

## PT Vale Indonesia Tbk.

### EV is the New Green

May 18, 2020

**Buy**

#### INVESTMENT THESIS.

**Second Stage Divestment.** We project a divestment of 20% of Company's shares to be completed by the end of June, at which time the MIND ID is still negotiating with the Company's shareholders. Our divestment price is around IDR 3,370-4,400 per share.

**New Demand from EV.** The IEA projects sales of electric vehicles to reach 44 million units in FY25. This has become a positive catalyst for the Company because nickel matte is one of the raw materials for electric vehicle batteries. In addition, the Company is also preparing a nickel processing plant for raw materials for electric vehicle batteries in Pomalaa.

Price (15/05)	IDR 2,890
<b>Target Price</b>	<b>IDR 3,270</b>
Ticker	INCO
Industry	Metals & Mining

#### FINANCIAL PROJECTION.

**Balanced Sheet.** We project Total Assets to grow 1.4% in FY20E to USD 2.2 billion while Total Liabilities will increase 19.3% to USD 335 million. Total Equity reached USD 1.92 billion, down slightly by 1.1%.

**Profit & Loss.** We project a 17.5% decrease in revenue to USD 645 million due to low nickel prices. As a result, Gross Profit fell 91% to only USD 10 million. Our company is projecting to book a Net Loss of USD 22 million in FY20E.

**Financial Ratio.** Current Ratio is maintained at 4.4x while Debt to Equity is very low at 0.016x. However, Return on Equity was negative 1.1% because the Company recorded a loss.

#### INVESTMENT RISKS.

**Lower Economy Growth.** The IMF lowered the target of global economic growth due to COVID-19 to -3.0% in FY20E and global trade fell by -15%. The Ministry of Finance projects Indonesia's economic growth to be only 2.3% while Bank Indonesia is slightly optimistic to grow 4.2%.

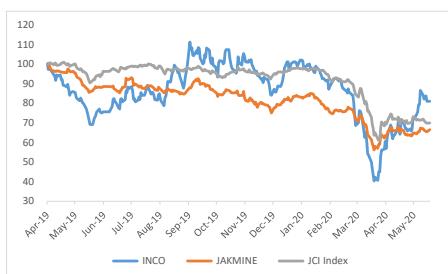
**Lower Nickel Price.** We project the price of LME nickel to be corrected by 18.3% in FY20E to the level of USD 11,500 per ton. This is due to high nickel LME reserves (supply side) and low global economic activity (demand side).

#### VALUATION & RECOMMENDATION.

Using the relative valuation method we set the **Fair Value** of the Company's shares at the level of **IDR 3,270**; where this price reflects P/S20E 2.9x and P/B20E 1.0x.

By comparing the closing price on Friday (15.5) at the level of IDR 2,890 where there is still an upside potential of 13.2%, we recommend **Buy**.

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#### Company Description:

The Company is a producer of nickel in matte based on the Contract of Work until 2025. The Company is currently negotiating with the Indonesian Government regarding the Amendment to the Contract of Work. The company has a concession area of 118 thousand hectares spread in Sorowako, South Sulawesi, Bahodopi, Central Sulawesi and Pomalaa & Suasua, Southeast Sulawesi. Nickel in matte production capacity is currently at 80 thousand tons per year which will be increased to 90 thousand tons per year.

#### Stock Data

52-week Range (IDR)	4,320   1,340
Mkt Cap (IDR tn)	28.7
JCI Weight	0.57%
Shares O/S (bn)	9.9
Shares Float	20.7%
YTD Change	-20.6%

#### Share Holders:

Vale Canada Ltd.	58.73%
Sumitomo Metal Mining Co. Ltd.	20.09%
Public/Others (<5%)	21.18%

	FY16	FY17	FY18	FY19F	FY20F	FY21F
Revenue (USD mn)	584.1	629.3	776.9	782.0	645.0	673.6
Profit before income tax (USD mn)	5.2	<b>-23.0</b>	82.6	89.1	<b>-24.1</b>	<b>-2.7</b>
Net income (USD mn)	1.9	<b>-15.3</b>	60.5	57.4	<b>-21.7</b>	<b>-5.5</b>
EPS (USD)	0.0002	<b>-0.0015</b>	0.0061	0.0058	<b>-0.0022</b>	<b>-0.0005</b>
BV (USD)	0.1846	0.1831	0.1896	0.1954	0.1932	0.1927
Revenue growth (%)	-26.0%	7.7%	23.4%	0.7%	-17.5%	4.4%
Net Income growth (%)	-96.2%	-901.2%	496.3%	-5.1%	-137.8%	74.9%
Current ratio (X)	4.5	4.6	3.6	4.3	4.4	4.5
Debt-to-equity (X)	0.1	0.0	0.0	0.0	0.0	0.0
ROE (%)	0.1%	-0.8%	3.2%	3.0%	-1.1%	-0.3%
P/S (X)	4.1	3.8	2.9	3.0	2.9	3.5
P/BV (X)	1.3	1.3	1.2	1.2	1.0	1.2

Source : Bloomberg, MCS Research

*Your Trusted Professional*

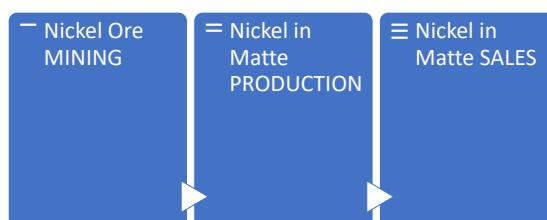
## I. BUSINESS MODEL CANVAS

### I.1. Key Activities

*Exploring, processing & selling nickel in matte.*

The Company's main business activities are exploration and mining, processing, storage, transportation and sales/marketing of nickel and other related mineral products. The Company currently mines nickel ore and processes it into matte, with an integrated mining and processing area in Sorowako, South Sulawesi.

**Graph 1. Key Activities Process**



*Source: Company*

*Mining Process.*

**I.1.1. Nickel Ore Mining.** Nickel ore mining operations are carried out in Sorowako, South Sulawesi which includes East Block, West Block and Peteta. The Company's mining process is carried out open pit and begins with a geological survey of nickel ore. After mine planning has been decided, operational operations will be carried out including the stages of cleaning up the mine area, stripping the overburden and removing it to the holding site. The next step is to extract high grade nickel ore (saprolite) using an excavator, followed by transportation of mining material to the screening station to be processed into screening station products (SSP). The end of mining operations is the storage of SSP in stock piles.

*Production Process.*

**I.1.2. Nickel in Matte Production.** Nickel in matte production starts from the process of bringing nickel ore in the form of a screening station product (SSP) to the apron feeder in a drying furnace, to reduce the water content to 20%. After the drying process, nickel ore enters dry ore storage (DOS). The dried ore is then processed in a reduction furnace to remove all water content. The process continues in the calcination zone, which converts nickel oxide into nickel metal.

At the stage of the reduction furnace, other supporting materials such as coal and sulfur are used. The final product in the process in the reduction furnace is calcin. Then calcine is put into the electric furnace for the melting and reduction process to produce a matte furnace. In the electric furnace, only about 7% of the total nickel ore input comes out in the form of a matte furnace, the rest of which is slag.

From the electric furnace, the matte furnace is transported to the converter for the granulation process. The liquid matte converter is poured into the high pressure water flow to produce a solid grain called nickel in matte. After that, nickel in matte is dried and packaged and ready for shipping to the buyer.

### *Sales Process.*

**I.1.3. Nickel in Matte Sales.** The Company's nickel matte sales activities are done through long-term contracts with Vale Canada Limited (VCL) and Sumitomo Metal Mining Co. Ltd. (SMM), which is a shareholder of the Company. In accordance with the sales agreement, VCL bought 80% of the Company's nickel products in matte, while the remaining 20% was purchased by SMM. The sale price is determined based on a specific formula agreement that refers to the nickel price on the London Metal Exchange (LME).

**Picture 1. Mining, Production & Sales Process**



Source: Company

### **I.2. Key Resources**

*The First Contract of Work signed in 1968 & valid until 2008.*

**I.2.1. Kontrak Karya (Contract of Work).** In our view, the largest asset owned by the Company is a Contract of Work which is a permit for the Company to carry out mining and mineral processing activities in the territory of Indonesia. The First Contract of Work was signed between PT. Inco (the name of the Company at that time) with the Government of Indonesia on July 27, 1968 and is valid for 30 years from the commencement of commercial production in 1978 (the First Contract of Work ended in 2008). The Company's nickel ore mining operations are in Sorowako, East Luwu Regency, South Sulawesi.

*The Second Contract of Work & its Amendment Agreement in 2014.*

In 1996, the Government of Indonesia through the Amendment Agreement extended the period of the Company's Contract of Work which initially ended in March 2008 to December 2025. In October 2014 an Amendment to the Contract of Work was made as a result of a renegotiation agreement between the Company and the Government of Indonesia. In the Amendment, public ownership of 20.49% was recognized as fulfillment of the first stage divestment obligations. This renegotiation is related to Undang Undang No. 4 of 2009 concerning Mineral and Coal Mining. Another impact of this Amendment is that the Company relinquished part of its concession area to 118,435 hectares from 190,510 hectares. Then in March 2017 the Company again released a 418 hectare concession area to the Regional Government, so that the Company's current concession area is 118,017 hectares.

*Second phase divestment to be concluded in May 2020.*

Another important point discussed in the Amendment to the Contract of Work is related to the second stage of the divestment of 20% ownership. According to the agreement, the Company cannot immediately release the second phase of the divestment shares to the public, but must first offer to the Central Government, Regional Governments, BUMN, BUMD and national private companies. Public offering through the Indonesia Stock Exchange will be the last option if the preferred parties do not take the divestment shares. At present negotiations are being held between the Central Government and the Company regarding this divestment, where the MIND ID is appointed by the Central Government to take over the divestment shares. Initially the divestment process was completed in October 2019, but was postponed until March 2020 and resumed back to May 31, 2020. We will discuss this divestment in more detail in the Investment Thesis section.

*Concession area of 118 ha.*

**I.2.2. Concession Area.** Based on the Contract of Work owned, the Company currently has a concession area of 118 thousand hectares spread over four blocks; namely Sorowako-Towuti, Bahodopi, Pomala and Suasua.

**Table 1. Company's Concession Area**

Province	Block	Ha
South Sulawesi	Sorowako - Towuti	70,566
Central Sulawesi	Bahodopi	22,699
Southeast Sulawesi	Pomala	20,286
	Suasua	4,466
	<b>Total</b>	<b>118,017</b>

*Source: Company*

**Picture 2. Company's Concession Area**



*Source: Company*

*Facilities owned by the Company.*

**I.2.3. Mining, Production & Supporting Facilities.** To support all of the Company's activities, from exploration to shipping of matte nickel products, we divide a number of facilities owned by three major parts; namely mining operations, nickel matte production and other supporting facilities.

