

Mitsubishi Materials Corporation Investor Conference Material

May 16, 2019

Naoki Ono, President

Mitsubishi Materials Corporation



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2. Progress on the Medium-Term Management Strategy (P.8 - 14)
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4. Issues and Enhancement of Group Governance (P.38 - 45)

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FY2019 Result (Comparison with the Previous Year Result)

Comparison with the Previous Year Result

Net sales	: Increased in all businesses, and the overall growth was achieved.
Operating profit	: Decreased in all businesses, and the overall operating profit also decreased.
Ordinary income	: Decreased mainly due to a fall in operating profit despite an increase in equity in earnings of affiliates and other items.
Net income*	: Decreased mainly due to an increase in income taxes – deferred, in addition to a fall in ordinary income.
Dividend	: Annual dividend per share unchanged at 80 yen from the previous fiscal year based on the capital policy in the Medium-term Management Strategy.

(¥ billions)	FY2018 Result (a)	FY2019 Result (b)	Difference (b)-(a)
Net sales	1,599.5	1,662.9	+63.4
Operating profit	72.8	36.8	-35.9
Ordinary income	79.6	50.6	-28.9
Net income*	34.5	1.2	-33.2
Net income per share (yen)	264.15	9.92	-254.23
Dividend per share (yen)	80	80	—
Exchange rate USD (yen / \$)	111	111	0
Copper price (LME) (¢ / lb)	292	288	-4

FY2019 Result (Comparison with the Previous Forecast)

Comparison with the Previous Forecast

Net sales	: Increased overall thanks to sales increase in the Metals Business.
Operating profit	: Decreased overall as a result of a decline in Metals and other businesses despite an increase in Others Business.
Ordinary income	: Decreased mainly due to a fall in operating profit despite an increase in equity in earnings of affiliates and other items.
Net income*	: Decreased mainly due to an increase in income taxes – deferred, in addition to a fall in ordinary income.
Dividend	: Previous forecast remains unchanged.

(¥ billions)	FY2019 Forecast (a) (Announced on Feb. 12)	FY2019 Result (b)	Difference (b)-(a)
Net sales	1,650.0	1,662.9	+12.9
Operating profit	42.0	36.8	-5.1
Ordinary income	52.0	50.6	-1.3
Net income*	10.0	1.2	-8.7
Net income per share (yen)	76.36	9.92	-66.44
Dividend per share (yen)	80	80	—
Exchange rate USD (yen / \$)	111	111	0
Copper price (LME) (¢ / lb)	285	288	+3

FY2020 Full Year Forecast

Comparison with the Previous Year Result

- Net sales** : Expected to increase in Metals and other businesses, and overall growth is expected.
- Operating profit** : The same as net sales, expected to increase in Metals and other businesses, and overall growth is expected.
- Ordinary income** : Increase due to a rise in operating profit despite a decrease expected in dividend income.
- Net income*** : Increase thanks to an improvement expected in income taxes – deferred, in addition to growth in ordinary income.
- Dividend** : Annual dividend per share remains unchanged at 80 yen from the previous fiscal year based on the capital policy in the Medium-term Management Strategy.

(¥ billions)	FY2019 Result (a)	FY2020 Forecast (b)	Difference (b)-(a)
Net sales	1,662.9	1,700.0	+37.1
Operating profit	36.8	51.0	+14.2
Ordinary income	50.6	62.0	+11.4
Net income*	1.2	30.0	+28.8
Net income per share (yen)	9.92	229.08	+219.16
Dividend per share (yen)	80	80	—
Exchange rate USD (yen / \$)	111	110	-1
Copper price (LME) (¢ / lb)	288	290	+2

