



5N PLUS INC.
Consolidated Financial Statements
For the years ended December 31, 2017 and 2016
(figures in thousands of United States dollars)

MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL REPORTING

The consolidated financial statements and related notes have been prepared by management in conformity with generally accepted accounting principles in Canada which incorporates International Financial Reporting Standards. Management is responsible for the selection of accounting policies and making significant accounting judgements and estimates.

Management is also responsible for all other information included in the management's discussion and analysis and for ensuring that this information is consistent with the information contained in the consolidated financial statements.

Management is responsible for establishing and maintaining adequate internal control over financial reporting which includes those policies and procedures that provide reasonable assurance over the safeguarding of assets and over the completeness, fairness and accuracy of the consolidated financial statements.

The Audit and Risk Management Committee, which is comprised entirely of independent directors, reviews the quality and integrity of the Corporation's financial reporting and provides its recommendations, in respect of the approval of the financial statements, to the Board of Directors; oversees management's responsibilities as to the adequacy of the supporting systems of internal controls; provides oversight of the independence, qualifications, and appointment of the external auditor; and, review audit, audit-related, and non-audit fees and expenses. The Board of Directors approves the Corporation's consolidated financial statements and management's discussion and analysis disclosures prior to their release. The Audit and Risk Management Committee meets with management, the internal auditors and external auditors at least four times each year to review and discuss financial reporting, disclosures, auditing and other matters.

The external auditors, PricewaterhouseCoopers LLP, conduct an independent audit of the consolidated financial statements in accordance with Canadian generally accepted auditing standards and express their opinion thereon. Those standards require that the audit is planned and performed to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The external auditors have unlimited access to the Audit and Risk Management Committee and meet with the Committee on a regular basis.

(signed) Arjang J. Roshan

Arjang J. Roshan
President and Chief Executive Officer

(signed) Richard Perron

Richard Perron
Chief Financial Officer

Montréal, Canada
February 20, 2018



February 20, 2018

Independent Auditor's Report

**To the Shareholders of
5N Plus Inc.**

We have audited the accompanying consolidated financial statements of 5N Plus Inc. and its subsidiaries, which comprise the consolidated statements of financial position as at December 31, 2017 and 2016 and the consolidated statements of earnings (loss), comprehensive income (loss), changes in equity and cash flows for the years then ended, and the related notes, which comprise a summary of significant accounting policies and other explanatory information.

Management's responsibility for the consolidated financial statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained in our audits is sufficient and appropriate to provide a basis for our audit opinion.

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Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of 5N Plus Inc. and its subsidiaries as at December 31, 2017 and 2016 and their financial performance and their cash flows for the years then ended in accordance with International Financial Reporting Standards.

PricewaterhouseCoopers LLP¹

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
(in thousands of United States dollars)

	Notes	December 31 2017	December 31 2016
		\$	\$
Assets			
Current			
Cash and cash equivalents		34,024	24,301
Accounts receivable	4	25,639	29,799
Inventories	5	90,647	80,309
Income tax receivable	15	6,145	6,819
Other current assets	16	8,773	2,831
Total current assets		165,228	144,059
Property, plant and equipment	6,26	56,607	59,945
Intangible assets	7,26	10,856	11,109
Deferred tax assets	15	6,891	1,883
Investment accounted for using the equity method	8	718	779
Derivative financial assets	16	3,602	189
Other assets	9	1,030	1,093
Total non-current assets		79,704	74,998
Total assets		244,932	219,057
Liabilities			
Current			
Trade and accrued liabilities	10	57,043	57,381
Income tax payable	15	11,339	8,422
Current portion of long-term debt	11	271	325
Total current liabilities		68,653	66,128
Convertible debentures	12	48,768	43,157
Deferred tax liabilities	15	251	715
Employee benefit plan obligation	13	15,396	14,813
Derivative financial liabilities	16	-	68
Other liabilities	14,18	6,436	5,662
Total non-current liabilities		70,851	64,415
Total liabilities		139,504	130,543
Equity			
Equity holders of 5N Plus Inc.		105,446	88,522
Non-controlling interest		(18)	(8)
Total equity		105,428	88,514
Total liabilities and equity		244,932	219,057

Commitments and contingencies (Note 22)

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

5N PLUS INC.**CONSOLIDATED STATEMENTS OF EARNINGS (LOSS)**

Years ended December 31

(in thousands of United States dollars, except per share information)

	Notes	2017	2016
		\$	\$
Revenue		219,916	231,498
Cost of sales	26	170,514	190,036
Selling, general and administrative expenses	26	26,220	25,986
Other expenses, net	26	4,441	12,072
Share of loss (gain) from joint ventures	8	110	(23)
		201,285	228,071
Operating earnings		18,631	3,427
Financial expenses			
Interest on long-term debt		3,261	3,429
Imputed interest and other interest expense		2,836	4,812
Changes in fair value of debenture conversion option	16	(85)	(20)
Foreign exchange and derivative loss (gain)		79	(925)
		6,091	7,296
Earnings (loss) before income taxes		12,540	(3,869)
Income tax expense (recovery)			
Current	15	3,595	440
Deferred	15	(3,068)	1,587
		527	2,027
Net earnings (loss)		12,013	(5,896)
Attributable to:			
Equity holders of 5N Plus Inc.		12,023	(5,895)
Non-controlling interest		(10)	(1)
		12,013	(5,896)
Earnings (loss) per share attributable to equity holders of 5N Plus Inc.	20	0.14	(0.07)
Basic earnings (loss) per share	20	0.14	(0.07)
Diluted earnings (loss) per share	20	0.14	(0.07)

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

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

Years ended December 31

(in thousands of United States dollars)

	Notes	2017	2016
		\$	\$
Net earnings (loss)		12,013	(5,896)
Other comprehensive income (loss)			
Items that may be reclassified subsequently to net earnings (loss)			
Net changes in cash flow hedges			
Effective portion of changes in fair value of cash flow hedges	16	3,413	1,632
Reclassification to net earnings (loss)		(3,643)	(1,221)
Income taxes		30	(55)
		(200)	356
Currency translation adjustment		1,121	(1,193)
		921	(837)
Items that will not be reclassified subsequently to net earnings (loss)			
Remeasurement of employee benefit plan obligation	13	1,062	(1,643)
Income taxes		2,374	-
		3,436	(1,643)
Other comprehensive income (loss)		4,357	(2,480)
Comprehensive income (loss)		16,370	(8,376)
Attributable to equity holders of 5N Plus Inc.		16,380	(8,375)
Attributable to non-controlling interest		(10)	(1)

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

CONSOLIDATED STATEMENTS OF CASH FLOWS

Years ended December 31

(in thousands of United States dollars, unless otherwise indicated)

	Notes	2017	2016
		\$	\$
Operating activities			
Net earnings (loss)		12,013	(5,896)
Adjustments to reconcile net earnings (loss) to cash flows			
Depreciation of property, plant and equipment and amortization of intangible assets		8,226	10,739
Impairment of non-current assets	26	3,100	-
Amortization of other assets		221	1,277
Amortization of deferred revenues	14	-	(187)
Reversal for doubtful accounts receivable	4, 24	-	(362)
Share-based compensation expense	21	4,390	2,246
Deferred income taxes	15	(3,068)	1,587
Share of loss (gain) from joint ventures	8	110	(23)
Imputed interest		2,541	3,266
Employee benefit plan obligation	13	(312)	(252)
Change in fair value of debenture conversion option	16	(85)	(20)
(Gain) loss on disposal of property, plant and equipment		(1,887)	142
Unrealized loss on non-hedge financial instruments		80	-
Unrealized foreign exchange loss (gain) on assets and liabilities		1,007	(31)
Funds from operations before the following :		26,336	12,486
Net change in non-cash working capital balances	18	(13,226)	10,978
Cash from operating activities		13,110	23,464
Investing activities			
Additions to property, plant and equipment	6, 18	(6,769)	(3,510)
Additions of intangible assets	7	(2,006)	(4,183)
Proceed on disposal of property, plant and equipment	6	3,987	-
Investment in a joint venture	8	-	(100)
Cash used in investing activities		(4,788)	(7,793)
Financing activities			
Repayment of long-term debt		(74)	(3,143)
Proceeds from issuing long-term debt		-	1,505
Long-term debt issuance costs		-	(111)
Common shares repurchased	19	(654)	(252)
Issuance of common shares	19	812	-
Increase in other liabilities		800	2,000
Cash from (used in) financing activities		884	(1)
Effect of foreign exchange rate changes on cash and cash equivalents		517	(185)
Net increase in cash and cash equivalents		9,723	15,485
Cash and cash equivalents, beginning of year		24,301	8,816
Cash and cash equivalents, end of year		34,024	24,301
Supplemental information⁽¹⁾			
Income tax paid		280	2,433
Interest paid		3,094	3,285

⁽¹⁾ Amounts paid for income tax and interest were reflected as cash flows from operating activities in the consolidated statements of cash flows.

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

1. Nature of Activities

5N Plus Inc. (“5N Plus” or the “Company”) is a Canadian-based international company. 5N Plus is a producer of specialty metal and chemical products. Fully integrated with closed-loop recycling facilities, the Company’s head office is located at 4385 Garand Street, Saint-Laurent, Quebec (Canada) H4R 2B4. The Company operates manufacturing facilities and sales offices in several locations in Europe, the Americas and Asia. The Company’s shares are listed on the Toronto Stock Exchange (“TSX”). 5N Plus and its subsidiaries represent the “Company” mentioned throughout these consolidated financial statements. The Company has two reportable business segments, namely Electronic Materials and Eco-Friendly Materials.

These consolidated financial statements were approved by the Board of Directors on February 20, 2018.

2. Summary of Principal Accounting Policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all periods presented, unless otherwise stated.

Basis of preparation

The consolidated financial statements have been prepared in accordance with Canadian generally accepted accounting principles as set forth in Part 1 of the *Chartered Professional Accountants of Canada Handbook – Accounting*, which incorporates International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”). The consolidated financial statements have been prepared under the historical cost convention, except for derivative financial instruments which are recorded at fair value.

The preparation of financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgment in the process of applying the Company’s accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements, are also further disclosed in this note, in the “Significant management estimation and judgment in applying accounting policies” section.

a) Subsidiaries

Subsidiaries are all entities (including structured entities) over which the Company has control. Control exists when the Company is exposed to, or has the rights to, variable returns from its involvement with the entity and has the ability to affect those returns through the power over the entity.

The subsidiaries are fully consolidated from the date on which control is transferred to the Company. They are deconsolidated from the date that control ceases.