**Table 2. Operation Facilities**

Facilities	Description
Heavy Equipment	24 excavator, 106 truck
Mining Roads	440 km
Port	Located at Balatang, Luwu Timur
Mangkasa Point Fuel Terminal	Located at Desa Lampia, Luwu Timur
Fuel Pipelines	48.8 km
Fuel Storage Tanks	19 unit

Source: Company

**Table 3. Production Facilities**

Facilities	Total
Dryer Kiln	3 unit
Reduction Kiln	5 unit
Electric Furnace	4 unit
Converter	3 unit
Screening Station	5 unit
Coal Mill	1 unit

Source: Company

**Table 4. Supporting Facilities**

Facilities	Description	Unit	Capacity (MegaWatt)
Hydroelectric Power Generators	PLTA Larona	3	165
	PLTA Balambano	2	110
	PLTA Karebbe	2	90
Thermal Power Generators	Mirrles Blackstone Diesel Generator	5	30
	Caterpillar Diesel Generator	23	23
	Stream Turbine Generator	1	24

Source: Company

*Mineral reserve 116.5 mton DKP.*

**I.2.4. Mineral Reserves.** Based on data we have obtained from the Company, at the end of 2018 the total mineral reserves amounted to 116.5 metric tons of dry kiln product (Mt DKP), which consisted of Proven Reserve at 101.8 Mt DKP and 14.7 Mt DKP.

*Estimates of mineral resources standards.*

Estimates of mineral resources and metal reserves follow the Indonesian Mineral Reserve Code (KCMI) and the Definition Standards of Mineral Resources & Mineral Reserves as well as the CIM Best Practice Guidelines from the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) which refers to the code standard NI43-101.

*Probable Reserve definition.*

CIM defines "Probable" mineral reserves as part of designated mineral resources that are estimated to be economically viable based on pre-feasibility studies. This study must include adequate information regarding mining, processing, metallurgical, economic and other related factors which indicate, at the time of reporting, that mining can be economically justified.

*Proven Reserve definition.*

As for the mineral reserves the "Proven" CIM defines as an economically minable part of a measured mineral resource that is stated at least by a pre-feasibility study. This study must include adequate information regarding mining, processing, metallurgical, economic and other factors that at the time of reporting, mining could be economically justified.

**Table 5. Company's Mineral Reserves**

Mineral Reserves (in mn tonnes)	FY15		FY16		FY17		FY18	
	Mt (DKP)	%Grade	Mt (DKP)	%Grade	Mt (DKP)	%Grade	Mt (DKP)	%Grade
Proven	96.9	1.8%	91.7	1.8%	82.7	1.8%	101.8	1.8%
Probable	22.3	1.7%	19.2	1.8%	12.4	1.7%	14.7	1.6%
<b>Total</b>	<b>119.2</b>	<b>1.8%</b>	<b>110.9</b>	<b>1.8%</b>	<b>95.1</b>	<b>1.8%</b>	<b>116.5</b>	<b>1.7%</b>

Source: Company

### I.3. Partner Network

*Government as key partner.*

In our view the most important partner of the Company is the Government of Indonesia, both the Central Government and the Regional Government. We consider the Central Government important because the Contract of Work is issued by the Central Government, while the Regional Government also needs to be approached given the location of the Company's mineral mines in contact with the local community.

*Contract of Work.*

Regarding the Contract of Work, as we mentioned above, it was first issued in 1968 and is valid until 2008 (Contract of Work I). Then in 1996 there was an Extension of Work Contract (Contract of Work II) whereby the Company's concession was extended to 2025. And finally in 2014 a Renegotiation and Amendment to the Contract of Work related to Law No. 4 of 2009.

*CSR for local communities.*

For local communities, the Company carries out Corporate Social Responsibility (CSR) called the Independent Village Partner Program. The program aims to increase community capacity in education, health and economy, and strengthen local institutions and governance.

### I.4. Value Propositions

*Company's main product is nickel matte.*

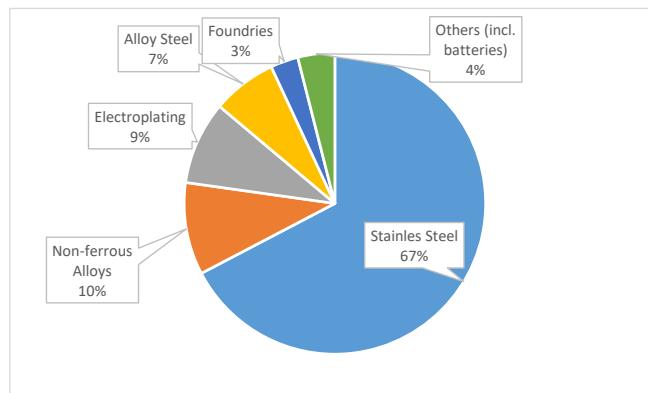
**I.4.1. Nickel in matte.** The Company's main products are nickel matte, an intermediate product used in the manufacture of processed nickel with an average content of 78% nickel, up to 2% cobalt and 20% sulfur. Nickel is a chemical element with the symbol Ni and atomic number 28. Nickel belongs to the transition metals and is hard and ductile. Nickel was first isolated and classified as a chemical element in 1751 by Axel Fredrik Cronstedt, who initially mistook the ore for a copper mineral, in the cobalt mines of Los, Sweden.

Matte is a term used in the field of pyrometallurgy given to the molten metal sulfide phases typically formed during smelting of copper, nickel and other base metals. Typically, a matte is the phase in which the principal metal being extracted is recovered prior to a final reduction process to produce a crude metal. Mattes may also be used to collect impurities from a metal phase, such as in the case of antimony smelting. Molten mattes are insoluble in both slag and metal phases.

*Nickle used in products.*

**I.4.2. Nickel Applications.** According to the Nickel Institute, nickel is used in many specific and recognizable industrial and consumer products, including stainless steel, alnico magnets, coinage, rechargeable batteries, electric guitar strings, microphone capsules, plating on plumbing fixtures and special alloys such as permalloy, elinvar and invar. And the most recent is the use of nickel as a component of batteries for electric vehicles (which we will discuss in more detail in the Investment Thesis).

**Graph 2. Users of Nickel**



Source: Nickel Institute

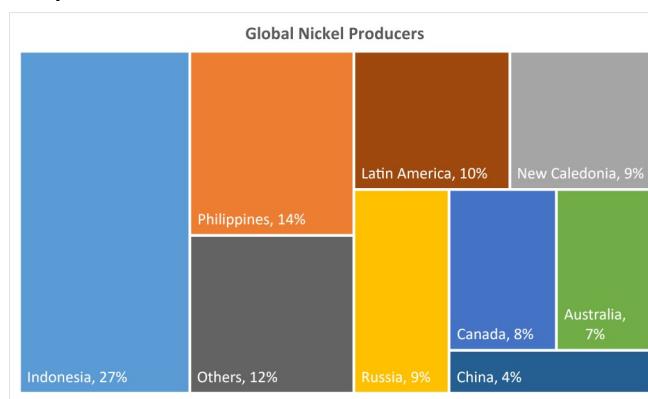
*Indonesia is the world's biggest nickel producer.*

**I.4.3. The Company's Market Share.** Based on the data that we process from various sources, including data from the Company, in 2018 Indonesia became the world's largest nickel producer with a market share of 27% with a total production of 365 thousand tons. The Philippines is the nickel producer which is Indonesia's closest competitor with a 14% market share.

*The Company controls 6% global nickel market share.*

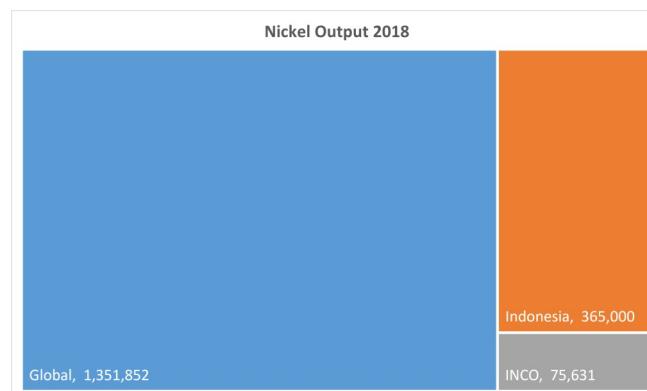
In 2018 the Company produced and sold as many as 75.6 thousand tons of nickel, and when compared with the national nickel production, the Company controlled 21% of the domestic nickel market. Meanwhile, when compared to the global market, in our calculations the Company controls 6% of the market share.

**Graph 3. Global Nickel Producers**



Source: Company, MCS Research

**Graph 4. Company's Market Share**



Source: Company, MCS Research

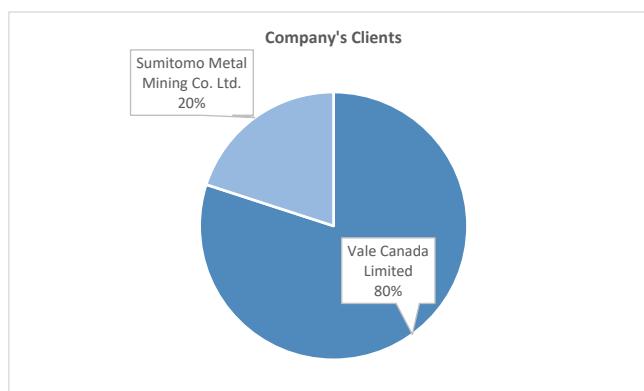
## 1.5. Customer Segments

*All product sold to shareholders.*

Basically, customers of the Company are shareholders themselves, where 100% of the Company's products are sold to shareholders. Vale Canada Limited purchases 80% of the Company's products while the remaining 20% is absorbed by Sumitomo Metal Mining Co. Ltd.

The question is how is the continuation of the sale of the Company's products when the 20% share divestment process with the Indonesian Government is completed. Will 100% of the products be sold to Vale and Sumitomo or will some be sold to Indonesia through MIND ID? This is a fundamental question that requires further explanation. In our view, MIND ID or any party appointed to represent the Government of Indonesia should also get part of the Company's nickel products. The scenario can be in the form of goods or compensation money. It is hoped that this question can be answered when the divestment process is complete.