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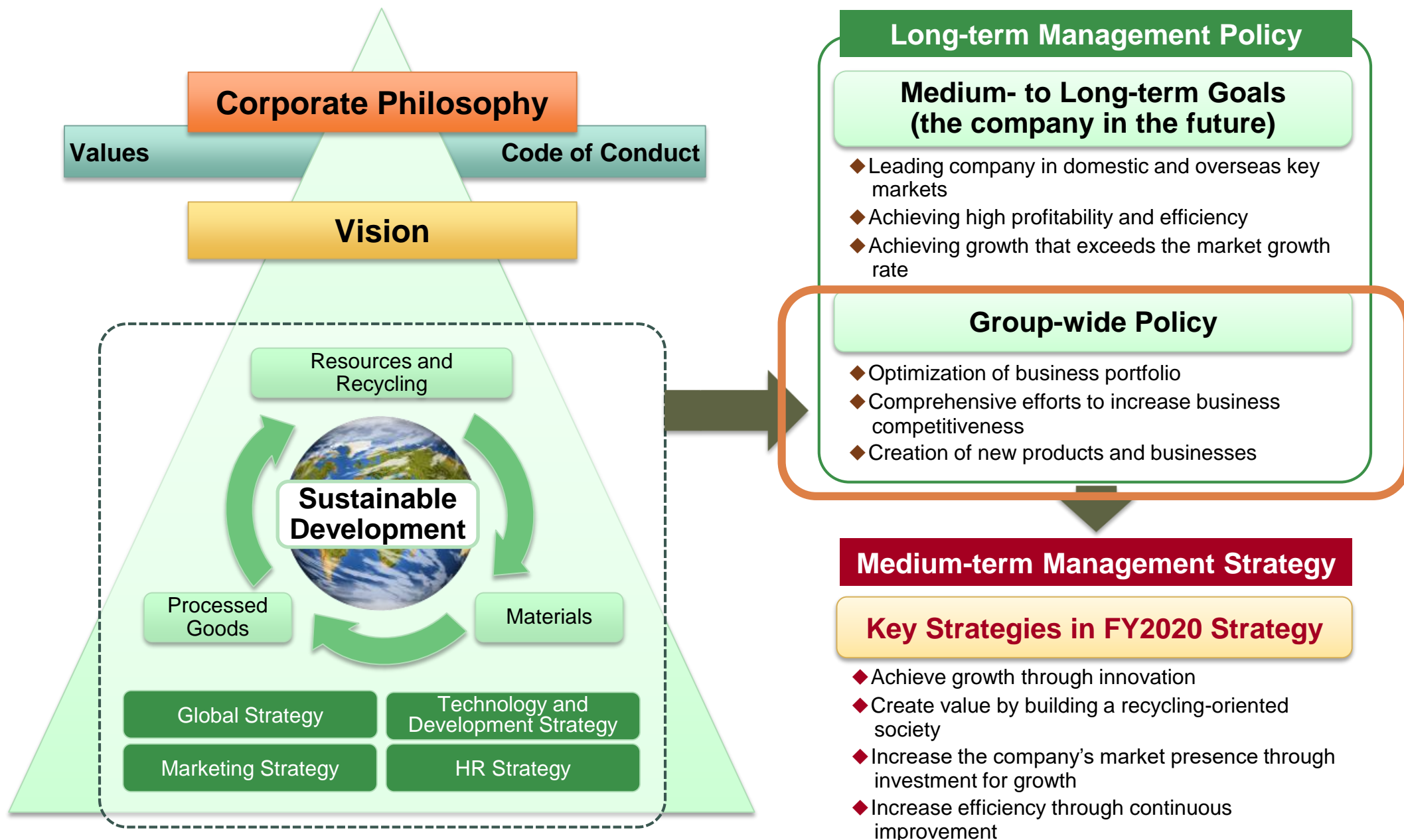
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Group-wide Policy



Progress on the Medium-Term Management Strategy

◆ Medium-Term Management Strategy

Review the growth strategy and investment plan for upcoming three years once a year



◆ Rolling Review of the Medium-Term Management Strategy (FY2020 Strategy)