The following table includes the principal subsidiaries which significantly impact the results or assets of the Company:

	Country of incorporation	% Equity interest	
		2017	2016
5N Plus Inc.	Canada	100%	100%
5N PV GmbH	Germany	100%	100%
5N Plus Lübeck GmbH	Germany	100%	100%
5N Plus Belgium SA	Belgium	100%	100%
5N Plus Asia Limited	Hong Kong	100%	100%
5N Plus Wisconsin Inc	United States	100%	100%

The US dollar is the functional currency of all those subsidiaries.

Intercompany transactions, balances, income and expenses on transactions between group companies are eliminated. Profits and losses resulting from intercompany transactions that are recognized in assets are also eliminated. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Company.

b) Joint ventures

A joint venture is a contractual agreement whereby the Company agrees with other parties to undertake an economic activity that is subject to joint control, i.e. strategic financial and operating decisions relating to the joint venture's activities require the unanimous consent of the parties sharing control. Investments in joint ventures are accounted for using the equity method. The share of earnings (loss) of joint ventures is recognized in the consolidated statement of earnings (loss) and the share of other comprehensive income (loss) of joint ventures is included in other comprehensive (loss) income.

Foreign currency translation

a) Functional and presentation currency

The Company's functional and presentation currency is the US dollar. Functional currency is determined for each of the Company's entities, and items included in the financial statements of each entity are measured using that functional currency.

b) Transactions and balances

Monetary assets and liabilities denominated in foreign currencies are translated at the prevailing exchange rate at the reporting date. Non-monetary assets and liabilities, and revenue and expense items denominated in foreign currencies are translated into the functional currency using the exchange rate prevailing at the date of the respective transactions. Foreign exchange gains and losses resulting from the settlement of such transactions are recognized in the consolidated statement of earnings (loss).

Foreign exchange gains and losses are presented in the consolidated statement of earnings (loss) within "foreign exchange and derivative loss (gain)".

c) Foreign operations

Assets and liabilities of subsidiaries that have a functional currency other than US dollar are translated from their functional currency to US dollars at exchange rates in effect at the reporting date. The resulting translation adjustments are included in the currency translation adjustment in other comprehensive income (loss). Revenue and expenses are translated at the average exchange rates for the period.

Segment reporting

The Company operates two principal segments: Electronic Materials and Eco-Friendly Materials. Distinct operating and financial information are available for these segments and are used to determine the operating performance of each segment and to allocate resources.

The Electronic Materials segment is associated with the following metals: cadmium, gallium, germanium, indium and tellurium. These are sold as elements, alloys, chemicals, compounds and wafers.

The Eco-Friendly Materials segment mainly manufactures and sells refined bismuth and bismuth chemicals, low melting-point alloys as well as refined selenium and selenium chemicals.

Corporate expenses associated with the head office and unallocated selling, general and administrative expenses together with financing expenses (revenues) have been regrouped under the heading "Corporate and unallocated".

Each operating segment is managed separately as each of these service lines requires different technologies, resources and marketing approaches. The financial information of the recycling and trading of complex material is allocated to the two main segments. All intersegment transactions between the Electronic Materials and the Eco-Friendly Materials segments have been eliminated on consolidation.

Revenue recognition

Revenue comprises the sale of manufactured products and the rendering of services and is measured at the fair value of the sale of manufactured products, net of value-added tax, estimated customer returns and allowances at the time of recognition. The estimates of fair value are based on the Company's historical experience with each customer and the specifics of each arrangement.

Revenue from the sale of manufactured products is recognized when the risks and rewards of ownership have been transferred to the buyer (which generally occurs upon shipment) and collectibility of the related receivables is reasonably assured. Revenue is recognized when (i) it can be measured reliably; (ii) it is probable that the economic benefits associated with the transaction will flow to the Company; and (iii) the costs incurred or to be incurred can be measured reliably. Revenue from custom refining activities is recognized when services are rendered. Cash payments received or advances due pursuant to contractual arrangements are recorded as deferred revenue until all of the foregoing conditions of revenue recognition have been met.

Property, plant and equipment

Property, plant and equipment are recorded at cost, net of accumulated depreciation, accumulated impairment losses and subsequent reversals, if applicable. Property, plant and equipment are depreciated using the straight-line method over their estimated useful lives, taking into account any residual values. Useful lives are as follows:

	Period
Land	Not depreciated
Building	25 years
Production equipment	Up to 15 years
Furniture	3 to 10 years
Office equipment	3 to 10 years
Rolling stock	3 to 10 years
Leasehold improvements	Over the term of the lease

Major overhaul and replacement are capitalized in the consolidated statement of financial position as a separate component, with the replaced part or previous overhaul derecognized from the statement. Maintenance and repairs are charged to expense as incurred.

Construction in progress is not depreciated until the assets are put into use. Costs are only capitalized if they are directly attributable to the construction or development of the assets.

Residual values, method of depreciation and useful life of the assets are reviewed annually and adjusted if appropriate.

Leases

Leases are classified as finance leases if the Company bears substantially all risks and rewards of ownership of the leased asset. At inception of the lease, the related asset is recognized at the lower of the fair value and the present value of the minimum lease payments, and a corresponding amount is recognized as a finance lease obligation. Lease payments are split between finance charges and the reduction of the finance lease obligation to achieve a constant proportion of the capital balance outstanding. Finance charges are charged to net earnings (loss) over the lease term.

All other leases are classified as operating leases. Operating lease payments are recognized as an expense on a straight-line basis over the lease term.

Intangible assets

Intangible assets acquired separately are recorded at cost, net of accumulated amortization, accumulated impairment losses and reversals, if applicable. Intangible assets acquired through a business combination are recognized at fair value at the date of acquisition. Intangible assets are amortized on a straight-line basis over their useful lives according to the following annual terms:

	Period
Technology	5 years
Software	5 years
Intellectual property	10 years
Development costs	Not exceeding 10 years

Impairment of non-financial assets

The carrying amounts of the Company's non-financial assets subject to amortization are tested for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Assets that are not yet available for use are tested for impairment annually or at any time if an indicator of impairment exists.

An impairment loss is recognized if the carrying amount of an asset or a cash-generating unit ("CGU") exceeds its recoverable amount. The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less cost of disposal. The recoverable amount is determined for an individual asset; unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. In such case, the CGU's belonging asset is used to determine the recoverable amount. Impairment losses are recognized in statement of earnings (loss).

The Company evaluates impairment losses for potential reversals at each reporting date. An impairment loss is reversed if there is any indication that the loss has decreased or no longer exists due to changes in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized. Such reversal is recognized in statement of earnings (loss).

Financial instruments

Financial assets and liabilities are recognized when the Company becomes a party to the contractual provisions of the instrument. Financial assets are derecognized when the rights to receive cash flows from the assets have expired or have been transferred and the Company has transferred substantially all risks and rewards of ownership.

Financial assets and liabilities are offset and the net amount is reported in the consolidated statement of financial position when there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis, or realize the asset and settle the liability simultaneously.

All financial instruments are required to be measured at fair value on initial recognition. Measurement in subsequent periods depends on the classification of the financial instrument. At initial recognition, the Company classifies its financial instruments in the following categories depending on the purpose for which the instruments were acquired:

a) Financial assets at fair value through profit or loss

A financial asset is classified in this category if acquired principally for the purpose of selling or repurchasing in the short term.

Financial instruments in this category are recognized initially and subsequently at fair value. Transaction costs are expensed in the consolidated statement of earnings (loss). Financial assets at fair value through profit or loss are classified as current assets except for the portion expected to be realized or paid beyond twelve months of the consolidated statements of financial position date, which is classified as non-current asset.

b) Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market.

Loans and receivables are recognized initially at the amount expected to be received, less, when material, a discount to reduce the loans and receivables to fair value. Subsequently, loans and receivables are measured at amortized cost using the effective interest method less a provision for impairment. Loans and receivables are included in current assets, except for instruments with maturities greater than twelve months after the end of the reporting period, which are classified as non-current assets.

c) Available-for-sale financial assets

Available-for-sale financial assets are non-derivatives that are either designated in this category or not classified in any of the other categories.

Available-for-sale financial assets are recognized initially at fair value plus transaction costs and are subsequently carried at fair value. Gains or losses arising from changes in fair value are recognized in other comprehensive income (loss). When an available-for-sale asset is sold or impaired, the accumulated gains or losses are moved from accumulated other comprehensive income (loss) to the consolidated statement of earnings (loss).

Available-for-sale financial assets are classified as non-current assets, unless the investment matures within twelve months, or management expects to dispose of them within twelve months.

d) Financial liabilities at amortized cost

Financial liabilities at amortized cost are initially recognized at the amount required to be paid, less, when material, a discount to reduce the liabilities to fair value. Subsequently, they are measured at amortized cost using the effective interest method.

Financial liabilities are classified as current liabilities if payment is due within twelve months. Otherwise, they are presented as non-current liabilities.

The Company has classified its financial instruments as follows:

Category	Financial instrument
Financial assets and liabilities at fair value through profit and loss	Other current assets Derivative financial assets Derivative financial liabilities
Loans and receivables	Cash and cash equivalents Accounts receivable Loan receivable from a related party
Financial liabilities at amortized cost	Bank indebtedness Trade and accrued liabilities Long-term debt Convertible debentures Long-term payable

Transaction costs

Transaction costs related to financial instruments that are not classified as assets and liabilities at fair value through profit or loss, are recognized in consolidated statement of financial position as an adjustment to the cost of the financial instrument upon initial recognition and amortized using the effective interest rate method. Fees paid on the establishment of loan facilities are recognized as deferred costs under non-current assets and are amortized over the term of the facility.

Impairment of financial assets

At each reporting date, the Company assesses whether there is objective evidence that a financial asset is impaired. A financial asset is impaired and impairment losses are incurred only if there is objective evidence of impairment as a result of one or more events that occurred after initial recognition (a "loss event") and that loss event has an impact on the estimated cash flows of the financial assets that can be reliably estimated. If such evidence exists, the Company recognizes an impairment loss, as follows:

a) Financial assets carried at amortized cost

The impairment loss is the difference between the amortized cost of the loan or receivable and the present value of the estimated future cash flows, discounted using the instrument's original effective interest rate. The carrying amount of the asset is reduced by this amount either directly or indirectly through the use of an allowance account.

Impairment losses on financial assets carried at amortized cost are reversed in subsequent periods if the amount of the loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized.

Impairment losses as well as reversals are recognized in the consolidated statement of earnings (loss).

b) Available-for-sale financial assets

The impairment loss is the difference between the original cost of the asset and its fair value at the measurement date, less any impairment losses previously recognized in the consolidated statement of earnings (loss). This amount represents the cumulative loss in accumulated other comprehensive income that is reclassified to the consolidated statement of earnings (loss). Impairment losses on available-for-sale financial assets may not be reversed.