**Graph 5. Company's Clients**



Source: Company

## I.6. Channels and Customers Relationship

*All product is absorbed by shareholders.*

*Shipped through Balantang Port to Japan.*

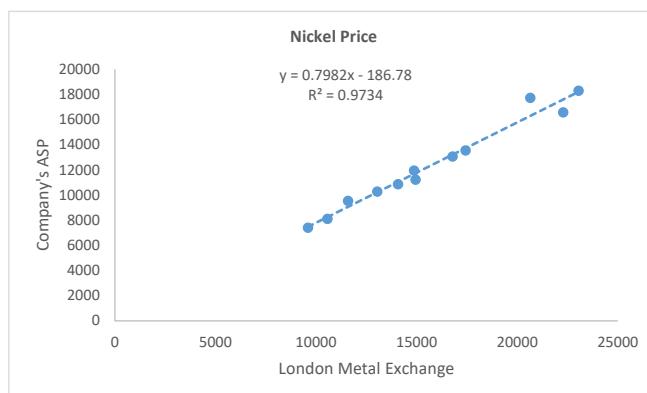
*ASP is benchmarked to LME price.*

Since starting commercial production in 1978, all of the Company's matte nickel production has been specifically sold to Vale Canada Limited (VCL) as a shareholder, and since 1988 with the entry of Sumitomo Metal Mining Co. Ltd. (SMM) as a shareholder, the portion of VCL becomes 80% and SMM 20%. All sales agreements are made long term with periodic reviews. Therefore, the Company does not need a marketing strategy specifically considering that all products are absorbed by shareholders.

Regarding shipping, all matte nickel is shipped from the Balantang Port to Japan by using both the Company's and charter vessels. Matte nickel is shipped in large sacks with a weight of 3.3 tons. Every month the Company sends two to three times.

Based on data from management, the determination of selling price is determined through long-term negotiations with reference to nickel prices on the London Metal Exchange. We conducted an analysis regarding this pricing, where we compared the LME nickel price with the Company's average selling price (ASP). From our data, the determinant between the LME price and the Company's ASP is 0.97, which means that the determination of the Company's selling price follows the LME price. We will discuss in more detail the ASPs of the Company in the next section.

**Graph 6. Company's ASP and LME Nickel Price**



*Source: Bloomberg, Company, MCS Research*

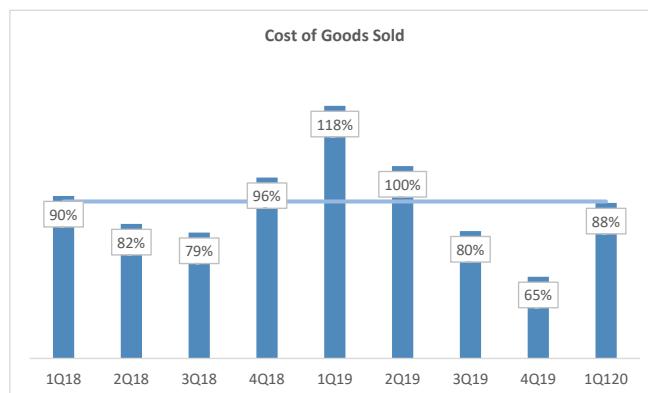
## I.7. Cost Structure

*COGS 89% of Revenue.*

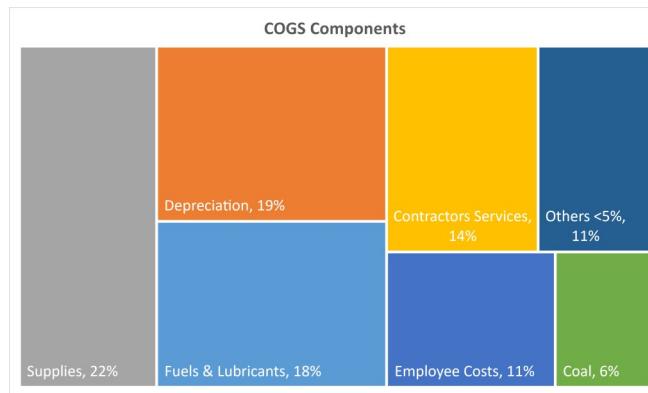
*Fuels, Depreciation & Supplies the biggest COGS components.*

In terms of cost structure, the largest cost component for the Company is the cost of goods sold (COGS), which has reached 89% of Revenue in the past two years. Even in 1Q18, 4Q18 and 1Q19 COGS were above average. In 1Q19 COGS of 118% of Revenue, which means that in the quarter the Company recorded Gross Loss.

We further analyze the COGS components, the three largest cost components are Fuels & Lubricants, Depreciation and Supplies. For example, in 1Q20 the total costs of Fuels & Lubricants reached USD 28,971 from the total COGS costs of USD 163,509, while Depreciation reached USD 30,594 and Supplies USD 35,562.

**Graph 7. Company's COGS**


Source: Company, MCS Research

**Graph 8. COGS Biggest Components**


Source: Company, MCS Research

## I.8. Revenue Streams

*All Revenue comes from nickel in matte sales.*

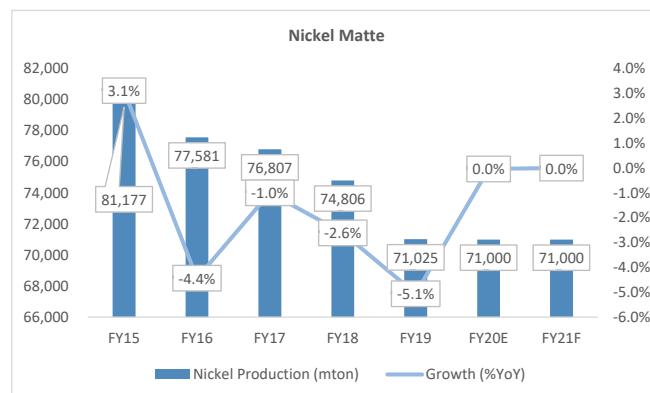
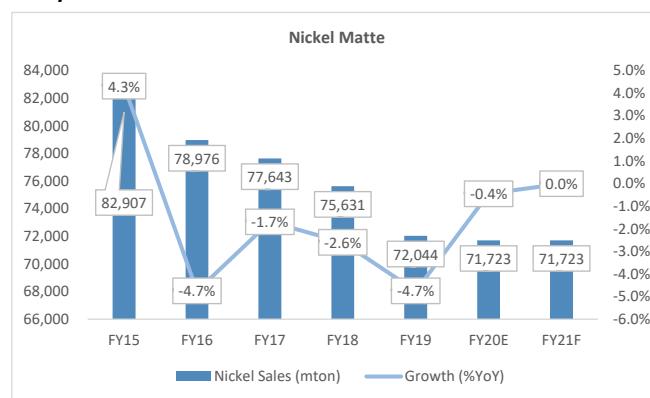
The Company's 100% revenue streams come from the sale of nickel in matte. In this analysis we divide into two parts; the first discusses the production and sales of the Company's nickel in matte and secondly analyzes the Company's average selling price (ASP).

*Nickel in matte production stagnate at 71,000 mton.*

**I.8.1. Production & Sales Volume.** We project a nickel in matte production to stagnate at the level of 71 thousand tons in both FY20E and FY21F. In FY19 the Company succeeded in producing nickel in matte of 71,025 mton, down -5.1% YoY compared to FY18 production.

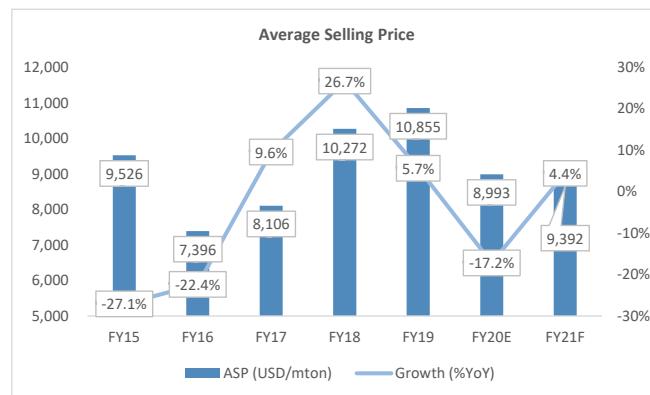
*Sales volume to slightly decrease on FY20E.*

While from the sales side, we project a slight decrease of -0.4% of the volume of nickel in matte to 71,723 mton in FY20E. In FY19, the Company's nickel in matte sales also decreased by -4.7% at 72,044 mton.

**Graph 9. Nickel in Matte Production**

**Graph 10. Nickel in Matte Sales**


FY20E ASP to decrease by -17.2% YoY.

**I.8.2. Average Selling Price.** The Company's average selling price (ASP) follows the nickel price movement on the London Metal Exchange. In our projection, the LME nickel price in FY20E will experience a correction of -18.3% YoY to the level of USD 11,500 per ton. This resulted in the Company's ASP, in our calculation, a correction of -17.2% YoY to the level of USD 8,993 per ton. Only in FY21F did we project that the Company's ASP will increase by + 4.4% YoY to USD 9,392 per ton.

**Graph 11. Average Selling Price**


## II. INVESTMENT THESIS

### II.1. Second Stage Divestment

*Amendment of the Second Contract of Work.*

**II.1.1. Background and Progress.** In 1996 the Indonesian Government extended the Contract of Work through the Amendment Agreement to the Company, which one of the main points was to extend the concession period to the end of 2025. Furthermore, in October 2014 the Second Contract of Work was amended according to Undang Undang No. 4/2009 concerning Mineral and Coal Mining. The two main points of this amendment are the reduction of the Company's concession area to 118 thousand hectares from the previous 190 thousand hectares. The second point is related to the divestment of 20% of the Company's shares.

*The Second divestment after conducting an IPO in 1990.*

The divestment being negotiated is the second phase of divestment. Previously, in 1990 the Company released 20% of shares to the public through an Initial Public Offering (IPO), in which the Company's shares were listed and traded on the Indonesia Stock Exchange. Therefore, if the divestment is completed, the Company has divested 40% of the Company's shares.

*CSPA signing expected by the end of May 2020.*

**II.1.2. Progress.** Regarding the second stage of the divestment of 20% of the Company's shares, the Government of Indonesia has decided PT. Indonesia Asahan Aluminum (now changed to MIND ID) as the recipient/buyer of the Company's shares. For this reason, MIND ID and the Company are currently in negotiations related to a Conditional Share Purchase Agreement (CSPA). Initially, CSPA was expected to be signed on 20 December 2019, but negotiations are still ongoing between MIND ID and the Company's two shareholders, Vale Canada Limited and Sumitomo Metal Mining Co. Ltd. In addition to CSPA, negotiations also cover the issue of Shareholder Agreement and Offtaker Agreement. In the Company's Press Release dated March 31, 2020, it was stated that this CSPA agreement may be delayed until the end of May 2020.

*MIND ID has prepared a USD 500 million.*

**II.1.3. Estimate Price.** Until now the selling price of 20% of the Company's shares to MIND ID has not been announced to the public. However, from some of the data we have collected, it seems that MIND ID has prepared a fund of USD 500 million to buy 20% of the Company's shares.

*Divested price of IDR 3370-4400 per shares we assumed.*

Assuming 20% of the Company's divested shares are 1.98 billion shares, the transaction value is around USD 500 million, so we are projecting a divestment price of USD 0.2516 per share. Assuming USD/IDR 15,000-17,500, the divestment value is IDR 3,370-4,400 per share.

