through 2022:

	As at August 31, 2019	As at August 31, 2018
No later than 1 year	$ 2,289	$ 1,492
Later than 1 year and no later than 5 years	2,444	1,982
	$ 4,733	$ 3,474

14 Share Capital

Authorized – unlimited as to number, without par value

Subordinate voting and participating, bearing a non-cumulative dividend to be determined by the Board of Directors, ranking *pari passu* with multiple voting shares

Multiple voting and participating, entitling to 10 votes each, bearing a non-cumulative dividend to be determined by the Board of Directors, convertible at the holder's option into subordinate voting shares on a one-for-one basis, ranking *pari passu* with subordinate voting shares

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

The following table summarizes the company's share capital activity:

	Multiple Voting Shares		Subordinate Voting Shares		
	Number	**Amount**	**Number**	**Amount**	**Total amount**
Balance as at September 1, 2016	31,643,000	$ 1	21,917,942	$ 85,515	$ 85,516
Issuance of share capital	–	–	793,070	3,490	3,490
Redemption of restricted share units (note 16)	–	–	327,859	–	–
Redemption of deferred share units (note 16)	–	–	29,906	–	–
Reclassification of stock-based compensation costs to share capital upon exercise of stock awards	–	–	–	1,405	1,405
Balance as at August 31, 2017	31,643,000	1	23,068,777	90,410	90,411
Redemption of restricted share units (note 16)	–	–	345,883	–	–
Redemption of deferred share units (note 16)	–	–	58,335	–	–
Reclassification of stock-based compensation costs to share capital upon exercise of stock awards	–	–	–	1,526	1,526
Balance as at August 31, 2018	31,643,000	1	23,472,995	91,936	91,937
Redemption of restricted share units (note 16)	–	–	317,072	–	–
Redemption of share capital	–	–	(86,392)	(337)	(337)
Reclassification of stock-based compensation costs to share capital upon exercise of stock awards	–	–	–	1,106	1,106
Balance as at August 31, 2019	31,643,000	$ 1	23,703,675	$ 92,705	$ 92,706

a) On January 8, 2019, the company announced that its Board of Directors had approved a share repurchase program, by way of a normal course issued bid on the open market of up to 6.3% of the issued and outstanding subordinate voting shares, representing 1,200,000 subordinate voting shares at the prevailing market price. The normal course issuer bid started on January 14, 2019 and will end on January 13, 2020 or earlier if the company repurchases the maximum number of shares permitted. All shares repurchased under the bid will be cancelled.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

15 Accumulated Other Comprehensive Loss

Changes in accumulated other comprehensive loss are as follows:

	Foreign currency translation adjustment	Cash-flow hedge	Accumulated other comprehensive loss
Balance as at September 1, 2016	$ (49,136)	$ 562	$ (48,574)
Foreign currency translation adjustment	8,262	–	8,262
Changes in unrealized gains/losses on forward exchange contracts, net of deferred income taxes	–	1,347	1,347
Balance as at August 31, 2017	(40,874)	1,909	(38,965)
Foreign currency translation adjustment	(6,491)	–	(6,491)
Changes in unrealized gains/losses on forward exchange contracts, net of deferred income taxes	–	(1,894)	(1,894)
Balance as at August 31, 2018	(47,365)	15	(47,350)
Foreign currency translation adjustment	(4,177)	–	(4,177)
Changes in unrealized gains/losses on forward exchange contracts, net of deferred income taxes	–	16	16
Balance as at August 31, 2019	$ (51,542)	$ 31	$ (51,511)

16 Stock-Based Compensation Plans

The following table summarizes the stock-based compensation costs recognized for employee services received during the years ended August 31, 2017, 2018 and 2019:

	Years ended August 31,		
	2019	2018	2017
Stock-based compensation costs arising from equity-settled awards	$ 1,849	$ 1,770	$ 1,439
Stock-based compensation costs arising from cash-settled awards	(18)	(22)	38
	$ 1,831	$ 1,748	$ 1,477