Derivative financial instruments and hedging activities

Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently remeasured at their fair value. The method of recognizing the resulting gain or loss depends on whether the derivative is designated as a hedging instrument and, if so, the nature of the item being hedged. The Company designates certain derivatives as hedges of a particular risk associated with a recognized asset or liability or a highly probable forecast transaction (cash flow hedge).

The fair values of various derivative instruments used for hedging purposes are disclosed in Note 16.

The full fair value of a hedging derivative is classified as a non-current asset or liability when the remaining maturity of the hedged item is more than twelve months and as a current asset or liability when the remaining maturity of the hedged item is less than twelve months. Trading derivatives are classified as a current asset or liability.

The Company applies cash flow hedge accounting to certain foreign exchange forward contracts and cross-currency swap entered into to hedge forecasted transactions. In a cash flow hedge relationship, the portion of gains or losses on the hedging item that is determined to be an effective hedge is recognized in other comprehensive income (loss), while the ineffective portion is recorded in consolidated statement of earnings (loss). The amounts recognized in other comprehensive income (loss) are reclassified in consolidated statement of earnings (loss) as a reclassification adjustment when the hedged item affects net earnings.

Embedded derivatives

Embedded derivatives, which include the debenture conversion option, are recorded at fair value separately from the host contract when their economic characteristics and risks are not clearly and closely related to those of the host contract. Subsequent changes in fair value are recorded in financial expenses in the consolidated statement of earnings (loss).

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand.

Inventories

Inventories are stated at the lower of cost and net realizable value. Cost includes all expenditures directly attributable to the manufacturing process as well as suitable portions of related production overheads based on normal operating capacity. Costs of ordinarily interchangeable items are assigned using weighted average cost. Net realizable value is the estimated selling price in the ordinary course of business less costs of completion and any applicable selling expenses. When the circumstances that previously caused inventories to be written down below cost no longer exist or when there is clear evidence of an increase in net realizable value because of changed economic circumstances, the amount of the impairment is reversed (i.e. the reversal is limited to the amount of the original impairment) so that the new carrying amount is the lower of the cost and the revised net realizable value.

From time to time, when substantially all required raw materials are in inventory, the Company may choose to enter into long-term fixed-price sales contracts. The quantity of raw materials required to fulfill these contracts is specifically assigned, and the average cost of these raw materials is accounted for separately throughout the duration of the contract.

Income taxes

The tax expense for the year comprises current and deferred tax is recognized in the consolidated statement of earnings (loss), except to the extent that it relates to items recognized in other comprehensive income (loss) or directly in equity. In which case, the tax expense is also recognized in other comprehensive income (loss) or directly in equity, respectively.

a) Current tax

The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the date of the consolidated statement of financial position in the countries where the Company and its subsidiaries operate and generate taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

b) Deferred tax

Deferred income tax is recognized using the liability method on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred tax liabilities are not recognized if they arise from the initial recognition of goodwill; deferred income tax is not accounted for, if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss. Deferred income tax is determined using tax rates (and laws) that are enacted or substantively enacted at the date of the consolidated statement of financial position and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled.

Deferred income tax assets are recognized only to the extent that it is probable that future taxable profit will be available against which the temporary differences can be used.

Deferred income tax is presented to provide impact of temporary differences arising on investments in subsidiaries and joint ventures, except for deferred income tax liability where the timing of the reversal of the temporary difference is controlled by the Company and it is probable that the temporary difference will not be reversed in the foreseeable future.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities, and when the deferred income tax assets and liabilities relate to income taxes levied by the same taxation authority, on either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

Provisions

A provision is recognized when the Company has a present legal or constructive obligation as a result of past events; it is probable that an outflow of resources will be required to settle the obligation; and the amount has been reliably estimated. Restructuring provisions comprise mainly employee termination payments. Provisions are not recognized for future operating losses.

Where there are a number of similar obligations, the likelihood that an outflow will be required in settlement is determined by considering the class of obligations as a whole. A provision is recognized even if the likelihood of an outflow with respect to any one item included in the same class of obligations may be small.

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation using a pre-tax rate that reflects current market assessment of the time value of money and the risks specific to the obligation. The increase in the provision due to passage of time is recognized as interest expense.

Restructuring provisions, consisting of severance and other related costs to sites closure, are recognized when a detailed formal plan identifies the business or part of the business concerned, the location and number of employees affected, detailed estimates of the associated costs, and an appropriate timelines which has been communicated to those affected by it.

Research and development expenses

Research expenses are charged to the consolidated statement of earnings (loss) in the period they are incurred and are included under other expenses. Development expenses which are directly attributable expenses, either internal or external, are charged to the consolidated statement of earnings (loss), except if the Company can demonstrate all of the following (in that case capitalised as an intangible assets – development costs):

- The technical feasibility of completing the intangible asset so that it will be available for use or sale;
- Its intention to complete the intangible asset and use or sell it;
- Its ability to use or sell the intangible asset;
- How the intangible asset will generate probable future economic benefits. Among other things, the Company can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset;
- The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
- Its ability to measure reliably the expenditure attributable to the intangible asset during its development.

Employee future benefits

The Company contributes to a defined benefit pension plan. The significant policies related to employee future benefits are as follows:

- The cost of pension and other post-retirement benefits earned by employees is actuarially determined using the projected benefit method prorated on service, market interest rates and management's best estimate of expected plan investment performance, retirement age of employees and expected health care costs;
- Fair value is used to value the plan assets for the purpose of calculating the expected return on plan assets; and
- Actuarial gains and losses arising from experience adjustment and change in actuarial assumptions are charged or credited to equity in other comprehensive income (loss) in the period in which they arise.

Share-based payments

The fair value of the equity-settled share-based payment plan is determined using the Black-Scholes model on the grant date. Measurement inputs include the share price on the measurement date, the exercise price of the instrument, expected volatility, weighted average expected life of the instrument, expected dividends, expected forfeiture rate, and the risk-free interest rate. The impact of service and non-market vesting conditions is not taken into account in determining fair value. The compensation expense of the equity-settled awards is recognized in the consolidated statement of earnings (loss) over the graded vesting period, where the fair value of each tranche is recognized over its respective vesting period.

For cash-settled share-based payment plans, the compensation expense is determined based on the fair value of the liability incurred at each reporting date until the award is settled. The fair value of compensation expense is calculated by multiplying the number of units expected to vest with the fair value of one unit as of grant date based on the market price of the Company's common shares. Until the liability is settled, the Company re-measures the fair value of the liability at the end of each reporting period and at the date of settlement, with any changes in fair value recognized in income for the period.

Earnings (loss) per share

Basic earnings (loss) per share is calculated by dividing net earnings (loss) for the year attributable to equity owners of the Company by the weighted average number of common shares outstanding during the year.

Diluted earnings (loss) per share assume the conversion, exercise or contingent issuance of securities only when such conversion, exercise or issuance would have a dilutive effect on the income per share. The treasury stock method is used to determine the dilutive effect of share options and the if-converted method is used for convertible debentures.

Significant management estimation and judgment in applying accounting policies

The following are significant management judgments used in applying the accounting policies of the Company that have the most significant effect on the consolidated financial statements.

Estimation uncertainty

When preparing the consolidated financial statements, management undertakes a number of judgments, estimates and assumptions about recognition and measurement of assets, liabilities, revenues and expenses. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Information about the significant judgments, estimates and assumptions that have the most significant effect on the recognition and measurement of assets, liabilities, revenues and expenses are discussed below.

Impairment of non-financial assets

Non-financial assets are reviewed for an indication of impairment at each statement of financial position date upon the occurrence of events or changes in circumstances indicating that the carrying value of the assets may not be recoverable, which requires significant judgement.

An impairment loss is recognized for the amount by which an asset's or CGU's carrying amount exceeds its recoverable amount, which is the higher of fair value less cost of disposal and value in use.

An intangible asset and related equipment that are not yet available for their intended use are tested for impairment at least annually, which also requires significant judgement. To determine the recoverable amount (fair value less cost to dispose of these assets), management estimates expected future cash flows from the asset and determines a suitable interest rate in order to calculate the present value of those cash flows. In the process of measuring expected future cash flows, management makes assumptions about future operating results using the estimated forecasted prices obtained from various market sources including publically available metals information as at December 31, 2017. These key assumptions relate to future events and circumstances. The actual results will vary and may cause adjustments to the Company's intangible and tangible assets in future periods. In most cases, determining the applicable discount rate involves estimating the appropriate adjustment to market risk and to asset-specific risk factors.

By their nature, assets not yet available for intended use have a higher estimation uncertainty, as they depend on future market development and the Company's ability to commercialize and manufacture new products to realize forecasted earnings. For example new manufacturing processes may not be scalable to industrial level within expected timeframe and new products might not receive sufficient market penetration. Management believes that the following assumptions are the most susceptible to change and impact the valuation of these assets in time: a) expected significant growth of the market for different metal products (demand), b) selling prices which have an impact on revenues and metal margins (pricing), and c) the discount rate associated with new processes and products (after considering a premium over the Company's weighted average cost of capital (WACC) to reflect the additional uncertainty).

Inventories

Inventories are measured at the lower of cost and net realizable value, with cost determined using the average cost method. In estimating net realizable values, management takes into account the most reliable evidence available at the time the estimates are made. The Company's core business is subject to changes in foreign policies and internationally accepted metal prices which may cause future selling prices to change rapidly. The Company evaluates its inventories using a group of similar items basis and considers expected future prices as well as events that have occurred between the consolidated statement of financial position date and the date of the completion of the consolidated financial statements. Net realizable value for inventory to satisfy a specific sales contract is measured at the contract price.

Debenture conversion option

The convertible debentures issued by the Company included conversion and early redemption options, which are considered as Level 3 financial instruments. The derivative is measured at fair value through profit or loss, and its fair value must be measured at each reporting period, with subsequent changes in fair value recorded in the consolidated statement of earnings (loss). A derivative valuation model is used, and includes assumptions, to estimate the fair value. Detailed assumptions used in the model to determine the fair value of the embedded derivative, upon inception and as at December 31, 2017, are provided in note 12.

Income taxes

The Company is subject to income taxes in numerous jurisdictions. Significant judgment is required in determining the worldwide provision for income taxes. There are many transactions and calculations for which the ultimate tax determination is uncertain. The Company recognizes liabilities for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact the current and deferred income tax assets and liabilities in the period in which such determination is made.