## II.2. New Demand from Electric Vehicle

Electric vehicle to grow 39.3% CAGR between 2017-2025 according to IEA.

2022 will be the turning point of EV as battery cost manageable.

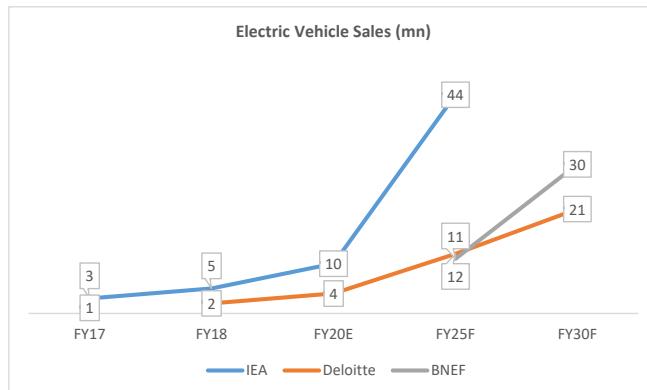
BNEF projection.

**II.2.1. Electric Vehicle Forecast.** The International Energy Agency (IEA) in the Global EV Outlook 2019 said total electric vehicle sales in 2018 reached 5.1 million units worldwide, growing 64.5% YoY from electric vehicle sales in 2017 which amounted to 3.1 million units. The biggest sales took place in the European market with total sales reaching 1.2 million units and followed by China and the United States markets each at 1.1 million units. The IEA projects that electric vehicle sales in 2020 will reach 10 million units and in 2025 there will be 44 million units. This means that between 2017 and 2025 electric vehicle sales will grow by 39.3% CAGR.

Meanwhile, Deloitte is a little more pessimistic than IEA projections. Deloitte projects that electric vehicle sales in 2025 will only reach 12 million units and will double to 21 million units in 2030. Despite the high rise, this projection is still far from the IEA. What's interesting about Deloitte's analysis is that the turning point of consumer awareness of electric vehicles will occur in 2022. Based on Deloitte's analysis, in that year battery technology for electric vehicles will make the price of batteries go down big enough so that the price difference between conventional vehicles and electric vehicles will be small.

Finally, we also compare with the projected Bloomberg New Energy Finance (BNEF) projecting the level of sales of electric vehicles to reach 11 million units in 2025 and 30 million units in 2030.

**Graph 12. Electric Vehicle Sales Projection**



Source: IEA, Deloitte, BNEF

**II.2.2. EV Batteries.** Batteries are the key differentiator between the various electric vehicle (EV) manufactures. The amount of energy stored in the battery determines the range of the EV, thought to be a major limitation on EV sales. The most common battery type are lithium-ion and lithium polymer because of high energy density compared to their weight. Other types of EV batteries include lead-acid, nickel-cadmium, nickel-metal hydride and less common zinc-air and sodium nickel chloride.

**Table 6. EV Manufacturer and Batteries**

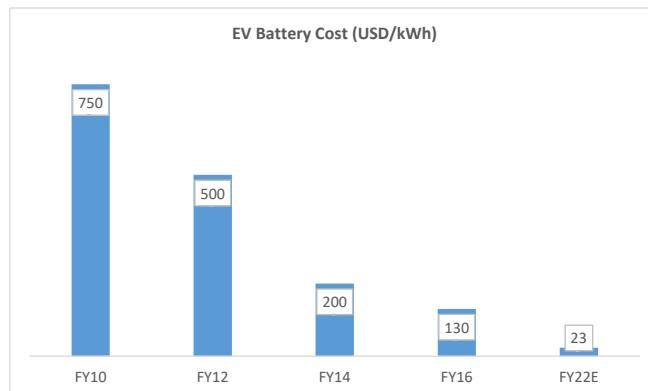
Manufacturer	Model	Range (miles)	Battery (kWh)	Battery Manufacturer
Tesla	Model S	259	75	Panasonic/Tesla
Tesla	Model X	295	75	Panasonic/Tesla
Tesla	Model 3	220	50	Panasonic/Tesla
Chevrolet	Bolt EV	238	60	LG Chem
Nissa	Leaf	151	30	AES Corp.
Fiat	500e	84	24	SB LiMotive
VW	e-Golf	126	36	Samsung SDI
Ford	Focus Electric	118	34	LG Chem
BMW	i3	114	22	Samsung SDI
Kia	Soul EV	111	27	SK Innovation

Source: Journal of Int'l Commerce & Economics

*Batteries for electric vehicle is getting cheaper by the year.*

The data that we process from several electric car manufacturers, the cost of making batteries for electric vehicles in 2016 amounted to USD 130 per kWh. This figure is already much lower compared to 2010 which reached USD 750 per kWh. If this trend continues, where the price of making electric vehicle batteries drops -25.3% CAGR, then the price of making electric vehicle batteries in 2022 is projected to be USD 22-23 per kWh.

**Graph 13. EV Batteries Cost**



Source: MCS Research

*Higher demand of EV is a positive catalyst for the Company.*

With the increasingly low price of batteries for electric vehicles makes consumers interested in buying electric vehicles. If this happens, it certainly will increase the demand for raw materials for electric vehicle batteries, one of which has nickel as the Company's main product.

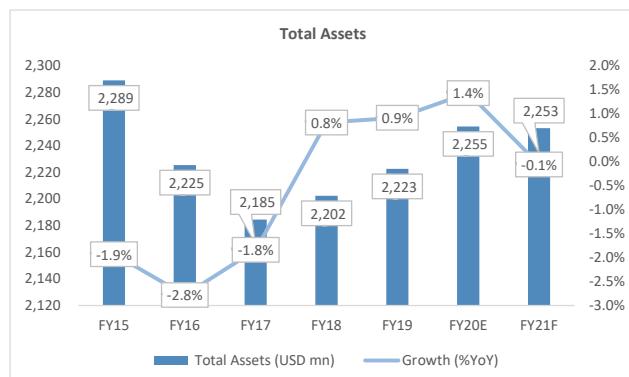
*New processing plant in Bahodopi & Pomalaa.*

The company is currently expanding, i) increasing nickel in matte production capacity in Sorowako, South Sulawesi to 90 thousand tons per year from the current 80 thousand tons per year, ii) building a ferronickel plant to process saprolite nickel ore which is the main material needed stainless steel in Bahodopi, South Sulawesi and iii) building a limonite nickel ore processing plant which is used as the main material for electric vehicle batteries in Pomalaa, Southeast Sulawesi.