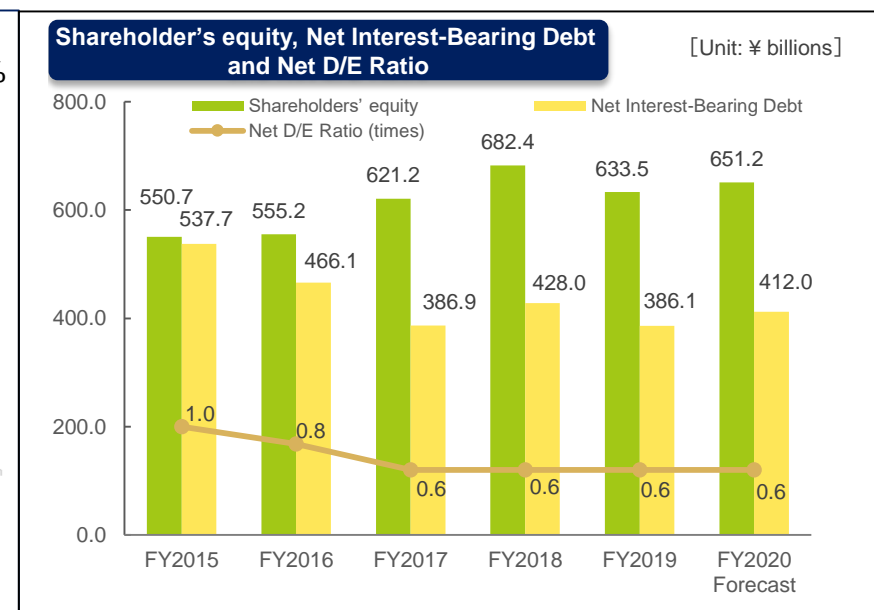
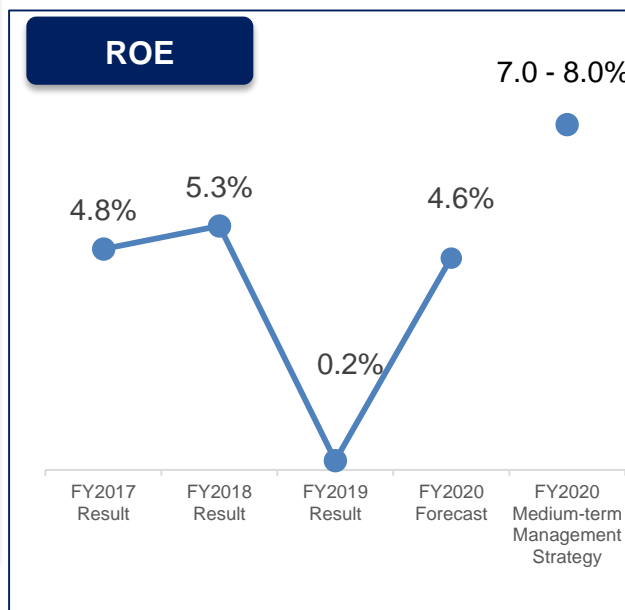
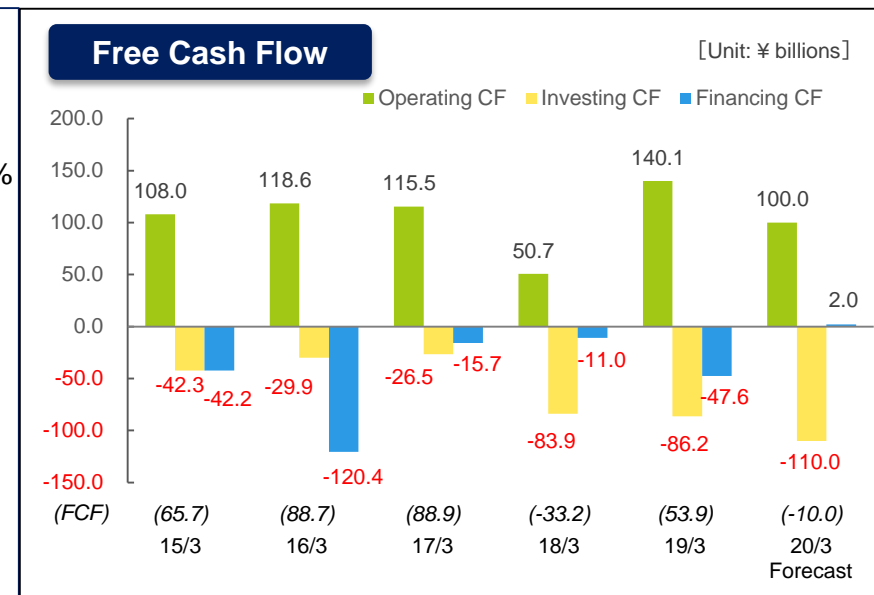
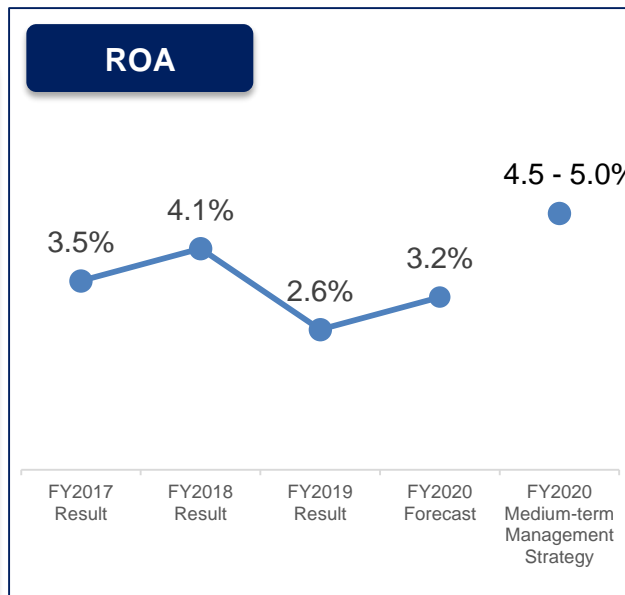
Growth strategies: No major changes

