

Nexa Resources S.A.

**Consolidated financial statements
at December 31, 2018 and
independent auditor's report**

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Audit report

To the Shareholders of
Nexa Resources S.A.

Report on the audit of the consolidated financial statements

Our opinion

In our opinion, the accompanying consolidated financial statements give a true and fair view of the consolidated financial position of Nexa Resources S.A. (the "Company") and its subsidiaries (the "Group") as at 31 December 2018, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs).

What we have audited

The Group's consolidated financial statements comprise:

- the consolidated balance sheet as at 31 December 2018;
- the consolidated income statement for the year then ended;
- the consolidated statement of comprehensive income for the year then ended;
- the consolidated statement of changes in shareholders' equity for the year then ended;
- the consolidated statement of cash flows for the year then ended; and
- the notes to the consolidated financial statements, which include a summary of significant accounting policies.

Basis for opinion

We conducted our audit in accordance with the Law of 23 July 2016 on the audit profession (Law of 23 July 2016) and with International Standards on Auditing (ISAs) as adopted for Luxembourg by the "Commission de Surveillance du Secteur Financier" (CSSF). Our responsibilities under the Law of 23 July 2016 and ISAs as adopted for Luxembourg by the CSSF are further described in the "Responsibilities of the "Réviseur d'entreprises agréé" for the audit of the consolidated financial statements" section of our report.

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

We are independent of the Group in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code) as adopted for Luxembourg by the CSSF together with the ethical requirements that are relevant to our audit of the consolidated financial statements. We have fulfilled our other ethical responsibilities under those ethical requirements.

Other information

The Board of Directors is responsible for the other information. The other information comprises the information stated in the consolidated management report but does not include the consolidated financial statements and our audit report thereon.



Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Board of Directors and those charged with governance for the consolidated financial statements

The Board of Directors is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRSs, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Responsibilities of the "Réviseur d'entreprises agréé" for the audit of the consolidated financial statements

The objectives of our audit are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an audit report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;



- obtain an understanding of internal control relevant to the audit 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 Group's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors;
- conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our audit report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our audit report. However, future events or conditions may cause the Group to cease to continue as a going concern;
- evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation;
- obtain sufficient appropriate audit evidence regarding the financial information of the entities and business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

Report on other legal and regulatory requirements

The consolidated management report is consistent with the consolidated financial statements and has been prepared in accordance with applicable legal requirements.

PricewaterhouseCoopers, Société coopérative
Represented by

A handwritten signature in black ink, appearing to read "P. Piérard", with a horizontal line underneath.

Philippe Piérard

Luxembourg, 21 March 2019

Nexa Resources S.A.

2018 Consolidated Management Report

THIS CONSOLIDATED MANAGEMENT REPORT SHOULD BE READ IN CONJUNCTION WITH THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS OF NEXA AND THE NOTES THERETO FOR THE YEAR ENDED DECEMBER 31, 2018.

About Nexa

Nexa's common shares have traded on the New York Stock Exchange ("NYSE") and the Toronto Stock Exchange ("TSX") under the ticker symbol "NEXA" since October 26, 2017. Nexa is a large-scale, low-cost integrated zinc producer with over 60 years of experience developing and operating mining and smelting assets in Latin America. The Company owns and operates five long-life underground polymetallic mines, of which three are located in Peru and two are located in Brazil. Nexa also operates three smelting assets, two in Brazil and one in Peru.

Highlights

Selected indicators:

Main KPIs	FY18	FY17	FY18 vs. FY17
Metal sales (kt) ⁽¹⁾	616.9	593.9	3.9%
Zn mining production (kt Zn)	372.8	375.4	(0.7%)
Zn Eq mining production (kt) ⁽²⁾	555.7	571.2	(2.7%)
Mining Cash Cost (US\$ / lb) ⁽³⁾	0.28	0.24	16.7%
Mining AISC (US\$ / lb) ⁽⁴⁾	0.50	0.40	25.6%
Smelting Cash Cost (US\$ / lb) ⁽³⁾	1.23	1.19	3.8%
Smelting AISC (US\$ / lb) ⁽⁴⁾	1.34	1.31	2.4%
Net Revenues (US\$ million)	2,491.2	2,449.5	1.7%
Adjusted EBITDA (US\$ million) ⁽⁵⁾	604.8	667.5	(9.4%)
Adj. EBITDA margin (%) ⁽⁵⁾	24.3%	27.3%	(297 bp)
Financial Results (US\$ million)	(202.7)	(130.2)	55.7%
Net income attributable to Nexa shareholders (US\$ million)	74.9	126.9	(41.0%)
Earnings per Share (US\$)	0.56	1.09	(48.4%)
Adj. EBITDA Mine (US\$ million) ⁽⁷⁾	430.4	521.5	(17.5%)
Adj. EBITDA Smelter (US\$ million) ⁽⁷⁾	174.8	152.7	14.4%
Capital Expenditures (US\$ million)	299.7	197.6	51.6%
Expansion (US\$ million)	90.5	48.8	85.4%
Non-Expansion (US\$ million)	209.2	148.8	40.6%
Gross Debt (US\$ million)	1,425	1,447	(1.5%)
Cash (US\$ million) ⁽⁸⁾	1,125	1,226	(8.2%)
Net Debt (US\$ million)	302.7	225.0	34.6%
Net Debt/LTM EBITDA (x)	0.50	0.34	47.1%

⁽¹⁾ Consolidated sales of metallic zinc and zinc oxide (in kt of product volume). Kt refers to one thousand metric tons.

⁽²⁾ Consolidated mining production in kt of zinc equivalent calculated by converting copper, lead, silver and gold contents to a zinc equivalent grade at 2018 average benchmark prices. The prices used for this conversion are: Zinc: US\$2,922/t (US\$1.33/lb); Copper: US\$6,523/t (US\$2.96/lb); Lead: US\$2,242/t (US\$1.02/lb); Silver: US\$16/oz; Gold: US\$1,268/oz.

⁽³⁾ Zinc cash cost net of by-products credits, in dollar per pound of zinc sold.

⁽⁴⁾ Zinc all-in sustaining cost net of by-products credits, in dollar per pound of zinc sold. We updated our AISC calculations in order to include not only sustaining capital expenditures ("CAPEX") but also health, safety and environment, tailing dams and other non-expansion related CAPEX. For AISC reconciliation, please see pages 56-59.

⁽⁵⁾ Refer to "Use of Non-IFRS Financial Measures" for further information.⁽⁷⁾ The sum of segment adj. EBITDA does not equal consolidated adj. EBITDA due to adjustments before consolidation, please refer to the 2018 Financial Statements note 1.

⁽⁸⁾ Cash, cash equivalents and financial investments.

Financial Performance:

- **Revenues of US\$2,491 million in 2018** were 1.7% higher than in 2017 due to slightly higher metal prices combined with higher metal sales.
- **Adjusted EBITDA was US\$605 million in 2018**, a decrease of 9.4% compared to 2017, as a result of higher costs and lower by-product credits mainly driven by lower LME.
- **Adjusted EBITDA margin was 24.3% in 2018** compared to 27.3% in the previous year.
- **Net Debt/Adj. EBITDA of 0.50x** as of December 31, 2018.
- **Strong capital structure, with average maturity of the US\$1,429 million debt¹ of 6.1 years** at an average cost of 4.8% as of December 31, 2018, with only 18% of the total debt maturing by 2022.
- **Cash position of US\$1,125 million** as of December 31, 2018 (cash and cash equivalents plus financial investments).
- **CAPEX reached US\$300 million in 2018**. CAPEX was US\$40 million above our 2018 guidance of US\$260 million, as we expedited some investments at the end of the year (~US\$8 million related to Magistral and ~US\$7 million related to Vazante), we also recorded a US\$14 million of operating expenses related to the Atacocha and El Porvenir integration which were reclassified as CAPEX and also incurred higher sustaining CAPEX in Cerro Lindo due to mine development initiatives.
- **Net income** attributable to Nexa's shareholders amounted to US\$75 million in 2018, compared to US\$127 million in 2017 primarily negatively impacted by foreign exchange.

Mining Performance:

- **Production by metal** in 2018 was within the annual guidance range for all metals and we surpassed the top of the range of our guidance for gold by 16%, which we had recently revised upward. 2018 production totaled 373kt of zinc, 39kt of copper, 52kt of lead, 7,992koz of silver and 29koz of gold compared to 375kt of zinc, 44kt of copper, 53kt of lead, 7,946koz of silver and 33 koz of gold in 2017.
- Zinc equivalent metal production totaled 556kt in 2018, down 3% compared to 571kt in the same period of the previous year mainly driven by the lower copper production as a result of lower grades.
- As discussed in previous quarters, as part of a program to accelerate mine development at Cerro Lindo which started in 1H18, we developed new stopes which allowed us to accelerate production in 4Q18. During 4Q18, our zinc equivalent production stabilized at a higher level at 150kt, up 11% and 10% from 135kt in 2Q18 and 137kt in 3Q18, respectively. During the month of December, Cerro Lindo's processing plant reached record high feeding volumes, resulting in the highest zinc, lead, and gold production levels for the year.
- **Mine production composition (per mine) on a zinc equivalent basis:** In 4Q18, the Peruvian Cerro Lindo mine accounted for 45.6% of total production, followed by the Vazante, El Porvenir, Atacocha and Morro Agudo mines, which accounted for 24.4%, 15.3%, 7.7% and 7.0%, respectively. Continuous zinc equivalent volume improvements in Morro Agudo, El Porvenir, and

¹ Principal only. Our total debt refers to short and long-term loans and financing. Refer to note 15 of the Consolidated Financial Statements for the total of "Loans and Financing".

Vazante (up 80%, 4%, and 3%, respectively) partially offset the decrease of 13% in Cerro Lindo production and 3% in Atacocha production, explained in detail in each asset section in this report.

Smelting Performance:

- We also met our **metallic zinc sales** guidance for 2018. Metallic zinc sales including zinc oxide reached 617kt in 2018, 4% higher than 2017 sales of 594kt, mainly driven by higher sales volume at our Cajamarquilla and Três Marias smelters which increased 6% and 3%, respectively. Sales of metallic zinc in 4Q18 were 158kt, 2% higher than in 4Q17.

Projects and Operations Developments:

- **Cerro Lindo, Peru:**
 - o As of the end of 2018, 6km have been drilled in 12 diamond drill holes in the Orcocobre region, north of the Topara River and 2km from Cerro Lindo. So far, we have intercepted hydrothermal alteration and marginal mineralization both characteristic of a VMS system (same mineralization style as Cerro Lindo mine). We intend to drill an additional 20km of diamond drilling during 2019.
 - o Mine development initiatives increased from ~2,400 meters per month at the beginning 2018 to ~3,200 meters per month in the last two quarters, a 33% increase, which enabled us to increase production in 4Q18. In 2019, we expect to maintain mine development initiatives of ~3,000 meters per month until 3Q19.
 - o During 3Q18 local agencies granted the construction license for the new waste deposit and construction progress reached 59% during 4Q18.
 - o The contractor selection process was also concluded for the replacement of the seawater pipeline for the desalination plant. All the acquired pipeline material has been received. We estimate the new pipeline to start operating in 2Q19.
- **Vazante, Brazil:**
 - o The detailed engineering for the dry stacking disposal was concluded and the long lead items (thickener and filter) have been delivered at site. The construction has reached 85% physical progress primarily due to the effective performance by the civil and electromechanical assembly contractor in earthworks, civil works and steel structure erection. Project start-up is planned for 2Q19.
- **Cajamarquilla, Peru:**
 - o The Jarosite conversion process in Cajamarquilla has progressed 47% with the conclusion of detailed engineering, contract award for the key procurement and the conclusion of the electromechanical contractor selection. We expect this conversion to improve recovery rates from 94% to approximately 97%.
- **Aripuanã, Brazil (greenfield)**
 - o On October 19, 2018, Nexa's Board of Directors approved the construction of the Aripuanã project after the conclusion of the feasibility study and detailed analysis by the Company's management. On December 20, 2018, we were granted the Installation License ("LI") from

the Environmental Authority of the State of Mato Grosso (SEMA/MT). We have finalized the key procurement process to initiate construction.

- The Company filed a Technical Report (dated October 15, 2018) summarizing the results of the feasibility study, including **first-time public disclosure of mineral reserves** estimate. The average zinc equivalent production of the Aripuanã project is estimated at 120 thousand tonnes per year for 13 years, considering only the proven and probable mineral reserves estimated at 26.2 million tonnes in accordance with CIM (2014) Definition Standards as incorporated in National Instrument 43-101 – Standards for Disclosure for Minerals Projects (“NI 43-101”).
- We have entered an EPCM contract with SNC Lavalin.
- Detailed engineering is under development by SNC Lavalin in accordance with the plan.
- We have concluded the procurement process for long lead time items like:
 - 34.5kV (provisional) and 69kv (definitive) transmission lines;
 - Flotation cells/columns;
 - Thickeners;
 - Press filters;
 - Comminution package, including crushers, SAG/Ball/vertical mills.
- The procurement process for the civil and electromechanical contractor has been concluded and the contract has been awarded.
- Early works on construction started at the mine, mainly with the box cut for ramp tunnel development. These declines will enable Nexa to advance its exploration activities and also the operational mine development. Additionally, some temporary facilities have been constructed to coordinate the early works at site.
- The Aripuanã project is expected to be operational by early 2021, with total CAPEX estimated at approximately US\$392 million (for 100% of Aripuanã²) and we plan on spending 35% of this total capex (~US\$140 million) during 2019.
- The Company entered derivative contracts to mitigate its exposure to foreign currency risk associated with changes in the Brazilian real exchange rate for the majority of the estimated Brazilian real share of the CAPEX of the project.

Corporate Highlights

- **Dividends:** On February 15, 2019, the Board of Directors approved, subject to ratification by the Company’s shareholders at the upcoming annual shareholders’ meeting in accordance to Luxembourg laws, a cash dividend of US\$0.525494 per common share, or approximately US\$70 million, considering 133,208,125 shares outstanding as of December 31, 2018, to shareholders of the Company of record at the close of business on March 14, 2019. The cash dividend is expected to be paid on March 28, 2019.
- **Share repurchase program:** During 2018, we repurchased 112,388 common shares, at an average price of US\$12.00 per share, for an aggregate purchase price of US\$1.352 million. The

² Nexa owns 70% of the project through its subsidiaries.

common shares repurchased in 2018 represent 0.24% of the free float of common shares outstanding before the launch of the program. This program was approved by the Board of Directors on September 20, 2018, under which the Company, directly or indirectly through its subsidiaries may repurchase, from time to time, up to US\$30 million of its outstanding common shares over the 12-month period beginning on November 6, 2018 and ending on November 6, 2019. Under the share buyback program, the Company may repurchase shares for cash in accordance with all applicable securities laws and regulations and within the limits of the authorization approved at the Company's general shareholders' meeting held on September 13, 2018 (up to 6.5 million shares). The share buyback program is being executed on the New York Stock Exchange through an authorized broker. The repurchased shares will not be cancelled but held in treasury at this time.

- **CFO Transition:** The Company announced on January 29, 2019, that its Board of Directors has approved the appointment of Rodrigo Menck to succeed Mario Bertoncini as Nexa's Senior Vice-President of Finance and CFO starting March 1st, 2019. Mr. Bertoncini is leaving the Company to assume a new leadership role at CESP - Companhia Energética de São Paulo, a publicly traded Brazilian power generation company whose major shareholder is a joint venture between Votorantim Energia and the Canada Pension Plan Investment Board (CPP-IB). Mr. Bertoncini has served as Senior Vice President of Finance and CFO since 2014.

Mr. Menck holds a degree in Business Administration and an MBA from the University of São Paulo, Brazil. An executive with more than 20 years of experience in treasury, structured finance and capital markets, Mr. Menck worked for more than ten years in banks such as BankBoston, Itau, WestLB, Citi and BNP Paribas, before joining Braskem both as Structured Finance Manager and Finance & Shared Services Director. He joined Nexa in 2016 as Head of Treasury & Investor Relations, where he led teams fundraising in capital markets and carried out other responsibilities as well as being directly involved in the Company's initial public offering. His previous position at Nexa was Head of M&A.

Consolidated Financial Results

US\$ million	FY18	FY17	FY18 vs. FY17
Net Revenues	2,491.2	2,449.5	1.7%
Cost of sales	(1,888.9)	(1,752.8)	7.8%
Raw materials and consumables used	(1,125.9)	(1,118.2)	0.7%
Employee benefit expenses	(159.3)	(187.7)	(15.1%)
Depreciation, amortization and depletion	(262.9)	(265.8)	(1.1%)
Services, miscellaneous	(216.7)	(112.4)	92.8%
Other expenses	(124.1)	(68.8)	80.5%
SG&A	(159.6)	(154.5)	3.3%
Selling ⁽¹⁾	(19.0)	(17.6)	7.9%
General & Admin	(140.6)	(136.9)	2.7%
Mineral exploration and project development	(126.3)	(92.7)	36.2%
Other Operating Results	18.2	(47.9)	N/A
Environmental and asset retirement obligations	12.1	0.4	2,689.4%
Judicial provision	(3.7)	0.3	N/A
Mining Obligations	(12.6)	(11.5)	9.9%
Loss on sale of property, plant & equipment and intangibles assets	(9.9)	(0.7)	1,324.2%
Corporate projects	(13.4)	(12.9)	3.9%
Net operating hedge loss	17.5	(18.8)	N/A
Gain on sale of investments	0.3	4.6	(92.4%)
PIS and Cofins tax credits	37.6	0.0	N/A
Others	(9.7)	(9.2)	5.2%
Net Financial Result	(202.7)	(130.2)	55.7%
Financial income	67.5	29.9	126.0%
Financial expenses	(121.7)	(106.2)	14.6%
Foreign exchange gains (loss), net	(148.5)	(53.9)	175.6%
Depreciation, amortization and depletion	267.2	270.5	(1.2%)
Adjusted EBITDA	604.8	667.5	(9.4%)
Adj. EBITDA Margin	24.3%	27.3%	(297 bp)
Income Tax	(40.9)	(106.2)	(61.5%)
Net Income	91.0	165.3	(45.0%)
Attributable to Nexa shareholders	74.9	126.9	(41.0%)
Attributable to non-controlling interests	16.1	38.4	(58.0%)
Avg # of shares (in '000)	133,314	116,527	14.4%
EPS attributable to Nexa shareholders (in US\$)	0.56	1.09	(48.4%)

Note: Information regarding each of the last eight quarters is available in the appendix. A reconciliation of adjusted EBITDA is available at the end of this section.

⁽¹⁾ Freight costs were reclassified from selling expenses to cost of sales in 1Q18 and previous quarters due to the initial adoption of IFRS 15 in 2018.

Net Revenues totaled US\$2,491 million in full year 2018, up 1.7% compared to US\$2,449 million while the average LME zinc price was slightly higher, up 0.9% when comparing FY18 and FY17, copper and lead LME prices were 5.8% higher and 3.2% lower, respectively.