The maximum number of additional subordinate voting shares issuable under the Long-Term Incentive Plan and the Deferred Share Unit Plan cannot exceed 11,792,893 shares. The maximum number of subordinate voting shares that may be granted to any individual on an annual basis cannot exceed 5% of the number of outstanding subordinate voting shares. The company settles equity-settled awards through the issuance of common shares from treasury.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

Long-Term Incentive Plan

The company established the Long-Term Incentive Plan for its directors, executive officers and employees and those of its subsidiaries, as determined by the Board of Directors. Up to January 2019, the plan included stock options and restricted share units. On January 2019, the plan was amended to include performance share units. The plan was approved by the shareholders of the company.

Stock options

The exercise price of stock options granted under the Long-Term Incentive Plan is the market price of the common shares on the date of grant. Stock options granted under the plan expire 10 years from the date of grant and generally vest over a four-year period, being the required period of service from employees, generally with 25% vesting on an annual basis commencing on the first anniversary of the date of grant. As at August 31, 2018 and 2019, the company had no outstanding or exercisable stock options.

Restricted share units (RSUs)

RSUs are stock awards that rise and fall in value based on the market price of the company's subordinate voting shares and are redeemable for actual subordinate voting shares. Vesting dates are also established by the Board of Directors on the date of grant. The vesting dates are subject to a minimum term of three years and a maximum term of 10 years from the award date, being the required period of service from employees. Fair value of RSUs equals the market price of the common shares on the date of grant.

The following table summarizes RSU activity for the years ended August 31, 2017, 2018 and 2019:

	Years ended August 31,		
	2019	**2018**	**2017**
Outstanding – Beginning of year	1,615,152	1,611,330	1,551,555
Granted	632,931	420,621	527,143
Redeemed	(317,072)	(345,883)	(327,859)
Forfeited	(94,565)	(70,916)	(139,509)
Outstanding – End of year	1,836,446	1,615,152	1,611,330

None of the RSUs outstanding as at August 31, 2018 and 2019 were redeemable. The weighted average grant-date fair value of RSUs granted during the years ended August 31, 2017, 2018 and 2019 amounted to \$4.54, \$4.22 and \$3.30 respectively.

The weighted-average market price of the shares at the date of redemption of RSUs redeemed during the years ended August 31, 2017, 2018 and 2019, was \$4.55, \$4.19 and \$3.20 respectively.

Performance share units (PSUs)

PSUs are stock awards that rise and fall in value based on the market price of the company's subordinate voting shares and are redeemable for actual subordinate voting shares. Vesting dates are also established by the Board of Directors on the date of grant. The vesting dates are subject to a minimum term of three years and a maximum term of 10 years from the award date, being the required period of service from employees. Fair value of PSUs equals the market price of the common shares on the date of grant. The ultimate number of PSUs to be granted is subject to the attainment of targets on the vesting date. As at August 31, 2019, the company had no outstanding PSUs.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

Deferred Share Unit Plan

The company established a Deferred Share Unit (DSU) Plan for the members of the Board of Directors as part of their annual retainer fees. Each DSU entitles the Board members to receive one subordinate voting share. DSUs are acquired on the date of grant and are redeemed in subordinate voting shares when the Board member ceases to be a director of the company. This plan was approved by the shareholders of the company.

The following table summarizes DSU activity for the years ended August 31, 2017, 2018 and 2019:

	Years ended August 31,		
	2019	2018	2017
Outstanding – Beginning of year	181,689	174,279	159,127
Granted	69,818	65,745	45,058
Redeemed	–	(58,335)	(29,906)
Outstanding – End of year	251,507	181,689	174,279

As at August 31, 2017, 2018 and 2019, none of the DSUs outstanding were redeemable. The weighted average grant-date fair value of DSUs granted during the years ended August 31, 2017, 2018 and 2019 amounted to $4.53, $4.10 and $3.64 respectively.

The weighted-average market price of the shares at the date of redemption of DSUs redeemed during the years ended August 31, 2017 and 2018 was $5.02 and $4.29 respectively.