The Company has deferred income tax assets that are subject to periodic recoverability assessments. Realization of the Company's deferred income tax assets is largely dependent on its achievement of projected future taxable income and the continued applicability of ongoing tax planning strategies. The Company's judgments regarding future profitability may change due to future market conditions, changes in tax legislation and other factors that could adversely affect the ongoing value of the deferred income tax assets. These changes, if any, may require a material adjustment of these deferred income tax asset balances through an adjustment to the carrying value thereon in the future. This adjustment would reduce the deferred income tax asset to the amount that is considered to be more likely than not to be realized and would be recorded in the period such a determination was to be made (Note 15).

3. Changes in Accounting Policies and Futures Changes in Accounting Policies

Future changes in accounting policies

The following standards have been issued but are not yet effective:

In May 2014, the IASB issued IFRS 15 "Revenues from Contracts with Customers", this new IFRS standard is applicable by the Company no later than January 1, 2018. IFRS 15 will supersede current revenue recognition guidance including IAS 18 "Revenue" and IAS 11 "Construction Contracts". It applies to new contracts at the effective date and to existing contracts that are not yet completed at the effective date, January 1, 2018.

IFRS 15 is currently under review by the Company assessing its impact on the consolidated financial statements of fiscal year 2017, the assessment extending through fiscal year 2018. 5N Plus will adopt the "modified approach", whereby the cumulative effect will be recorded as an adjustment to the opening balance sheet or retained earnings on the effective date, rather than a retroactive restatement of prior periods. At this point in time, we are still finalizing our review.

In July 2014, the IASB amended IFRS 9, "Financial Instruments", to bring together the classification and measurement, impairment and hedge accounting phases of the IASB's project to replace IAS 39, "Financial Instruments: Recognition and Measurement". The standard supersedes all previous versions of IFRS 9 and will be mandatory on January 1, 2018 for the Company with earlier application permitted. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In January 2016, IASB issued IFRS 16, "Leases", which specifies how an IFRS reporter will recognize, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognise assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. Lessors continue to classify leases as operating or finance, with IFRS 16's approach to lessor accounting substantially unchanged from its predecessor, IAS 17. The standard will be mandatory for annual periods beginning on or after January 1, 2019. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In June 2017, the IFRS Interpretations Committee of the IASB issued IFRIC 23, Uncertainty over Income Tax Treatments (IFRIC 23). The interpretation provides guidance on the accounting for current and deferred tax liabilities and assets in circumstances in which there is uncertainty over income tax treatments. The interpretation is effective for the annual period beginning on January 1, 2019. The Company has concluded that no impact will result from the application of IFRIC 23 on its financial statements.

4. Accounts Receivable

	2017	2016
	\$	\$
Gross trade receivables	21,673	25,095
Allowance for doubtful accounts (Note 24)	(126)	(126)
Trade receivables	21,547	24,969
Sales taxes receivable	3,104	3,643
Other receivables	988	1,187
Total accounts receivable	25,639	29,799

All of the Company's accounts receivable are short term. The net carrying value of accounts receivable is considered a reasonable approximation of fair value. The Company reviews all amounts periodically for indications of impairment and the amounts impaired have been provided for as an allowance for doubtful accounts.

The Company's exposure to credit risks and impairment losses related to accounts receivable is disclosed in Note 24.

Most of the accounts receivable are pledged as security for the revolving credit facility (Note 11).

5. Inventories

	2017	2016
	\$	\$
Raw materials	27,924	24,436
Finished goods	62,723	55,873
Total inventories	90,647	80,309

For the year ended December 31, 2017, a total of \$111,661 of inventories was included as an expense in cost of sales (2016 – \$150,400).

For the year ended December 31, 2017, a total of \$7,532 previously written down was recognized as a reduction of expenses in cost of sales concurrently with the related inventories being sold (\$890 for the Eco-Friendly Materials segment and \$6,642 for the Electronic Materials segment) (2016 – \$23,642 [\$8,089 for the Eco-Friendly Materials segment and \$15,553 for the Electronic Materials segment]).

The majority of inventories are pledged as security for the revolving credit facility (Note 11).

6. Property, Plant and Equipment

	Land and buildings	Production equipment	Furniture, office equipment and rolling stock	Leasehold improvements	Total
	\$	\$	\$	\$	\$
Net book value as at December 31, 2015	21,406	42,105	2,219	1,916	67,646
Additions	738	1,409	516	407	3,070
Disposals	-	(96)	(46)	-	(142)
Depreciation	(1,459)	(7,812)	(947)	(135)	(10,353)
Effect of foreign exchange and others	(194)	(20)	(20)	(42)	(276)
Net book value as at December 31, 2016	20,491	35,586	1,722	2,146	59,945
Additions	765	5,903	665	78	7,411
Disposals	(2,100)	-	-	-	(2,100)
Depreciation	(1,147)	(5,997)	(467)	(297)	(7,908)
Impairment (Note 26)	-	(1,116)	-	-	(1,116)
Effect of foreign exchange and others	441	(123)	56	1	375
Net book value as at December 31, 2017	18,450	34,253	1,976	1,928	56,607
As at December 31, 2016					
Cost	27,526	57,775	2,307	3,185	90,793
Accumulated depreciation	(7,035)	(22,189)	(585)	(1,039)	(30,848)
Net book value	20,491	35,586	1,722	2,146	59,945
As at December 31, 2017					
Cost	23,888	54,951	2,234	3,264	84,337
Accumulated depreciation	(5,438)	(20,698)	(258)	(1,336)	(27,730)
Net book value	18,450	34,253	1,976	1,928	56,607

As at December 31, 2017, property, plant and equipment that were not depreciated until ready for their intended use amounted to \$4,315 (2016 – \$5,874) (mainly production equipment).

Most of the property, plant and equipment are pledged as security for the revolving credit facility (Note 11).

7. Intangible Assets

	Technology	Software, intellectual property and development costs	Total
	\$	\$	\$
Net book value as at December 31, 2015	3,026	4,289	7,315
Additions	-	4,183	4,183
Disposals and others	-	(3)	(3)
Amortization	-	(386)	(386)
Net book value as at December 31, 2016	3,026	8,083	11,109
Additions	-	2,006	2,006
Disposals and others	-	43	43
Impairment (Note 26)	(837)	(1,147)	(1,984)
Amortization	-	(318)	(318)
Net book value as at December 31, 2017	2,189	8,667	10,856
As at December 31, 2016			
Cost	3,026	10,267	13,293
Accumulated amortization	-	(2,184)	(2,184)
Net book value	3,026	8,083	11,109
As at December 31, 2017			
Cost	2,189	10,983	13,172
Accumulated amortization	-	(2,316)	(2,316)
Net book value	2,189	8,667	10,856

As at December 31, 2017, intangible assets that were not depreciated until ready for their intended use amounted to \$10,020 (2016 – \$10,401). The category of development costs which includes capitalized costs of \$8,951 (2016 – \$7,350), primarily consist of internally generated intangible assets.

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8. Investments Accounted for Using the Equity Method

	2017	2016
	\$	\$
Beginning of year	779	310
Share of (loss) gain from joint ventures	(110)	23
New investment	49	446
End of year	718	779

The following summarizes financial information of Ingal Stade GmbH ("Ingal") and Zhuhai Gallium Industry Co., Ltd. (Zhuhai), in which the Company holds a 50% and 49% interest respectively.

	2017	2016
	\$	\$
Total current assets	1,118	1,568
Total non-current assets	353	625
Total current liabilities	45	560
Total non-current liabilities due to venturers	-	5,651
Total revenues	2,794	2,474
Total net earnings (loss)	190	(5,170)

On December 31, 2016, following the closure of its manufacturing activities earlier that year, Ingal sold its assets. In 2017, the unrecognized share of loss of this joint venture for which the Company ceased to recognize when applying the equity method is \$2,666 (2016 – \$2,873).

9. Other Assets

	2017	2016
	\$	\$
Deferred costs	132	353
Other	898	740
Total other assets	1,030	1,093

10. Trade and Accrued Liabilities

	2017	2016
	\$	\$
Trade payables	38,834	41,266
Accrued liabilities	18,209	16,115
Total trade and accrued liabilities	57,043	57,381

11. Bank Indebtedness and Long-Term Debt

a) Bank indebtedness

The Company has a Chinese renminbi (“RMB”) credit line with a financial institution in China. This credit line is guaranteed by certain assets of the Company in China. The credit line bears interest at RMB base rate plus 2% to 4%.

	2017		2016	
	Contractual Currency RMB	Reporting Currency US\$	Contractual Currency RMB	Reporting Currency US\$
Facility available	10,000	1,530	10,000	1,438
Amount drawn	-	-	-	-

b) Long-term debt

	2017	2016
	\$	\$
Senior secured revolving facility of \$50,000 with a syndicate of banks, maturing in August 2018 ⁽¹⁾	-	-
Term loan, non-interest bearing, repayable under certain conditions, maturing in 2023. If the loan has not been repaid in full by the end of 2023, the balance will be forgiven ⁽²⁾	271	325
	271	325
Less current portion of long-term debt	271	325
	-	-

⁽¹⁾ In August 2014, the Company signed a senior secured multi-currency revolving credit facility of \$125,000 maturing in August 2018, which was reduced to \$100,000 as at June 30, 2015 and subsequently to \$50,000 as at February 18, 2016. At any time, the Company has the option to request that the credit facility be expanded through the exercise of an additional \$50,000 accordion feature, subject to review and approval by the lenders. This revolving credit facility can be drawn in US dollars, Canadian dollars or Hong Kong dollars. Drawings bear interest at either the Canadian prime rate, US base rate, Hong Kong base rate or LIBOR, plus a margin based on the Company's senior consolidated debt to EBITDA ratio. Under the terms of its credit facility, the Company is required to satisfy certain restrictive covenants as to financial ratios. During the first quarter of 2016, an amount of deferred costs of \$897 was expensed and recorded in Imputed interest and other interest expense. As at December 31, 2017, the Company has met all covenants.

In addition, in August 2014, the Company's subsidiary in Belgium entered into a bi-lateral credit facility of 5,000 Euros, which was reduced to 2,500 Euros as at February 18, 2016. This credit facility is coterminous with the new senior secured multi-currency revolving credit facility, and guaranteed by the same security pool. This bi-lateral facility can be drawn in Euros or US dollars and bears interest at similar rates as the revolving credit facility. No amount was used as at December 31, 2017 and 2016.

⁽²⁾ The term loan is classified as short-term debt since these amounts could become payable on demand.