Cost of sales for the full year 2018 was 7.8% higher than 2017, US\$1,889 million and US\$1,753 million, respectively, mainly reflecting higher costs related to improvements on safety standards and higher cost of concentrate purchased by our smelters in 1H18.

SG&A expenses totaled US\$160 million in the twelve months period, up 3.3% compared to US\$154 million recorded in the FY17.

Other operating results is mainly explained by a tax credit of US\$34 million recognized in 4Q18 based on a final decision by the Regional Federal Court (TRF) in October 2018 that granted Nexa Recursos Minerais S.A. the right to recover federal tax credits amounting to US\$60 million, being US\$34 million the principal amount and recognized at "Other operating expenses, net" and US\$26 million corresponding to interest and recognized as "Financial income".

Mineral exploration and project development totaled US\$126 million, 36.2% higher than 2017, reflecting the continuous efforts to expand our growth opportunities and in line with our plan to expand resources and reserves.

Net financial results accounted to a loss of US\$203 million, also driven by non-cash foreign exchange losses and compared to a loss of US\$130 million in 2017.

Foreign exchange losses, net are mainly related to certain US dollar denominated intercompany debt of Nexa Recursos Minerais S.A. ("Nexa Brazil") with NEXA Resources (Luxembourg).

Income tax for full year 2018 totaled US\$41 million compared to US\$106 million in 2017 as a result of lower earnings before tax in 2018. Also, the effective tax rate decreased from 39% in 2017 to 31% in 2018 due to tax losses of US\$47 million incurred in Nexa Brasil and US\$6 million in Nexa Cajamarquilla during 2018.

Net income attributable to Nexa's shareholders amounted to US\$75 million, compared to US\$127 million in 2017. Such difference is primarily due to the negative impact of foreign exchange in 2018. For the full year 2018 and 2017, EPS was US\$0.56 per share and US\$1.09 per share, respectively.

Adjusted EBITDA³ totaled US\$605 million, down 9.4% compared to US\$668 million in 2017.

The following table presents a reconciliation of adjusted EBITDA to net income.

US\$ million	FY18	FY17
Adjusted EBITDA	604.8	667.5
Gain (loss) on sales of investments	(0.3)	(4.6)
Impairment (Reversal)	3.4	0.0
EBITDA	601.7	672.0
Results of investees	0.0	(0.1)
Deprec. and amort.	(267.2)	(270.5)
Net financial results	(202.7)	(130.2)
Taxes on income	(40.9)	(106.2)
Net Income	91.0	165.2

³ Non-IFRS financial measure. See "Use of Non-IFRS Financial Measures" section for further information.

Research and development activities

Nexa is engaged in research and development activities, focused on both the mining and smelting business segments. In mining, mineral exploration activity is focused on the replenishment of resources and reserves of current operations, with the aim of extending the lives of mines.

Mining exploration activities are speculative in nature, involve uncertainties and risks, and may be unsuccessful. These activities are performed in order to demonstrate the dimensions, position, mineral characteristics, mineral reserves and potential values of mineral deposits. Therefore, once mineralization is discovered, it may take a number of years from the initial phases of drilling before production is possible, during which time the economic feasibility of the project may change adversely. Substantial expenditure is required to establish proven and probable mineral reserves through drilling, to determine the best processes to extract the metals and, if required, to construct mining and processing facilities and obtain the rights to the land and resources required to develop the mining activities.

In smelting, most of the research and development activities are related to commercial efforts to develop potential new uses for zinc.

Financial Instruments and Derivatives

We hold several financial instruments and derivatives that are recognized and measured at fair value with gains and losses in each period included in the statement of income or in the statement of comprehensive income as appropriate. The most significant of these instruments are marketable securities, metal-related derivative contracts and factoring transactions, among others. All of these are subject to varying rates of taxation depending on their nature and jurisdiction.

Risk Management

Risk management is considered one of the key points in our business strategy and contributes to value creation and increasing the level of confidence in the Company by its main stakeholders, including shareholders, employees, customers, suppliers and the local communities.

This topic resulted in the implementation of the Enterprise Risk Management (ERM) Policy, that describes Nexa's Risk Management Model, and its activities are an integral part of the processes in our operational units, corporate departments and projects, and provides support for decision-making by our Executive Officers and Board of Directors.

The risk assessment cycle is performed annually focusing on our strategy, operational aspects and key projects. All material risks identified are assessed with consideration of the potential health, safety, environmental, social, reputational, legal and financial impacts. By embedding risk management into our work processes and critical business systems, we ensure we make decisions based on relevant inputs and valid data. All material risks identified during the risk management process are monitored and reported to the Executive Team, Audit Committee and Board of Directors.

Below there is a list of certain risk factors related to our business and industry, which form part of the risks and uncertainties Nexa may face. This is not an exhaustive list of risks and uncertainties that may impair our business operations.

- International market prices of the metals produced by Nexa, which are both cyclical and volatile
- Changes in the demand for the metals produced by Nexa
- Disruption in zinc concentrate supply
- Currency exchange rate fluctuations
- Interest rate fluctuations
- Changes in estimates of mineral reserves and resources
- Failure of tailings dams
- Natural disasters, such as floods, mudslides and earthquakes
- Relations and agreements with local communities related to our plants and projects
- Challenges relating to slope and stability of underground openings
- Increase of projects costs or delays that prevent their successful implementation

For a broader discussion of risks please refer to our annual report on form 20-F filed with the SEC (www.sec.gov), on SEDAR (www.sedar.com) and available on the Company's website (www.nexaresources.com).

Market Risk

The purpose of the market risk management process is to protect the Company's cash flow against adverse events, such as fluctuations in exchange rates, commodity prices and interest rates.

Foreign exchange risk is managed using the Company's Financial Risk Management Policy, which states that the objectives of derivative transactions are to reduce cash flow volatility, hedge against foreign exchange exposure and minimize currency mismatches. The Company monitors its foreign exchange exposure on a monthly basis.

Additionally, the policy establishes guidelines to mitigate the risk of fluctuations in commodity prices that could affect the cash flow of the Company's operating subsidiaries. The exposure to the price of each commodity considers the monthly projections of production, purchases of inputs and the maturity flows of hedges associated with them.

Hedge transactions are classified into the following categories:

(i.1) Hedges for "operating margin" (Strategic Hedge) - derivatives contracted to reduce the volatility of the cash flow from its zinc, copper and silver operations with a view to ensuring a stable operating margin for a portion of the production of metals. As of December 31, 2018 there were no Strategic Hedge open positions.

(i.2) Hedges for mismatches of "quotation periods" (Book Hedge) - hedges that set prices for the different "quotation periods" between the purchases of certain inputs (metal concentrate) and the sale of products arising from the processing of these inputs, or different "quotation periods" between the purchase and the sale of the same product. These operations usually relate to purchases and sales of zinc and silver for future settlement, and are contracted on the over-the-counter market.

(i.3) Fixed price commercial transactions (Customer Hedge) - hedging transaction that converts sales at fixed prices to floating prices in commercial transactions with customers interested in

purchasing products at fixed prices. The purpose of this strategy is to maintain the revenue flow of the business unit with prices linked to the LME prices. These operations usually relate to sales of zinc for future settlement and are contracted on the over-the-counter market.

Nexa may also enter into derivative transactions to hedge different market risks, such as interest rates and currency exchange rates whenever adequate and upon approval of the Board of Directors.

Critical Accounting Policies and Estimates

In preparing consolidated financial statements, management makes estimates that affect the reported amounts of assets, liabilities, revenue and expenses across all reportable segments.

Management makes estimates that are believed to be reasonable under the circumstances. Management estimates are based on historical experience and other factors we consider to be reasonable, including expectations of future events. Critical accounting estimates are those that could affect the consolidated interim financial statements materially, are highly uncertain and where changes are reasonably likely to occur from period to period. For more details on the basis of preparation and presentation of the consolidated financial statements please refer to notes 2 of the consolidated financial statements at and for the twelve-month periods ended December 31, 2018 and note 2 of the consolidated financial statements at December 31, 2017.

Changes in accounting policies and disclosures resulting from the adoption of new accounting standards, amendments to IFRS standards and interpretations issued by the International Accounting Standards Board that are effective for an annual period beginning on or after January 1, 2018 are:

- Adoption of IFRS 9 - "Financial instruments: Recognition and measurement"; and
- Adoption of IFRS 15 - "Revenue from contracts with customers".

For more details on the main aspects introduced by the standards and impacts of adoption please refer to note 3 of the financial statements.

Use of Non-IFRS Financial Measures

Nexa's management uses non-IFRS measures such as adjusted EBITDA, cash cost net of by-products, all-in sustaining cost, among other measures, for internal planning and performance measurement purposes. We believe these measures provide useful information about the financial performance of our operations that facilitates period-to-period comparisons on a consistent basis. Management uses adjusted EBITDA internally to evaluate our underlying operating performance for the reporting periods presented and to assist with the planning and forecasting of future operating results. Management believes that adjusted EBITDA is a useful measure of our performance because it reflects our cash generation potential from our operational activities excluding exceptional items of the period. These measures should not be considered in isolation or as a substitute for profit (loss) or operating profit, as indicators of operating performance, or as alternatives to cash flow as measures of liquidity. Additionally, our calculation of adjusted EBITDA may be different from the calculation used by other companies, including our competitors in the mining industry, so our measures may not be comparable to those of other companies.

Segment performance is measured based on adjusted EBITDA, since financial results and income taxes are managed within the corporate level and are not allocated to operating segments. In this Earnings Release, we present adjusted EBITDA, which we define as (i) net income (loss) for the period, plus (ii)

share in the results of associates, plus (iii) depreciation and amortization, plus/less (iv) net financial results, plus/less (v) income tax, less (vi) gain on sale of investment (loss), plus; (vii) impairment of other assets, plus/less (viii) (reversion) impairment of property, plant, equipment. In addition, management may exclude non-cash items considered exceptional from the measurement of adjusted EBITDA.

We also present herein our net debt, which we define as (i) loans and financing (the most comparable IFRS measure), less (ii) cash and cash equivalents, less (iii) financial investments, plus or less (iv) the fair value of derivative financial instruments. Our management believes that net debt is an important figure because it indicates our ability to repay outstanding debts that become due simultaneously using available cash and highly liquid assets.

Internal Control Over Financial Reporting

Nexa's management is responsible for establishing and maintaining adequate internal control over financial reporting. Any system of internal control over financial reporting, no matter how well designed, has inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

Nexa Resources S.A.

2018 Consolidated Financial Statements

Nexa Resources S.A.

Consolidated balance sheet

As at December 31

All amounts in thousands of US dollars

Consolidated balance sheet

Assets	Note	2018	2017	Liabilities and shareholders' equity	Note	2018	2017
Current assets				Current liabilities			
Cash and cash equivalents	8	1,032,938	1,019,037	Loans and financing	15	32,513	40,841
Financial investments	9	91,878	206,155	Derivative financial instruments	6	8,662	12,588
Derivative financial instruments	6	7,385	7,483	Trade payables		387,225	329,814
Trade accounts receivable	10	173,204	182,713	Confirming payable	16	70,411	111,024
Inventory	11	269,705	324,878	Salaries and payroll charges	17	58,166	79,798
Other assets		122,857	98,641	Dividends payable		663	4,138
		1,697,967	1,838,907	Related parties	12	63	87,686
				Provisions	19	20,357	14,641
				Contractual liabilities	20	31,992	31,296
				Other liabilities		41,798	56,389
						651,850	768,215
Non-current assets				Non-current liabilities			
Financial investments	9	355	392	Loans and financing	15	1,392,354	1,406,458
Derivative financial instruments	6	3,820	4,294	Derivative financial instruments	6	5,560	2,449
Related parties	12	740	738	Related parties	12	1,517	2,238
Deferred taxes	18	201,154	224,513	Provisions	19	280,566	326,520
Other assets		120,175	73,138	Deferred taxes	18	298,598	324,931
Investments in associates		283	309	Contractual liabilities	20	167,645	190,589
Property, plant and equipment	13	1,968,451	1,996,514	Other liabilities		35,515	31,221
Intangible assets	14	1,742,461	1,822,719			2,181,755	2,284,406
		4,037,439	4,122,617				
				Total liabilities		2,833,605	3,052,621
				Shareholders' equity			
				Capital	21 (a)	133,320	133,320
				Treasury shares	21 (b)	(1,352)	-
				Share premium	21 (c)	1,043,755	1,123,755
				Additional paid in capital	21 (d)	1,318,728	1,318,728
				Retained earnings (cumulative deficit)		61,430	(11,612)
				Accumulated other comprehensive loss	21 (e)	(79,288)	(77,356)
				Total equity attributable to Nexa's shareholders		2,476,593	2,486,835
				Non-controlling interests	21 (g)	425,208	422,068
						2,901,801	2,908,903
Total assets		5,735,406	5,961,524	Total liabilities and shareholders' equity		5,735,406	5,961,524

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

Consolidated income statement**Years ended December 31****All amounts in thousands of US dollars, unless otherwise stated****Consolidated income statement**

	Note	2018	(Revised) 2017	(Revised) 2016
Net revenues	22	2,491,202	2,449,484	1,964,841
Cost of sales	23	(1,888,944)	(1,752,825)	(1,504,229)
Gross profit		602,258	696,659	460,612
Operating expenses				
Selling	23	(18,743)	(17,616)	(25,519)
General and administrative	23	(140,860)	(136,878)	(118,694)
Mineral exploration and project development	24	(126,278)	(92,698)	(46,711)
Other income and expenses, net	25	18,176	(47,887)	(139,719)
		(267,705)	(295,079)	(330,643)
Operating income		334,553	401,580	129,969
Net financial results	26			
Financial income		67,509	29,868	24,955
Financial expenses		(121,662)	(106,169)	(70,374)
Foreign exchange (loss) gain, net		(148,501)	(53,880)	124,500
		(202,654)	(130,181)	79,081
Results of investees				
Share in the results of associates		-	60	(158)
Income before income tax		131,899	271,459	208,892
Income tax	18 (a)			
Current		(71,787)	(125,691)	(75,282)
Deferred		30,864	19,497	(23,101)
Net income for the year		90,976	165,265	110,509
Attributable to NEXA's shareholders		74,860	126,885	93,167
Attributable to non-controlling interests		16,116	38,380	17,342
Net income for the year		90,976	165,265	110,509
Average number of outstanding shares - thousands		133,313	116,527	80,699
Basic and diluted earnings per share - US\$	21 (f)	0.56	1.09	1.15

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

Consolidated statement of comprehensive income
Years ended December 31
All amounts in thousands of US dollars

Consolidated statement of comprehensive income

	Note	2018	2017	2016
Net income for the year		90,976	165,265	110,509
Other comprehensive income (loss) net of taxes, all of which can be reclassified to the income statement				
Cash flow hedge accounting	21 (e)	(2,192)	12,556	(16,256)
Translation adjustment of foreign subsidiaries	21 (e)	(9,959)	(10,742)	30,373
		(12,151)	1,814	14,117
Total comprehensive income for the year		78,825	167,079	124,626
Comprehensive income attributable to NEXA's shareholders		72,928	125,941	101,199
Comprehensive income attributable to non-controlling interests		5,897	41,138	23,427
		78,825	167,079	124,626

Nexa Resources S.A.

Consolidated statement of changes in shareholders' equity Years ended December 31 All amounts in thousands of US dollars

Consolidated statement of changes in shareholder's equity

	Capital	Treasury shares	Share premium	Additional paid in capital	Retained earnings (cumulative deficit)	Accumulated other comprehensive income (loss)	Total	Non-controlling interests	Total shareholders equity
At January 1, 2016	1,280,505	-	-	1,616,158	(230,167)	(81,117)	2,585,379	943,096	3,528,475
Total comprehensive income for the year	-	-	-	-	93,167	-	93,167	17,342	110,509
Net income for the year	-	-	-	-	-	8,032	8,032	6,085	14,117
Other comprehensive income for the year	-	-	-	-	93,167	-	93,167	23,427	124,626
Total comprehensive income for the year	-	-	-	-	93,167	-	93,167	23,427	124,626
Total contributions by and distributions to shareholders	-	-	-	-	(959)	-	(959)	(9,396)	(10,355)
Dividends distribution	-	-	-	-	-	-	-	(9,396)	(9,454)
Disbursements from equity transactions with non-controlling shareholders	-	-	-	(6,819)	-	-	(6,819)	(2,635)	170,070
Issuance of new shares	110,911	-	59,159	-	-	-	170,070	-	-
Constitution of share premium	(350,000)	-	350,000	-	-	-	-	-	-
Reimbursement of share premium	-	-	(69,931)	-	-	-	(69,931)	-	(69,931)
Put option of shares	-	-	-	(170,070)	-	-	(170,070)	-	(170,070)
Energy Assets compensation	-	-	-	(52,847)	-	-	(52,847)	-	(52,847)
Cancellation of the loan due by NEXA BR to USA	-	-	-	15,717	-	-	15,717	-	15,717
Acquisition of shares from non-controlling shareholders	-	-	-	276,317	(84)	-	276,233	(478,148)	(201,915)
Total contributions by and distributions to shareholders	(239,089)	-	339,728	62,288	(1,043)	-	161,394	(490,179)	(328,785)
At December 31, 2016	1,041,416	-	339,728	1,678,456	(138,043)	(73,085)	2,847,972	476,344	3,324,316
Total comprehensive income for the year	-	-	-	-	126,885	-	126,885	38,380	165,265
Net income for the year	-	-	-	-	3,327	(4,271)	(944)	2,758	1,814
Other comprehensive income (loss) for the year	-	-	-	-	130,212	(4,271)	125,941	41,138	167,079
Total comprehensive income (loss) for the year	-	-	-	-	130,212	(4,271)	125,941	41,138	167,079
Total contributions by and distributions to shareholders	-	-	-	173,734	-	-	173,734	-	173,734
Reversion of Put Option	-	-	-	(87,711)	-	-	(87,711)	-	(87,711)
Capital reduction related to Polianx aquisition	-	-	-	(81,615)	-	-	(81,615)	-	(81,615)
Purchase of Polianx	(928,596)	-	928,596	-	-	-	-	-	-
Constitution of share premium	-	-	(430,000)	-	-	-	(430,000)	-	(430,000)
Reimbursement of share premium	-	-	-	(366,197)	-	-	(366,197)	(38,280)	(404,477)
Increase (decrease) in non-controlling interests, net	-	-	-	2,061	-	-	2,061	(2,061)	-
Increase in participation in associates	-	-	-	-	(3,781)	-	(3,781)	(55,073)	(58,854)
Dividends distribution	-	-	-	-	-	-	-	-	-
Proceed from initial public offering, net of underwriter expenses	20,500	-	285,931	-	-	-	306,431	-	306,431
Total contributions by and distributions to shareholders	(908,096)	-	784,527	(359,728)	(3,781)	-	(487,078)	(95,414)	(582,492)
At December 31, 2017	133,320	-	1,123,755	1,318,728	(11,612)	(77,356)	2,486,835	422,068	2,908,903
Impact of the adoption of IFRS 9	-	-	-	-	(1,818)	-	(1,818)	-	(1,818)
At January 1, 2018 after impacts of IFRS 9 adoption	133,320	-	1,123,755	1,318,728	(13,430)	(77,356)	2,485,017	422,068	2,907,885
Total comprehensive income for the year	-	-	-	-	74,860	-	74,860	16,116	90,976
Net income for the year	-	-	-	-	-	(1,932)	(1,932)	(10,219)	(12,151)
Other comprehensive loss for the year	-	-	-	-	74,860	(1,932)	72,928	5,897	78,825
Total comprehensive income (loss) for the year	-	-	-	-	74,860	(1,932)	72,928	5,897	78,825
Total contributions by and distributions to shareholders	-	-	-	-	-	-	-	(2,757)	(2,757)
Disbursements from equity transactions with non-controlling shareholders	-	-	-	-	-	-	-	(80,000)	(80,000)
Reimbursement of share premium	-	(1,352)	-	(80,000)	-	-	(81,352)	-	(81,352)
Repurchase of the Company's own shares	-	(1,352)	(80,000)	-	-	-	(81,352)	(2,757)	(84,109)
Total contributions by and distributions to shareholders	-	(1,352)	(80,000)	-	-	-	(81,352)	(2,757)	(84,109)
At December 31, 2018	133,320	(1,352)	1,043,755	1,318,728	61,430	(79,288)	2,476,593	425,208	2,901,801