Stock Appreciation Rights Plan

The company established the Stock Appreciation Rights Plan for certain employees. Under that plan, eligible employees are entitled to receive a cash amount equivalent to the difference between the market price of the common shares on the date of exercise and the exercise price determined on the date of grant. Stock appreciation rights granted under the plan expire 10 years from the date of grant and generally vest over a four-year period, being the required period of service from employees. This plan was approved by the shareholders of the company.

The liability arising from stock appreciation rights as at August 31, 2018 and 2019 amounted to $93,000 and $77,000 respectively and is recorded in accounts payable and accrued liabilities in the consolidated balance sheets. Stock appreciation rights are immaterial to the company's consolidated financial statements.

17 Related-Party Disclosures

Ultimate controlling shareholder

Mr. Germain Lamonde, the company's Executive Chairman, is the company's ultimate controlling shareholder.

Compensation of key management personnel

	Years ended August 31,		
	2019	2018	2017
Salaries and short-term employee benefits	$ 4,029	$ 3,985	$ 3,715
Stock-based compensation costs	1,175	1,047	775
	$ 5,204	$ 5,032	$ 4,490

Key management personnel includes senior management and directors.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

18 Statements of Earnings

Sales

Sales are as follows:

	Years ended August 31, 2019	2018	2017
Test and measurement	$ 204,693	$ 197,423	$ 193,863
Service assurance, systems and services	82,788	71,248	49,906
Foreign exchange gains (losses) on forward exchange contracts	(591)	875	(468)
Total sales for the year	$ 286,890	$ 269,546	$ 243,301

Net research and development

Net research and development expenses comprise the following:

	Years ended August 31, 2019	2018	2017
Gross research and development expenses	$ 57,972	$ 65,243	$ 53,124
Research and development tax credits and grants	(7,419)	(8,089)	(5,956)
Net research and development expenses for the year	$ 50,553	$ 57,154	$ 47,168

Depreciation and amortization

Depreciation and amortization expenses by functional area are as follows:

	Years ended August 31, 2019	2018	2017
Cost of sales			
Depreciation of property, plant and equipment	$ 1,862	$ 2,077	$ 1,522
Amortization of intangible assets	7,186	9,212	2,652
	9,048	11,289	4,174
Selling and administrative expenses			
Depreciation of property, plant and equipment	1,354	902	530
Amortization of intangible assets	1,043	592	251
	2,397	1,494	781
Net research and development expenses			
Depreciation of property, plant and equipment	2,253	2,465	1,850
Amortization of intangible assets	783	523	386
	3,036	2,988	2,236
	$ 14,481	$ 15,771	$ 7,191
Depreciation of property, plant and equipment	$ 5,469	$ 5,444	$ 3,902
Amortization of intangible assets	9,012	10,327	3,289
Total depreciation and amortization expenses for the year	$ 14,481	$ 15,771	$ 7,191

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

Employee compensation

Employee compensation comprises the following:

	Years ended August 31, 2019	2018	2017
Salaries and benefits	$ 136,059	$ 134,453	$ 115,832
Restructuring charges	3,305	2,072	3,509
Stock-based compensation costs	1,831	1,748	1,414
Total employee compensation for the year	$ 141,195	$ 138,273	$ 120,755

Restructuring charges by functional area are as follows:

	Years ended August 31, 2019	2018	2017
Cost of sales	$ 304	$ 517	$ 1,697
Selling and administrative expenses	495	673	1,150
Net research and development costs	2,506	3,219	2,232
Interest and other expense	–	150	–
Income taxes	(63)	(1,150)	–
Total restructuring charges for the year	$ 3,242	$ 3,409	$ 5,079

Stock-based compensation costs by functional area are as follows:

	Years ended August 31, 2019	2018	2017
Cost of sales	$ 136	$ 143	$ 121
Selling and administrative expenses	1,375	1,217	1,052
Net research and development expenses	320	388	304
Total stock-based compensation costs for the year	$ 1,831	$ 1,748	$ 1,477

19 Other Disclosures

Other assets

As at August 31, 2018 and 2019, the carrying value of contract assets amounted to $2,279,000 and $3,083,000 respectively and were presented in other current assets in the consolidated balance sheets. Contract assets represent unbilled work in progress.