Investment plan: No major changes

◆ Optimization of business portfolio (October, 2018)

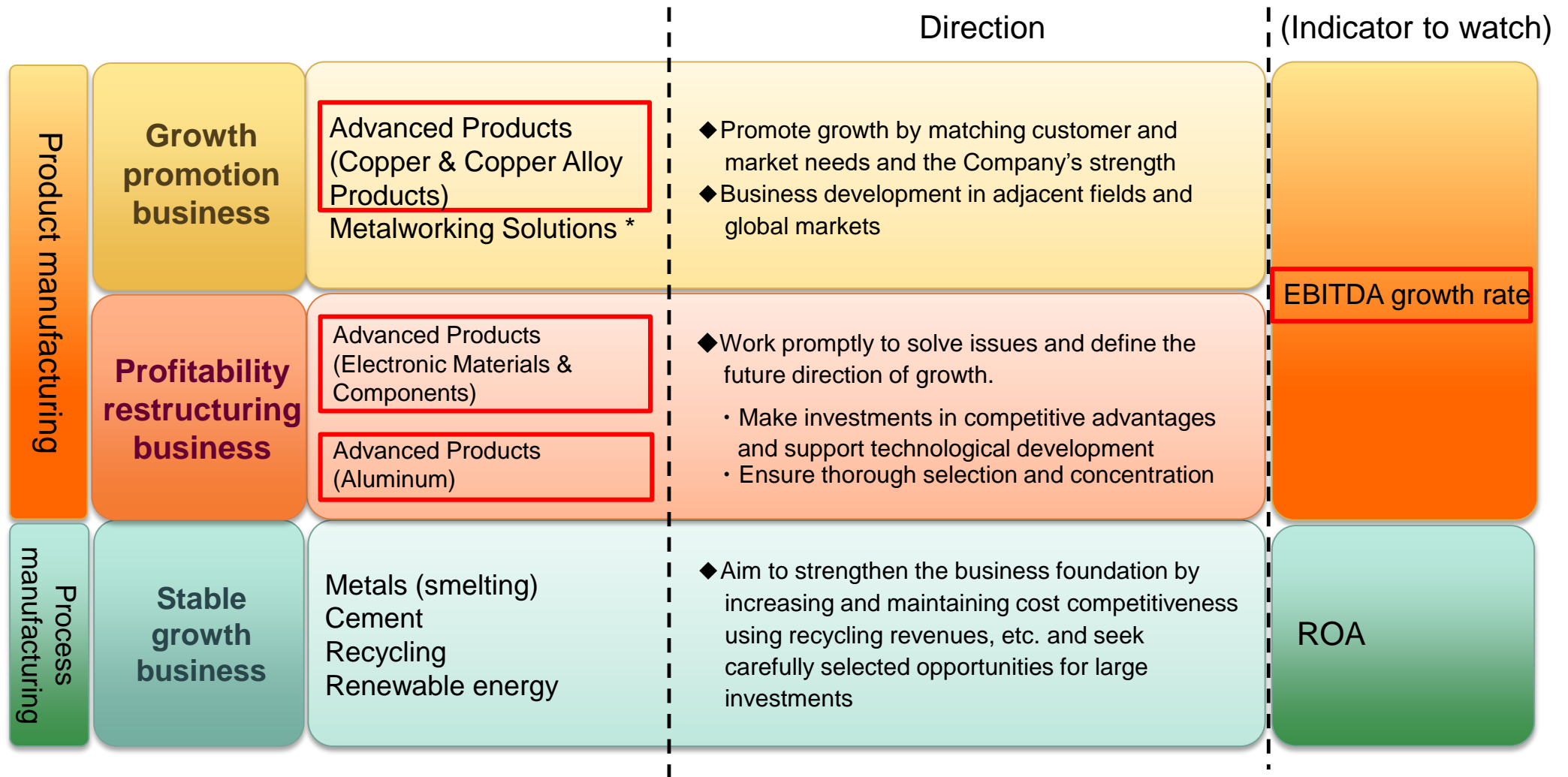
New establishment of the “Advanced Products Company”