The accompanying notes are an integral part of these consolidated financial statements.
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Consolidated statement of cash flows
Years ended December 31
All amounts in thousands of US dollars

Consolidated statement of cash flows

	Note	2018	2017	2016
Cash flow from operating activities				
Income before income tax		131,899	271,459	208,892
Depreciation and amortization	13 and 14	267,189	270,454	275,034
Interest and foreign exchange (gain) or loss		143,199	52,287	(96,766)
Loss on sale of property, plant and equipment and intangible assets	25	8,616	694	552
Impairment (reversal) of property, plant and equipment	25	3,283	-	(979)
Changes in provisions		29,777	32,798	93,701
Tax credits	25 and 26	(63,615)	(53)	-
Gain on sale of investment	25	(348)	(4,588)	(408)
Share in the results of associates		-	(60)	158
Changes in operating assets and liabilities	8 (b)	10,575	(85,152)	181,067
Interest paid		(74,592)	(58,635)	(37,321)
Income taxes paid		(108,385)	(100,265)	(38,869)
Net cash provided by operating activities		347,598	378,939	585,061
Cash flow from investing activities				
Acquisitions of property, plant and equipment and intangible assets	13 and 14	(299,773)	(197,638)	(182,989)
Changes in financial investments		140,402	(65,661)	(47,749)
Loan received from related parties		-	-	10,284
Advance paid for Pollarix acquisition		-	(81,615)	-
Proceed from capital reduction of investees		-	-	6,248
Proceeds from the sale of non-current assets		1,268	16,542	12,787
Net cash used in investing activities		(158,103)	(328,372)	(201,419)
Cash flow from financing activities				
Proceeds from new loans and financing	15	292,901	830,598	550,966
Payments of loans and financing	15	(295,104)	(537,254)	(483,100)
Capital reduction related to Pollarix acquisition	12 (i)	(87,623)	(55,380)	-
Dividends distribution		(3,475)	(61,549)	(59,660)
Reimbursement of share premium		(80,000)	(430,000)	(69,931)
Proceeds from initial public offering, net of underwriter expenses		-	306,431	-
Issuance of new shares		-	-	170,070
Proceeds from transactions with related parties		-	-	3,967
Acquisition of shares from non-controlling shareholders		-	-	(201,915)
Repurchase of the Company's own shares	21 (b)	(1,352)	-	-
Disbursement from equity transactions with non-controlling shareholders		(2,757)	-	(2,635)
Net cash provided by (used in) financing activities		(177,410)	52,846	(92,238)
Effects of foreign exchange rates on cash and cash equivalents		1,816	48	2,757
Increase in cash and cash equivalents		13,901	103,461	294,161
Cash and cash equivalents at the beginning of the year		1,019,037	915,576	621,415
Cash and cash equivalents at the end of the year		1,032,938	1,019,037	915,576

Notes to consolidated financial statements

1. General information

Nexa Resources S.A. ("NEXA") was incorporated on February 26, 2014 under the laws of Luxembourg as a public limited liability company (société anonyme). Its shares are publicly traded on the New York Stock Exchange ("NYSE") and the Toronto Stock Exchange ("TSX"). The Company's registered office is located at 37A, Avenue J. F. Kennedy in the city of Luxembourg in the Grand Duchy of Luxembourg.

NEXA and its subsidiaries (the "Company") own and operate three polymetallic mines in Peru and two polymetallic mines in Brazil. Its operations are large-scale, mechanized underground and open pit mines. The Company also owns a zinc smelter in Peru and two zinc smelters in Brazil.

The Company's majority shareholder is Votorantim S.A. ("VSA"), which holds 64.25% of its equity. VSA is a Brazilian privately-owned industrial conglomerate that holds ownership interests in metal, steel, cement and energy companies, among others.

Information by business segment and geographic area

Business segment definition

The Company's CEO has been identified as the chief operating decision maker ("CODM"), since he has the final authority over resource allocation decisions and performance assessment. The CEO analyzes performance from a product perspective and the Company has identified two reportable segments:

- Mining: consists of five long-life polymetallic mines, three located in the Central Andes of Peru and two located in the state of Minas Gerais in Brazil. In addition to zinc, the Company produces substantial amounts of copper, lead, silver and gold as by-products, which reduce the overall cost to produce mined zinc.
- Smelting: consists of three operating units, one located in Cajamarquilla in Peru and two located in the state of Minas Gerais in Brazil. The facilities recover and produce metallic zinc (SHG zinc and zinc alloys), zinc oxide and by-products, such as sulfuric acid.

Accounting policy

Segment performance is measured based on Adjusted EBITDA, since financial results and income taxes are managed within the corporate level and are not allocated to operating segments. Adjusted EBITDA is defined as net income (loss) for the year, adjusted by (i) share in the results of associates, (ii) depreciation and amortization, (iii) net financial results, (iv) income tax, (v) gain (loss) on sale of investment, (vi) impairment and impairment reversal. In addition, management may exclude non-cash and non-recurring items considered exceptional from the measurement of Adjusted EBITDA.

The internal information used for making decisions is prepared applying accounting measurement basis with managerial reclassifications between income statements lines, which are reconciled to the consolidated financial statements in the column "Adjustments".



Nexa Resources S.A.
Notes to the consolidated financial statements
at December 31, 2018
All amounts in thousands of US dollars

When applicable, the Company uses arm's length commercial terms for intersegment sales. The Company's corporate headquarters expenses are allocated to the reportable segments to the extent they are allocated in the measures of performance used by the CODM.

Segment results

The presentation of segment results and reconciliation to income before income tax in the consolidated income statement is as follows:

	2018				
	Mining	Smelting	Intersegments sales	Adjustments	Consolidated
Net revenues	1,163,741	2,030,568	(704,031)	924	2,491,202
Cost of sales	(694,024)	(1,876,034)	704,031	(22,917)	(1,888,944)
Gross Profit	469,716	154,534	-	(21,993)	602,257
Selling, general and administrative	(44,940)	(79,969)	-	(34,693)	(159,603)
Mineral explorations and project development	(112,713)	(11,067)	-	(2,498)	(126,278)
Other income and expenses, net	(54,042)	16,450	-	55,768	18,176
Operating income	258,021	79,948	-	(3,416)	334,553
Depreciation and amortization	172,357	94,832	-	-	267,189
Exceptional items (i)	-	-	-	3,050	3,050
Adjusted EBITDA	430,378	174,781	-	(366)	604,792
Exceptional items (i)				(3,050)	(3,050)
Depreciation and amortization					(267,189)
Net financial results					(202,654)
Income before income tax					131,899

	2017				
	Mining	Smelting	Intersegments sales	Adjustments	Consolidated
Net revenues	1,213,221	1,952,006	(721,463)	5,719	2,449,483
Cost of sales	(680,811)	(1,746,771)	721,463	(46,706)	(1,752,825)
Gross Profit	532,410	205,235	-	(40,987)	696,658
Selling, general and administrative	(41,054)	(89,128)	-	(24,312)	(154,494)
Mineral explorations and project development	(86,119)	(3,989)	-	(2,590)	(92,698)
Other income and expenses, net	(54,777)	(58,749)	-	65,640	(47,886)
Operating income	350,460	53,369	-	(2,249)	401,580
Depreciation and amortization	171,085	99,370	-	-	270,454
Exceptional items (i)	-	-	-	(4,515)	(4,515)
Adjusted EBITDA	521,545	152,739	-	(6,764)	667,519
Exceptional items (i)				4,515	4,515
Share in the results of associates					60
Depreciation and amortization					(270,454)
Net financial results					(130,181)
Income before income tax					271,459

	2016				
	Mining	Smelting	Intersegments sales	Adjustments	Consolidated
Net revenues	907,425	1,491,988	(438,238)	3,666	1,964,841
Cost of sales	(608,825)	(1,307,436)	438,238	(26,206)	(1,504,229)
Gross Profit	298,600	184,552	-	(22,540)	460,612
Selling, general and administrative	(46,829)	(69,950)	-	(27,436)	(144,214)
Mineral explorations and project development	(41,759)	(2,925)	-	(2,026)	(46,710)
Other income and expenses, net	(49,478)	(139,922)	-	49,681	(139,719)
Operating income	160,534	(28,245)	-	(2,321)	129,969
Depreciation and amortization	176,261	98,772	-	-	275,034
Exceptional items (i)	-	-	-	(1,079)	(1,079)
Adjusted EBITDA	336,796	70,528	-	(3,400)	403,924
Exceptional items (i)				1,079	1,079
Share in the results of associates					(158)
Depreciation and amortization					(275,034)
Net financial results					79,081
Income before income tax					208,892

Nexa Resources S.A.
Notes to the consolidated financial statements
at December 31, 2018
All amounts in thousands of US dollars

(i) Exceptional items are composed of impairment of property, plant and equipment in the amount of USD 3,283 in 2018 and miscellaneous adjustments to reconcile the segments' Adjusted EBITDA to the consolidated Adjusted EBITDA.

2. Basis of preparation of the consolidated financial statements

The consolidated financial statements of the Company have been prepared in accordance with International Financial Reporting Standards ("IFRS") and interpretations issued by the IFRS Interpretations Committee applicable to companies reporting under IFRS. The consolidated financial statements comply with IFRS as issued by the International Accounting Standards Board ("IASB").

As at December 31, 2018 the IFRS adopted by the European Union are similar to those published by the IASB, except for IFRS 14 – "Regulatory Deferral Accounts" and for new standards and interpretations not yet adopted but effective in future periods. Since the provisions not adopted by the European Union are not applicable to the Group, the consolidated financial statements comply with IFRS both as issued by the IASB and as adopted by the European Union.

The consolidated financial statements have been prepared under the historical cost convention, except for some financial assets and financial liabilities (including derivative financial instruments) measured at fair value at the end of each reporting period.

The consolidated financial statements of the Company for the year ended December 31, 2018 were approved to be issued in accordance with a resolution of the Board of Directors on March 21, 2019.

2.1 - Principles of consolidation

(a) Subsidiaries

Subsidiaries include all entities over which the Company has control. The Company controls an entity when it (i) has the power over the entity; (ii) is exposed, or has the right, to variable returns from its involvement with the entity; and (iii) has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Company, except when the predecessor basis of accounting is applied. Subsidiaries are deconsolidated from the date on which that control ceases.

When the Company has less than a majority of the voting rights of an investee, it considers that it has power over the investee when the voting rights are sufficient to give it the practical ability to direct the relevant activities of the investee unilaterally.

Non-controlling interests in the equity and results of subsidiaries are shown separately in the consolidated balance sheet, income statement, statement of comprehensive income and statement of changes in shareholders' equity.

Transactions, balances and unrealized gains and losses between consolidated entities are eliminated.

(b) Joint operations



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The Company recognizes its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held assets or incurred liabilities and revenues and expenses.

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

Transactions, balances and unrealized gains and losses between consolidated entities are eliminated.

Main companies included in the consolidated financial statements:

	Percentage of capital		Headquarters	Activities
	2018	2017		
Subsidiaries				
Cia. Magistral S.A.C	100.00	100.00	Peru	Mining projects
Nexa Resources Atacocha S.A.A. - "NEXA ATACOCHA"	66.62	66.62	Peru	Mining
Nexa Resources Perú S.A.A. - "NEXA PERU"	80.23	80.23	Peru	Mining
Inversiones Garza Azul S.A.C	99.75	100.00	Peru	Holding and others
Votorantim GmbH	100.00	100.00	Austria	Holding and others
Pollarix S.A. - "Pollarix" (I)	33.33	33.33	Brazil	Holding and others
L.D.O.S.P.E. Geração de Energia e Participações Ltda. - "L.D.O.S.P.E."	100.00	100.00	Brazil	Energy
L.D.Q.S.P.E. Geração de Energia e Participações Ltda. - "L.D.Q.S.P.E."	100.00	100.00	Brazil	Energy
L.D.R.S.P.E. Geração de Energia e Participações Ltda. - "L.D.R.S.P.E."	100.00	100.00	Brazil	Energy
Nexa Resources El Porvenir S.A.C.	99.99	99.99	Peru	Mining
Nexa Resources UK Ltd. - "NEXA UK"	100.00	100.00	United Kingdom	Mining
Minera Bongará S.A.	61.00	61.00	Peru	Mining projects
Minera Pampa de Cobre S.A.C	99.99	99.99	Peru	Mining
Mineração Dardanelos Ltda.	70.00	70.00	Brazil	Mining projects
Mineração Santa Maria Ltda.	99.99	99.99	Brazil	Mining projects
Rayrock Antofagasta S.A.C	99.99	99.99	Chile	Holding and others
Nexa Resources Cajamarquilla S.A. - "NEXA CJM"	99.99	99.99	Peru	Smelting
Nexa Recursos Minerais S.A. - "NEXA BR"	100.00	100.00	Brazil	Mining / Smelting
Votorantim US, Inc.	100.00	100.00	United States	Holding and others
Joint-operation				
Campos Novos Energia S.A. - "Enercan"	20.98	20.98	Brazil	Energy
Cia. Minera Shalipayco S.A.C	75.00	75.00	Peru	Mining projects

(i) Pollarix is the energy holding company and sells energy to the Company's Brazilian operating subsidiaries at market prices. NEXA BR owns all the common shares of Pollarix, which represents 33.33% of its total share capital. The remaining shares are preferred shares with limited voting rights, which are owned by NEXA's controlling shareholder, VSA.

(c) Foreign currency translation

(i) Functional and presentation currency

Items included in the financial statements of each of the Company's entities are measured using the currency of the primary economic environment in which the entity operates ("the functional currency"). The Company's consolidated financial statements are presented in US Dollars ("USD"), which is NEXA's functional and reporting currency.

(ii) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at the end of each reporting period are recognized in the income statement.

Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss.

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(iii) Consolidated entities

The results of operations and financial position of consolidated entities that have a functional currency different from the reporting currency are translated into the reporting currency as follows:

- Assets and liabilities for each balance sheet presented are translated at the closing rate at the end of the reporting period;
- Income and expenses for each income statement are translated at average exchange rates which is a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates; and
- All resulting exchange differences are recognized in other comprehensive income and accumulated in a separate component of shareholders' equity.

(d) Transactions with non-controlling interests

Transactions with non-controlling interests that do not result in a loss of control are accounted within the shareholders' equity. A change in ownership interest results in an adjustment between the carrying amounts of the controlling and non-controlling interests to reflect their relative interests in the subsidiary. Any difference between the amount of the adjustment to non-controlling interests and any consideration paid or received is recognized in a separate reserve within shareholders' equity.

2.2 Reclassification of income statement

(a) Reclassification of mineral exploration and project development expenses and impact of adoption of IFRS 15

The Company changed the presentation of mineral exploration and project development expenses that were previously presented as "General and administrative expense" and "Other income and expenses, net" in the income statement to a new line item labeled "Mineral exploration and project development". Refer to Note 24 for details of mineral exploration and project development expenses.

The reclassification has no impact on the Company's financial position, net income for the year or cash flows.

Refer to Note 3(a) for details about the impact of the adoption of IFRS 15.

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(b) Reconciliation of reclassified comparative figures and effects of adoption of IFRS 15

(i) Income statement

	(Original) 2017	First adoption of IFRS 15	Reclassification of mineral exploration and project development	(Revised) 2017
Net revenues	2,449,484	-	-	2,449,484
Cost of sales	(1,681,202)	(71,623)	-	(1,752,825)
Gross profit	768,282	(71,623)	-	696,659
Operating expenses				
Selling	(89,239)	71,623	-	(17,616)
General and administrative	(148,242)	-	11,364	(136,878)
Mineral exploration and project development	-	-	(92,698)	(92,698)
Other income and expenses, net	(129,221)	-	81,334	(47,887)
	(366,702)	71,623	-	(295,079)
Operating income	401,580	-	-	401,580

	(Original) 2016	First adoption of IFRS 15	Reclassification of mineral exploration and project development	(Revised) 2016
Net revenues	1,964,841	-	-	1,964,841
Cost of sales	(1,439,101)	(65,128)	-	(1,504,229)
Gross profit	525,740	(65,128)	-	460,612
Operating expenses				
Selling	(90,647)	65,128	-	(25,519)
General and administrative	(127,305)	-	8,611	(118,694)
Mineral exploration and project development	-	-	(46,712)	(46,712)
Other income and expenses, net	(177,819)	-	38,101	(139,718)
	(395,771)	65,128	-	(330,643)
Operating income	129,969	-	-	129,969

(ii) Expenses by nature

	(Original) 2017	Adoption of IFRS 15	Reclassification of mineral exploration and project development	(Revised) 2017
Raw materials and consumables used	1,120,540	-	-	1,120,540
Employee benefit expenses	278,285	-	1,086	279,371
Depreciation and amortization	270,454	-	2	270,456
Services, miscellaneous	232,165	(71,623)	59,993	220,535
Other Expenses	17,239	71,623	20,253	109,115
	1,918,683	-	81,334	2,000,017
Reconciliation				
Cost of sales	1,681,202	71,623	-	1,752,825
Selling, general and administrative expenses	237,481	(71,623)	(11,364)	154,494
Mineral exploration and project development	-	-	92,698	92,698
	1,918,683	-	81,334	2,000,017

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	(Original) 2016	First adoption of IFRS 15	Reclassification of mineral exploration and project development	(Revised) 2016
Raw materials and consumables used	956,909	-	-	956,909
Employee benefit expenses	233,755	-	450	234,205
Depreciation and amortization	275,034	-	2	275,036
Services, miscellaneous	158,388	(65,128)	29,297	122,557
Other Expenses	32,967	65,128	8,351	106,446
	1,657,053	-	38,100	1,695,153
Reconciliation				
Cost of sales	1,439,101	65,128	-	1,504,229
Selling, general and administrative expenses	217,952	(65,128)	(8,612)	144,212
Mineral exploration and project development	-	-	46,712	46,712
	1,657,053	-	38,100	1,695,153

3 Changes in accounting policies and disclosures

(a) New and amended IFRS standards that are effective beginning on January 1, 2018

IFRS 9 - "Financial instruments: Recognition and measurement"

Main impacts introduced by the standard

IFRS 9 – “Financial Instruments” replaces IAS 39 and all previous versions of IFRS 9. IFRS 9 brings together all three aspects of the accounting for financial instruments project, which are classification and measurements, impairment, and hedge accounting.