### III. FINANCIAL PROJECTIONS

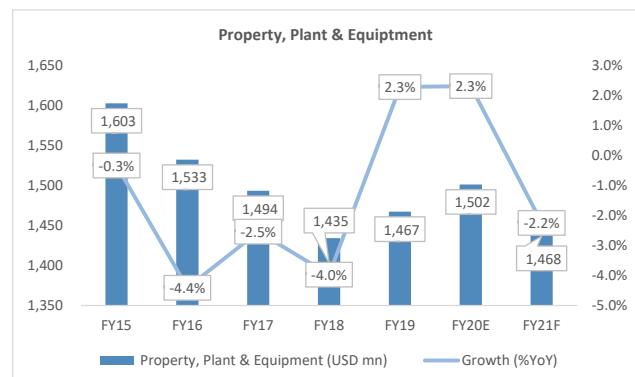
#### III.1. Balanced Sheet

**Graph 14. Total Asset**



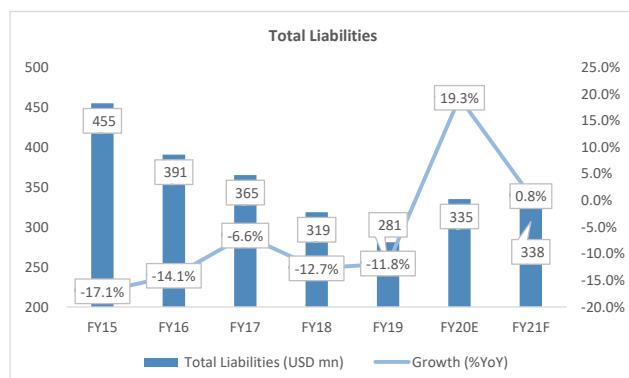
Source: MCS Research, Bloomberg

**Graph 15. Property, Plant & Equipment**



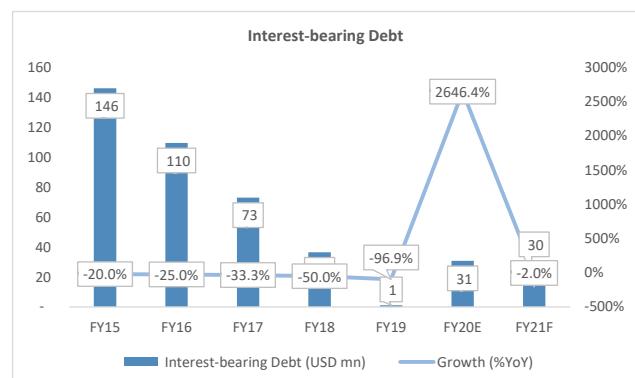
Source: MCS Research, Bloomberg

**Graph 16. Total Liabilities**



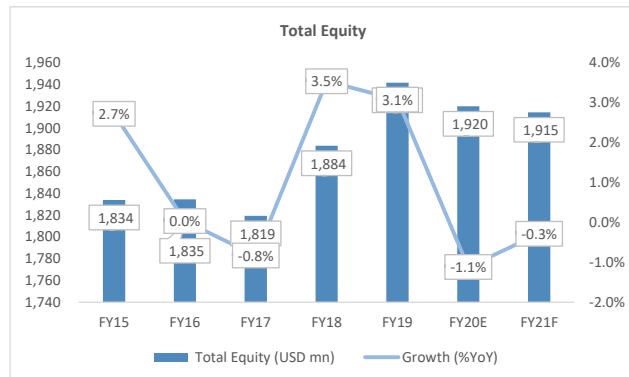
Source: MCS Research, Bloomberg

**Graph 17. Interest-bearing Debt**



Source: MCS Research, Bloomberg

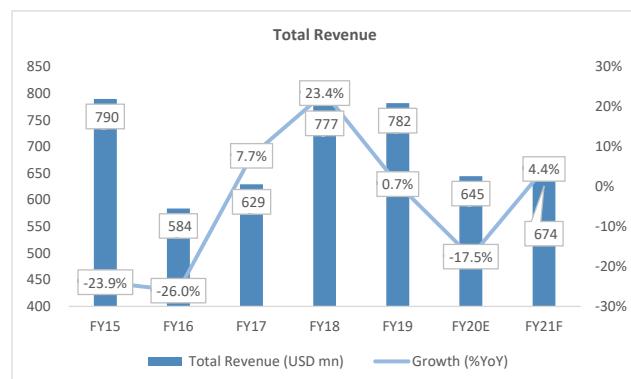
**Graph 18. Total Equity**



Source: MCS Research, Bloomberg

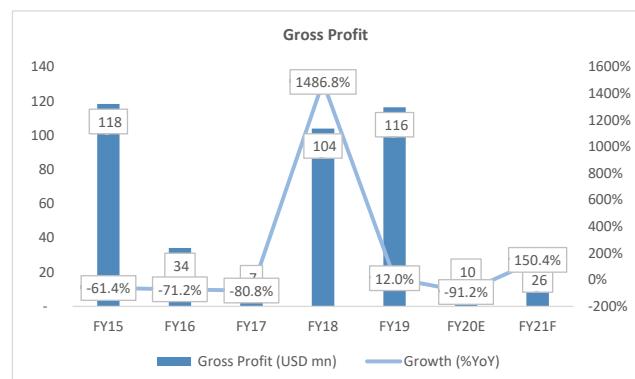
### III.2. Profit & Loss Statement

**Graph 19. Total Asset**



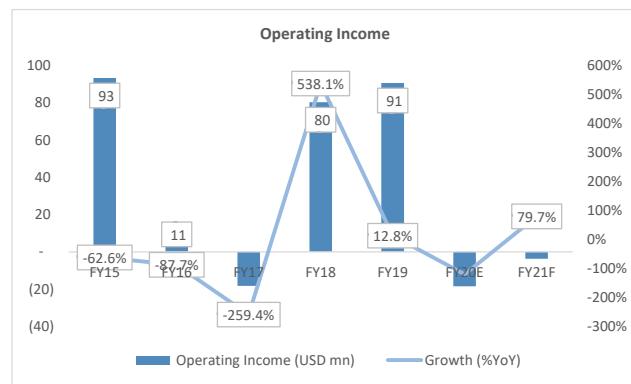
Source: MCS Research, Bloomberg

**Graph 20. Gross Profit**



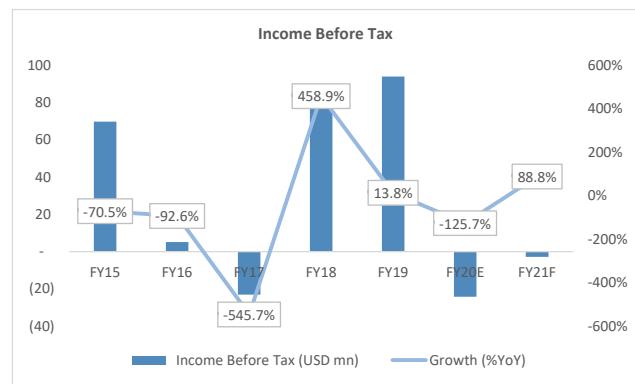
Source: MCS Research, Bloomberg

**Graph 21. Operating Income**



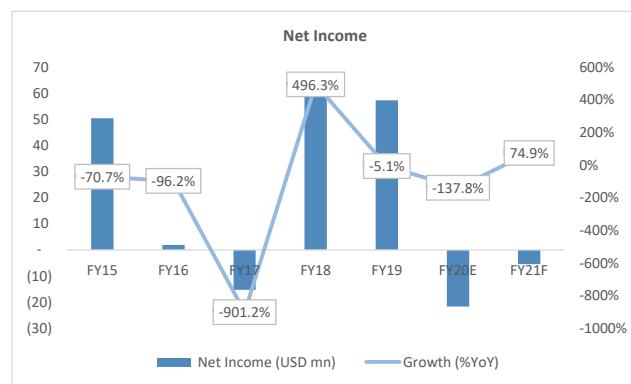
Source: MCS Research, Bloomberg

**Graph 22. Income Before Tax**



Source: MCS Research, Bloomberg

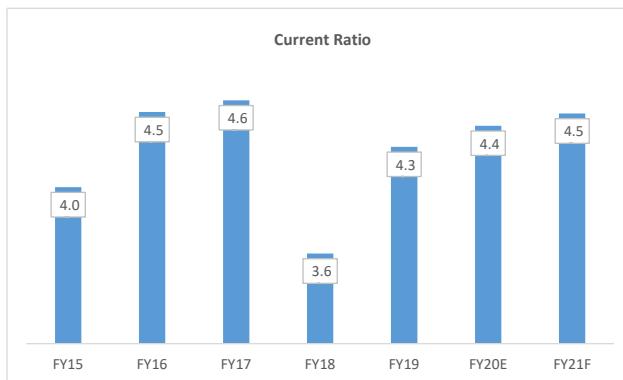
**Graph 23. Net Income**



Source: MCS Research, Bloomberg

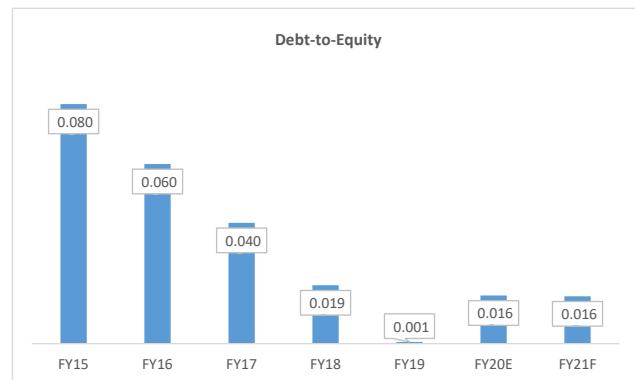
### III.3. Financial Ratios

**Graph 24. Total Asset**



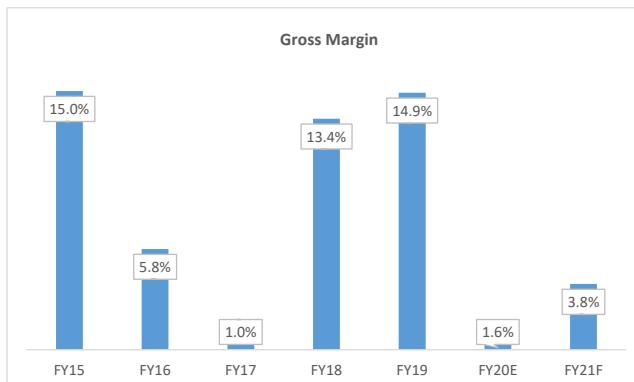
Source: MCS Research, Bloomberg

**Graph 25. Debt to Equity**



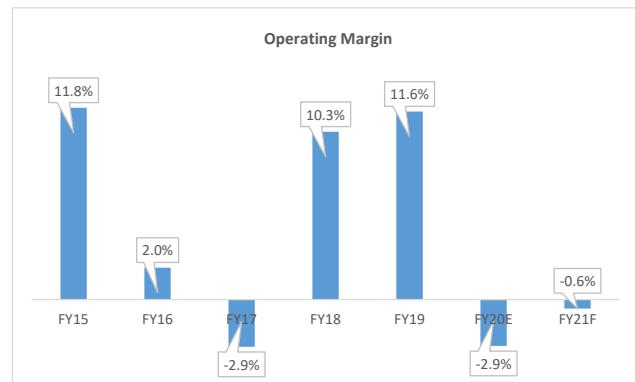
Source: MCS Research, Bloomberg

**Graph 26. Gross Margin**



Source: MCS Research, Bloomberg

**Graph 27. Operating Margin**



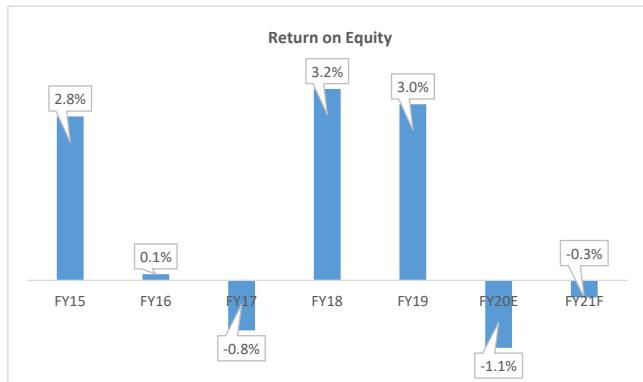
Source: MCS Research, Bloomberg

**Graph 28. Net Margin**



Source: MCS Research, Bloomberg

**Graph 29. Return on Equity**



Source: MCS Research, Bloomberg

## IV. INVESTMENT RISK

### IV.1. Lower Economy Growth Due to COVID-19

*Started in December 2019 in Wuhan, China.*

*Infected more than 3.7 million people globally.*

*12 thousand cases in Indonesia so far.*

**IV.1.1. How It Started.** The COVID-19 pandemic has become a "black swan" for the global economy since early 2020. First identified in December 2019 in Wuhan, the capital of Hubei province in China. Common symptoms including fever, cough and shortness of breath.

As of May 4, 2020, as many as 3.7 million people worldwide had been infected with a total of 257 thousand deaths. While those who managed to recover recorded 1.2 million people. The United States (1.2 million), Spain (220 thousand), Italy (213 thousand), United Kingdom (195 thousand) and Germany (167 thousand) are the five countries that have the highest rates of infection.

In Indonesia, a total of 12 thousand people were infected with a death rate of 872 people and 2 thousand people were cured. DKI Jakarta (4,687 people), West Java (1,300 people), East Java (1,171 people), Central Java (849 people) and South Sulawesi (640 people) are the provinces with the highest infection rates.

**Table 7. Confirmed COVID-19 Cases Globally**

Country	Confirmed	Recovered	Deaths	Death Rate
<b>Global</b>	<b>3,660,000</b>	<b>1,200,000</b>	<b>257,000</b>	<b>7%</b>
United States	1,230,000	164,000	72,023	6%
Spain	220,000	126,000	25,857	12%
Italy	213,000	85,231	29,315	14%
United Kingdom	195,000	0	29,427	15%
Germany	167,000	130,000	6,993	4%
<b>Indonesia</b>	<b>12,071</b>	<b>2,197</b>	<b>872</b>	<b>7%</b>
DKI Jakarta	4,786	704	409	9%
West Java	1,300	167	87	7%
East Java	1,171	180	117	10%
Central Java	849	132	62	7%
South Sulawesi	640	228	42	7%

Source: Alphabet Inc.

*COVID-19 pandemic negatively effect all GDP components.*

**IV.1.2. Impact on Global Economy.** The COVID-19 issue has a negative effect on the global economy related to the lockdown policy carried out by almost all countries in the world. In this case all components of economic growth are affected. In terms of public consumption (C), this public restriction has hit the retail and service sectors; consumers are also limited in spending their income. Not to mention layoffs that occur due to the business world is not moving. This also affects the level of investment (I). Maybe what can still slightly increase is government spending (G) in the form of fiscal stimulus. But even this must consider the long-term negative effects associated with rising government debt. And the last thing that was devastated was the export import (X-M) activity with the restrictions on movement.