- ⇒ Strengthening and growth of product manufacturing business
- ⇒ Creation of new products and businesses in product manufacturing business



Optimization of Business Portfolio

- ◆ To integrate three product manufacturing businesses and establish the Advanced Products Company in October, 2018
- ◆ Newly set a EBITDA growth rate as the most important indicator of the Advanced Products Company



* As of October 1, 2018, "Advanced Materials & Tools Company" has changed its name to "Metalworking Solutions Business Company."

Key Measures to Strengthen and Restructure the Business Since April 2017

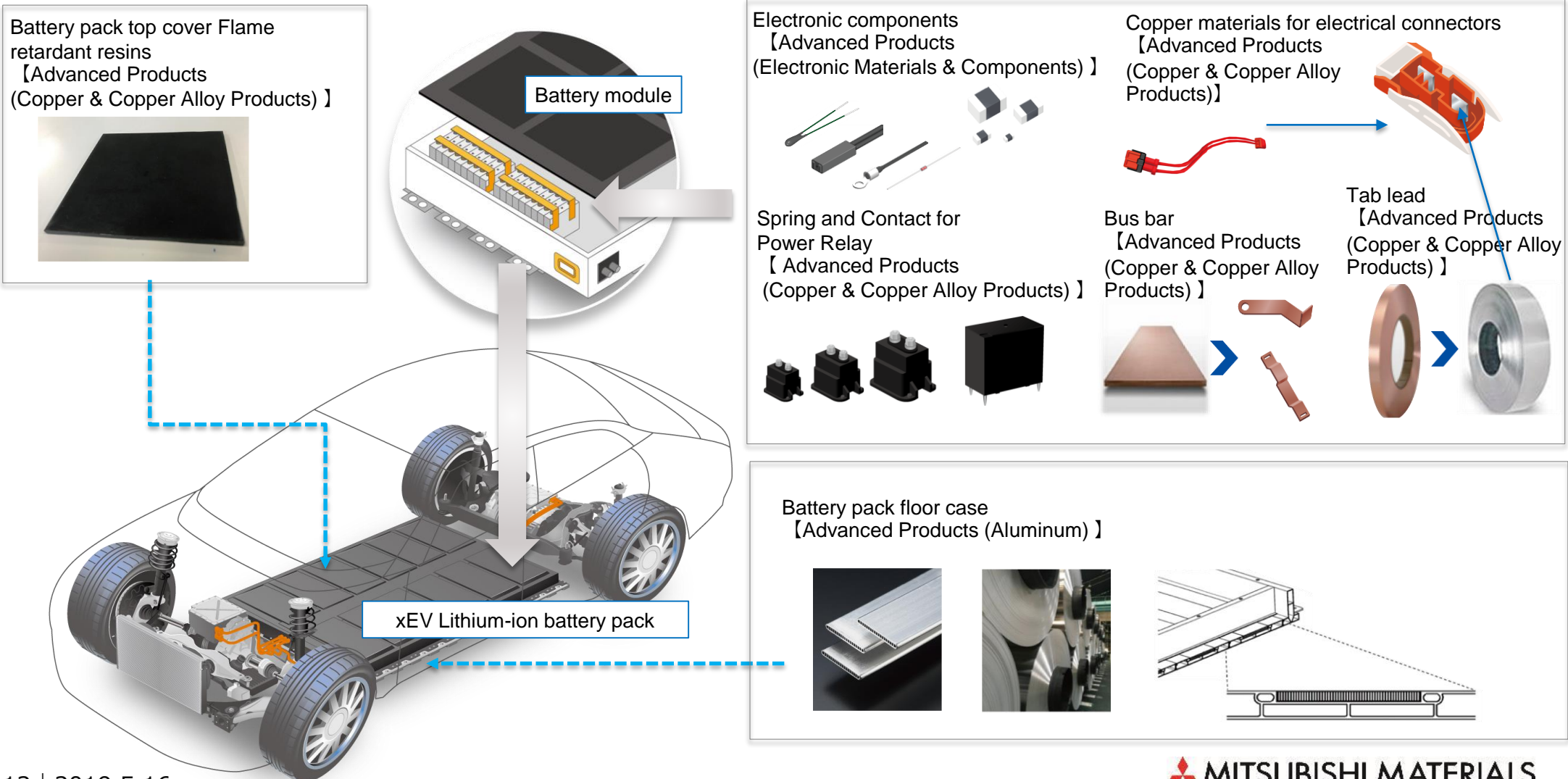
Key Business Strengthening and Acquisition of Shares			
Advanced Products	<ul style="list-style-type: none"> • “Luvata Special Products Division” became a consolidated subsidiary through completion of the acquisition of shares • <u>Development of Flake-type thermistors for high-precision temperature control (the world’s smallest and with long-term reliability) of laser diodes for optical communication</u> • <u>To begin collaboration with Denka Company Limited for full-fledged mass-production of ceramic insulated circuit substrates with high thermal conductivity for eco-friendly vehicles</u> • <u>Joint development with Mitsubishi Shindoh Co., Ltd. regarding corrosion protective plating technology for the terminal connectors of aluminum wire harnesses which is expected to contribute for reducing the weight of automobiles</u> • <u>Development of two types of copper sintering bonding materials for next-generation power modules capable of solving problems that arise in conventional solder</u> • <u>Development of uniformity electrodeposition coating technology for highly heat-resistant and highly insulating resin for next-generation vehicles</u> 		
	Metalworking Solutions Business	<ul style="list-style-type: none"> • “Central Japan Technical Center” was established • “TianJin LingYun tool Design Co.,LTD.” was relocated, and improved and expanded • Tungsten recycling capacity at Japan New Metals Co., Ltd. was increased 1.5 times • <u>“Machining Technology and Education Center in North America” was relocated, and improved and expanded</u> 	