Deferred revenue

As at August 31, 2019, the company had total deferred revenue of $33,478,000, which represents the aggregate total contract price allocated to undelivered performance obligations. The company expects to recognize $24,422,000 of this amount during the next 12 months and expects to recognize the remaining $9,056,000 thereafter.

The company expects that the amount of deferred revenue will change from quarter to quarter for several reasons, including the specific timing, duration and size of large customer support and service agreements, varying billing cycles of such agreements, the specific timing of customer renewals, and foreign currency fluctuations. The company did not have any significant financing components, variable consideration or performance obligations satisfied in a prior period recognized during the year ended August 31, 2019.

During the year ended August 31, 2019, sales include an amount of $16,556,000 that was included in the carrying value of deferred revenue as at August 31, 2018.

Defined contribution pension plans

The company maintains separate defined contribution pension plans for certain eligible employees. These plans, which are accounted for on an accrual basis, are summarized as follows:

- Canadian defined contribution pension plan

  The company maintains a plan for certain eligible employees residing in Canada, under which the company may elect to match the employees' contributions up to a maximum of 4% of an employee's gross salary. Cash contributions to this plan and expenses for the years ended August 31, 2017, 2018 and 2019, amounted to $1,571,000, $1,610,000 and $1,592,000 respectively.

- US defined contribution pension plan (401K plan)

  The company maintains a 401K plan for eligible employees residing in the U.S. Under this plan, the company must contribute an amount equal to 3% of an employee's current compensation. In addition, eligible employees may contribute up to the lesser of 1% of eligible compensation or the statutorily prescribed annual limit to the 401K plan. The 401K plan permits but does not require the company to make additional matching contributions to the 401K plan on behalf of the eligible participants, subject to a maximum of 50% of the first 6% of the participant's current compensation subject to certain legislated maximum contribution limits. During the years ended August 31, 2017, 2018 and 2019, the company recorded cash contributions and expenses totaling $630,000, $591,000 and $460,000 respectively.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

20 Income Taxes

The reconciliation of the income tax provision (recovery) calculated using the combined Canadian federal and provincial statutory income tax rate with the income tax provision in the consolidated financial statements is as follows:

	Years ended August 31, 2019	2018	2017
Income tax provision (recovery) at combined Canadian federal and provincial statutory tax rate (27%)	$ 774	$ (1,775)	$ 2,014
Increase (decrease) due to:			
Foreign income/loss taxed at different rates	13	452	(900)
Non-deductible loss (non-taxable income)	10	(69)	(245)
Non-deductible expenses	594	1,285	981
Change in tax rates	–	167	(10)
Effect of the US tax reform (1)	–	1,528	–
Foreign exchange effect of translation of foreign subsidiaries in the functional currency	63	(16)	176
Recognition of previously unrecognized deferred income tax assets (note 4)	(2,383)	(560)	–
Utilization of previously unrecognized deferred income tax assets	(964)	(627)	(46)
Unrecognized deferred income tax assets on temporary deductible differences and unused tax losses	5,761	6,100	4,659
Other	1,478	(807)	(21)
Income tax provision for the year	$ 5,346	$ 5,678	$ 6,608

(1) On December 22, 2017, the US tax reform ("Tax Cuts and Jobs Act") was substantively enacted and reduces the maximum corporate income tax rate from 35% to 21%, effective January 1, 2018. Based on management's estimate of deferred tax assets expected to be used in fiscal 2018 and beyond against taxable income in the United States, the company recorded a deferred income tax expense of $1,528,000 in the consolidated statement of earnings for the year ended August 31, 2018 to account for the effect of this substantively enacted tax rate.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