*World GDP to decline to -3.0% while oil price plummet -42%.*

*Lower growth according to Bloomberg consensus.*

The International Monetary Fund (IMF) in the World Economic Outlook released in early April 2020 then lowered the target of global economic growth in 2020 to -3.0% compared to the previous projection + 3.3%. For the United States the economic growth rate is projected -5.9% and China is only 1.2%. The level of global trade also dropped between -8% and -12% both exports and imports. And finally the world oil price is projected to be corrected -42% in 2020.

We also compare with the Bloomberg consensus regarding the decline in world economic growth. We get data from Bloomberg that analysts project that the US GDP growth rate in 2020 will drop to -3.4% while China will only grow 3.0%. Analysts are still a little optimistic about Indonesia's economic growth rate, which still reached 4.9% in 2020, slightly lower than 5.0% in 2019.

**Table 8. IMF World Economic Outlook**

	2019	Projection		Difference f/ Jan20	
		2020	2021	WEO Update	2021
<b>World Output</b>	<b>2.9%</b>	<b>-3.0%</b>	<b>5.8%</b>	<b>-6.3%</b>	<b>2.4%</b>
<b>Advanced Economies</b>	<b>1.7%</b>	<b>-6.1%</b>	<b>4.5%</b>	<b>-7.7%</b>	<b>2.9%</b>
United States	2.3%	-5.9%	4.7%	-7.9%	3.0%
Euro Area	1.2%	-7.5%	4.7%	-8.8%	3.3%
Japan	0.7%	-5.2%	3.0%	-5.9%	2.5%
<b>Developing Economies</b>	<b>3.7%</b>	<b>-1.0%</b>	<b>6.6%</b>	<b>-5.4%</b>	<b>2.0%</b>
China	6.1%	1.2%	9.2%	-4.8%	3.4%
India	4.2%	1.9%	7.4%	-3.9%	0.9%
ASEAN-5	4.8%	-0.6%	7.8%	-5.4%	2.7%
<b>World Trade Volume</b>					
Imports					
Advanced Economies	1.5%	-11.5%	7.5%	-13.8%	4.3%
Developing Economies	-0.8%	-8.2%	9.1%	-12.5%	4.0%
Exports					
Advanced Economies	1.2%	-12.8%	7.4%	-14.9%	4.4%
Developing Economies	0.8%	-9.6%	11.0%	-13.7%	6.8%
<b>Commodity Prices</b>					
Oil		-10.2%	-42.0%	6.3%	-37.7%
Non-fuel		0.8%	-1.1%	-0.6%	-2.8%
					-1.2%

Source: IMF

**Table 9. Bloomberg Consensus**

	FY17	FY18	FY19	FY20E	FY21F
United States	2.4%	2.9%	2.3%	-3.4%	3.8%
China	6.9%	6.7%	6.1%	3.0%	6.5%
Indonesia	5.1%	5.2%	5.0%	4.9%	5.2%

Source: Bloomberg

*Indonesia GDP could contract to -0.4% in 2020 according to the Ministry of Finance.*

**IV.1.3. Impact on Domestic Economy.** On the domestic front, the two institutions responsible for fiscal and monetary policy, the Ministry of Finance and Bank Indonesia, also revised Indonesia's economic growth rate. The Minister of Finance revised the 2020 State Budget by making two additional scenarios, Heavy and Very Heavy. Before COVID-19 affected the world economy and Indonesia, the Ministry of Finance targeted an economic growth rate in 2020 of 5.3%. But with the negative impact of COVID-19, the Ministry of Finance projects the worst economic growth rate is -0.4% and 2.3% base scenario. Meanwhile, the Rupiah to USD exchange rate can also range from IDR 17,500-20,000 per USD. Meanwhile, Bank Indonesia projects the highest economic growth rate of Indonesia at only 4.2%.

**Table 10. Revised Budget by Ministry of Finance**

Indikator	APBN	Skenario		Komponen PDB Pengeluaran	APBN	Skenario	
		Berat	Sangat Berat			Berat	Sangat Berat
Pertumbuhan PDB (%YoY)	5.3%	2.3%	-0.4%	Pertumbuhan PDB (%YoY)	5.3%	2.3%	-0.4%
Harga ICP (USD/barel)	63	38	31	Konsumsi RT	5.0%	3.2%	1.6%
Nilai Tukar IDR (IDR/USD)	14,000	17,500	20,000	Konsumsi LNPRT	-1.6%	-1.8%	-1.9%
Inflasi (%)	3.1%	3.9%	5.1%	Konsumsi Pemerintah	4.3%	6.8%	3.7%
				PMTB	6.0%	1.1%	-4.2%
				Ekspor	3.7%	-14.0%	-15.6%
				Impor	3.2%	-14.5%	-16.7%

Source: Departemen Keuangan

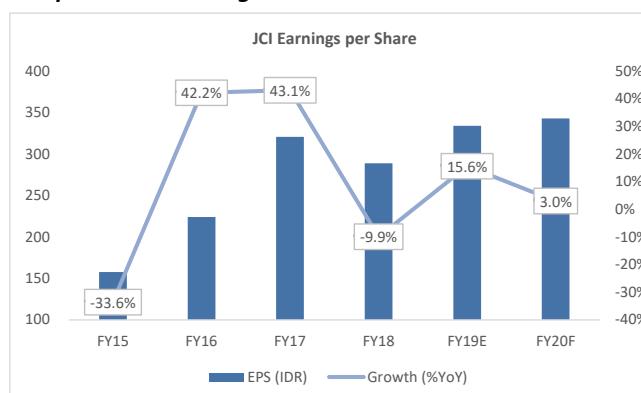
**Table 11. Revised Target by Bank Indonesia**

Komponen	FY19	FY20E	FY21F
Pertumbuhan PDB (%YoY)	5.0%	4.2%	5.2%
Konsumsi Swasta	3.3%	1.2%	2.8%
Konsumsi Pemerintah	4.5%	2.9%	5.8%
Investasi (PMTDB)	-0.9%	-5.8%	5.9%
Ekspor	-7.7%	-9.5%	4.5%
Impor	5.0%	4.2%	5.2%

Source: Bank Indonesia

*JCI earnings drop to 3.0% YoY.*

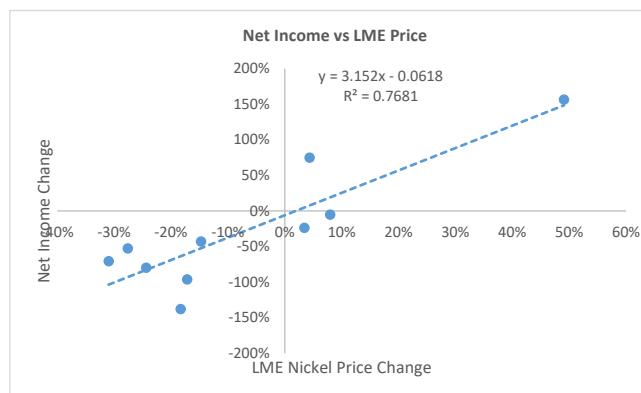
Regarding the revised level of Indonesia's economic growth, we also revised the performance of issuers on the Indonesia Stock Exchange, including banking shares. In the latest revision, we lowered the projected growth rate of issuers' Net Profit in FY20E to only 3.0% YoY from the previous 4.2% YoY. In terms of valuation, we also reduced the Jakarta Composite Index (JCI) Price Earnings Ratio (PER) to 15.4x from 21.4x.

**Graph 30. JCI Earnings Growth**

Source: MCS Research,  
Bloomberg

## IV.2. Lower Nickel Price.

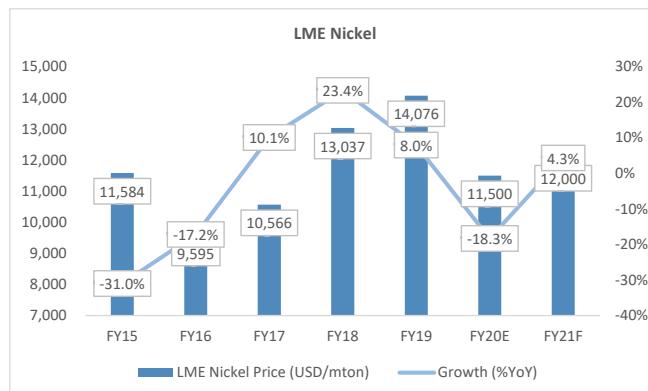
LME price greatly affect Company's Performance.

In our analysis, the movement of nickel prices on the London Metal Exchange greatly affects the level of the Company's Net Income. From the results of correlation analysis we get the calculation of each 10% increase (decrease) of nickel prices on LME will cause an increase (decrease) of around 30% Net Income Corporation. Therefore, the ups and downs of international nickel prices greatly affect the Company's performance.

**Graph 31. Company's Net Income vs LME Nickel Price**

Source: MCS Research,  
Bloomberg, LME

Nickel price to be corrected by -18.3% in FY20E.

This will certainly be an investment risk considering that we project international nickel prices to be corrected by -18.3% YoY in FY20E to the level of USD 11,500 per ton, from USD 14,076 per ton in FY19. This is why we projected the Company's Net Income on FY20E to record a loss of USD 22 million. The last time the Company recorded a loss was in FY17 which lost USD 15 million.

**Graph 32. LME Nickel Price Projections**


*Demand & Supply determine commodities price.*

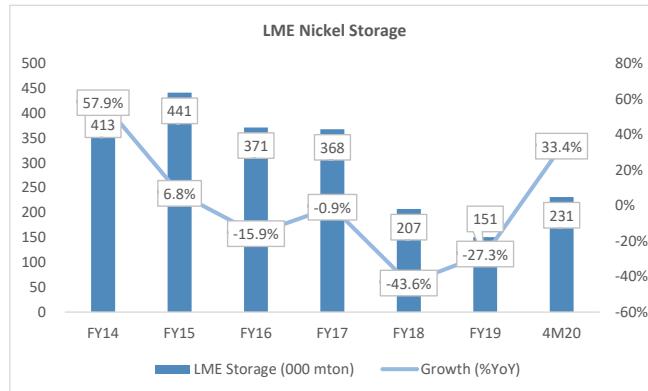
*Reserves (supply) & economy (demand) influence nickel price.*

*LME nickel reserves started to rise in 4M20.*

The price movement of a commodity, including nickel, is strongly influenced by the level of supply and demand. Increase (decrease) in supply assuming demand will continue to decrease (increase) commodity prices; while the increase (decrease) in demand with the assumption that supply will still increase (decrease) commodity prices.

Regarding nickel price movements in the international market, we see at least two decisive factors. First is the level of nickel reserves in the market (in this case we use the benchmark reserve on the London Metal Exchange), and second is the economic activity that is the source of nickel demand (in this case we use the benchmark Purchasing Manager Index and Industrial Production).