		Metals Business	<ul style="list-style-type: none"> • “MM Metal Recycling B.V.”, an E-Scrap sampling facility established in the Netherlands, went into operation
		Cement Business	<ul style="list-style-type: none"> • <u>Capacity of waste plastic processing at Kyushu Plant increased 1.7 times</u>
		Others Business	<ul style="list-style-type: none"> • “KitaKyushu Ash Recycle Systems Co., Ltd.”, which is engaged in the treatment of incineration fly ash, went into operation • <u>To begin the joint development of recycling technology of cobalt, nickel and other metals with Nippon Magnetic Dressing Co., LTD.</u> • <u>“New Energy Fujimino Co., Ltd.” was established for operating a business of producing biogas from food waste</u>
	Common	<ul style="list-style-type: none"> • Investment to “Incubation Alliance, Inc.”, which is involved in the development and manufacture of new carbonaceous material “graphene” • <u>“New Business Development & Promotion Division” and “EV Material Development & Recycling Business Promotion Dept.” were established</u> • <u>Establishment of “MMC Innovation Investment Limited Partnership”, which will invest in venture companies that have material technologies</u> 	
Key Business Restructuring and Sales of Shares			
Metalworking Solutions Business		<ul style="list-style-type: none"> • All shares in “Hitachi Metals MMC Superalloy, Ltd.” were sold 	
Common	<ul style="list-style-type: none"> • All shares in “Mitsubishi Materials Real Estate Corporation” were sold 		

*Black: FY2018
*Red: FY2019

Creation of New Products and Businesses

From battery pack, materials for interior and exterior to recycling

The Company provides unique products and recycle technology with the keywords "Manufacturing", "Use" and "Revival" that are indispensable for electric vehicles.