12. Convertible Debentures

In June 2014, the Company issued convertible unsecured subordinated debentures for CA\$60,000 (US\$55,266) and an additional over-allotment option for CA\$6,000 (US\$5,580) for a total of CA\$66,000 (US\$60,846). The convertible unsecured subordinated debentures bear interest at a rate of 5.75% per annum, payable semi-annually on June 30 and December 31, commencing on December 31, 2014. The convertible debentures are convertible at the holder's option into the Company's common shares at a conversion price of CA\$6.75 per share, representing a conversion rate of 148.1 common shares per CA\$1,000 principal amount of convertible debentures. The convertible debentures will mature on June 30, 2019 and may be redeemed by the Company, in certain circumstances, after June 30, 2017.

The debenture conversion option was recorded as a derivative liability (Note 16). In accordance with IFRS, an obligation to issue shares for a price that is not fixed in the Company's functional currency must be classified as a derivative liability and measured at fair value, with changes recognized in change in fair value of debenture conversion option in the consolidated statement of earnings (loss).

The fair value of the debenture conversion option, which consists of the holder's conversion option subject to the Company's early redemption options, was estimated based on a methodology for pricing convertible bonds using an approach based on partial differential equations or binomial lattices, with the following assumptions: average expected volatility of 40%; expected dividend per share of nil; entity-specific credit spread, and expected life of 5 years. As a result, the initial fair value of the liability representing the debenture conversion option for the two tranches of the issuance of the debenture was estimated at CA\$10,484 (US\$9,666). Assumptions were reviewed in the valuation as at December 31, 2017 and 2016, and have not changed substantially. On December 7, 2015, the Company entered into a cross-currency swap to hedge the convertible debenture denominated in Canadian dollars to US dollars (Note 16).

13. Employee Benefit Plan Obligation

The Company operates a defined pension plan in Germany based on employee pensionable earnings and length of service. Former general and senior managers had been provided with direct benefit commitments. Employees had been provided with indirect benefit commitments via the Unterstützungseinrichtung der HEK GmbH e.V. Such promises had been made for employees with entry date of December 31, 1993 or earlier.

	2017	2016
	\$	\$
Present value of unfunded obligations	15,396	14,813

Movement in the defined benefit obligation is as follows:

	2017	2016
	\$	\$
Beginning of year	14,813	13,934
Current service cost	87	70
Interest cost	266	331
Effect of foreign exchange	1,957	(512)
Benefits paid	(665)	(653)
Actuarial (gains) losses	(1,062)	1,643
End of year	15,396	14,813

The principal actuarial assumptions as at year ended were as follows:

	2017	2016
Discount rate	1.9%	1.7%
Salary growth rate	2.0%	2.0%
Pension growth rate	1.8%	1.8%

Assumptions regarding mortality are based on mortality tables "Richttafeln 2005 G" by Prof. Dr. Klaus Heubeck as biometrical basis in accordance with age of earliest retirement by law *RV-Altersgrenzenanpassungsgesetz*, dated April 20, 2007.

The sensitivity of the defined benefit obligation to changes in assumptions is set out below. The effects on each plan of a change in an assumption are weighted proportionately to the total plan obligations to determine the total impact for each assumption presented.

	Impact on defined benefit obligation		
	Change in assumption	Increase in assumption	Decrease in assumption
Discount rate	0.50%	(6.39%)	7.13%
Salary growth rate	0.50%	0.56%	(0.54%)
Pension growth rate	0.50%	6.07%	(5.56%)
		Increase by 1 year in assumption	Decrease by 1 year in assumption
Life expectancy		4.15%	(3.68%)

The weighted average duration of the defined benefit obligation is 13.45 years (2016 – 14 years).

Expected maturity analysis of undiscounted pension liability:

	2017	2016
	\$	\$
Less than a year	687	628
Between 1 and 5 years	2,925	2,649
Over 5 years	16,734	15,882
Total	20,346	19,159

Expected contributions to pension benefit plans for year ending December 31, 2018 are \$687.

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14. Other Liabilities

	Long-term payable	Deferred revenues	Other	Total
	\$	\$	\$	\$
As at December 31, 2015	15,021	5,135	247	20,403
Additions	1,017	471	-	1,488
Utilized	-	(187)	(4)	(191)
Reclassified to current liabilities (Note 18)	(16,038)	-	-	(16,038)
As at December 31, 2016	-	5,419	243	5,662
Additions	-	800	-	800
Utilized	-	(9)	(17)	(26)
As at December 31, 2017	-	6,210	226	6,436

15. Income Taxes

	2017	2016
	\$	\$
Current tax:		
Current tax for the year	3,306	175
Adjustment in respect of prior years	289	265
Total current tax	3,595	440
Deferred tax:		
Recognition and reversal of temporary differences	(3,068)	1,538
Change in tax rate	-	49
Write down of deferred tax assets	-	-
Total deferred tax	(3,068)	1,587
Income tax expense	527	2,027

A reconciliation of income taxes at Canadian statutory rates with the reported income taxes is as follows:

	2017	2016
	\$	\$
Earnings (loss) before income tax	12,540	(3,869)
Canadian statutory income tax rates	26.8%	26.9%
Income tax on earnings (loss) at Canadian statutory rate	3,361	(1,041)
Increase (decrease) resulting from:		
Unrecorded losses carried forward	(2,298)	2,408
Write down of deferred tax assets	-	-
Non-taxable gain for tax purposes	(163)	(478)
Benefits arising from a financing structure	-	(773)
Non-deductible (taxable) foreign exchange	(1,099)	510
Effect of difference of foreign tax rates compared to Canadian tax	265	855
Prior year adjustments	289	265
Other	172	281
Income tax expense	527	2,027

The Company's applicable tax rate is the Canadian combined rates applicable in the jurisdiction in which the Company operates.

The analysis of deferred tax assets and deferred tax liabilities is as follows:

	2017	2016
	\$	\$
Deferred tax assets:		
To be recovered within 12 months	3,380	1,016
To be recovered after 12 months	3,511	867
Deferred tax liabilities:		
To be settled within 12 months	(90)	(90)
To be settled after 12 months	(161)	(625)
Deferred tax assets, net	6,640	1,168

Movement in the deferred income tax amounts is as follows:

	2017	2016
	\$	\$
Beginning of year	1,168	2,810
Tax charge relating to components of other comprehensive income (loss)	2,404	(55)
Credited to consolidated statement of earnings (loss)	3,068	(1,587)
End of year	6,640	1,168

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The movement in deferred income tax assets and liabilities during the year, without taking into consideration the offsetting of balances within the same jurisdiction, is as follows:

Deferred tax assets	Property, plant and equipment	Inventories	Intangible assets	Loss carry forward	Retirement benefit obligation	Others	Total	Offset by jurisdiction	Total
	\$	\$	\$	\$	\$	\$	\$	\$	\$
As at December 31, 2015	2,675	1,702	595	3,724	-	4,509	13,205	(9,727)	3,478
(Charged) credited to consolidated statements of earnings (loss)	(1,458)	138	68	435	-	(3,821)	(4,638)		
Credited (charged) to comprehensive income (loss)	-	-	-	-	-	(55)	(55)		
As at December 31, 2016	1,217	1,840	663	4,159	-	633	8,512	(6,629)	1,883
(Charged) credited to consolidated statements	787	117	(43)	(2,690)	667	1,648	486		
Credited (charged) to comprehensive income (loss)	-	-	-	-	2,374	30	2,404		
As at December 31, 2017	2,004	1,957	620	1,469	3,041	2,311	11,402	(4,511)	6,891

Deferred tax liabilities	Property, plant and equipment	Inventories	Intangible assets	Convertible debentures	Others	Total	Offset by jurisdiction	Total
	\$	\$	\$	\$	\$	\$	\$	\$
As at December 31, 2015	5,644	218	814	2,970	749	10,395	(9,727)	668
Charged (credited) to consolidated statements of earnings (loss)	(3,738)	132	-	135	420	(3,051)		
As at December 31, 2016	1,906	350	814	3,105	1,169	7,344	(6,629)	715
Charged (credited) to consolidated statements of earnings (loss)	(875)	(275)	59	(388)	(1,103)	(2,582)		
As at December 31, 2017	1,031	75	873	2,717	66	4,762	(4,511)	251

Deferred tax assets of \$2,060 (2016 – \$1,883), included in the consolidated statements of financial position, are dependent on projection of future taxable profits for entities that have suffered a loss in the current period.

Deferred income tax liabilities have not been recognized for the withholding tax and taxes that would be payable on the unremitted earnings of certain subsidiaries. Such amounts are permanently reinvested. Unremitted earnings totalled \$1,285 as at December 31, 2017 (2016 - \$Nil).

As at December 31, 2017, the Company had the following operating tax losses available for carry forward for which no deferred tax benefit has been recorded in the accounts.

	\$	Expiry
United Kingdom	51,700	No limit
Belgium	48,265	No limit
United States	28,163	No limit
Hong Kong	17,196	No limit
Korea	1,849	2023-2027
China	5,534	2018-2022

As at December 31, 2017, the Company had other deductible temporary differences of \$451 for which no deferred tax benefit has been recorded (2016 – \$10,508).

16. Fair Value of Financial Instruments

The fair value of a financial instrument is determined by reference to the available market information at the reporting date. When no active market exists for a financial instrument, the Company determines the fair value of that instrument based on valuation methodologies as discussed below. In determining assumptions required under a valuation model, the Company primarily uses external, readily observable market data inputs. Assumptions or inputs that are not based on observable market data incorporate the Company's best estimates of market participant assumptions, and are used when external data is not available. Counterparty credit risk and the Company's own credit risk are taken into account in estimating the fair value of all financial assets and financial liabilities.

The following assumptions and valuation methodologies have been used to measure fair value of financial instruments:

- (i) The fair value of its short-term financial assets and financial liabilities, including cash and cash equivalents, accounts receivable and trade and accrued liabilities approximates their carrying value due to the short-term maturities of these instruments;
- (ii) The fair value of derivative instruments, which include cross-currency swap and the equity swap agreement, is calculated as the present value of the estimated future cash flows using an appropriate interest rate yield curve and foreign exchange rate. Assumptions are based on market conditions prevailing at each reporting date. Derivative instrument reflect the estimated amount that the Company would receive or pay to settle the contracts at the reporting date;
- (iii) The fair value of the debenture conversion option, included in derivative financial liabilities, is described in Note 12;
- (iv) The fair value of long-term debt and a long-term payable is estimated based on discounted cash flows using current interest rate for instruments with similar terms and remaining maturities; and
- (v) The fair value of the convertible debentures is based on quoted prices observed in active markets.