**IV.2.1. LME Nickel Stocks (Supply-side).** The level of nickel reserves in LME had declined since FY14 from 413 thousand tons to 151 thousand tons in FY19. This has led to an increase in nickel prices on the international market. However, entering FY20, there has been an increase in reserves which by April 2020 the LME nickel reserves had reached 231 thousand tons, up 33.4% YoY. If this trend continues it is unlikely that nickel prices will be depressed in this FY20E.

**Graph 33. LME Nickel Reserves**


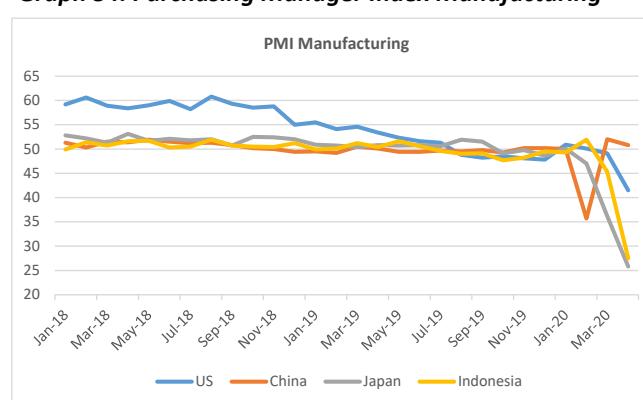
*PMI Manufacturing & Industrial Production slow down.*

*Manufacturing sector start contracting in 3Q19.*

**IV.2.2. Economy Activities (Demand-side).** From the demand side, the decline in economic activity as reflected in the Purchasing Manager Index Manufacturing and Industrial Production can reduce the price of nickel. This decline in economic activity in our view is caused by at least two things, namely the trade war between the United States and China and the COVID-19 pandemic.

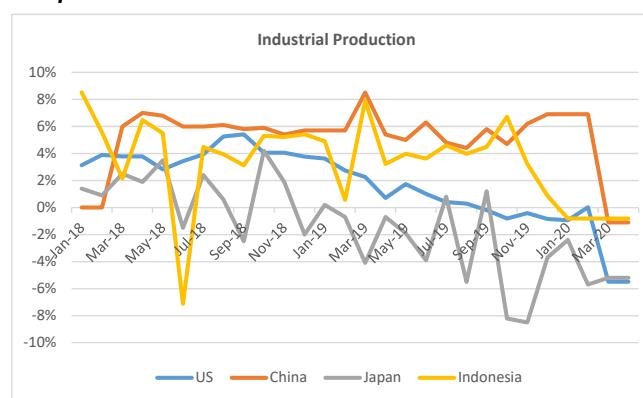
From the Purchasing Manager Index (PMI) of Manufacturing, it is seen that the United States began to enter a period of contraction in August 2019, Japan in October 2019 and Indonesia in July 2019. China even recorded a contraction in the industrial sector since December 2018 at the start of the trade war with the United States. In terms of Industrial Production, the United States began contraction in September 2019 while China only contracted in March 2020. Indonesia itself has started negative manufacturing sector in early 2020.

**Graph 34. Purchasing Manager Index Manufacturing**



Source: Bloomberg

**Graph 35. Industrial Production**



Source: Bloomberg

## V. VALUATION & RECOMMENDATION

### V.1. Valuation

*We prefer relative valuation to DCF.*

In conducting valuations we use the relative valuation method considering the reports we make are more sell-side reports that are influenced by the momentum of market movements. We see that relative valuation can better capture the intent and purpose of the sell-side report compared to the discounted cash flow method.

*Only used P/B & P/S.*

We usually use Price to Earnings Ratio (P/E), Price to Book Ratio (P/B) and Price to Sales Ratio (P/S) in the relative valuation method. However, because we project the Company to record losses on FY20E and FY21F, we only use P/B and P/S.

*Value range IDR 2,315-4,230.*

We use the data of the last five years as input in the calculation of P/B and P/S, where we get the average P/B 0.9-1.3x and P/S 2.0-3.0x. If we apply it to the price level, we will get a price range for the Company based on P/B IDR 3,070-4,230 and P/S IDR 2,315-3,460.

*Fair Value IDR 3,270.*

Taking into account the current market conditions where the valuation is generally at the -2SD level, we set a **fair value** for the Company's shares at a level of **IDR 3,270** per share. The valuation reflects P/B20E 1.0x and P/E20E 2.9x. We also consider the assumption of the divestment price of 20% of the Company's shares to MIND ID which in our projection will be around IDR 3,370-4,400 per share.

### V.2. Recommendation

*Our recommendation : Buy.*

Taking into account the closing price of the Company's shares on Friday (15/5) at the level of IDR 2,890, where there is still an upside potential of 13.2%, we recommend **Buy** for the Company's shares.

**Table 12. MCS Recommendation Policy**

Recommendation	Potential
Strong Buy	>40%
Buy	>10%-40%
Hold	-10%-10%
Not Rated	<-10%

Source: MCS Research

## VI. ABOUT THE COMPANY

### VI.1. Brief History and Milestones

*Started by the Dutch.*

The history of the Company's existence cannot be separated from the history of nickel ore exploration in eastern Sulawesi around the 1920s during the Dutch colonial era. Entering Independence, the Government of Indonesia continues the nickel ore exploration activities.

*Est. In 1968; Contract of Work I.*

Inco Limited in 1968 established PT Inco which is the forerunner of the Company. On July 27, 1968 the Company obtained a Contract of Work from the Government of Indonesia to conduct exploration, mining and processing of nickel ore which is valid for 30 years from the commencement of commercial production in 1978.

*SMM & IPO.*

In 1988 Inco Limited as shareholder of the Company sold 20% of the Company's shares to Sumitomo Metal Mining Co. Ltd. and in 1990 the Company released 20% of shares to the public through an Initial Public Offering (IPO) process where the Company's shares are currently listed on the Indonesia Stock Exchange.

*Second CoW.*

In 1996 the Government of Indonesia through the Amendment Agreement extended the Company's Contract of Work until December 2025. And in 2011 the Company changed its name to PT Vale Indonesia Tbk. regarding the entry of Vale S.A. as the new owner of Vale Canada Limited, which is a shareholder of the Company.

*Amendment of CoW II.*

In 2009 the Government of Indonesia issued Law No. 4 of 2009 concerning Mineral and Coal Mining. As a follow up to the implementation of this Law, the Amendment to the Company's Contract of Work was conducted on October 17, 2014. A number of important points from this amendment are the reduction of the Company's concession area to 118 thousand hectares from 190 thousand hectares. Besides that, it is also related to the divestment of the 20% of the Company's second phase which is currently being negotiated between the Government of Indonesia through MIND ID and the Company's shareholders. Negotiations are expected to be completed by the end of May or June 2020.

### VI.2. Shareholders

**Table 13. Company's Shareholder**

	Shares	%
Vale Canada Ltd.	5,835,607,960	58.73%
Sumitomo Metal Mining Co. Ltd.	1,996,281,680	20.09%
Public <5%	2,104,449,080	21.18%
<b>Total</b>	<b>9,936,338,720</b>	



### VI.3. Managements

**Table 14. Company's Managements**

BOARD OF COMMISSIONERS	
President Commissioner	Mark James Travers
Commissioner	Luiz Fernando Landeiro
Commissioner	Cory McPhee
Commissioner	Noburiho Matsumoto
Commissioner	Raden Sukhyar
BOARD OF DIRECTORS	
President Director	Nicolas D. Kanter
Vice President Director	Febriany Eddy
Director	Bernandus Irmanto
Director	Dani Widjaja
Director	Agus Superiadi
Director	Vinicio Mendes Ferreira

Source: Company

### VI.4. Corporate Information

**Table 15. Company's Information**

Corporate Secretary Division
The Energy Building, 31st Floor SCBD Lot 11A Jl. Jend. Sudirman Kav. 52-53 Jakarta 12190 Tel: (+6221) 5249000 Fax: (+6221) 5249020 Website: <a href="http://www.vale.com/indonesia">www.vale.com/indonesia</a>



## Appendix 1-Balanced Sheet Statement

(In USD mn)

BALANCED SHEET	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20E	FY21F
<b>Total Assets</b>														
+ Cash, Cash Equivalents & STI	166	261	404	399	172	200	302	285	186	222	301	249	264	288
+ Accounts & Notes Receiv	64	98	124	66	113	66	93	78	147	166	124	107	125	123
+ Inventories	147	118	102	163	153	151	139	104	130	118	132	148	128	129
+ Other ST Assets	108	153	82	152	127	141	87	133	137	92	74	84	83	80
<b>Total Current Assets</b>	<b>485</b>	<b>629</b>	<b>712</b>	<b>781</b>	<b>565</b>	<b>557</b>	<b>621</b>	<b>600</b>	<b>599</b>	<b>597</b>	<b>631</b>	<b>588</b>	<b>601</b>	<b>621</b>
+ Property, Plant & Equip, Net	1,336	1,379	1,465	1,579	1,625	1,652	1,609	1,603	1,533	1,494	1,435	1,467	1,502	1,468
+ Property, Plant & Equip	2,442	2,569	2,748	2,955	3,103	3,239	3,316	3,430	3,480	3,567	3,602	3,728	3,898	4,006
- Accumulated Depreciation	1,106	1,190	1,283	1,376	1,478	1,587	1,707	1,826	1,948	2,073	2,168	2,260	2,396	2,538
+ Other LT Assets	22	19	14	61	144	72	104	86	94	94	137	167	152	164
<b>Total Noncurrent Assets</b>	<b>1,359</b>	<b>1,398</b>	<b>1,479</b>	<b>1,641</b>	<b>1,768</b>	<b>1,724</b>	<b>1,713</b>	<b>1,689</b>	<b>1,626</b>	<b>1,588</b>	<b>1,571</b>	<b>1,634</b>	<b>1,653</b>	<b>1,632</b>
<b>Total Assets</b>	<b>1,843</b>	<b>2,028</b>	<b>2,190</b>	<b>2,421</b>	<b>2,333</b>	<b>2,281</b>	<b>2,334</b>	<b>2,289</b>	<b>2,225</b>	<b>2,185</b>	<b>2,202</b>	<b>2,223</b>	<b>2,255</b>	<b>2,253</b>
<b>Liabilities &amp; Shareholders' Equity</b>														
+ Payables & Accruals	44	73	135	127	116	112	148	104	82	77	120	116	90	92
+ ST Debt	6	2	0	35	36	36	36	36	36	37	37	1	31	30
+ Other ST Liabilities	51	12	23	15	14	21	24	8	13	15	19	20	14	15
<b>Total Current Liabilities</b>	<b>102</b>	<b>87</b>	<b>158</b>	<b>177</b>	<b>166</b>	<b>169</b>	<b>208</b>	<b>148</b>	<b>132</b>	<b>129</b>	<b>175</b>	<b>137</b>	<b>135</b>	<b>137</b>
+ LT Debt	2	140	141	257	220	183	147	110	73	36	0	0	0	0
+ Other LT Liabilities	219	220	212	218	226	215	194	197	186	200	143	144	200	201
<b>Total Noncurrent Liabilities</b>	<b>221</b>	<b>359</b>	<b>352</b>	<b>475</b>	<b>446</b>	<b>398</b>	<b>340</b>	<b>307</b>	<b>259</b>	<b>236</b>	<b>143</b>	<b>144</b>	<b>200</b>	<b>201</b>
<b>Total Liabilities</b>	<b>322</b>	<b>446</b>	<b>510</b>	<b>652</b>	<b>612</b>	<b>567</b>	<b>549</b>	<b>455</b>	<b>391</b>	<b>365</b>	<b>319</b>	<b>281</b>	<b>335</b>	<b>338</b>
+ Share Capital & APIC	414	414	414	414	414	414	414	414	414	414	414	414	414	414
+ Common Stock	0	136	136	136	136	136	136	136	136	136	136	136	136	136
+ Additional Paid in Capital	0	278	278	278	278	278	278	278	278	278	278	278	278	278
- Treasury Stock	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+ Retained Earnings	1,074	1,137	1,243	1,337	1,294	1,252	1,326	1,393	1,393	1,405	1,470	1,528	1,506	1,500
+ Other Equity	32	30	22	18	13	48	46	27	27	0	0	0	0	0
<b>Equity Before Minority Interest</b>	<b>1,521</b>	<b>1,581</b>	<b>1,680</b>	<b>1,769</b>	<b>1,721</b>	<b>1,714</b>	<b>1,785</b>	<b>1,834</b>	<b>1,835</b>	<b>1,819</b>	<b>1,884</b>	<b>1,942</b>	<b>1,920</b>	<b>1,915</b>
+ Minority/Non Controlling Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Equity</b>	<b>1,521</b>	<b>1,581</b>	<b>1,680</b>	<b>1,769</b>	<b>1,721</b>	<b>1,714</b>	<b>1,785</b>	<b>1,834</b>	<b>1,835</b>	<b>1,819</b>	<b>1,884</b>	<b>1,942</b>	<b>1,920</b>	<b>1,915</b>
<b>Total Liabilities &amp; Equity</b>	<b>1,843</b>	<b>2,028</b>	<b>2,190</b>	<b>2,421</b>	<b>2,333</b>	<b>2,281</b>	<b>2,334</b>	<b>2,289</b>	<b>2,225</b>	<b>2,185</b>	<b>2,202</b>	<b>2,223</b>	<b>2,255</b>	<b>2,253</b>
Book Value per Share (USD)	0.1531	0.1591	0.1691	0.1781	0.1732	0.1725	0.1797	0.1846	0.1846	0.1831	0.1896	0.1954	0.1932	0.1927
Book Value per Share (IDR)	1,684	1,499	1,522	1,613	1,668	2,098	2,226	2,543	2,487	2,483	2,745	2,736	3,382	2,678