IFRS 9 became effective on January 1, 2018 and the Company has applied it accordingly.

Impacts of adoption

Classification and measurement

The Company adopted retrospective transition method as mentioned by IFRS 9, however no adjustments to the accounting balances were deemed necessary.

IFRS 9 has changed the categories for classification of financial assets, eliminating the categories held-to-maturity, loans and receivables and available for sale. The Company’s financial assets have been classified in one of the following categories: measured at amortized cost, measured at fair value through other comprehensive income or, measured at fair value through profit or loss. The classification of financial assets under IFRS 9 is generally based on the business model in which a financial asset is managed and its contractual cash flow characteristics.

The following table summarizes the differences in classification and measurements categories under IAS 39 and the new measurement categories under IFRS 9 for each class of the Company’s financial assets. There were no changes in classification and measurement of the Company’s financial liabilities.

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			January 1, 2018	
			Original carrying amount under IAS 39	New carrying amount under IFRS 9
Financial assets	Classification under IAS 39	New classification under IFRS 9		
Cash and cash equivalents	Loans and receivable	Fair value through profit or loss	1,019,037	1,019,037
Financial investments	Assets held for trading	Fair value through profit or loss	206,547	206,547
Derivative financial instruments	Assets held for trading/Used for hedging	Fair value through profit or loss / Fair value through other comprehensive income	11,777	11,777
Trade accounts receivable	Loans and receivable	Fair value through profit or loss / Amortized cost	182,713	182,469
Related parties	Loans and receivable	Fair value through profit or loss / Amortized cost	738	738

The most significant changes are related to the classification and measurement of trade account receivables where the Company has concluded that it operates using different business models, being (i) held to collect and sell and (ii) held to collect. See Note 10 for details of the Company's business model for trade account receivables.

At January 1, 2018, the fair value adjustment of trade accounts receivable that are held to collect and sell recognized in "Cumulative deficit" was USD 244, net of taxes.

Impairment

The Company adopted the retrospective transition method as mentioned by IFRS 9. However, the Company did not restate years prior to January 1, 2018, because it would not be possible without the use of hindsight.

IFRS 9 replaced the incurred loss model in IAS 39 and requires impairment of financial assets to be determined using an expected credit loss model. The new impairment model applies to financial assets that are subsequently measured at amortized cost or fair value through other comprehensive income, including trade accounts receivable.

The most significant impact for the Company is related to impairment of trade accounts receivable, which is measured at amortized cost. The Company elected to apply the simplified approach set forth in IFRS 9 and recognized impairment losses for trade accounts receivable based on lifetime expected losses and using a loss provision matrix.

At January 1, 2018, incremental impairment losses under IFRS 9 recognized in "Cumulative deficit" was USD 1,574, net of taxes.

Hedge accounting

New hedge accounting requirements impacted the Company's hedge documentation, without having impacted the Company's financial position or results of its operations.

IFRS 15 – "Revenue from contracts with customers"

Main impacts introduced by the standard

IFRS 15 – "Revenue from Contracts" with customers establishes a comprehensive framework for determining the amount and timing when revenue is recognized. It replaced the guidance contained in IAS 18 – "Revenue" which the Company followed until December 31, 2017.

IFRS 15 became effective on January 1, 2018 and the Company has applied it accordingly.

The Company elected to adopt IFRS 15 using the full retrospective method. Comparative financial information has been restated.

Adoption of IFRS 15 by the Company has not resulted in any material changes in timing or amount of revenue recognition under IFRS 15 model as compared to revenue that would be reported under

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IAS 18 - "Revenue". Therefore, there were no impacts of the adoption of IFRS 15 on the Company's balance sheet and statement of cash flows. However, the Company identified distinct performance obligations that affected the presentation of the income statement as discussed below.

Impacts of adoption

Identification of performance obligations and timing of satisfaction of performance obligations

As a result of the distinct performance obligations identified, part of the Company's revenues is presented as revenues from services. Cost related to revenues from services is presented as "Cost of sales". Revenues from services was USD 70,896 for the year ended December 31, 2018 (2017 – USD 71,623; 2016 – USD 65,128).

Determining the transaction price and the amounts allocated to performance obligations

The Company has considered the terms of the contracts and its customary business practices to determine the transaction price. The transaction price is the amount of consideration to which the Company expects to be entitled in exchange for transferring promised goods or services to its customers. Transaction price is allocated to each performance obligation on a relative standalone selling price basis.

For the purpose of determining the transaction price, the Company's contracts have mainly fixed prices. However, the Company's silver streaming arrangement have variable consideration related to Cerro Lindo's silver production. The impact on recognition of revenues related to these sales was not material.

Contractual liabilities

The advance payment received in connection with the Company's silver streaming agreement has been accounted for as contractual liability, with amounts recognized as revenue as the silver is delivered to the customer. The impact on recognition of revenue related to these sales was not material.

(b) New standards and interpretations not yet adopted

IFRS 16 - "Leases"

Main aspects introduced by the standard

IFRS 16 was issued in January 2016. It will result in almost all leases being recognized on the balance sheet by lessees, as the distinction between operating and finance leases is removed. Under the new standard, an asset (the right to use the leased item) and a financial liability to pay rentals are recognized. The only exceptions are short-term and low-value leases.

Transition method

The Company will apply IFRS 16 from its mandatory adoption date of January 1, 2019, using the simplified transition approach and will not restate comparative periods for the years prior to the adoption. Right-of-use assets will be measured on transition at the amount of the lease liability, adjusted by any prepaid or accrued lease expense.

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Impacts of adoption

IFRS 16 will affect primarily the accounting for the Company's operating leases, except for short-term and low value leases, since the Company will adopt the practical expedients permitted by IFRS 16 and will recognize both as an expense in the income statement.

The Company expects to recognize lease liabilities and right-of-use assets in the amount of approximately USD 46,618. Net current assets will be USD 18,379 lower due to the presentation of a portion of the liability as a current liability. The Company expects that income before income tax will decrease by approximately USD 1,413 for 2019 as a result of adopting the new rules. Adjusted EBITDA used to measure segment results is expected to increase by approximately USD 17,654, as the operating lease payments were included in EBITDA, but the amortization of the right-of-use assets and interest on the lease liability are excluded from this measure.

IFRIC 23 - Uncertainty over income tax treatments

Nature of change

The interpretation explains how to recognize and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment. Specifically, it discusses:

- how to determine the appropriate unit of account, and that each uncertain tax treatment should be considered separately or together as a group, depending on which approach better predicts the resolution of the uncertainty;
- that the entity should assume a tax authority will examine the uncertain tax treatments and have full knowledge of all related information;
- that the entity should reflect the effect of the uncertainty in its income tax accounting when it is not probable that the tax authorities will accept the treatment;
- that the impact of the uncertainty should be measured using either the most likely amount or the expected value method, depending on which method better predicts the resolution of the uncertainty; and
- that the judgements and estimates made must be reassessed whenever circumstances have changed or there is new information that affects the judgements.

Transaction

The Company will apply the standard from its mandatory adoption date of January 1, 2019.

Impacts of adoption

The Company expects that the impact of the adoption will not be material.

4 Changes in accounting estimates - Rights to use natural resources

In accordance with its accounting policy, the Company reviews the estimated useful lives and the pattern of consumption of the future economic benefits of its intangible assets on an ongoing basis. This review indicated a change in future pattern of consumption over its "Rights to use natural

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resources”, which is substantially related to an increase in extraction experience of the Company’s mines, updates in the extraction period and expected changes in extraction volume at the end of the mining life.

As a result, effective April 1, 2018, the Company changed the amortization of “Rights to use natural resources” from the straight-line method to the units of production method, in accordance with Note 14. This change has been accounted for prospectively as a change in accounting estimate in accordance with IAS 8 – “Accounting policies, Changes in Accounting Estimates and Errors”.

The effect of this change in estimate was not material for the fiscal year ended December 31, 2018.

5 Financial risk management

5.1 Financial risk factors

The Company’s activities expose it to a variety of financial risks: a) market risk (including currency risk, interest rate risk and commodities risk); b) credit risk; and c) liquidity risk.

A significant portion of the products sold by the Company are commodities, with prices pegged to international indices and denominated in US Dollars. Part of the costs of production, however, is denominated in Brazilian Reais and Peruvian Soles, and therefore, there is a mismatch of currencies between revenues and costs. Additionally, the Company has debts linked to different indices and currencies, which may impact its cash flows.

In order to mitigate the potential adverse effects of each financial risk factor, the Company follows a Financial Risk Management Policy that establishes governance and guidelines for the financial risk management process, as well as metrics for measurement and monitoring. This policy establishes guidelines and rules for: (i) Commodities Exposure Management, (ii) Foreign Exchange Exposure Management, (iii) Interest Rate Exposure Management, (iv) Issuers and Counterparties Risk Management, and (v) Liquidity and Financial Indebtedness Management. All strategies and proposals must comply with the Financial Risk Management Policy guidelines and rules, be presented to and discussed with the Finance Committee of the board of directors, and, when applicable, submitted for the approval of the Board of Directors, under the governance structure described in the Financial Risk Management Policy.

(a) Market risk

The purpose of the market risk management process is to protect the Company's cash flow against adverse events, such as changes in foreign exchange rates, commodity prices and interest rates.

(i) Foreign exchange risk

Foreign exchange risk is managed through the Company’s Financial Risk Management Policy, which states that the objectives of derivative transactions are to reduce cash flow volatility, hedge against foreign exchange exposure and minimize currency mismatches.

The US Dollar is NEXA’s functional currency, and all actions related to the market risk management process are intended to protect cash flows in this currency, maintain the ability to pay financial obligations, and comply with liquidity and indebtedness levels defined by management.

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Presented below are the financial assets and liabilities in foreign currencies at December 31, 2018 – these mainly result from the foreign operations of NEXA BR for which the functional currency is the Brazilian Real.

USD amounts of foreign currency transactions	2018	2017
Assets		
Cash, cash equivalents and financial investments	140,860	229,877
Derivative financial instruments	11,205	4,280
Trade accounts receivable	39,000	66,834
	191,065	300,991
Liabilities		
Loans and financing	123,471	161,706
Derivative financial instruments	14,222	3,634
Trade payables	4,689	78,286
	142,382	243,626
Net exposure	48,683	57,365

(ii) Interest rate risk

The Company's interest rate risk arises mainly from long-term loans. Loans at variable rates expose the Company to cash flow interest rate risk. Loans at fixed rates expose the Company to fair value risk associated with interest rates. For further information related to interest rates, refer to Note 15.

The Company's Financial Risk Management Policy establishes guidelines and rules to hedge against changes in interest rates that impact the cash flows of the Company. Exposure to each interest rate is projected until the maturity of the assets and liabilities exposed to this index.

Occasionally the Company enters into floating to fixed interest rate swaps to manage its cash flow interest rate risk.

(iii) Commodity price risk

This risk is related to the volatility in the prices of the Company's commodities. Prices fluctuate depending on demand, production capacity, producers' inventory levels, the commercial strategies adopted by large producers, and the availability of substitutes for these products in the global market.

The Company's Financial Risk Management Policy establishes guidelines to mitigate the risk of fluctuations in commodity prices that could impact the cash flows of the Company. The exposure to the price of each commodity considers the monthly projections of production, purchases of inputs and the maturity flows of hedges associated with them.

Commodity prices hedge transactions are classified into the following hedging strategies:

Hedges for sales of zinc at a fixed price (Customer Hedge)

The objective is to convert fixed prices sales to floating London Metal Exchange (LME) prices. The purpose of the strategy is to maintain the revenues of a business unit linked to the LME prices. These transactions usually relate to purchases of zinc for future settlement on the over-the-counter market.

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Hedges for mismatches of quotational periods (Book Hedges)

The objective is to hedge quotational periods mismatches arising between the purchases of metal concentrate or processed metal and the sale of the processed metal. These transactions usually relate to purchases and sales of zinc and silver for future trading on the over-the-counter market.

Hedges for the operating margin of metals (Strategic Hedges)

The objective is to reduce the volatility of the cash flow from LME prices for zinc, copper and silver and ensure a more predictable operating margin. This strategy is carried out through the sale of zinc forward contracts. For NEXA BR, the transaction also involves the sale of US dollars forward contracts in order to hedge the operating margin in Brazilian reais.

(b) Credit risk

Trade receivables, derivative financial instruments, term deposits, bank deposit certificates ("CDBs") and repurchase transactions backed by debentures and government securities create exposure to credit risk with respect to the counterparties and issuers. The Company has a policy of making deposits in financial institutions that have, at least, a rating from two of the following international rating agencies: Fitch, Moody's or Standard & Poor's. The minimum rating required for counterparties is A+/A1 (local rating scale) or BBB-/Baa3 (global rating scale). In the specific case of financial institutions in Peru where only global rating assessments are available, it will be eligible provided it has a rating of "BBB-" at least by one rating agency.

The pre-settlement risk methodology is used to assess counterparty risks in derivative transactions. This methodology consists of determining the risk associated with the likelihood (via Monte Carlo simulations) of a counterparty defaulting on the financial commitments defined by contract.

The global ratings were obtained from the rating agencies Standard & Poor's, Moody's and Fitch ratings and are related to commitments in foreign or local currency and, in both cases, they assess the capacity to honor these commitments, using a scale applicable on a global basis. Therefore, both ratings in foreign currency and in local currency are internationally comparable ratings.

The ratings used by the Company are always the most conservative ratings of the referred agencies.

In the case of credit risk arising from customer credit exposure, the Company assesses the credit quality of the customer, considering mainly the history of the relationship and financial indicators defining individual credit limits, which are continuously monitored.

The Company performs initial analyses of customer credit and, when deemed necessary, guarantees or letters of credit are obtained to mitigate the credit risk. Additionally, most sales to the United States of America, Europe and Asia are collateralized by letters of credit and credit insurance.

The following table reflects the credit quality of issuers and counterparties for transactions involving cash and cash equivalents, financial investments and derivative financial instruments:

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	2018			2017		
	Local rating	Global rating	Total	Local rating	Global rating	Total
Cash and cash equivalents						
AAA	1,484	-	1,484	-	-	-
AA+	861	-	861	1,089	-	1,089
AA	24	78,245	78,269	-	-	-
AA-	-	20,179	20,179	-	115,269	115,269
A+	-	178,730	178,730	-	172,052	172,052
A	-	361,484	361,484	-	235,445	235,445
A-	-	29,162	29,162	3	86,189	86,192
BBB+	-	181,411	181,411	-	96,436	96,436
BBB	-	20,245	20,245	-	110,733	110,733
BBB-	-	83,919	83,919	-	-	-
No rating	3	77,191	77,194	-	201,821	201,821
	<u>2,372</u>	<u>1,030,566</u>	<u>1,032,938</u>	<u>1,092</u>	<u>1,017,945</u>	<u>1,019,037</u>
Financial investments						
AAA	51,913	-	51,913	-	-	-
AA+	10,840	-	10,840	17,111	-	17,111
AA	24,965	-	24,965	-	-	-
AA-	-	-	-	180,127	4,238	184,365
A-	-	-	-	5,053	-	5,053
No rating	<u>4,515</u>	<u>-</u>	<u>4,515</u>	<u>-</u>	<u>18</u>	<u>18</u>
	<u>92,233</u>	<u>-</u>	<u>92,233</u>	<u>202,291</u>	<u>4,256</u>	<u>206,547</u>
Derivative financial instruments						
AAA	3,749	-	3,749	-	-	-
AA	-	2,164	2,164	-	-	-
AA-	-	-	-	4,769	3,634	8,403
A+	-	5,275	5,275	-	3,141	3,141
A	-	17	17	-	233	233
	<u>3,749</u>	<u>7,456</u>	<u>11,205</u>	<u>4,769</u>	<u>7,008</u>	<u>11,777</u>
	<u>98,354</u>	<u>1,038,022</u>	<u>1,136,376</u>	<u>208,152</u>	<u>1,029,209</u>	<u>1,237,361</u>

(c) Liquidity risk

This risk is managed through the Company's Financial Risk Management Policy, which aims to ensure the availability of sufficient net funds to meet the Company's financial commitments. The main liquidity measurement and monitoring instrument is the cash flow projection, using a minimum projection period of 12 months from the benchmark date.

The table below analyzes the Company's financial liabilities to be settled by the Company based on their maturity (the remaining period from the balance sheet up to the contractual maturity date).

The amounts below represent the estimated undiscounted future cash flow, which include interest to be incurred and, accordingly, do not reconcile directly with the amounts presented in the consolidated balance sheet.

	Less than 1 year	Between 1 and 3 years	Between 3 and 5 years	Over 5 years	Total
At December 31, 2018					
Loans and financing	91,890	261,186	619,958	897,701	1,870,735
Derivative financial instruments	8,663	4,954	605.00	-	14,222
Trade payables	387,225	-	-	-	387,225
Confirming payable	70,411	-	-	-	70,411
Salaries and payroll charges	58,166	-	-	-	58,166
Related parties	63	1,517	-	-	1,580
Provisions - Asset Retirement Obligation	12,283	40,171	36,561	198,061	287,075
Use of public assets	1,411	3,092	3,485	33,658	41,646
	<u>630,775</u>	<u>310,920</u>	<u>660,609</u>	<u>1,129,420</u>	<u>2,731,723</u>
At December 31, 2017					
Loans and financing	102,294	373,324	236,927	1,228,474	1,941,018
Derivative financial instruments	12,588	2,449	-	-	15,037
Trade payables	329,814	-	-	-	329,814
Confirming payable	111,024	-	-	-	111,024
Salaries and payroll charges	79,798	-	-	-	79,798
Dividends payable	4,138	-	-	-	4,138
Related parties	87,686	2,238	-	-	89,924
Provisions - Asset Retirement Obligation	7,526	53,429	33,186	237,788	331,929
Use of public assets	1,740	3,755	4,233	45,309	55,037
	<u>736,607</u>	<u>435,195</u>	<u>274,346</u>	<u>1,511,571</u>	<u>2,957,719</u>

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5.2 Capital management

The Company is subject to financial covenants on its loans and financing. The compliance with the financial covenants is verified by using the gearing ratio, calculated as net debt divided by Adjusted EBITDA.

Net debt is defined as (i) loans and financing, less (ii) cash and cash equivalents, less (iii) financial investments, plus or minus (iv) the fair value of derivative financial liabilities or assets, respectively. Adjusted EBITDA for capital management calculation uses the same assumptions described in Note 1 for Adjusted EBITDA by segment.