5N PLUS INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31

(in thousands of United States dollars, unless otherwise indicated)

The carrying values and fair values of financial instruments, by class, are as follows as at December 31, 2017 and December 31, 2016:

As at December 31, 2017					Carrying Value	Fair value
	At fair value through profit or loss	Loans and receivables	Financial liabilities at amortized cost	Derivative designated in a hedge relationship	Total	Total
	\$	\$	\$	\$	\$	\$
Financial assets						
Cash and cash equivalents	-	34,024	-	-	34,024	34,024
Accounts receivable	-	25,639	-	-	25,639	25,639
Other current assets	6,141	-	-	-	6,141	6,141
Derivative financial assets	-	-	-	3,602	3,602	3,602
Total	6,141	59,663	-	3,602	69,406	69,406
Financial liabilities						
Trade and accrued liabilities	-	-	57,043	-	57,043	57,043
Current portion of long-term debt	-	-	271	-	271	271
Convertible debentures and debenture conversion option (included in derivative financial liabilities)	-	-	48,768	-	48,768	52,766
Total	-	-	106,082	-	106,082	110,080

As at December 31, 2016					Carrying value	Fair value
	At fair value through profit or loss	Loans and Receivables	Financial liabilities at amortized cost	Derivative designated in a hedge relationship	Total	Total
	\$	\$	\$	\$	\$	\$
Financial assets						
Cash and cash equivalents	-	24,301	-	-	24,301	24,301
Accounts receivable	-	29,799	-	-	29,799	29,799
Derivative financial assets	-	-	-	189	189	189
Total	-	54,100	-	189	54,289	54,289
Financial liabilities						
Trade and accrued liabilities	-	-	57,381	-	57,381	57,381
Current portion of long-term debt	-	-	325	-	325	325
Convertible debentures and debenture conversion option (included in derivative financial liabilities)	68	-	43,157	-	43,225	44,421
Total	68	-	100,863	-	100,931	102,127

Fair value hierarchy

The fair value hierarchy reflects the significance of the inputs used in making the measurements and has the following levels:

- Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- Level 3: Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The following table presents the financial instruments, by level, which are recognized at fair value in the consolidated statements of financial position:

As at December 31, 2017	Level 1	Level 2	Level 3
	\$	\$	\$
Financial assets (liabilities)			
At fair value through profit or loss			
Debenture conversion option (Note 12) ⁽¹⁾	-	-	-
Equity swap agreement (Note 21) ⁽²⁾	-	6,141	-
Derivatives designated in a hedge relationship			
Cross-currency swap ⁽³⁾	-	3,602	-
Total	-	9,743	-

As at December 31, 2016	Level 1	Level 2	Level 3
	\$	\$	\$
Financial assets (liabilities)			
At fair value through profit or loss			
Debenture conversion option (Note 12) ⁽¹⁾	-	-	(68)
Derivatives designated in a hedge relationship			
Cross-currency swap ⁽³⁾	-	189	-
Total	-	189	(68)

⁽¹⁾ This instrument is classified as a Level 3 financial instrument, since the implied volatility is an unobservable input. The change in fair value of debenture conversion option of \$85 and \$20 was recognized in the consolidated statement of earnings (loss) for the year ended December 31, 2017 and 2016, respectively. An increase or a decrease of 5% in the volatility would have no significant impact on the fair value of the debenture conversion option.

⁽²⁾ In June 2017, the Company has entered into swap agreement with a major Canadian financial institution to reduce its income exposure to fluctuations in its share price relating to the DSU, PSU, RSU and SAR programs. Pursuant to the agreement, the Company receives the economic benefit of share price appreciation while providing payments to the financial institution for the institution's cost of funds and any share price depreciation. The net effect of the equity swaps partly offset movements in the Company's share price impacting the cost of the DSU, PSU, RSU and SAR programs. As at December 31, 2017, the equity swap agreement covered 2,571,569 common shares of the Company. The fair value of this embedded derivative is recorded under other current assets with the related host deposit for a total amount of \$6,141.

⁽³⁾ On December 7, 2015, the Company entered into a cross-currency swap to hedge the convertible debenture denominated in Canadian dollars with a notional amount of CA\$66,000 and bearing interest at a rate of 5.75% per annum, payable semi-annually on June 30 and December 31. Under this cross-currency swap, the Company exchange interest payments and principal redemption on the same terms and designates the cross-currency as a cash flow hedge of the variability of the \$US functional currency equivalent cash flows on the debt. The terms are such that on each interest payment date, the Company will receive 5.75% on a notional of CA\$66,000 and pay 6.485% based on a notional of US\$48,889.

17. Operating Segments

The following tables summarize the information reviewed by the Company's management when measuring performance:

For the year ended December 31, 2017	Eco-Friendly Materials	Electronic Materials	Corporate and unallocated	Total
	\$	\$	\$	\$
Segment revenues ⁽¹⁾	146,468	73,448	-	219,916
Adjusted EBITDA ^{(2) (3)}	14,976	24,835	(14,694) ⁽⁴⁾	25,117
Interest on long-term debt, imputed interest and other interest expense	-	-	6,097	6,097
Litigation and restructuring costs (Note 26)	733	(3,695)	9	(2,953)
Change in fair value of debenture conversion option	-	-	(85)	(85)
Foreign exchange and derivative loss	-	-	79	79
Gain on disposal of property, plant and equipment	(748)	(1,139)	-	(1,887)
Impairment of non-current assets (Note 26)	-	3,100	-	3,100
Depreciation and amortization	3,168	4,978	80	8,226
Earnings (loss) before income tax	11,823	21,591	(20,874)	12,540
Capital expenditures	4,091	2,678	-	6,769

For the year ended December 31, 2016	Eco-Friendly Materials	Electronic Materials	Corporate and unallocated	Total
	\$	\$	\$	\$
Segment revenues ⁽¹⁾	152,460	79,038	-	231,498
Adjusted EBITDA ^{(2) (3)}	13,467	19,824	(13,180) ⁽⁴⁾	20,111
Interest on long-term debt, imputed interest and other interest expense	-	-	8,241	8,241
Litigation and restructuring costs (Note 26)	2,628	1,309	2,008	5,945
Change in fair value of debenture conversion option	-	-	(20)	(20)
Foreign exchange and derivative gain	-	-	(925)	(925)
Depreciation and amortization	4,778	5,711	250	10,739
Earnings (loss) before income tax	6,061	12,804	(22,734)	(3,869)
Capital expenditures	1,557	1,953	-	3,510

⁽¹⁾ The total revenues of \$16,931 (2016 – \$14,422) from the recycling and trading of complex materials is allocated to the Eco-Friendly materials and Electronic materials segments.

⁽²⁾ Earnings (loss) before income tax, depreciation and amortization, impairment of non-current assets, litigation and restructuring costs and financial expense (revenues).

⁽³⁾ The total adjusted EBITDA of \$3,790 (2016 – of \$1,641) from the recycling and trading of complex materials is allocated to the Eco-Friendly materials and Electronic materials segments.

⁽⁴⁾ The total share-based compensation expense is included in Corporate and unallocated (Note 26).

As at December 31, 2017	Eco-Friendly Materials	Electronic Materials	Corporate and unallocated	Total
	\$	\$	\$	\$
Total assets excluding the deferred tax asset:	106,631	104,945	26,465	238,041

As at December 31, 2016	Eco-Friendly Materials	Electronic Materials	Corporate and unallocated	Total
	\$	\$	\$	\$
Total assets excluding the deferred tax asset:	95,835	109,013	12,326	217,174

The geographic distribution of the Company's revenues based on the location of the customers for the years ended December 31, 2017 and 2016, and the identifiable non-current assets as at December 31, 2017 and 2016 are summarized as follows:

Revenues	2017	2016
	\$	\$
Asia		
China	10,754	11,551
Japan	4,450	4,563
Other ⁽¹⁾	47,856	53,180
Americas		
United States	43,934	46,502
Other	12,626	12,165
Europe		
France	9,705	14,837
Germany	33,713	29,954
United Kingdom	8,285	8,327
Other ⁽¹⁾	37,940	44,105
Other	10,653	6,314
Total	219,916	231,498

Non-current assets (other than deferred tax assets)	2017	2016
	\$	\$
Asia ⁽¹⁾	16,166	15,721
United States	8,180	5,496
Canada	21,609	22,028
Europe		
Belgium	8,454	9,017
Germany	18,404	18,937
Other	-	1,916
Total	72,813	73,115

⁽¹⁾ None exceeding 10%

For the year ended December 31, 2017, one customer represented approximately 12 % (2016 – 16%) of the revenues, and is included in the Electronic Materials revenues.

18. Supplemental Cash Flow Information

Net change in non-cash working capital balances related to operations consists of the following:

	2017	2016
	\$	\$
Decrease (increase) in assets:		
Accounts receivable	4,134	6,238
Inventories	(10,338)	9,226
Income tax receivable	674	(4,187)
Other current assets	(6,177)	(927)
(Decrease) increase in liabilities:		
Trade and accrued liabilities	(4,436)	(1,196)
Income tax payable	2,917	1,824
Net change	(13,226)	10,978

The reconciliation of assets/liabilities arising from financing activities consists of the following:

	December 31 2016	Cash Flows	Non-Cash changes			December 31 2017
			Imputed interest	Foreign Exchange movement	Fair value changes	
	\$	\$	\$	\$	\$	\$
Long-term debt	325	(74)	-	20	-	271
Convertible debenture ⁽¹⁾	43,157	-	2,171	3,440	-	48,768
Debenture conversion option	68	-	-	17	(85)	-
Cross-currency swap ⁽¹⁾	(189)	-	-	-	(3,413)	(3,602)
Deferred revenues	5,419	791	-	-	-	6,210
Total net liabilities from financing liabilities	48,780	717	2,171	3,477	(3,498)	51,647

⁽¹⁾ Interest settlement were reflected as cash flows from operating activities in the consolidated statements of cash flows.

The consolidated statements of cash flows exclude or include the following transactions:

	2017	2016
	\$	\$
a) Excluded additions unpaid at end of year: Additions to property, plant and equipment	1,050⁽¹⁾	3,741
b) Included additions unpaid at beginning of year: Additions to property, plant and equipment	3,741	4,181
c) Excluded a reclassification from other liabilities to trade and accrued liabilities for which final settlement and payment were due in April 2017	-	16,038 ⁽²⁾

⁽¹⁾ During the second quarter, the Company agreed with a customer to net a trade receivable against a payable for the purchase of property, plant and equipment.

⁽²⁾ In 2016, the Company proceeded with a reclassification of \$16,038 from other liabilities to trade and accrued liabilities.

19. Share Capital

Authorized:

- An unlimited number of common shares, participating, with no par value, entitling the holder to one vote per share; and
- An unlimited number of preferred shares, issuable in one or more series with specific terms, privileges and restrictions to be determined for each class by the Board of Directors. As at December 31, 2017 and 2016, no preferred shares were issued.