Source: Bloomberg, Company, MCS Research

## Appendix 2-Profit & Loss Statement

(In USD mn)

INCOME STATEMENT	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20E	FY21F
<b>Revenue</b>	<b>1,312</b>	<b>761</b>	<b>1,276</b>	<b>1,243</b>	<b>967</b>	<b>922</b>	<b>1,038</b>	<b>790</b>	<b>584</b>	<b>629</b>	<b>777</b>	<b>782</b>	<b>645</b>	<b>674</b>
- Cost of Revenue	808	516	652	727	801	782	731	671	550	623	673	666	635	648
+ Cost of Goods & Services	722	425	556	633	698	671	609	550	427	496	544	533	499	506
+ Depreciation & Amortization	86	91	96	94	102	111	122	121	123	127	129	132	136	142
<b>Gross Profit</b>	<b>504</b>	<b>245</b>	<b>624</b>	<b>515</b>	<b>167</b>	<b>140</b>	<b>307</b>	<b>118</b>	<b>34</b>	<b>7</b>	<b>104</b>	<b>116</b>	<b>10</b>	<b>26</b>
+ Other Operating Income	0	0	0	0	1	0	1	1	2	0	6	1	1	1
- Operating Expenses	25	13	28	59	60	70	58	26	25	25	29	27	30	31
<b>Operating Income (Loss)</b>	<b>478</b>	<b>232</b>	<b>596</b>	<b>457</b>	<b>107</b>	<b>70</b>	<b>249</b>	<b>93</b>	<b>11</b>	<b>-18</b>	<b>80</b>	<b>91</b>	<b>-18</b>	<b>-4</b>
- Non-Operating (Income) Loss	15	-6	14	5	15	15	13	23	6	5	-2	-3	6	-1
+ Interest Expense, Net	-5	-0	-1	5	15	15	13	10	9	0	0	0	2	3
+ Interest Expense	1	0	0	5	15	15	13	10	9	0	0	1	5	5
- Interest Income	5	0	1	0	0	0	0	0	0	0	5	1	3	2
+ Foreign Exch (Gain) Loss	2	1	-10	-5	0	0	0	14	-3	-0	0	-1	3	-4
+ Other Non-Op (Income) Loss	0	-7	25	4	0	0	0	0	5	2	-2	0	0	0
<b>Pretax Income (Loss), Adjusted</b>	<b>463</b>	<b>238</b>	<b>583</b>	<b>452</b>	<b>91</b>	<b>55</b>	<b>237</b>	<b>70</b>	<b>5</b>	<b>-23</b>	<b>83</b>	<b>94</b>	<b>-24</b>	<b>-3</b>
- Abnormal Losses (Gains)	4	1	2	0	0	0	0	0	0	0	0	5	0	0
<b>Pretax Income (Loss), GAAP</b>	<b>463</b>	<b>237</b>	<b>581</b>	<b>452</b>	<b>91</b>	<b>55</b>	<b>237</b>	<b>70</b>	<b>5</b>	<b>-23</b>	<b>83</b>	<b>89</b>	<b>-24</b>	<b>-3</b>
- Income Tax Expense (Benefit)	104	66	144	119	24	17	65	19	3	-8	22	32	-2	3
<b>Income (Loss) Incl. MI</b>	<b>359</b>	<b>170</b>	<b>437</b>	<b>334</b>	<b>67</b>	<b>39</b>	<b>172</b>	<b>51</b>	<b>2</b>	<b>-15</b>	<b>61</b>	<b>57</b>	<b>-22</b>	<b>-5</b>
- Minority Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Net Income Avail to Common, GAAP</b>	<b>359</b>	<b>170</b>	<b>437</b>	<b>334</b>	<b>67</b>	<b>39</b>	<b>172</b>	<b>51</b>	<b>2</b>	<b>-15</b>	<b>61</b>	<b>57</b>	<b>-22</b>	<b>-5</b>
Earning per Share (USD)	0.0362	0.0172	0.0440	0.0336	0.0068	0.0039	0.0173	0.0051	0.0002	-0.0015	0.0061	0.0058	-0.0022	-0.0005
Earning per Share (IDR)	398	162	396	304	65	47	215	70	3	-21	88	81	-38	-8
Revenue per Share (USD)	0.1321	0.0766	0.1285	0.1251	0.0974	0.0928	0.1045	0.0795	0.0588	0.0633	0.0782	0.0787	0.0649	0.0678
Revenue per Share (IDR)	1,453	721	1,156	1,133	937	1,128	1,294	1,095	792	859	1,132	1,102	1,136	942

Source: Bloomberg, Company, MCS Research

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**Appendix 3-Financial Ratio**

RATIO	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20E	FY21F
<b>LIQUIDITY &amp; TURNOVER</b>														
Current ratio (X)	4.8	7.2	4.5	4.4	3.4	3.3	3.0	4.0	4.5	4.6	3.6	4.3	4.4	4.5
Altman Z-Score	120.7	8.6	9.7	5.8	5.6	6.2	7.7	9.1	11.4	16.4	32.6	1,041.9	38.9	39.6
Account Receivable (Day)	17.7	46.9	35.5	19.4	42.5	26.1	32.6	36.1	91.6	96.0	58.4	50.1	71.0	66.8
Inventory (Day)	74.3	101.0	66.9	94.2	79.9	82.1	83.4	69.1	111.1	86.6	88.4	101.3	93.7	93.4
Account Payable (Day)	22.5	62.5	88.4	73.0	60.8	61.1	88.7	69.2	70.4	56.8	80.3	79.0	65.9	66.6
Cash Convention Cycle (Day)	69.5	85.4	14.0	40.5	61.6	47.1	27.3	36.0	132.2	125.8	66.5	72.3	98.9	93.5
<b>GROWTH</b>														
Revenue growth (%)	-42.0%	67.7%	-2.6%	-22.2%	-4.7%	12.6%	-23.9%	-26.0%	7.7%	23.4%	0.7%	-17.5%	4.4%	
Operating income growth (%)	-51.5%	157.2%	-23.4%	-76.6%	-34.4%	255.7%	-62.6%	-87.7%	-259.4%	-538.1%	12.8%	na	na	
Profit before income tax growth (%)	-48.9%	145.6%	-22.2%	-79.8%	-39.3%	327.2%	-70.5%	-92.6%	-545.7%	-458.9%	7.9%	na	na	
Net income growth (%)	-52.6%	156.6%	-23.7%	-79.8%	-42.7%	345.7%	-70.7%	-96.2%	-901.2%	-496.3%	-5.1%	na	na	
<b>PROFITABILITY</b>														
Gross profit margin (%)	38.4%	32.2%	48.9%	41.5%	17.2%	15.2%	29.5%	15.0%	5.8%	1.0%	13.4%	14.9%	1.6%	3.8%
Operating income margin (%)	36.4%	30.5%	46.7%	36.8%	11.1%	7.6%	24.0%	11.8%	2.0%	-2.9%	10.3%	11.6%	-2.9%	-0.6%
Net income margin (%)	27.4%	22.4%	34.3%	26.9%	7.0%	4.2%	16.6%	6.4%	0.3%	-2.4%	7.8%	7.3%	-3.4%	-0.8%
Return on equity (%)	23.6%	10.8%	26.0%	18.9%	3.9%	2.3%	9.6%	2.8%	0.1%	-0.8%	3.2%	3.0%	-1.1%	-0.3%
Return on assets (%)	19.5%	8.4%	20.0%	13.8%	2.9%	1.7%	7.4%	2.2%	0.1%	-0.7%	2.7%	2.6%	-1.0%	-0.2%
<b>LEVERAGE</b>														
Debt-to-equity (X)	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Debt-to-asset (X)	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
<b>VALUATION</b>														
Price to sales ratio (X)	2.3	4.5	2.8	2.9	3.5	2.9	2.5	3.0	4.1	3.8	2.9	3.0	2.9	3.5
Price to book ratio (X)	1.9	2.2	2.1	2.0	2.0	1.6	1.5	1.3	1.3	1.3	1.2	1.2	1.0	1.2

Source : MCS Research

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