Net debt and Adjusted EBITDA measures should not be considered in isolation or as a substitute for net income or operating income, as indicators of operating performance, or as alternatives to cash flow as measures of liquidity. Additionally, management's calculation of Adjusted EBITDA may be different from the calculation used by other companies, including competitors in the mining and smelting industry, so these measures may not be comparable to those of other companies.

The gearing ratio is as follows:

	Note	2018	2017	2016
Loans and financing	15	1,424,867	1,447,299	1,144,385
Cash and cash equivalents	8	(1,032,938)	(1,019,037)	(915,576)
Derivative financial instruments	6	3,017	3,260	16,718
Financial investments	9	(92,233)	(206,547)	(119,498)
Net debt		302,713	224,975	126,029
Net income for the year		90,976	165,265	110,509
Plus (less):				
Share in the results of associates		-	(60)	158
Depreciation and amortization	13 and 14	267,189	270,454	275,034
Net financial results	26	202,654	130,181	(79,081)
Income tax	18	40,923	106,194	98,383
EBITDA		601,742	672,034	405,003
Exceptional items	1 (i)	3,050	(4,515)	(1,079)
Adjusted EBITDA		604,792	667,519	403,924
Gearing ratio (Net Debt/Adjusted EBITDA)		0.50	0.34	0.31

5.3 Fair value estimates

Critical accounting estimates and judgments

The fair value of financial instruments that are not traded in an active market is determined using valuation techniques. The Company uses judgment to select among a variety of methods and makes assumptions that are mainly based on market conditions existing at the end of each reporting period.

(a) Analysis

The carrying amounts of trade accounts receivable, less impairment losses, confirming payables and advances from customers approximate their fair values. The fair value of loans and financing for disclosure purposes are estimated by discounting the future contractual cash flow at the current market interest rate and adjusted for the Company's credit risk.

The main financial instruments and the assumptions made by the Company for their valuation are described below:

- Cash and cash equivalents, financial investments, trade accounts receivable and other current assets - considering their nature, terms and maturity, the carrying amounts approximate their fair value.

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- Financial liabilities - these instruments are subject to the usual market interest rates. The fair value was based on the present value of expected future cash disbursement, at interest rates currently available for debt with similar maturities and terms and adjusted for the Company's credit risk.
- Derivative financial instruments - the fair value of the derivative financial instruments is determined by calculating their present value through yield curves at the closing dates. The curves and prices used in the calculation for each group of instruments are developed based on data from Brazilian Securities, Commodities and Futures Exchange - B3, Central Bank of Brazil, LME and Bloomberg, interpolated between the available maturities.
 - Swap contracts - the present value of both the assets and liabilities are calculated through the discount of forecasted cash flow by the interest rate of the currency in which the swap is denominated. The difference between the present value of the assets and the liabilities generates its fair value.
 - Forward contracts - the present value is estimated by discounting the notional amount multiplied by the difference between the future price at the reference date and the contracted price. The future price is calculated using the convenience yield of the underlying asset. It is common to use Asian non-deliverable forwards for hedging non-ferrous metals positions. Asian contracts are derivatives in which the underlying is the average price of certain asset over a range of days.
 - Option contracts - the present value is estimated based on Black model, with assumptions that include the underlying asset price, strike price, volatility, time to maturity and interest rate. The underlying asset price is the average price of the foreign exchange rate in the fixing month.

(b) Fair value hierarchy

Financial assets and financial liabilities recognized and measured at fair value were classified as Level 1 and 2 in the fair value measurement hierarchy, as follows:

	Note	Level 1	Level 2	Total fair value
Assets				
Cash and cash equivalents	8	1,032,938	-	1,032,938
Financial investments	9	39,167	53,065	92,233
Derivative financial instruments	6	-	11,205	11,205
Trade accounts receivables	10	-	151,058	151,058
		1,072,105	215,328	1,287,434
Liabilities				
Derivative financial instruments	6	-	14,222	14,222
			14,222	14,222
2017				
	Note	Level 1	Level 2	Total fair value
Assets				
Cash and cash equivalents	8	1,019,037	-	1,019,037
Financial investments	9	134,168	72,379	206,547
Derivative financial instruments	6	-	11,777	11,777
Trade accounts receivables	10	-	62,693	62,693
		1,153,205	146,849	1,300,054
Liabilities				
Derivative financial instruments	6	-	15,037	15,037
			15,037	15,037

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The Company discloses fair value measurements based on their level of the following fair value measurement hierarchy:

Level 1:

Quoted prices (unadjusted) in active markets for identical assets and liabilities traded in active markets at the balance sheet date. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by the Company is the current bid price.

Level 2:

Financial instruments not traded in an active market for which fair value is determined using valuation techniques, when all of the significant inputs required to identify the fair value of an instrument are observable. Specific valuation techniques used to value financial instruments include:

- Quoted market prices or dealer quotes for similar instruments are used where available;
- The fair values of interest rate swaps are calculated at the present value of the estimated future cash flow based on observable yield curves; and
- The fair value of forward foreign exchange contracts is determined using forward exchange rates at the balance sheet date, with the resulting value discounted to present value.

Other techniques, such as discounted cash flow analysis, are used to determine the fair value for the remaining financial instruments.

Level 3:

Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs) are classified as Level 3. As of December 31, 2018, there were not any financial assets and liabilities carried at fair value classified as Level 3.

6 Derivative financial instruments

Accounting policy

Derivatives are initially recognized at fair value as at the date on which a derivative contract is entered into and are subsequently measured at fair value. Derivatives are only used for risk mitigation purposes and not as speculative investments. When derivatives do not meet the hedge accounting criteria, they are classified as held for trading and accounted for at fair value through profit or loss.

The Company documents at the inception of the hedging transaction the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking the hedge transactions. The Company also documents its assessment, both at hedge inception and on an ongoing basis, whether the derivatives that are used in hedging transactions and accounted for as hedge accounting were, and will continue to be, highly effective in offsetting changes in the fair value or cash flow of hedged items.

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(i) Cash flow hedge

Derivatives that are designated for hedge accounting recognition are qualified as cash flow hedges when they are related to a highly probable forecasted transaction. The effective portion of the changes in fair value is recognized in shareholders' equity in "Accumulated other comprehensive income (loss)" and is subsequently reclassified to the income statement in the same period when the hedged expected cash flows affect the income statement.

The reclassification adjustment is recognized in the same income statement line item affected by the highly probable forecasted transaction, while gains or losses related to the non-effective portion are immediately recognized as "Other income and expenses, net".

When a hedging instrument expires, is sold or no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in shareholders' equity at that time remains in shareholders' equity and is recognized when the forecast transaction is ultimately recognized in the income statement. When a forecasted transaction is no longer expected to occur, the cumulative gain or loss that was previously accounted in shareholders' equity is immediately transferred to the income statement within "Other income and expenses, net".

(ii) Fair value hedge

Derivatives that are designated for hedge accounting are qualified as fair value hedges when they are related to assets or liabilities already recognized in the consolidated balance sheet. Changes in the fair values of derivatives that are designated and qualify as fair value hedges and changes in the fair value of the hedged item are recorded in the income statement in the same period.

(iii) Derivatives not designated as hedging instruments

Changes in the fair value of derivative financial instruments not designated as hedging instruments are recognized immediately in the income statement within "Other income and expenses, net" when related to price risk and within "Net financial results" when related to interest rate or foreign exchange rate risk.

This category includes derivatives contracts entered into in November 2018 by the Company to mitigate its exposure to the foreign currency risk associated with changes in the Brazilian real exchange rate for the majority of the estimated capital expenditures of the Aripuanã project. The transaction involved the purchase of collars in the notional amount of USD 294 million (BRL 1,057 million) which relates to the estimated Aripuanã's disbursements from 2019 to 2021.

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The table below summarizes the derivative financial instruments, the underlying hedged items and the hedge accounting derivatives operations as at December 31, 2018:

Strategy				2017							2018			
	Notional		Per Unit	Fair Value - December 31, 2017	Changes in fair value					Realized gain (loss) 2018	Fair Value - December 31, 2018	Fair value by maturity		
	2018	2017			Inventory	Net revenues	Other income and expenses, net	Net financial results	Other comprehensive income			2019	2020	2021
Hedges for mismatches of quotational periods														
Zinc forward	261,020	387,240	ton	(4,638)	3,038	(1,353)	20,460	-	(968)	17,096	(557)	(557)	-	-
Silver forward	-	503	k oz	129	-	-	159	-	67	355	-	-	-	-
				(4,508)	3,038	(1,353)	20,618	-	(901)	17,451	(557)	(557)	-	-
Hedges for sales of zinc at a fixed price														
Zinc forward	10,566	2,230	ton	603	-	-	(3,090)	-	-	(1,629)	(858)	(815)	(43)	-
				603	-	-	(3,090)	-	-	(1,629)	(858)	(815)	(43)	-
Interest rates risk														
LIBOR floating rate vs. USD fixed rate swaps	-	31,393	USD	646	-	-	-	(936)	-	(290)	-	-	-	-
				646	-	-	-	(936)	-	(290)	-	-	-	-
Foreign exchange risk														
Collars foreign exchange (USD)	1,056,922	-	BRL	-	-	-	-	(1,602)	-	-	(1,602)	95	(1,431)	(266)
				-	-	-	-	(1,602)	-	-	(1,602)	95	(1,431)	(266)
				(3,260)	3,038	(1,353)	17,528	(2,538)	(901)	15,532	(3,017)	(1,276)	(1,474)	(266)

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6.1 Sensitivity analysis

Presented below is a sensitivity analysis of the main risk factors that affect the pricing of the outstanding financial instruments relating to cash and cash equivalents, financial investments, loans and financing, and derivative financial instruments. The main sensitivities are the exposure to changes of the US Dollar exchange rate, the London Interbank Offered Rate (LIBOR) and Interbank Deposit Certificate (CDI) interest rates, the US Dollar coupon and the commodity prices. The scenarios for these factors are prepared using market sources and other relevant sources, in compliance with the Company's policies.

The scenarios at December 31, 2018 are described below:

- Scenario I: considers a change in the market forward yield curves and quotations as of December 31, 2018, according to the base scenario defined by the Company for March 31, 2019.
- Scenario II: considers a change of + or -25% in the market forward yield curves as of December 31, 2018.
- Scenario III: considers a change of + or -50% in the market forward yield curves as of December 31, 2018.

Risk factor					Impacts on income stament								Impacts on statement of comprehensive income			
	Cash and cash equivalents and financial investments	Loans and financing	Notional of derivative financial instruments	Unit	Scenario I			Scenarios II e III				Scenario I	Scenarios II e III			
					Quotation at December 31, 2018	Changes from 2018	Results of scenario I	-25%	-50%	+25%	+50%	Results of scenario I	-25%	-50%	+25%	+50%
Foreign exchange rates																
BRL	94,603	123,471	293,589	USD	0.2581	0.64%	703	63,484	230,801	(24,677)	(52,495)	(48)	(2,278)	(7,245)	1,695	2,689
PEN	43,601	-	-	PEN	1.1482	1.00%	112	(2,813)	(5,626)	2,813	5,626	-	-	-	-	-
Interest rates																
BRL - CDI	93,093	27,724	1,056,922	BRL	6.40%	16 bps	(183)	2,336	4,870	(2,180)	(4,243)	-	-	-	-	-
USD - LIBOR	-	-	681,817	USD	2.81%	-6 bps	(0)	(5)	(11)	5	10	-	(4)	(8)	4	9
US Dollar coupon	-	-	293,589	USD	3.31%	26 bps	(394)	(1,627)	(3,280)	1,614	3,225	-	-	-	-	-
Price - commodities																
Zinc	-	-	271,586	mt	2,511	1.57%	(1,919)	30,499	60,999	(30,499)	(60,999)	466	(7,401)	(14,802)	7,401	14,802

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6.2 Value and type of margins pledged in guarantee

Derivative transactions entered into by the Company are not subject to collateral deposits, margin calls or any other type of guarantee.

7 Financial instruments by category

Accounting policy

Normal purchases and sales of financial assets are recognized on the trade date – the date on which the Company commits to purchase or sell the asset. Financial assets are initially recognized at fair value plus transaction costs for all financial assets not carried at fair value through profit or loss. Financial assets carried at fair value through profit or loss, if any, are initially recognized at fair value, and transaction costs are expensed in the income statement.

Financial assets are derecognized when the rights to receive cash flow from the investments have expired or the Company has transferred substantially all of the risks and rewards of ownership. Financial assets at fair value through profit or loss and at fair value through other comprehensive income are subsequently carried at fair value. Financial assets at amortized costs are subsequently measured using the effective interest rate method.

Gains or losses arising from changes in the fair value of the financial assets classified as fair value through profit or loss are presented in the income statement under "Net financial results" in the year in which they arise.

The Company classifies its financial assets under the following categories: amortized cost, fair value through other comprehensive income and fair value through profit or loss. The classification depends on the purpose for which the financial assets were acquired. Management determines the classification of the Company's financial assets upon initial recognition.

(i) Amortized cost

Financial assets measured at amortized cost are assets held within a business model whose objective is to hold financial assets in order to collect contractual cash flows and for which the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

(ii) Fair value through profit or loss

Financial assets measured at fair value through profit or loss are assets which an entity manages with the objective of realizing cash flows through the sale of such assets and financial assets that do not give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding.

(iii) Fair value through other comprehensive income

Financial assets measured at fair value through other comprehensive income are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets and for which the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

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Analysis

2018					
	Note	Amortized cost	Fair value through profit or loss	Fair value through other comprehensive income	Total
Assets per balance sheet					
Cash and cash equivalents	8	-	1,032,938	-	1,032,938
Financial investments	9	-	92,233	-	92,233
Derivative financial instruments	6	-	6,885	4,320	11,205
Trade accounts receivable	10	22,146	151,058	-	173,204
Related parties	12	740	-	-	740
		22,886	1,283,114	4,320	1,310,320
Liabilities per balance sheet					
Loans and financing	15	1,424,867	-	-	1,424,867
Derivative financial instruments	6	-	10,155	4,068	14,222
Trade payables		387,225	-	-	387,225
Confirming payable	16	70,411	-	-	70,411
Use of public assets		22,126	-	-	22,126
Related parties	12	1,580	-	-	1,580
		1,906,209	10,155	4,068	1,920,431
2017					
	Note	Amortized cost	Fair value through profit or loss	Fair value through other comprehensive income	Total
Assets per balance sheet					
Cash and cash equivalents	8	-	1,019,037	-	1,019,037
Financial investments	9	-	206,547	-	206,547
Derivative financial instruments	6	-	8,811	2,966	11,777
Trade accounts receivable	10	120,020	62,693	-	182,713
Related parties	12	738	-	-	738
		120,758	1,297,088	2,966	1,420,812
Liabilities per balance sheet					
Loans and financing	15	1,447,299	-	-	1,447,299
Derivative financial instruments	6	-	12,842	2,195	15,037
Trade payables		329,814	-	-	329,814
Confirming payable	16	111,024	-	-	111,024
Use of public assets		24,309	-	-	24,309
Related parties	12	89,924	-	-	89,924
		2,002,370	12,842	2,195	2,017,407

8 Cash and cash equivalents

Accounting policy

Cash and cash equivalents includes cash, bank deposits, and highly liquid short-term investments (investments with an original maturity less than 90 days), which are readily convertible into a known amount of cash and subject to an immaterial risk of changes in value. Bank overdrafts are shown within loans and financing in current liabilities in the balance sheet.

(a) Composition

	2018	2017
Cash and banks	320,069	319,920
Term deposits	712,869	699,117
	1,032,938	1,019,037

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(b) Changes in operating assets and liabilities

The operational cash flow impact due to the changes in operating assets and liabilities is presented below:

	2018	2017	2016
Decrease (increase) in assets			
Trade accounts receivable	8,537	(63,172)	(54,188)
Inventory	52,472	(15,675)	(62,586)
Other assets	(70,101)	23,256	9,144
Increase (decrease) in liabilities			
Trade payables	57,411	47,573	9,557
Confirming payable	(40,613)	8,737	5,743
Salaries and payroll charges	(21,632)	9,776	25,206
Contractual liabilities	(29,543)	(36,299)	250,000
Related parties	27,167	-	-
Other liabilities	26,877	(59,348)	(1,809)
	10,575	(85,152)	181,067

9 Financial investments

Accounting policy

Financial investments are mainly short-term investments that do not meet the definition of cash and cash equivalents. The financial investments are used as part of the cash-management strategy of the Company and are measured at fair value through profit or loss.

(a) Composition

	2018	2017
Investment fund quotas (i)	38,677	138,945
Bank deposit certificate	44,595	42,067
Repurchase agreements	-	18,289
Other	8,961	7,246
	92,233	206,547

(i) The investment fund is exclusively held by VSA and its subsidiaries. The fund's portfolio is comprised of repurchase agreements and treasury bills.

10 Trade accounts receivable

Accounting policy

Trade accounts receivable are amounts due from customers for goods sold in the ordinary course of the Company's business.

Trade accounts receivable are recognized initially at fair value and subsequently measured at:

(i) Fair value through profit or loss when related to the Company's accounts receivable portfolio that is included in a true sale program whereby the Company, at its discretion, can discount certain outstanding trade accounts receivables and receive payments in advance. The program is used to meet short-term liquidity needs. Trade accounts receivable within this program are derecognized since the contractual rights to receive the cash flows of the assets are transferred to the counterparty.

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(ii) Fair value through profit or loss when related to sales that are subsequently adjusted to changes of LME prices. These accounts receivable do not meet the solely payments of principal and interest (SPPI) criteria because there is a component of commodity price risk that modifies the cash flows that otherwise would be required by the sales contract.

(iii) Amortized cost using the effective interest rate method, less impairment, when the receivable do not meet the aforementioned classification.

Credit risk can arise from non-performance by counterparties of their contractual obligations to the Company. To ensure an effective evaluation of credit risk, management applies procedures related to the application for credit granting and approvals, renewal of credit limits, continuous monitoring of credit exposure in relation to established limits and events that trigger requirements for secured payment terms. As part of the Company's process, the credit exposures with all counterparties are regularly monitored and assessed.

The Company applied the IFRS 9 simplified approach to measure the impairment losses for trade accounts receivable. This approach requires the use of the lifetime expected credit losses on its trade accounts receivable measured at amortized cost. To calculate the lifetime expected credit losses the Company used a provision matrix and forward-looking information.

The additions to impairment of trade accounts receivable are included in selling expenses. Trade accounts receivable are generally written off when there is no expectation of recovering additional cash.

In 2017 and 2016, the impairment of trade accounts receivable was based on the incurred loss model.