	Years ended August 31, 2019	2018	2017
The income tax provision consists of the following:			
Current			
Current income taxes	$ 7,449	$ 4,310	$ 5,554
Deferred			
Deferred income taxes relating to the origination and reversal of temporary differences	(4,517)	(3,545)	(3,559)
Benefit arising from previously unrecognized tax losses and deductible temporary differences	(2,383)	(560)	–
Utilization of previously unrecognized deferred income tax assets	(964)	(627)	(46)
	(7,864)	(4,732)	(3,605)
Unrecognized deferred income tax assets on temporary deductible differences and unused tax losses	5,761	6,100	4,659
	(2,103)	1,368	1,054
Income tax provision for the year	$ 5,346	$ 5,678	$ 6,608

The changes in deferred income tax assets and liabilities for the year ended August 31, 2018 are as follows:

	Balance as at September 1, 2017	Credited (charged) to the statement of earnings	Credited (charged) to shareholders' equity	Business combinations	Foreign currency translation adjustment	Balance as at August 31, 2018
Deferred income tax assets						
Long-lived assets	$ 1,802	$ 200	$ –	$ –	$ (77)	$ 1,925
Provisions and accruals	3,772	(250)	554	–	(113)	3,963
Deferred revenue	2,890	(101)	–	–	(73)	2,716
Research and development expenses	2,731	(101)	–	–	(106)	2,524
Losses carried forward	4,241	(2,633)	–	3,687	(222)	5,073
Deferred income tax liabilities						
Long-lived assets	(1,002)	1,903	–	(7,889)	527	(6,461)
Research and development tax credits	(10,995)	(386)	–	–	445	(10,936)
Total	$ 3,439	$ (1,368)	$ 554	$ (4,202)	$ 381	$ (1,196)
Classified as follows:						
Deferred income tax assets	$ 6,555					$ 4,714
Deferred income tax liabilities	(3,116)					(5,910)
	$ 3,439					$ (1,196)

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

The changes in deferred income tax assets and liabilities for the year ended August 31, 2019 are as follows:

	Balance as at September 1, 2018	Credited (charged) to the statement of earnings	Credited (charged) to shareholders' equity	Foreign currency translation adjustment	Balance as at August 31, 2019
Deferred income tax assets					
Long-lived assets	$ 1,925	$ 2,695	$ –	$ (52)	$ 4,568
Provisions and accruals	3,963	446	67	15	4,491
Deferred revenue	2,716	490	–	(36)	3,170
Research and development expenses	2,524	(149)	–	(45)	2,330
Losses carried forward	5,073	(2,751)	–	(176)	2,146
Deferred income tax liabilities					
Long-lived assets	(6,461)	1,710	–	345	(4,406)
Research and development tax credits	(10,936)	(338)	–	198	(11,076)
Total	$ (1,196)	$ 2,103	$ 67	$ 249	$ 1,223
Classified as follows:					
Deferred income tax assets	$ 4,714				$ 4,821
Deferred income tax liabilities	(5,910)				(3,598)
	$ (1,196)				$ 1,223

Unrecognized deferred income tax assets on temporary deductible differences and unused tax losses are as follows:

	As at August 31, 2019	2018
Temporary deductible differences	$ 241	$ 1,435
Losses carried forward	39,721	42,361
	$ 39,962	$ 43,796

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

As at August 31, 2019, the year of expiry of operating losses for which no deferred income tax assets were recognized in the consolidated balance sheet are as follows, presented by tax jurisdiction:

Year of expiry	Finland	France	Spain	United States	United Kingdom
2020	$ 3,397	$ –	$ –	$ –	$ –
2021	6,345	–	–	1,958	–
2022	11,001	–	–	7,435	–
2023	7,127	–	–	1,972	–
2024	5,502	–	–	1,351	–
2025	6,859	–	–	1,351	–
2026	235	–	–	1,351	–
2027	1,425	–	–	1,351	–
2028	–	–	–	2,447	–
2030	–	–	–	2,713	–
2031	–	–	–	109	–
2033	–	–	–	4,681	–
2034	–	–	–	4,851	–
2035	–	–	–	2,616	–
2036	–	–	–	8,501	–
2037	–	–	–	9,660	–
2038	–	–	–	7,997	–
Indefinite	–	35,839	6,100	–	4,461
	$ 41,891	$ 35,839	$ 6,100	$ 60,344	$ 4,461

Furthermore, as at August 31, 2019, the company had available capital losses in Canada amounting to $49,363,000 (CA$65,622,000) at the federal level and $52,545,000 (CA$69,853,000) at the provincial level for which no deferred income tax assets were recognized. These losses can be carried forward indefinitely against capital gains.