Creation of New Products and Businesses

Battery module

Negative active materials coating on copper foil for current collector

Positive active materials coating on aluminum foil for current collector

1st resistance welding (electrode sheets + collector terminal)

Press winding to rolls

Welding Electrode (Copper material)
Collector terminal (Copper material)

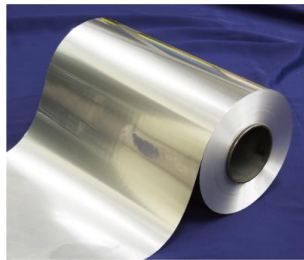
Welding Electrode (Tungsten material)
Electrode Sheet

2nd resistance welding (output terminal + collector terminal)

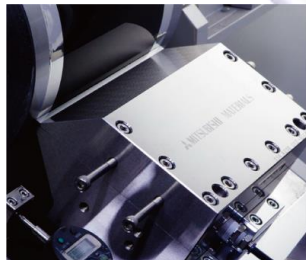
<Recycling>

Recycling technology for Lithium-ion battery for xEV by solvent extraction process

Aluminum foil products (Advanced Products / Aluminum)



Slot die (Metalworking Solutions / Cemented Carbide Products)



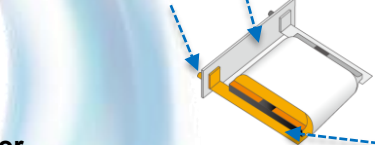
Ionic liquids (Advanced Products / Electronic Materials & Components)



Tungsten tri-oxide; WO₃ powder (Metalworking Solutions / Cemented Carbide Products)



Cell cap
Output terminal

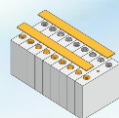


Collector terminal

Stack insertion to box

Cell cap welding (seal) / Fill hole

Bus bar welding (external connect)



Solvent extraction separator

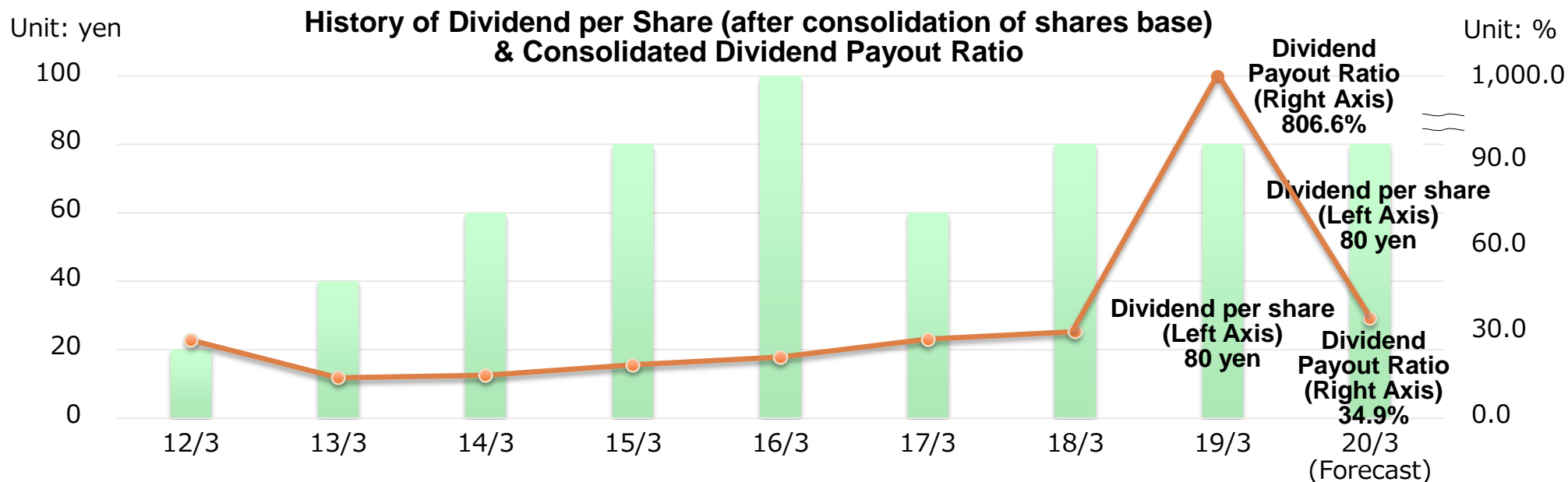


LiOH



CoSO₄

Shareholder Return



	17/3 (Results)	18/3 - 20/3
Dividend	60 yen/share *	80 yen/share

- ◆ While the Company's performance is changed, its policy is to maintain stable dividends, and annual dividends during the FY2018-2020 period will be **80 yen per share** (same as dividend in FY2018).
- ◆ If the consolidated dividend payout ratio is lower than 25%, however, the Company will temporarily increase the dividend or purchase treasury stock.