(a) Composition

	Note	2018	2017
Trade accounts receivables		174,931	181,084
Related parties	12	963	3,775
Impairment of trade accounts receivable		(2,690)	(2,146)
		173,204	182,713

(b) Changes in impairment of trade accounts receivable

	2018	2017
Balance at the beginning of the year	(2,146)	(1,618)
Additions	(1,238)	(3,300)
Reversals	428	2,779
Foreign exchange gains (losses)	266	(7)
Balance at the end of the year	(2,690)	(2,146)

(c) Analysis by currency

	2018	2017
Brazilian Real	39,000	66,486
US Dollar	133,689	115,879
Other	515	348
	173,204	182,713

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(d) (d) Aging of trade accounts receivable

	2018	2017
Current	146,064	163,196
Up to 3 months past due	28,366	19,775
From 3 to 6 months past due	455	914
Over 6 months past due	1,009	974
	175,894	184,859
Impairment	(2,690)	(2,146)
	173,204	182,713

11 Inventory

Accounting policy

Inventory is stated at the lower of cost and net realizable value. Cost is determined using the weighted average cost method. The cost of finished goods and work in progress comprises raw materials, direct labor, other direct costs and related fixed production overheads (based on normal operating capacity). Variable production overhead costs are included in inventory cost on the basis of actual level of production. The net realizable value is the estimated selling price in the ordinary course of business, less any additional selling expenses. Imports in transit are stated at the accumulated cost of each import. A provision for obsolete inventory - finished products, semi-finished products, raw materials and auxiliary materials - is recognized when items cannot be used in normal production or sold because they are damaged or do not meet the Company's specification. Slow-moving provision is recognized for inventory items that are in excess of the expected normal use or sale. The amount of slow-moving provision recognized is determined on the basis of 20% of the carrying amount for each six-month period without use or sale.

(a) Composition

	2018	2017
Finished products	106,245	106,026
Semi-finished products	52,534	85,458
Raw materials	52,864	30,128
Auxiliary materials and consumables	69,566	81,261
Imports in transit	11,718	41,878
Other	215	863
Provision for obsolete and slow-moving inventory	(23,437)	(20,736)
	269,705	324,878

The Company had no inventory pledged as collateral for any of its liabilities.

Inventories recognized as an expense during the year ended December 31, 2018 amounted to USD 1,701,456 (2017: USD 1,320,379; 2016: USD 1,287,662). These were included in Cost of sales.

(b) Changes in the provision for obsolete and slow-moving inventory

	2018				2017	
	Finished products	Semi-finished products	Raw materials	Auxiliary materials and consumables	Total	Total
Balance at the beginning of the year	(40)	(10,019)	(214)	(10,463)	(20,736)	(38,384)
Additions	(32)	(1,363)	(17)	(11,291)	(12,703)	(1,814)
Reversals	41	8,701	207	311	9,260	19,249
Exchange variation gains (losses)	3	959	18	(238)	742	213
Balance at the end of the year	(28)	(1,722)	(6)	(21,681)	(23,437)	(20,736)

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12 Related parties

Parent	Trade accounts receivable		Related parties (assets)		Trade payables		Dividends payable		Related parties (liabilities)	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Votorantim S.A. (i) (ii)	-	8	3	3	478	336	-	-	-	87,686
Related parties										
Companhia Brasileira de Alumínio	214	1,843	-	-	-	5,246	-	-	12	13
Votorantim Cimentos S.A.	623	1,696	737	735	85	47	-	-	-	-
Votener - Votorantim Comercializadora de Energia LI	-	-	-	-	2,060	-	-	-	-	-
Other	126	228	-	-	785	1,414	663	4,138	1,568	2,225
	963	3,775	740	738	3,408	7,043	663	4,138	1,580	89,924
Current	963	3,775	-	-	3,408	7,043	663	4,138	63	87,686
Non-current	-	-	740	738	-	-	-	-	1,517	2,238
	963	3,775	740	738	3,408	7,043	663	4,138	1,580	89,924
Financial results										
Parent	Sales		Purchases		Financial results		Financial results		Financial results	
	2018	2017	2018	2016	2018	2017	2018	2017	2018	2016
Votorantim S.A. (ii)	-	-	-	-	3,649	3,651	4,653	-	-	-
Related parties										
Companhia Brasileira de Alumínio	39	2,125	70	-	1,626	42,434	31,162	-	1,012	3,582
Votoratim Metais S.A.	-	-	-	-	-	-	51	-	-	3,583
Votener - Votorantim Comercializadora de Energia LI	-	-	-	-	10,054	13,510	13400	-	-	-
Votorantim Cimentos S.A.	173	138	45	273	365	365	273	-	-	-
Other	2,115	-	2,856	1,427	4,920	1,134	1,427	-	-	-
	2,327	2,263	2,971	50,966	20,614	61,094	50,966	1,012	7,165	7,165

(i) On September 2018, the Brazilian Electricity Regulatory Agency (“ANEEL”) consented to the transfer of certain energy assets owned by NEXA BR to Pollarix. In accordance with the agreement between NEXA BR and VSA, after the approval, NEXA BR was required to settle a prior obligation of USD 87,623 (BRL 290,000) with VSA related to the rights to use these assets. In December 2018, NEXA BR paid this amount.

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(ii) The Company entered into an agreement with VSA on September 4, 2008, for services provided by the Center of Excellence ("CoE") of VSA related to administrative activities, human resources, back office, accounting, taxes, technical assistance, training, among others. Under a cost sharing agreement, the Company reimburses VSA for the expenses related to these activities in respect of NEXA.

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(a) Key management compensation

Key management includes the members of the Company's global executive team and Board of Directors. Key management compensation, including all benefits, was as follows:

	2018	2017
Short-term benefits	7,225	6,668
Other long-term benefits	1,039	1,162
	8,264	7,830

Short-term benefits include fixed compensation, payroll charges and short-term benefits under the Company's variable compensation program. Other long-term benefits relate to the variable compensation program.

During fiscal year 2018, our executive officers received cash compensation in an aggregate amount of approximately USD 6,352 and our directors received cash compensation in an aggregate amount of USD 1,911 for services as a member of our board of directors.

13 Property, plant and equipment

Accounting policy

Property, plant and equipment are stated at the historical cost of acquisition or construction less accumulated depreciation and any recognized impairment losses. Historical cost includes expenditures that are directly attributable to the acquisition and construction of the assets.

Subsequent costs are included in the asset's carrying amount, or recognized as a separate asset as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Company and they can be measured reliably. The carrying amount of any component accounted for as a separate asset is derecognized when replaced. All other repairs and maintenance are charged to the income statement during the reporting period in which they are incurred.

Replacement costs are included in the carrying amount of the asset when it is probable that the Company will realize future economic benefits in excess of the benefits expected from the asset in its current condition. Replacement costs are depreciated over the remaining useful life of the related asset.

Land is not depreciated. Depreciation of other assets is calculated using the straight-line method to reduce their costs to their residual values over their estimated useful lives.

The assets' residual values and useful lives are reviewed annually and adjusted if appropriate.

An asset's carrying amount is reduced to its recoverable amount when it is greater than the estimated recoverable amount, in accordance with the criteria adopted by the Company in order to determine the recoverable amount.

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognized within "Other income and expenses, net" in the income statement.

Loans and financing costs directly related to the acquisition, construction or production of a qualifying asset that requires a substantial period of time to prepare for its intended use or sale are

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capitalized as part of the cost of that asset when it is probable that future economic benefits associated with the item will flow to the Company and costs can be measured reliably.

Stripping costs

In its surface mining operations, the Company must remove overburden and other waste to gain access to mineral ore deposits. The removal process is referred to as stripping. During the development of a mine, before production commences, when the stripping activity improves access to the ore body, the component of the ore body for which access has been improved can be identified and the costs can be measured reliably, a stripping activity asset is capitalized as part of the investment in the construction of the mine, accounted for as part of property, plant and equipment, and subsequently depreciated over the life of the mine on a units of production basis.

Stripping costs incurred during the production phase of operations are treated as a production cost that forms part of the cost of inventory.

Exploration and development costs

The Company incurs mineral exploration costs such as exploratory drilling, geological and geophysical studies in order to determine the mineral potential of a given area, which are expensed as incurred.

The Company uses the front-end loading ("FEL") methodology for project and development management. Development scoping costs and pre-feasibility studies for greenfield and brownfield projects are expensed during FEL 1 and FEL 2 phases, together with research and development costs for the smelting segment, until the project has demonstrated technical feasibility and economic viability. Mining development costs are capitalized when the FEL 3 phase starts and the mineral potential and commercial viability of the project can be assessed reliably. Such costs include feasibility studies and engineering work. The development costs are assessed for impairment at least annually or whenever evidences indicate that the assets may be impaired.

Asset retirement obligation

An asset retirement obligation is an obligation related to the permanent removal from service of a tangible long-lived asset that results from the acquisition, construction or development, or the normal operations of a tangible long-lived asset. At the initial recognition of an asset retirement obligation and at the periodical revisions of the expected disbursements and the discount rate, the changes in the liability are charged to property, plant and equipment.

The capitalized amount recognized in property, plant and equipment is depreciated based on the useful life of the underlying asset. Any reduction in the provision that exceeds the carrying amount of the asset, is immediately recognized in the income statement as "Other income and expenses, net".

Leases

Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. Payments made under an operating lease (net of any incentive received from the lessor) are charged to the income statement on a straight-line basis over the period of the lease.

Leases of property, plant and equipment, where the Company has substantially all the risks and rewards of ownership, are classified as finance leases. Finance leases are capitalized at the

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inception of the lease at the lower of the fair value of the leased item and the present value of the minimum lease payments and are depreciated over the shorter of the asset's useful life and the lease term.

Impairment of non-financial assets

The Company assesses, at each reporting date, whether there is an indicator that an asset or cash generating unit ("CGU") may be impaired. If any indication exists, such as volumes and prices reductions or unusual events that can affect the business, the Company estimates the asset's or CGU's recoverable amount. The recoverable amount is the higher of an asset's or CGU's fair value less cost of disposal and its value in use. 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 which case, the asset is tested as part of a larger CGU to which it belongs. If the carrying amount of an asset or CGU exceeds its recoverable amount, the asset or CGU is considered impaired and is reduced to its recoverable amount. Non-financial assets other than goodwill that were adjusted due to impairment are subsequently reviewed for possible reversal of the impairment at each reporting date.

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(a) Analysis

	2018						
	Land and improvements	Dams and Buildings	Machinery, equipment and facilities	Assets and projects under construction	Asset retirement obligation	Mining projects	Other
Balance at the beginning of the year							Total
Cost	24,490	1,030,686	2,422,254	235,501	178,662	243,938	35,055
Accumulated depreciation	(275)	(453,140)	(1,504,433)	-	(101,527)	(85,455)	(29,242)
Net balance	24,215	577,546	917,821	235,501	77,135	158,483	5,813
Additions (i)	-	2,613	2,878	294,229	-	-	53
Disposals	(638)	(3,207)	(6,985)	(1,148)	-	-	(53)
Depreciation	(19)	(48,072)	(131,099)	-	(4,592)	(1,931)	(1,752)
Foreign exchange (losses) gains	(2,160)	(42,117)	(58,574)	(28,827)	(9,688)	-	(477)
Transfers	(22)	63,562	78,485	(147,403)	-	173	1,214
Remeasurement of asset retirement obligation	-	-	-	-	20,777	-	-
Impairment (c)	-	-	-	(3,283)	-	-	-
Balance at the end of the year	21,376	550,325	802,526	349,069	83,632	156,725	4,798
Cost	21,629	1,002,885	2,357,254	349,069	175,506	243,629	29,513
Accumulated depreciation	(253)	(452,560)	(1,554,728)	-	(91,874)	(86,904)	(24,715)
Net balance at the end of the year	21,376	550,325	802,526	349,069	83,632	156,725	4,798
Average annual depreciation rates - %	-	4	7	-	5	8	-

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(i) Additions include capitalized borrowing costs in the amount of USD 36,534 in 2018 (2017 – USD 35,164).

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(b) Assets and projects under construction

The balance mainly comprises projects for the expansion and optimization of the Company's plant and mines, as described below:

	2018	2017
Expansion and modernization projects	174,634	64,043
Sustaining projects	90,604	78,860
Health, safety and environment projects	63,406	73,611
Information technology projects	12,970	7,397
Other	7,456	11,590
	349,069	235,501

Aripuanã project - Approval of the construction

On October 19, 2018, after the conclusion of the feasibility study and detailed analysis by the Company's management, the Board of Directors approved the construction of the Aripuanã project, an underground polymetallic mine and concentrate processing facility in the state of Mato Grosso, Brazil. On December 20, 2018 the Environmental Authority of the State of Mato Grosso, Brazil granted the Installation License for the Aripuanã project, which enabled the Company to start the construction phase.

The Aripuanã project is estimated to be operational by the beginning of 2021, with total investment estimated at approximately USD 392,000. The Company owns a 70% interest in the Aripuanã project through its subsidiaries.

(c) Impairment of non-financial assets

The Company considered the decline in LME spot prices during 2018 as an impairment indicator and performed an impairment test for the CGUs of Juiz de Fora and Três Marias system, that were not covered by the annual goodwill impairment testing disclosed in the Note 14. The recoverable amount was estimated based on the value in use method, using the same key assumptions and calculation metrics defined in Note 14. No impairment was identified for these CGUs.

The Company also evaluated the assets and projects under construction and identified that the amount invested in some projects would not be recoverable. The amount of USD 3,283 was impaired and recognized in "Other income and expenses, net" in 2018.

14 Intangible assets

Accounting policy

Goodwill

Goodwill arising from business combinations is measured as the excess of the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the net assets acquired. Goodwill is not amortized but is tested for impairment annually and whenever circumstances indicate that the carrying amount may not be recovered. The recoverable amount is the higher of an asset's fair value less costs to sell and its value in use. If either the fair value less costs to sell or the value in use is higher than the carrying amount, the Company need not

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estimate the other amount. Impairment is determined by assessing the recoverable amount of each CGU (or group of CGUs) to which the goodwill relates. For the purposes of assessing impairment, assets are grouped at the lowest level for which there is separately identifiable cash flow (CGU level). Impairment losses relating to goodwill cannot be reversed in future periods.

As part of the impairment testing procedures, the goodwill is allocated to a CGU that is the lowest level at which goodwill is monitored. If the recoverable amount of the asset (or CGU) is lower than its carrying amount, the carrying amount of the asset (or CGU) is reduced to its recoverable amount. The difference between the carrying amount and recoverable amount is recognized as an impairment loss in the income statement.

Critical accounting estimates and judgments - Impairment of goodwill

The process of estimating the recoverable amount involves the use of assumptions, judgment and projections for future cash flows. Management's assumptions and estimates of future cash flow used for the Company's impairment testing of goodwill and non-financial assets are subject to risk and uncertainties, including metal prices and macroeconomic conditions, which are particularly volatile and partially or totally outside the Company's control.

The calculations used for the impairment testing reflect several market assumptions, such as LME prices, consensus models and other available data regarding global base metals demand. The discount factor applied to the discounted cash flow model is the Company's pre-tax weighted average cost of capital ("WACC"), adjusted for country-specific risk factors. These calculations use cash flow projections, before income taxes, based on financial and operational budgets for a five-year period. After the five-year period, the cash flows are extended until the end of the useful life of mine or indefinitely for the smelters. The smelters cash flows do not use growth rates in the cash flow projections of the terminal value.

Rights to use natural resources

Costs for the acquisition of rights to explore and develop mineral properties are capitalized and amortized as a cost of production using the units of production method over their useful lives. Useful lives consider the period of extraction for both mineral reserves and mineral resources, which includes a portion of the Company's inferred resources in the Company's mining operations.

The Company selected the physical unit model to compute amortization expenses under the units of production method. This model consists of amortization being calculated based on actual ore produced during the period compared to the total ore expected to be produced over the life of mine.

Critical accounting estimates and judgments - Quantification of mineral reserves and resources for useful life calculation

The Company classifies measured, indicated and inferred resources based on the definitions of the Canadian Institute of Mining, Metallurgy and Petroleum (or CIM) Definition Standards for Mineral Resources and Mineral Reserves (or the 2014 CIM Definition Standards).

The useful life determination applied to the rights to use natural resources reflect the pattern in which the benefits are expected to be derived by the Company and is based on the estimated life of mine. Any changes to life of mine, based on new information regarding estimates of mineral

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reserves and mineral resources and mining plan, may affect prospectively the life of mine and amortization rates.

The estimation process of mineral reserves and mineral resources is based on a technical evaluation, which includes geological, geophysics, engineering, environmental, legal and economic estimates and may have relevant impact on the economic viability of the mineral reserves and mineral resources. These estimates are reviewed periodically, and any changes are reflected in the expected life of mine.

Management is confident based on testing, continuity of the ore bodies and conversion experience that a part of the inferred resources will be converted into measured and indicated resources, and if they are economically recoverable, such inferred resources may also be classified as proven and probable mineral reserves. Where the Company can demonstrate the expected economic recovery with a high level of confidence, inferred resources are included in the calculation of amortization.

However, the future conversion of inferred resources is inherently uncertain and involves judgement and estimates that could have a material impact on the Company's results of operations.

(a) Analysis

2018				
	Goodwill	Rights to use natural resources	Other	Total
Balance at the beginning of the year				
Cost	673,287	1,672,931	62,084	2,408,302
Accumulated amortization	-	(543,927)	(41,656)	(585,583)
Net balance	673,287	1,129,004	20,428	1,822,719
Disposals	-	(17)	(11)	(28)
Amortization	-	(77,792)	(1,932)	(79,724)
Transfers	-	1,463	2,528	3,991
Foreign exchange (losses) gains	1,513	(3,613)	(2,397)	(4,497)
Balance at the end of the year	674,800	1,049,045	18,616	1,742,461
Cost	674,800	1,669,645	56,853	2,401,298
Accumulated amortization	-	(620,600)	(38,237)	(658,837)
Net balance at the end of the year	674,800	1,049,045	18,616	1,742,461
Average annual amortization rates %	-	6	19	-
2017				
	Goodwill	Rights to use natural resources	Other	Total
Balance at the beginning of the year				
Cost	675,561	1,673,091	55,115	2,403,767
Accumulated amortization	-	(469,381)	(31,234)	(500,615)
Net balance	675,561	1,203,710	23,881	1,903,152
Acquisitions	-	-	921	921
Disposals	-	-	(36)	(36)
Amortization	-	(74,024)	(993)	(75,017)
Foreign exchange losses	(2,274)	(682)	(674)	(3,630)
Transfers	-	-	(2,671)	(2,671)
Balance at the end of the year	673,287	1,129,004	20,428	1,822,719
Cost	673,287	1,672,931	62,084	2,408,302
Accumulated amortization	-	(543,927)	(41,656)	(585,583)
Net balance at the end of the year	673,287	1,129,004	20,428	1,822,719
Average annual amortization rates %	-	5	20	-

The Company assesses at each reporting period whether there is objective evidence that any item of intangible asset is impaired. No impairment was identified at December 31, 2018.

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(b) Goodwill on acquisitions

The goodwill is allocated to a CGU or a group of CGUs based on the expected benefits from the synergies of the acquisition. A CGU or a group of CGUs represent the lowest level within the Company at which goodwill is monitored.