On February 21, 2017, the TSX approved an amendment to the Company's normal course issuer bid implemented on October 11, 2016. Under this normal course issuer bid amendment, the Company had the right to purchase for cancellation, from October 11, 2016 to October 10, 2017, a maximum of 2,100,000 (previously 600,000) common shares. The Company's normal course issuer bid program expired on October 10, 2017 and has not been renewed.

At the end of December 31, 2017, the Company had repurchased and cancelled 475,016 (2016 – 202,101) common shares at an average price of \$1.38 (2016 - \$1.26) for a total amount of \$654 (2016 – \$252). An amount of \$1,943 (2016 – \$822) has been applied against share capital, and a negative amount of \$1,289 (2016 - \$570) has been applied against the deficit.

20. Earnings (Loss) per Share

The following table reconciles the numerators and denominators used for the computation of basic and diluted earnings (loss) per share:

Numerators	2017	2016
	\$	\$
Net earnings (loss) attributable to equity holders of 5N Plus	12,023	(5,895)
Net earnings (loss) for the period	12,013	(5,896)
Denominators	2017	2016
Basic weighted average number of shares	83,676,315	83,977,281
Dilutive effect:		
Stock options	336,979	-
Diluted weighted average number of shares	84,013,294	83,977,281

As at December 31, 2017, a total number of 501,747 stock options were excluded from the diluted weighted average number of shares due to their anti-dilutive effect because of the Company's stock price. The same applies to the convertible debentures and to the 1,555,860 new restricted share units.

As at December 31, 2016, a total number of 2,860,648 stock options were excluded from the diluted weighted average number of shares due to their anti-dilutive effect because of the Company's stock price. The same applies to the convertible debentures.

21. Share-Based Compensation

Restricted Share Unit Plan

On June 7, 2010, the Company adopted a Restricted Share Unit (“RSU”) Plan (the “Old RSU Plan”) to complement the stock option plan. Minor amendments to the Old RSU Plan were adopted by the Board of Directors in May 2013. However, on November 4, 2015, the Board of Directors terminated the Old RSU Plan and replaced it with the New RSU & PSU Plan (as defined hereinafter), thus no additional RSUs shall be credited to the accounts of participants under the Old RSU Plan. Only previously granted RSUs shall continue to vest and be settled as per the terms of the Old RSU Plan. The Old RSU Plan enabled the Company to award to eligible participants phantom share units that vest after a three-year period. The RSU is settled in cash and is recorded as a liability. The measurement of the compensation expense and corresponding liability for these awards is based on the fair value of the award, and is recorded as a charge to selling, general and administrative (“SG&A”) expenses over the vesting period of 3 years.

At the end of each financial period, changes in the Company’s payment obligation due to changes in the market value of the common shares on the TSX are recorded as a charge to SG&A expenses. For the year ended December 31, 2017, the Company granted nil RSUs (2016 – nil), 171,000 of RSUs were paid (2016 – 148,950) and 53,000 RSUs were cancelled (2016 – 17,550). As at December 31, 2017, 216,000 RSUs were outstanding (2016 – 440,000).

Restricted Share Unit and Performance Share Unit Plan

On November 4, 2015, the Company adopted a new Restricted Share Unit (“RSU”) and Performance Share Unit (“PSU”) Plan (the “New RSU & PSU Plan”) to replace the Old RSU Plan, for the purpose of enhancing the Company’s ability to attract and retain talented individuals to serve as employees, officers and executives of the Company and its affiliates and promoting a greater alignment of interests between such employees, officers and executives and the shareholders of the Company. The New RSU & PSU Plan enables the Company to award eligible participants: (i) phantom RSUs that vest no later than three years following the grant date; and (ii) phantom PSUs that vest after certain periods of time, not exceeding three years, and subject to the achievement of certain performance criteria as determined by the Board of Directors. Such plan provides for the settlement of RSUs and PSUs through either cash or the issuance of common shares of the Company from treasury, for an amount equivalent to the volume weighted average of the trading price of the common shares of the Company on the TSX for the five trading days immediately preceding the applicable RSU vesting determination date or PSU vesting determination date.

In the case of a participant’s termination by the Company for cause or as a result of a voluntary resignation by the participant before the end of a performance cycle, all RSUs and PSUs will be cancelled immediately as of the date on which the participant is advised of his termination or resigns.

In the case of a participant’s termination by the Company other than for cause, if such participant is deemed to be on long-term disability or if such participant retires before the end of a performance cycle, the number of RSUs which will vest at such event will be pro-rated based on the number of months worked at the end of the performance cycle and all PSUs will be cancelled immediately.

In the case of a participant’s death before the end of a performance cycle, the number of RSUs which will vest will be pro-rated based on the number of months worked at the end of the fiscal year preceding the participant’s death and all PSUs will be cancelled immediately.

The maximum number of common shares which may be issued under the New RSU & PSU Plan is 5,000,000. Common shares in respect of RSUs or PSUs to be settled through the issuance of common shares but that have been forfeited, cancelled or settled in cash shall be available for RSUs or PSUs to be granted thereafter pursuant to this plan. No RSUs or PSUs to be settled through the issuance of common shares may be granted to any participant unless the number of common shares: (a) issued to "Insiders" within any one-year period; and (b) issuable to "Insiders" at any time, under the plan, or when combined with all of the Company's other security-based compensation arrangements, could not exceed 10% of the total number of issued and outstanding common shares, respectively.

For the year ended December 31, 2017, the Company granted 368,360 New RSUs (2016 – 1,245,000) and 37,500 New RSUs were cancelled (2016 – 20,000). As at December 31, 2017, 1,555,860 New RSUs were outstanding (2016 – 1,225,000).

For the year ended December 31, 2017, the Company granted nil PSUs (2016 – 500,000) and, as at December 31, 2017, 500,000 PSUs were outstanding (2016 – 500,000).

Stock Appreciation Rights Plan

On June 7, 2010, the Company adopted a Restricted Share Unit for Foreign Employees Plan (the "RSUFE Plan") which was slightly amended on November 7, 2012 by the Company to become the Stock Appreciation Rights plan (the "SAR Plan") which replaced the RSUFE Plan. The SAR Plan enables the Company to award eligible participants phantom stock options to foreign directors, officers and employees. SARs usually have a six-year term and vest equally over a four-year period at an annual rate of 25% per year beginning one year following the SARs grant date. The amount of cash payout is equal to the sum of the positive differences between the volume weighted average trading price of the common shares of the Company on the TSX in the last twenty (20) trading days immediately preceding the exercise date and the grant price of each SAR redeemed.

At the end of each financial period, changes in the Company's payment obligations due to changes in the market value of the common shares on the TSX are recorded as an expense. For the year ended December 31, 2017, the Company granted 542,700 SARs (2016 – 35,000), 25,000 of SARs were paid (2016 – nil), 30,156 SARs were expired (2016 – 4,519) and 30,000 SARs were cancelled (2016 – 95,000). As at December 31, 2017, 722,695 SARs were outstanding (2016 – 265,151).

Deferred Share Unit Plan

On May 7, 2014, the Company adopted a Deferred Share Unit ("DSU") Plan (the "DSU Plan") which enables the Company to provide Board directors and key officers and employees designated by the Board with phantom share units to enhance the Company's ability to attract and retain individuals with the right combination of skills and experience to serve on the Company's Board or as Company's executives. DSUs vest entirely at their date of grant (with the exception of the 400,000 DSUs granted to the Company's CEO on March 2, 2016 which will vest on March 2, 2019) and become payable in cash upon termination of services of a director, designated officer or employee with the Company. The amount of cash payout is equal to the volume weighted average trading price of the common shares of the Company on the TSX of the twenty (20) trading days immediately preceding the date of payment of the DSU. For the year ended December 31, 2017, the Company granted 290,408 DSUs (2016 – 745,503) and nil DSUs were paid (2016 – 109,060). As at December 31, 2017, 1,304,572 DSUs were outstanding (2016 – 1,014,164).

Stock Option Plan

On April 11, 2011, the Company adopted a new stock option plan replacing the previous plan (the “Old Plan”), in place since October 2007, with the same features as the Old Plan with the exception of a maximum number of options granted which cannot exceed 5,000,000. The aggregate number of shares which could be issued upon the exercise of options granted under the Old Plan could not exceed 10% of the issued shares of the Company at the time of granting the options. Options granted under the Stock Option Plan may be exercised during a period not exceeding ten years from the date of grant. The stock options outstanding as at December 31, 2017 may be exercised during a period not exceeding six years from their date of grant. Options vest at a rate of 25% (100% for directors) per year, beginning one year following the grant date of the options. Any unexercised options will expire one month after the date a beneficiary ceases to be an employee, director or officer and one year for retired directors.

The following table presents information concerning all outstanding stock options:

	2017		2016	
	Number of options	Weighted average exercise price	Number of options	Weighted average Exercise price
Outstanding, beginning of year	2,860,648	CA\$ 2.63	1,558,345	CA\$ 3.74
Granted	288,000	1.75	1,445,000	1.65
Exercised	(597,500)	1.75	-	-
Cancelled	(116,476)	2.50	-	-
Expired	(209,925)	8.59	(142,697)	4.90
Outstanding, end of year	2,224,747	2.20	2,860,648	2.63
Exercisable, end of year	1,001,497	2.59	1,311,898	3.39

The outstanding stock options as at December 31, 2017 are as follows:

Maturity	Exercise price		Number of options
	Low	High	
April and November 2018	CA\$ 2.22	CA\$ 3.61	313,997
May 2019	2.20	2.20	287,500
March to August 2020	3.33	4.29	282,000
March 2021	2.40	2.40	180,750
March 2022	1.65	1.65	872,500
February 2023	1.75	1.75	288,000
			2,224,747

The fair value of stock options at the grant date was measured using the Black-Scholes option pricing model. The historical share price of the Company’s common shares is used to estimate expected volatility, and government bond rates are used to estimate the risk-free interest rate.

The following table illustrates the inputs used in the average measurement of the fair values of the stock options at the grant date granted during the years ended December 31, 2017 and 2016:

	2017	2016
Expected stock price volatility	59%	70%
Dividend	None	None
Risk-free interest rate	0.98%	0.63%
Expected option life	4 years	4 years
Fair value – weighted average of options issued	CA\$0.79	CA\$0.86

The following table shows the share-based compensation expense recorded in the consolidated statements of earnings for the years ended December 31, 2017 and 2016:

Expense	2017	2016
	\$	\$
RSUs	1,709	854
PSUs	356	117
SARs	322	54
DSUs	1,617	704
Stock options	386	517
Equity swap	80	-
Total	4,470	2,246

In June 2017, the Company entered into an equity swap agreement to reduce its earnings exposure on the fluctuation in the Company's share price since this has an effect on the evaluation of the DSU, PSU, RSU and SAR plans. The fair value of the embedded derivative is recorded under other current assets with the related host deposit. Any further change in the fair value is recorded against the share-based compensation expense (note 16).