As at August 31, 2019, non-refundable research and development tax credits recognized in the consolidated balance sheet amounted to $38,947,000. In order to recover these non-refundable research and development tax credits, the company needs to generate approximately $260,000,000 (CA$345,000,000) in pre-tax earnings at the Canadian federal level. In order to generate $260,000,000 in pre-tax earnings at the Canadian federal level over the estimated recovery period of 16 years, the company must generate a pre-tax earnings compound annual growth rate (CAGR) of 1%, which the company believes is probable. The company's non-refundable research and development tax credits can be carried forward over a 20-year period.

As at August 31, 2019, no income taxes were recognized on taxable temporary differences of $23,111,000; such taxes would be payable on the unremitted earnings of certain of the company's subsidiaries, as the company has determined that:

(1) Undistributed profits of its foreign subsidiaries will not be distributed in the foreseeable future; and
(2) Undistributed profits of its domestic subsidiaries will not be taxable when distributed.

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

21 Earnings per Share

The following table summarizes the reconciliation of the basic weighted average number of shares outstanding and the diluted weighted average number of shares outstanding:

	Years ended August 31,		
	2019	2018	2017
Basic weighted average number of shares outstanding (000's)	55,325	54,998	54,423
Plus dilutive effect of (000's):			
Restricted share units	–	–	979
Deferred share units	–	–	153
Diluted weighted average number of shares outstanding (000's)	55,325	54,998	55,555
Stock awards excluded from the calculation of the diluted weighted average number of shares outstanding because their exercise price was greater than the average market price of the common shares, or their inclusion would be antidilutive (000's)	1,701	1,799	–

For the years ended August 31, 2018 and 2019, the diluted amount per share was the same amount as the basic amount per share since the dilutive effect of restricted share units and deferred share units was not included in the calculation; otherwise, the effect would have been antidilutive. Accordingly, the diluted amount per share for these periods was calculated using the basic weighted average number of shares outstanding.

22 Segment Information

Sales to external customers by geographic region are detailed as follows:

	Years ended August 31,		
	2019	2018	2017
United States	$ 106,607	$ 100,225	$ 97,186
Canada	15,913	18,425	22,586
Other	21,391	16,743	14,951
Americas	143,911	135,393	134,723
United Kingdom	16,438	17,508	11,799
Other	76,285	67,169	50,302
Europe, Middle East and Africa	92,723	84,677	62,101
China	27,620	20,724	22,312
Other	22,636	28,752	24,165
Asia-Pacific	50,256	49,476	46,477
	$ 286,890	$ 269,546	$ 243,301

(tabular amounts in thousands of US dollars, except share and per share data and as otherwise noted)

Sales were allocated to geographic regions based on the country of residence of the related customers.

Long-lived assets by geographic region are detailed as follows:

	As at August 31, 2019			As at August 31, 2018		
	Property, plant and equipment	**Intangible assets**	**Goodwill**	**Property, plant and equipment**	**Intangible assets**	**Goodwill**
Canada	$ 29,517	$ 5,675	$ 17,487	$ 32,107	$ 5,668	$ 4,481
United States	7	–	–	1,677	435	13,327
Finland	331	446	8,547	473	380	8,704
France	1,896	12,788	5,600	2,401	19,330	5,909
United Kingdom	640	2,706	7,014	755	4,005	7,471
India	4,249	23	–	4,021	28	–
China	2,667	16	–	2,822	20	–
Other	57	–	–	54	–	–
	$ 39,364	$ 21,654	$ 38,648	$ 44,310	$ 29,866	$ 39,892