	Goodwill	Other net assets carrying amount	Total carrying amount
Group of CGUs - Mining Peru	582,306	1,099,557	1,681,863
CGU - Smelter Peru	92,494	774,040	866,534
	674,800	1,873,597	2,548,397

(c) Key assumptions used in goodwill impairment testing

The Company performed the annual goodwill impairment testing for the Mining Peru and Smelter Peru at September 30, 2018. The recoverable amount was estimated using the value in use method and exceeded the carrying value. Therefore, no impairment was recognized in the consolidated financial statements.

The Company identified metal prices, WACC and life of mine ("LOM") as key assumptions for the recoverable amount determination, due to the material impact of such assumptions on the discounted cash flow determination. These assumptions are summarized below:

Key assumptions	
Zinc (US\$/t)	2,517
Copper (US\$/t)	6,478
Discount rate	
Pre-tax discount rate (Brazil)	11.98%
Pre-tax discount rate (Peru)	10.34%
LOM(Years)	
Brownfield mines	from 9 to 21
Greenfield projects	from 12 to 24

The Company performed a stress test on the key assumptions used for cash flow determination. If the LME zinc price assumption for the value in use calculation had been 20% lower than management's estimates at September 30, 2018 (US\$/t 2,014), the Company would have had to recognize an impairment against the carrying amount of this CGU of approximately USD 180,534. Also, under the reasonable stress test scenarios performed by the Company, an increase of 20% in the WACC would not result in an impairment loss.

15 Loans and financings

Accounting policy

Loans and financings are recognized initially at fair value, net of transaction costs incurred, and are subsequently measured at amortized cost. Any difference between the proceeds (net of transaction costs) and the total amount payable is recognized in the income statement as interest expense over the period of the loans using the effective interest rate method.

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Loans and financings are classified as current liabilities unless the Company has the unconditional right to defer repayment of the liability for at least 12 months after the reporting period.

Fees paid on the establishment of loan facilities are recognized as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the drawdown occurs. To the extent that there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalized as a prepayment for liquidity services and amortized over the period of the facility to which it relates.

Composition and maturity profile

Type	Average annual charges	Current		Non-current		Total		Fair value	
		2018	2017	2018	2017	2018	2017	2018	2017
Eurobonds - USD	Fixed 5.13%	9,907	8,778	1,032,664	1,032,664	1,042,571	1,041,442	1,014,974	1,120,901
Debt with banks	Libor + 1.27%	773	435	196,519	199,179	197,292	199,614	206,349	214,293
BND	TJLP + 2.82% / SELIC + 3.10% / TLP + 5.23%	6,117	19,795	83,808	73,653	89,925	93,448	82,208	85,969
Debentures	110.5% CDI	7,432	8,885	20,756	32,403	28,188	41,288	28,269	41,405
Export credit note		-	1,102	-	61,622	-	62,724	-	64,058
Other		8,284	1,846	58,607	6,937	66,891	8,783	69,778	8,506
		32,513	40,841	1,392,354	1,406,458	1,424,867	1,447,299	1,401,578	1,535,132
Current portion of long term loans and financing (principal)		21,107	28,019						
Interest on loans and financing		11,406	12,822						
		32,513	40,841						

- BNDES - Brazilian National Bank for Economic and Social Development
 TJLP - Long-term interest rate set by the Brazilian National Monetary Council
 SELIC - Brazilian basic interest rate
 CDI - Brazilian Interbank Deposit Certificate
 TLP - Set by the Brazilian National Monetary Council and composed by Brazil's expected inflation plus spread

The maturity profile of loans and financing at December 31, 2018, was as follows:

								As from	Total
	2019	2020	2021	2022	2023	2024	2025	2026	Total
Eurobonds - USD	9,907	-	-	-	339,601	-	-	693,063	1,042,571
Debt with banks	773	-	78,607	78,607	39,305	-	-	-	197,292
BNDES	6,117	6,763	8,112	12,156	12,156	11,912	11,176	21,533	89,925
Debentures	7,432	6,909	6,924	6,923	-	-	-	-	28,188
Other	8,284	10,271	10,273	8,820	7,796	7,737	7,736.00	5,974	66,891
	32,513	23,943	103,916	106,506	398,858	19,649	18,912	720,570	1,424,867
	3%	2%	7%	7%	28%	1%	1%	51%	100%

(a) Changes

	2018	2017
Balance at the beginning of the year	1,447,299	1,144,385
Payments	(295,104)	(537,254)
New loans and financing	292,901	830,598
Foreign exchange gain	(5,777)	(2,873)
Gain on debt modification	(3,428)	-
Interest accrual	61,385	69,481
Interest paid	(72,409)	(57,038)
Balance at the end of the year	1,424,867	1,447,299

(b) Analysis by currency

	Current		Non-current		Total	
	2018	2017	2018	2017	2018	2017
US Dollar	17,267	13,260	1,284,128	1,272,223	1,301,395	1,285,483
Brazilian Real	15,246	27,471	108,226	134,235	123,472	161,706
Other	-	110	-	-	-	110
	32,513	40,841	1,392,354	1,406,458	1,424,867	1,447,299

(c) Analysis by index

	Current		Non-current		Total	
	2018	2017	2018	2017	2018	2017
Fixed rate	9,884	11,192	1,037,361	1,038,459	1,047,245	1,049,651
LIBOR	7,719	610	247,614	230,573	255,333	231,183
TJLP	1,467	12,509	14,700	35,341	16,167	47,850
UMBNDDES	-	3,211	-	5,496	-	8,707
CDI	7,430	9,811	20,758	62,632	28,188	72,443
TLP	5,881	-	52,606	-	58,487	-
BNDES Selic	132	3,508	19,315	33,957	19,447	37,465
	32,513	40,841	1,392,354	1,406,458	1,424,867	1,447,299

(d) Guarantees and covenants

At December 31, 2018, NEXA is the guarantor of NEXA BR's loans with BNDES in the amount of USD 89,925.

At December 31, 2018, NEXA BR provided collateral guarantee in the form of machinery and equipment on part of its loans in the amount of USD 1,183.

The Company has borrowings that are subject to financial covenants at the consolidated level, such as: (i) the gearing ratio (net debt/adjusted EBITDA); (ii) the capitalization ratio (total debt/total debt + shareholders' equity or shareholders' equity/total assets); and (iii) interest coverage ratio (cash + adjusted EBITDA/interest + short-term debt). When applicable, these compliance obligations are standardized for all borrowing agreements. At December 31, 2018, the Company was in compliance with all applicable covenants.

(e) Bonds

On May 4, 2017, NEXA issued an aggregate principal amount of USD 700,000 in unsecured bonds set to mature in 2027 at an interest rate of 5.375% per year. The proceeds from this offering were used to repay a portion of existing consolidated debt with banks, thereby extending the maturity of outstanding debt. These securities are guaranteed by NEXA BR, NEXA PERU and NEXA CJM.

On March 28, 2013, NEXA PERU conducted a bond offering in the international market for USD 350,000, at an annual fixed interest rate of 4.625% to be paid semi-annually. These financial instruments have a term of ten years and will be redeemed on March 28, 2023.

(f) Repayment of debt

On May 25, 2018, the Company prepaid a term loan with principal amount of USD 100,000, maturity of November 2021 and cost of three-month Libor plus 2.55% p.a. The amount paid was USD 101,083, corresponding to the principal plus accrued and unpaid interest.

On March 9, 2018, the Company repaid certain Export Credit Notes with principal amount of USD 31,393, maturity of April 2020 and cost of three-month LIBOR + 1.85% p.a. The accompanying foreign exchange and interest rate swaps intended to change the interest index and currency of debt service repayments of this note was also liquidated in advance, generating a gain of USD 91 recognized in Net financial results.

On March 9, 2018, the Company repaid in full its Export Credit Notes with principal amount of USD 30,807, maturity of April 2020 and a cost of 118% of the CDI rate. The amount paid was USD 30,891 and includes principal plus accrued and unpaid interest.

(g) Renegotiation of debt

On May 22, 2018, the Company renegotiated a term loan with principal amount of USD 100,000, maturity of November 2021 and cost of six-month Libor plus 2.50% p.a. The renegotiated debt with the same counter-party has a maturity of May 2023 and a cost of six-month Libor plus 1.27% p.a. This transaction was accounted for as debt modification due to non-substantial modifications made to the original debt and a gain of USD 3,428 was recognized in Net financial results. This loan is guaranteed by NEXA CJM and NEXA BR.

On December 27, 2018, the NEXA BR renegotiated contractual terms with BNDES comprising loans of a total principal amount of USD 58,990 (equivalent to BRL 228,573), original maturity dates from 2019 until 2023 and subjected to interest rates of TJLP plus spread (between 2.36% and 2.48% p.a.) or SELIC plus spread (between 2.48% to 2.72% p.a.). The renegotiated debts with the same counter-party have the final maturity in December 2028 and are subjected to a cost of TLP plus spread (between 2.09% to 2.29% p.a.) and replaces the guarantor from VSA to NEXA. This transaction was accounted for as a debt extinguishment due to the substantial modifications made to the original debt and no gain or loss was recognized in the income statement.

On January 2019, NEXA BR contracted a swap to change the Brazilian inflation component of the TLP rate to 53.04% of the CDI rate.

(h) New loans

On May 22, 2018, the Company entered into a term loan agreement in the principal amount of USD 100,000, maturing in May 2023 and with a cost of six-month Libor plus 1.27% p.a. Proceeds from this transaction were used to prepay a term loan with interest rate of three-month Libor plus 2.55% p.a. No gain or loss were recognized on the early payment of the debt. This loan is guaranteed by NEXA CJM and NEXA BR.

On June 27, 2018, the Company utilized the amount of USD 62,500 of a new facility agreement to finance the purchase of machinery and equipment. The facility matures in 2027 and has an effective interest rate of 5.29% p.a.

16 Confirming payables

The Company entered into agreements extending payment terms from 90 to 180 days with a number of suppliers. These suppliers have the option to discount their receivables with banks. At December 31, 2018, accounts payable amounting to USD 70,411 (2017: USD 111,024) were included in such agreements.

17 Salaries and payroll charges

	2018	2017
Direct remuneration and payroll charges	17,404	21,357
Provision for profit sharing and other payable	40,762	58,441
	58,166	79,798

18 Current and deferred income taxes

Accounting policy

The current and deferred taxes on income are calculated on the basis of the tax laws enacted or substantively enacted up to balance sheet date in the countries where the entities operate and generate taxable income. Management periodically evaluates positions taken by the Company in the taxes on income returns with respect to situations in which the applicable tax regulations are subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

The current income tax is presented net, separated by taxpaying entity, in liabilities when there are amounts payable, or in assets when the amounts prepaid exceed the total amount due on the reporting date.

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

Deferred tax assets and liabilities are offset when there is a legally enforceable right and an intention to offset them in the calculation of current taxes, generally when they are related to the same legal entity and the same tax authority. Accordingly, deferred tax assets and liabilities in different entities or in different countries are generally presented separately, and not on a net basis.

Deferred tax liabilities and assets are not recognized for temporary differences between the carrying amounts and tax bases of investments in foreign operations where the Company is able to control the timing of the reversal of the temporary differences and it is probable that the differences will not be reversed in the near future.

Deferred income tax are provided in full, 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 also not accounted for if it arises from the initial recognition of an asset or liability in a transaction other than a business combination that, at the time of the transaction, affects neither the accounting nor the taxable

income or loss. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the end of the reporting period and are expected to apply when the related deferred income taxes asset is realized or the deferred income tax liability is settled.

Critical accounting estimates and judgments

The Company is subject to income tax in all countries in which it operates. Significant judgment is required in determining the income tax provision. There are many transactions and calculations for which the ultimate tax determination is uncertain. The Company also 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 tax assets and liabilities in the period in which such determination is made.

(a) Reconciliation of income taxes expenses

	2018	2017	2016
Income before income tax	131,898	271,459	208,892
Standard rate (i)	26.01%	27.08%	29.22%
Income tax	(34,307)	(73,511)	(61,038)
Difference in tax rate for subsidiaries outside Luxembourg	(11,227)	(19,912)	(11,425)
Re-measurement of deferred tax - change in Peru tax rate (ii)	-	-	(41,588)
Taxes on dividend received from foreign subsidiary	-	(8,299)	-
Special mining levy and special mining tax	(14,565)	(22,766)	(10,953)
Other permanent differences	19,176	18,294	26,621
Income tax	(40,923)	(106,194)	(98,383)
Current	(71,787)	(125,691)	(75,282)
Deferred	30,864	19,497	(23,101)
Taxes on income on the income statement	(40,923)	(106,194)	(98,383)

(i) - The combined applicable income tax rate was 29.22% for the fiscal year ending 2016. On December 14, 2016, the Luxembourg government approved Law 7020, that decreased the income tax rate to 27.08% in 2017 and to 26.01% from 2018 onwards.

(ii) - The Peruvian companies pay their taxes based on the general regime of taxation, which provides for a progressive decrease in the tax rate after the year 2015. In 2016 the rate was 28% while for 2017 and 2018 the rate was expected to be 27% and from 2019 onwards the rate was expected to be 26%. However, in December 2016, the tax rate changed to 29.5% applicable from January 1, 2017.

Analysis of deferred tax balances

	2018	2017
Tax credits on non-operating losses (i)	106,817	104,100
Tax credits on temporary differences		
Foreign exchange losses	50,766	79,430
Environmental liabilities	28,808	28,504
Asset retirement obligation	19,879	23,990
Tax, civil and labor provisions	9,389	15,666
Other provisions	6,443	12,481
Provision for profit sharing	5,409	6,521
Provision for inventory losses	5,308	4,395
Other	12,094	10,231
Tax debits on temporary differences		
Capitalized interest	(11,725)	(10,624)
Accelerated depreciation and adjustment of useful lives	(10,636)	(28,371)
Depreciation and amortization of fair value adjustment to PP&E and intangible assets	(318,198)	(344,531)
Other	(1,798)	(2,210)
	(97,444)	(100,418)
Net deferred tax assets related to the same legal entity	201,154	224,513
Net deferred tax liabilities related to the same legal entity	(298,598)	(324,931)
	(97,444)	(100,418)

(i) Tax credits on non-operating losses can be used to offset future tax payments. These credits do not expire if not used by the Company. The breakdown by country is as follows:

	2018	2017
Brazil	104,195	103,791
Peru	2,622	309
	106,817	104,100

The Company had unutilised tax losses resulting from its holding activities in Luxembourg in the amount of USD 57,800 in 2018 (USD 54,328 in 2017). These tax losses do not expire if not used by the Company. Given uncertainty in the future profitability, no deferred tax assets were recognised in respect of these losses.

(b) Effects of deferred tax on income statement and other comprehensive income

	2018	2017
Balance at the beginning of the year	(100,418)	(107,304)
Effect on income for the year	30,864	19,497
Effect on other comprehensive income	(126)	(4,119)
Foreign exchange gain	(27,764)	(8,492)
Balance at the end of the year	(97,444)	(100,418)

19 Provisions

Accounting policy

Provisions for tax, civil, labor, environmental and legal claims and judicial deposits

Provisions for legal claims (labor, civil, tax and environmental) are recognized when: (i) the Company has a present legal or constructive obligation as a result of past events; (ii) it is probable that an outflow of resources will be required to settle the obligation; and (iii) the amount can be reliably estimated. The provisions are periodically estimated and the likelihood of losses is supported by the Company's legal counsel.

Provisions are measured at the present value of the expenditure expected to be required to settle the obligation using a discount rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to the passage of time is recognized as "Financial expenses".

When a claim is secured by a judicial deposit, the Company offsets the provision with the judicial deposit amount in the consolidated balance sheet. However, the Company also has judicial deposits for claims for which the likelihood of loss is possible or remote and for which no provision is recognized. In such cases, these amounts are recognized as outstanding judicial deposits in the Company's assets.

The Company splits the provisions by nature at the balance sheet due to the specifics underlying risks and assessment requirements for each claim.

Critical accounting estimates - Tax, civil, labor and environmental provisions

The Company is part of ongoing labor, civil, tax and environmental lawsuits which are pending at different court levels. The provisions for potentially unfavorable outcomes of litigation in progress are established and updated based on management evaluation, as supported by the positions of external legal counsel, and require a high level of judgment regarding the matters involved.

Asset retirement obligation

Provision is made for asset retirement obligation, restoration and environmental costs when the liability arises due to the development or mineral production of an operating asset, based on the net present value of estimated closure costs. Management uses its judgment and previous experience to determine the potential scope of rehabilitation work required and the related costs associated with that work.

The cash flows are discounted to present value using a credit risk-adjusted rate that reflects current market assessments of the time value of the money and the specific risks for the asset to be restored. The interest rate charges relating to the liability are recognized as an accretion expense in net financial results. Difference in the settlement amount of the liability are recognized in the income statement.

Critical accounting estimates and judgments - Asset retirement obligations

The initial recognition and the subsequent revisions of the asset retirement obligation considers critical future closure costs estimates and several assumptions such as interest rates, inflation and useful lives of the assets. These estimates are reviewed quarterly by the Company.

Cost estimates can vary in response to many factors of each site that include timing, expected life of mine, changes to the relevant legal or government requirements and commitments with stakeholders, review of remediation and relinquishment options, emergence of new restoration techniques, among others. External experts support the cost estimation process where appropriate. These factors either isolated or consolidated could significantly affect the future financial results and balance sheet position. At December 31, 2018, the credit risk-adjusted rate used for Peru was between 3.4% to 9.5% (2017: 1.5% to 2.4%) and for Brazil was between 3% to 5.4% (2017: 7.8%).

(a) Analysis

			2018				2017	
	Asset Retirement Obligation	Environmental Obligation	Judicial provision				Total	Total
			Tax	Labor	Civil	Environmental		
Balance at the beginning of the year	199,445	83,835	18,575	16,421	18,320	4,565	341,161	296,879
Additions	-	-	2,958	11,811	4,173	2,960	21,902	47,816
Reversals	(15,119)	-	(8,753)	(15,012)	(20,908)	(2,320)	(62,112)	(42,019)
Interest	8,443	5,049	794	1,387	105	213	15,991	13,476
Write-off	462	(5,140)	-	-	-	-	(4,678)	(18,666)
Foreign exchange variation (losses) gains	(15,133)	(12,263)	(1,707)	(2,188)	(215)	(404)	(31,910)	(2,367)
Cost and interest revision	7,454	13,249	-	-	-	-	20,703	43,789
Other	-	-	201	(231)	(104)	-	(134)	2,253
Balance at the end of the year	185,552	84,730	12,068	12,188	1,371	5,014	300,923	341,161
Current	-	-	20,357	-	-	-	20,357	14,641
Non-current	185,552	84,730	12,068	12,188	1,371	5,014	280,566	326,520
	185,552	84,730	12,068	12,188	1,371	5,014	300,923	341,161

(b) Breakdown of tax, civil, labor and environmental provisions

The provisions and the corresponding judicial deposits are as follow:

	2018			2017		
	Judicial deposits	Provision	Net amount	Outstanding judicial deposits	Judicial deposits	Provision
Tax	(2,048)	14,116	12,068	2,245	(2,318)	20,893
Labor	(4,258)	16,446	12,188	6,555	(4,765)	21,186
Civil	(746)	2,117	1,371	17	(758)	19,078
Environmental	-	5,014	5,014	413	-	4,565
	(7,052)	37,693	30,641	9,230	(7,841)	65,722
						57,881
						10,949

(i) Comments of tax provisions

Tax provisions relate to tax proceedings, with a probable likelihood of loss relating to federal, state and municipal taxes.