The following amounts were recorded:

Liability	2017	2016
	\$	\$
RSUs	2,475	886
PSUs	485	113
SARs	418	90
DSUs	2,748	960
Total	6,126	2,049

22. Commitments and Contingencies

Commitments

The Company rents certain premises and equipment under the terms of operating leases. Future minimum payments excluding operating costs are as follows:

	2017	2016
	\$	\$
No later than 1 year	1,828	2,044
Later than 1 year but no later than 5 years	3,316	4,367
Later than 5 years	-	-
Total	5,144	6,411

As at December 31, 2017, in the normal course of business, the Company contracted letters of credit for an amount of \$432 (2016 – \$741).

Contingencies

In the normal course of operations, the Company is exposed to events that could give rise to contingent liabilities or assets. As at the date of issue of the consolidated financial statements, the Company was not aware of any significant events that would have a material effect on its consolidated financial statements.

23. Related Party Transactions

The Company's related parties are its joint ventures, directors and executive members.

Unless otherwise stated, none of the transactions incorporated special terms and conditions and no guarantees were given or received. Outstanding balances are settled in cash.

On December 31, 2016, following the closure of its manufacturing activities earlier that year, Ingal sold its assets. During the year ended December 31, 2016, the Company purchased \$496 worth of gallium from Ingal.

Key management compensation

Key management includes directors (executive and non-executive) and certain senior management. The compensation expense paid or payable to key management for employee services is as follows:

	2017	2016
	\$	\$
Wages and salaries	3,016	2,649
Share-based compensation	4,027	2,005
Total	7,043	4,654

24. Financial Risk Management

In the normal course of operations, the Company is exposed to various financial risks. These risk factors include market risk (foreign currency risk, interest rate risk and other price risk), credit risk and liquidity risk.

Market risk

Market risk is the risk that changes in market price, such as foreign exchange rates, equity prices and interest rates, will affect the Company's net earnings or the value of financial instruments.

The objective of market risk management is to mitigate exposures within acceptable limits, while maximizing returns.

(i) Foreign currency risk

Foreign currency risk is defined as the Company's exposure to a gain or a loss in the value of its financial instruments as a result of fluctuations in foreign exchange rates. The Company is exposed to foreign exchange rate variability primarily in relation to certain sale commitments, expected purchase transactions, certain local operating expenses and debt denominated in a foreign currency. In addition, these operations have exposure to foreign exchange rates primarily through cash and cash equivalents and other working capital accounts denominated in currencies other than their functional currencies.

The following table summarizes in US dollar equivalents the Company's major currency exposures as at December 31, 2017:

	2017				
	CA\$	EUR	GBP	RMB	Other
	\$	\$	\$	\$	\$
Cash and cash equivalents	660	2,877	2,090	1,396	682
Accounts receivable	438	8,335	81	3,089	1,094
Other current assets	6,141	-	-	-	-
Trade and accrued liabilities	(10,600)	(8,369)	(775)	(2,298)	(1,289)
Long-term debt	(271)	-	-	-	-
Net financial assets (liabilities)	(3,632)	2,843	1,396	2,187	487

The following table shows the impact on earnings before income tax of a five-percentage point strengthening or weakening of foreign currencies against the US dollar as at December 31, 2017 for the Company's financial instruments denominated in non-functional currencies:

	CA\$	EUR	GBP	RMB	Other
	\$	\$	\$	\$	\$
5% Strengthening	(182)	142	70	109	24
5% Weakening	182	(142)	(70)	(109)	(24)

The Company entered into a cross-currency swap to hedge cash flows under the CA\$ convertible debentures. In addition, the Company will occasionally enter into foreign exchange forward contracts to sell US dollars in exchange for Canadian dollars and Euros. These contracts would hedge a portion of ongoing foreign exchange risk on the Company's cash flows since much of its non-US dollar expenses are incurred in Canadian dollars and Euros. The Company may also enter into foreign exchange contracts to sell Euros for US dollars. As at December 31, 2017, the Company has no foreign exchange contracts outstanding.

(ii) Interest rate risk

Interest rate risk refers to the risk that future cash flows will fluctuate as a result of changes in market interest rates. The Company's policy is to limit its exposure to interest rate fluctuation by ensuring that a reasonable portion of its long-term debt and convertible debentures are at fixed rate. The Company is exposed to interest rate fluctuations on its revolving credit facility, which bears a floating interest rate. A 1% increase/decrease in interest rates would not have a significant impact on the Company's net earnings.

(iii) Other price risk

Other price risk is the risk that fair value or future cash flows will fluctuate because of changes in market prices, other than those arising from interest rate risk or currency risk.

Credit risk

Credit risk refers to the possibility that a customer or counterparty will fail to fulfill its obligations under a contract and, as a result, create a financial loss for the Company. The Company has a credit policy that defines standard credit practice. This policy dictates that all new customer accounts be reviewed prior to approval and establishes the maximum amount of credit exposure per customer. The creditworthiness and financial well-being of the customer are monitored on an ongoing basis.

The Company establishes an allowance for doubtful accounts as determined by management based on its assessment of recoverability; therefore, the carrying amount of accounts receivable generally represents the maximum credit exposure. As at December 31, 2017 and 2016, the Company has an allowance for doubtful accounts of \$126. The provision for doubtful accounts, if any, is included in selling, general and administrative expenses in the consolidated statement of earnings (loss), and is net of any recoveries that were provided for in prior periods.

Counterparties to financial instruments may expose the Company to credit losses in the event of non-performance. Counterparties for derivative and cash transactions are limited to high credit quality financial institutions, which are monitored on an ongoing basis. Counterparty credit assessments are based on the financial health of the institutions and their credit ratings from external agencies. As at December 31, 2017, no financial assets were past due except for trade receivables. The aging analysis of trade receivables is as follows:

	2017	2016
	\$	\$
Up to 3 months	3,123	3,414
More than 3 months	189	91
Total	3,312	3,505

The following table summarizes the changes in the allowance for doubtful accounts for trade receivables:

	2017	2016
	\$	\$
Beginning of year	126	488
Provision for impairment	50	73
Trade receivables written off during the year as uncollectible	(38)	-
Unused amounts reversed	(12)	(435)
End of year	126	126

Amounts charged to the allowance account are generally written off when there is no expectation of recovering additional cash.

Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they come due. The Company manages liquidity risk through the management of its capital structure. It also manages liquidity risk by continually monitoring actual and projected cash flows, taking into account the Company's sales and receipts and matching the maturity profile of financial assets and financial liabilities. The Board of Directors reviews and approves the Company's annual operating and capital budgets as well as any material transactions out of the ordinary course of business, including proposals on acquisitions and other major investments.

The following table reflects the contractual maturity of the Company's financial liabilities as at December 31, 2017:

	Carrying amount	1 year	2 year	3 year	2017 Total
	\$	\$	\$	\$	\$
Trade and accrued liabilities (Note 10)	57,043	57,043	-	-	57,043
Long-term debt	271	271	-	-	271
Convertible debentures	48,768	3,170	50,474	-	53,644
Total	106,082	60,484	50,474	-	110,958

25. Capital Management

The Company's objective when managing capital is to safeguard its ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Company may amend the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

The Company requires the approval of its lenders on some of the capital transactions such as the payment of dividends and capital expenditures over a certain level.

The Company monitors capital on the basis of the debt-to-equity ratio. This ratio is calculated as net debt divided by total equity. Net debt is calculated as total borrowings (comprising long-term debt, convertible debentures and cross-currency swap in the consolidated statement of financial position) less cash and cash equivalents. Total equity is the equity attributable to equity holders of 5N Plus Inc. in the consolidated statement of financial position.

Debt-to-equity ratios as at December 31, 2017 and 2016 are as follows:

	2017	2016
	\$	\$
Long-term debt including current portion	271	325
Convertible debentures	48,768	43,157
Cross-currency swap (Note 16)	(3,602)	(189)
Total debt	45,437	43,293
Less: Cash and cash equivalents	(34,024)	(24,301)
Net debt	11,413	18,992
Shareholders' equity	105,446	88,522
Debt-to-equity ratio	11%	21%

26. Expenses by Nature

Expenses by nature	2017	2016
	\$	\$
Wages and salaries	38,388	37,383
Share-based compensation expense (included in Corporate and unallocated) (Note 21)	4,470	2,246
Depreciation of property, plant and equipment and amortization of intangible assets (Notes 6 and 7)	8,226	10,739 ⁽¹⁾
Impairment of non-current assets	3,100 ⁽¹⁾	-
Amortization of other assets	221	1,277
Gain on disposal of property, plant and equipment	(1,887)	-
Research and development, net of tax credit	1,761	3,212
Litigation and restructuring costs	(2,953) ⁽²⁾	5,945 ⁽³⁾

(1) During the fourth quarter of 2017, the Company recorded an impairment charge on non-current assets of \$3,100 (\$1,116 for Production equipment, \$837 for Technology and \$1,147 for Development costs), included in Electronic materials segment, reflecting recent development to assumptions used in assessing the carrying value of specific product development assets. The change in assumptions is from an active decision to alter the market penetration strategy, other factors remaining constant. It is motivated by intentional delays in increasing production levels in order to prioritize products with higher premiums in niche applications, requiring longer market development cycle compared to other products. The discount rate of 17.5% was used to determine the recoverable amount of these non-current assets.

(2) Including an income resulting from an amendment to optimize commercial agreements mitigated by cost related to termination of a non-core activity.

- (3) On September 29, 2016, the Company announced its intention to consolidate the Company's operations at Wellingborough, U.K. with other sites within the Group, as well as consolidate the operations of DeForest-Wisconsin, U.S.A. and Fairfield-Connecticut, U.S.A. during the first half of 2017 into a newly updated and scaled facility, located in the state of Connecticut, more precisely in the City of Trumbull. Therefore, during the third quarter of 2016, the Company recorded a provision for restructuring costs in accordance with IAS 37 "Provision, contingent liabilities and contingent assets" for an amount of \$3,500 which consisted mainly of severances and other related costs to closures sites. As at December 31, 2016, an amount of \$155 was paid. During 2017, an additional amount of \$406 was recorded and as at December 31, 2017, the outstanding provision is of \$225. In addition, the Company recorded an accelerated depreciation of \$1,804 following the review of the economic life and carrying value of its property, plant and equipment of these sites.