(ii) Comments on civil provisions

Civil provisions relate to indemnification actions mainly related to claims seeking loss of profits, compensatory, and incidental damages. There are also claims regarding real estate and property matters, such as possessory lawsuits.

(iii) Comments on labor lawsuits provisions

Labor lawsuits provisions relate to labor lawsuits filed by former employees, third parties and labor unions mostly claiming the payment of indemnities on dismissals, health hazard premiums and hazardous duty premiums, overtime, and commuting hours, as well as alleged occupational illnesses, work accidents, property and personal damage.

(iv) Comments on environmental provisions

The Company has established policies and procedures to comply with environmental laws and on a regular basis performs analyses to identify environmental legal risks to ensure that the prevention and detection systems are in place to adequately manage these risks. Environmental litigation consists basically of civil public actions to interrupt the environmental licensing for the Company's mines and smelters and indemnity actions for alleged environmental impacts arising from the Company's activities.

(c) Summary of contingent liabilities

The Company is part of other litigation involving a risk of possible loss, for which no provision is recognized, as detailed below:

	2018	2017
Tax	137,170	125,438
Labor	29,079	46,402
Civil	20,130	24,911
Environmental	119,747	133,851
	306,126	330,602

(i) Comments on contingent tax liabilities

The main contingent liabilities relating to tax lawsuits are discussed below.

Compensation for exploration for mineral resources

It relates to assessments issued by the Brazilian National Department of Mineral Production for alleged failure to pay or underpayment of Financial Compensation for the Exploration of Mineral Resources ("CFEM"). The estimate of financial effect of this contingent liability is USD 6,947.

Indirect taxes on sales

It relates to assessments issued by the Brazilian Internal Revenue Service concerning certain credits taken by the Company when calculating those indirect taxes on sales. The estimate of financial effect of this contingent liability is USD 4,788.

Brazilian corporate income taxes

It relates to assessments issued by the Brazilian Internal Revenue Service concerning the following:

- Carryforward calculation of net operating losses for Brazilian corporate income taxes determination. The estimate of financial effect of this contingent liability is USD 5,189.
- Deductibility of certain foreign exchange losses for Brazilian corporate income taxes determination. The estimate of financial effect of this contingent liability is USD 10,177.

Value-added tax on sales

It relates to assessments issued by the tax authorities of the State of Minas Gerais concerning the following:

- Incidence of value-added tax on sales of certain energy contracts. The estimate of financial effect of this contingent liability is USD 32,849.
- The tax rate applied to interstate sales for manufactured goods with imported content. The estimate of financial effect of this contingent liability is USD 4,058.
- The Company was challenged by the tax authorities regarding certain credits to the purchases of property, plant and equipment. The estimate of financial effect of this contingent liability is USD 8,662.

(ii) Comments on contingent labor liabilities

Include several claims filed by former employees, third parties and labor unions, mostly claiming the payment of indemnities on dismissals, health hazard premiums and hazardous duty premiums, overtime and commuting hours, as well as indemnity claims by former employees and third parties based on alleged occupational illnesses and work accidents. The individual amount of the claims are not material.

(iii) Comments on contingent civil liabilities

The main contingent civil liability is related to indemnity lawsuits alleging property damage, pain and suffering. The estimate of financial effect of this contingent liability is USD 10,341.

(iv) Comments on contingent environmental liabilities

The main contingent environmental liabilities were filed by fishermen communities against the Company for indemnification, compensation for material and moral damages due to alleged pollution of the São Francisco River. The estimate of financial effect of these contingent liabilities is USD 96,946.

20 Contractual liabilities

In 2016, the Company entered into a silver streaming arrangement, which consisted of an upfront payment of USD 250,000 for the anticipated sale of a portion of the silver contained in the ore concentrates produced by the Cerro Lindo mining unit. The prepaid amount was recognized as a contractual liability and the corresponding revenue is recognized as the silver is delivered, which is the time that the contractual performance obligations are satisfied. The changes in the contractual liabilities are shown below:

	2018	2017
At January	221,885	250,000
Revenue recognition upon ore delivery	(29,543)	(36,299)
Accretion for year	7,295	8,184
At December	199,637	221,885
Current	31,992	31,296
Non-current	167,645	190,589
	199,637	221,885

21 Shareholders' equity

Accounting policy

Common shares are classified in shareholders' equity. Each time a share premium is paid to the Company for an issued share, the respective share premium is allocated to the share premium account. Each time the repayment of a share premium is decided, such repayment shall be done pro-rata to the existing shareholders.

The distribution of dividends to the Company's shareholders is recognized as a liability in the Company's consolidated financial statements in the period in which the dividends are approved by the Company's shareholders.

Shares repurchased under the Company's buyback program and that are not cancelled, are reported as treasury shares and are deducted from shareholders' equity. These shares are also

deducted in earnings per share calculation.

(a) Capital

As of December 31, 2018, the outstanding capital of USD 132,320 (2017: 133,320) is comprised of 133,320 thousand subscribed and issued common shares (2017: 133,320 thousand), with par value of US\$ 1.00 per share. In addition to the subscribed and issued common shares, NEXA also has an authorized, but unissued and unsubscribed share capital set at USD 231,925.

(b) Treasury shares

On September 20, 2018, the Company's Board of Directors approved a share buyback program to repurchase up to USD 30,000 of its outstanding common shares, over the 12-month period beginning on November 6, 2018 and ending on November 6, 2019. The repurchased shares will not be cancelled but held in treasury at this time. As of December 31, 2018, the Company had repurchased USD 1,352, corresponding to 112 thousand shares.

(c) Share premium

The share premium, if any, may be distributed to the shareholders in accordance with Luxembourg Commercial Companies Act by a resolution of the Board of Directors.

On February 15, 2018, the Board of Directors approved a distribution to the shareholders in the form of a reimbursement of share premium of USD 0.60 cents per common share to shareholders on record at the close of business on March 14, 2018 and paid USD 80,000 to its shareholders on March 28, 2018.

(d) Additional paid in capital

Additional paid in capital arises from transactions recognized in equity that do not qualify as capital or share premium in accordance with Luxembourg Commercial Companies Act and, therefore, cannot be distributed to the shareholders of the Company.

(e) Accumulated other comprehensive income (loss)

The changes in the accumulated other comprehensive income (loss) are as follows:

	Cumulative translation adjustment	Remeasurements of retirement benefits	Hedge accounting	Total
At January 1, 2016	(119,460)	3,327	6,276	(109,857)
Translation adjustment on foreign investments	30,373	-	-	30,373
Cash flow hedge accounting	-	-	(16,256)	(16,256)
At December 31, 2016	(89,087)	3,327	(9,980)	(95,740)
Translation adjustment on foreign investments	(10,742)	-	-	(10,742)
Cash flow hedge accounting	-	-	12,556	12,556
Remeasurements of retirement benefits	-	(3,327)	-	(3,327)
At December 31, 2017	(99,829)	-	2,576	(97,253)
Translation adjustment on foreign investments	(9,959)	-	-	(9,959)
Cash flow hedge accounting	-	-	(2,192)	(2,192)
At December 31, 2018	(109,788)	-	384	(109,404)
Attributable to non-controlling interests				(30,116)
Attributable to NEXA's shareholders				(79,288)

(f) Earnings per share

Basic earnings per share are computed by dividing the net income attributable to the NEXA's shareholders by the average number of outstanding shares for the year. Diluted earnings per share is computed in a similar way, but with the adjustment in the denominator when assuming the conversion of all shares that may be dilutive. The Company does not have any dilutive shares and consequently the Basic and diluted earnings per share are the same.

	2018	2017	2016
Net income for the year attributable to NEXA's shareholders	74,860	126,885	93,167
Weighted average number of outstanding common shares (thousands)	133,313	116,527	80,699
Earnings per share in US Dollars	0.56	1.09	1.15

(g) Non-controlling interests

Summarized balance sheet	NEXA PERU		Pollarix	
	2018	2017	2018	2017
Current assets	957,821	854,295	10,280	6,717
Current liabilities	248,938	236,558	3,459	911
Current net assets	708,883	617,737	6,821	5,806
Non-current assets	642,007	634,757	91,702	110,246
Non-current liabilities	581,172	624,856	21,478	24,978
Non-current net assets	60,835	9,901	70,224	85,268
Net assets	769,718	627,638	77,045	91,074
Accumulated non-controlling interests	373,838	361,265	51,363	60,716

Summarized income statement	NEXA PERU		Pollarix	
	2018	2017	2018	2017
Net revenues	827,537	911,745	11,916	11,512
Net income for the year	142,082	224,480	3,742	12,187
Other comprehensive income (loss)	-	8,538	(15,322)	4,210
Total comprehensive income (loss) for the year	142,082	233,018	(11,580)	16,397
Comprehensive income (loss) attributable to non-controlling interests	13,621	30,207	(7,724)	10,931
Dividends paid to non-controlling interests	-	55,073	2,137	-

Summarized statement of cash flows	NEXA PERU		Pollarix	
	2018	2017	2018	2017
Net cash provided by operating activities	232,391	131,304	7,201	16,137
Net cash used in investing activities	(76,695)	(19,371)	(762)	(80)
Net cash used in financing activities	-	(335,297)	(6,441)	(16,055)
Increase (decrease) in cash and cash equivalents	155,696	(223,364)	(2)	2

22 Net revenues

Accounting policy

Revenue represents the fair value of the consideration received or receivable for the sale of goods in the ordinary course of the Company's activities. Revenues are shown net of value-added tax, returns, rebates and discounts, after eliminating sales between the consolidated companies.

The Company recognizes revenue when a performance obligation is satisfied by transferring a promised good or service to a customer. The asset is transferred when the customer obtains control of that asset. To determine the point in time at which a customer obtains control of a promised asset the Company considers the following indicators: (i) the entity has a present right to payment for the asset; (ii) the customer has legal title to the asset; (iii) the entity transferred physical possession of the asset; (iv) the customer has the significant risks and rewards of ownership of the asset; (v) the customer has accepted the asset.

Identification of performance obligations and timing of satisfaction of performance obligations

The Company has two distinct performance obligations included in certain sales contracts, being: (i) the promise to provide goods to its customers, and (ii) the promise to provide freight services to its customers.

Promise to provide goods: this performance obligation is satisfied when the control of such goods is transferred to the final customer, which is substantially determined based on the Incoterms agreed upon in each of the contracts with customers.

Promise to provide freight service: this performance obligation is satisfied when the freight service contracted to customers is completed.

As a result of the distinct performance obligations identified part of the Company's revenue is presented as revenue from services. Cost related to revenue from services is presented as "Cost of sales".

Determining the transaction price and the amounts allocated to performance obligations

The Company has considered the terms of the contract and its customary business practices to determine the transaction price. The transaction price is the amount of consideration to which the Company expects to be entitled in exchange for transferring promised goods or services to its customers. Transaction price is allocated to each performance obligation on a relative standalone selling price basis.

For the purpose of determining the transaction price, the entity has mainly fixed prices. However, the Company's silver streaming arrangement for Cerro Lindo mine has the transaction price linked to silver production, which might change over time. Therefore, it is accounted for as variable consideration. The impact on recognition of revenue related to these sales was not material for December 31, 2018.

(a) Composition of net revenues

	2018	(Revised) 2017	(Revised) 2016
Gross revenues	2,779,008	2,709,236	2,193,867
Revenues of products	2,708,112	2,637,613	2,128,739
Revenues of services	70,896	71,623	65,128
Taxes on sales	(284,316)	(257,347)	(227,344)
Return on products sales	(3,490)	(2,405)	(1,682)
Net revenues	2,491,202	2,449,484	1,964,841

(b) Information on geographical areas in which the Company operates

The geographical areas are determined based on the location of the Company's customers. The net revenues of the Company, classified by currency and destination, is as follows:

(i) Revenues by destination

	2018	(Revised) 2017	(Revised) 2016
Brazil	693,409	721,640	560,878
Peru	674,228	696,527	573,884
Luxembourg	172,791	130,723	100,631
United States of America	141,131	158,060	156,634
Switzerland	126,156	108,798	59,873
Japan	93,474	69,565	36,005
Argentina	90,338	79,463	45,050
South Korea	54,894	7,064	66,887
Colombia	51,724	47,734	39,137
Chile	51,215	38,101	67,546
Turkey	48,265	35,522	19,498
Austria	40,531	37,270	22,982
Singapore	37,506	60,857	42,666
Germany	20,906	23,154	42,560
China	9,538	18,172	12,838
Italy	5,327	15,799	3,608
Others	179,769	201,035	114,164
	2,491,202	2,449,484	1,964,841

(ii) Revenues by currency

	2018	(Revised) 2017	(Revised) 2016
US Dollar	1,806,590	1,729,234	1,414,992
Brazilian Real	684,612	717,032	547,537
Other	-	3,218	2,312
	2,491,202	2,449,484	1,964,841

23 Expenses by nature

				2018	(Revised) 2017	(Revised) 2016
	Cost of sales	Selling, general and administrative	Mineral exploration and project development	Total	Total	Total
Raw materials and consumables used	1,114,959	838	-	1,115,797	1,120,540	956,909
Employee benefit expenses (i)	159,329	91,000	12,635	262,964	279,371	234,205
Depreciation and amortization	262,948	4,219	22	267,189	270,456	275,036
Services, miscellaneous	231,501	34,211	83,379	349,091	220,535	122,557
Other expenses	120,207	29,335	30,242	179,784	109,115	106,446
	1,888,944	159,603	126,278	2,174,825	2,000,017	1,695,153

(i) A provision is recorded to recognize the expenses related to employee profit sharing. This provision is calculated based on the qualitative and quantitative targets established by management.

For the year ended December 31, 2018, the average number of employees was 6,159 (2017: 5,643; 2016: 5,561).

24 Mineral exploration and project development

	2018	2017	2016
Mineral exploration (i)	83,182	76,161	33,547
Project development (FEL 1 and FEL 2) (ii)	43,096	16,537	13,164
	126,278	92,698	46,711

(i) Increase in mineral exploration is due to the Company's activities to increase reserves and resources and also to develop its greenfield portfolio. Amounts are divided between brownfield (USD 41,502) and greenfield (USD 41,860) exploration.

(ii) The increase is due to the development of projects in FEL1 and FEL2 stages, of which USD 16,960 related to greenfield projects.

25 Other income and expenses, net

	2018	2017	2016
Corporate projects	(13,445)	(12,947)	(7,675)
Mining obligations	(12,637)	(11,498)	(8,967)
Loss on sale of property, plant and equipment (i)	(9,884)	(694)	(552)
Provision for tax, labor, civil and environmental claims	(3,671)	258	(15,331)
Impairment of property, plant and equipment - Note 13	(3,283)	-	979
Gain on sale of investment	348	4,588	408
Environmental and asset retirement obligations (ii)	12,078	433	(68,605)
Commodities derivative financial instruments	17,528	(18,785)	(33,514)
Tax credits (ii)	37,582	57	-
Other operating expenses, net	(6,440)	(9,299)	(6,462)
	18,176	(47,887)	(139,719)

(i) On May 21, 2018, the Company entered into an agreement to sell assets and to transfer certain liabilities of Fortaleza de Minas facility for USD 27 (BRL 100). The transaction resulted in a gain of USD 3,394, comprised of a loss of USD 9,615 on the sale of property, plant and equipment and intangible assets and a gain of USD 13,009 related to the reversal of the related asset retirement obligation.

(ii) On October 2018, a final decision by the Regional Federal Court (TRF) granted NEXA BR the right to recover federal tax credits in the amount of USD 59,686, being USD 33,653 principal amount and recognized at "Other income and expenses, net" and USD 26,033 corresponding to interest and recognized as "Financial income". The credits recognized will be used to reduce future federal tax payments.

26 Net financial results

	2018	2017	2016
Financial income			
Gains on financial investments	26,062	21,388	12,032
Interest on tax credits - Note 25	26,033	-	-
Other financial income	15,414	8,480	12,923
	67,509	29,868	24,955
Financial expenses			
Interest on loans and financing	(77,647)	(56,434)	(36,059)
Interest on contractual liabilities	(7,294)	(8,184)	-
Monetary adjustment of provisions	(4,763)	(9,478)	(9,595)
Derivative financial instruments - Note 6 (iii)	(2,538)	-	-
Other financial expenses	(29,420)	(32,073)	(24,720)
	(121,662)	(106,169)	(70,374)
Foreign exchange losses, net (i)	(148,501)	(53,880)	124,500
Net financial results	(202,654)	(130,181)	79,081

(i) Foreign exchange losses, net is mainly related to the gain or loss effect of intercompany transactions denominated in a currency other than the functional currency of the parties involved in the transaction, which is not eliminated during the consolidation process, even though the intercompany balances are eliminated.

Consistent with the Company's strategy of reducing its exposure to foreign exchange changes, the subsidiary NEXA BR prepaid in 2018 USD 600,000 of the USD 1,113,400 outstanding debt to NEXA.

27 Long-term commitments

(a) Capital commitments – Aripuanã project

At December 31, 2018, the Company had contracted for USD 15,953 of capital expenditures related to the Aripuanã project that have not yet been incurred for the purchase of property, plant and equipment.

(b) Process inputs materials

The Company has forward purchase commitments in the amount of USD 33,395 for process inputs materials, which are used as part of the Company's operations. This contract contains monthly fixed prices and expires in 2026.

28 Audit and non-audit fees related to the auditor

Audit fees are the aggregate fees billed by the Company's principal accountant for the audit of annual financial statements, the audit of the statutory financial statements of the Company's subsidiaries, and reviews of interim financial statements and attestation services that are provided in connection with statutory and regulatory filings or engagements. They also include fees for services that only the independent auditor reasonably can provide, including the provision of comfort letters and consents in connection with statutory and regulatory filings and the review of documents filed with the SEC and other capital markets or local financial reporting regulatory bodies. In December 2018, audit fees recorded amounted to USD 1,999.

Audit-related fees are fees charged by the Company's principal accountant for assurance related services that are reasonably related to the performance of the audit or review of the Company's consolidated financial statements and are not reported under "Audit fees." In December 2018, audit-related fees recorded amounted to USD 95.

29 Events after the reporting period

(a) Dividend distribution

On February 15, 2019, the Board of Directors approved, subject to ratification by the Company's shareholders at its upcoming annual meeting, a dividend distribution in the amount of USD 0.525494 cents per common share, equivalent to approximately USD 70,000, to be paid in cash to the Company's shareholders on record at March 14, 2019. The dividends are expected to be paid on March 28, 2019.

(b) Peruvian income tax assessment

On January 2019, the Company was assessed by the Peruvian tax authorities concerning its income tax calculation in the amount USD 37,809. The likelihood of loss is considered possible and no provision was recognized at December 31, 2018.