* A consolidation of shares of the Company's common stock at a 10:1 ratio was executed, with an effective date of October 1, 2016. According to this, dividend per share for FY2012 to FY2017 are calculated on the assumption that the consolidation of its shares was conducted at the beginning of the FY2012.

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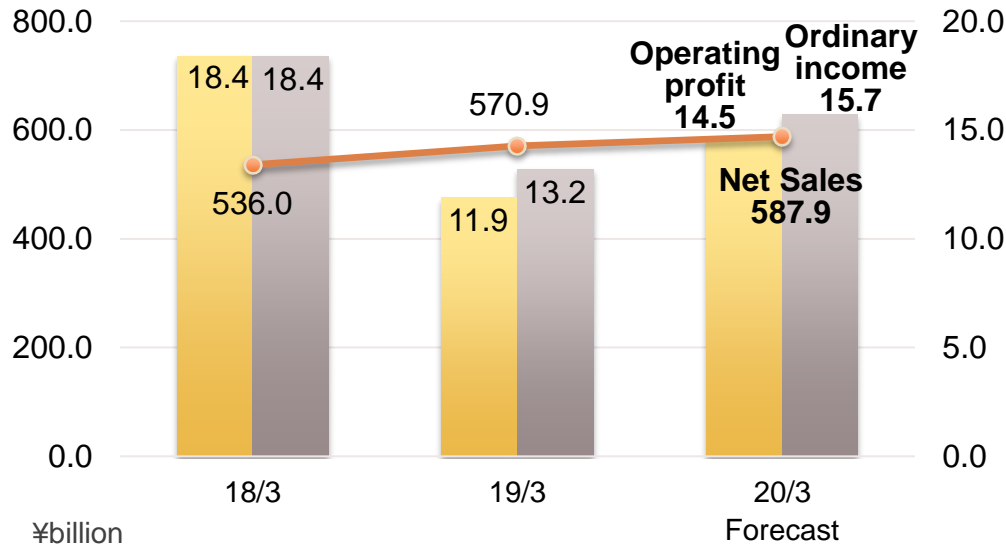
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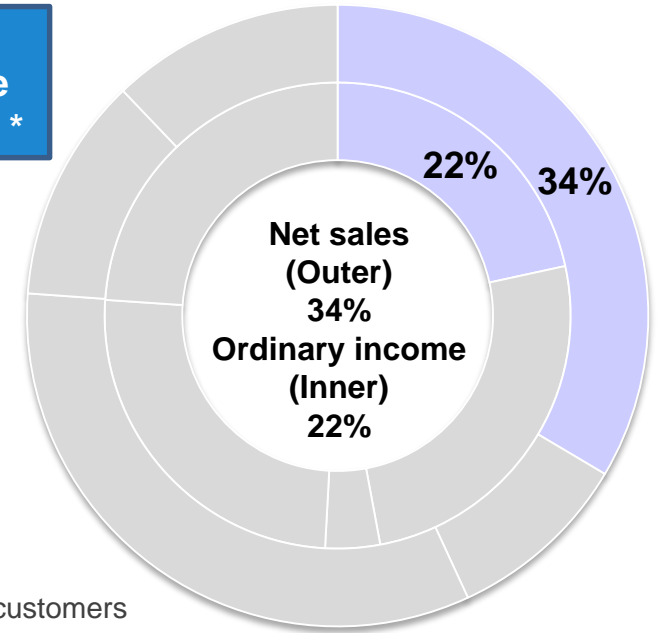
Advanced Products

Advanced Products

History of Consolidate Earnings



Net sales & Ordinary income ratio by Segment *



*FY2019 Result
Net sales is for outside customers

FY2020

◆ Copper & Copper Alloy Products

Mitsubishi Shindoh Co.,Ltd. is expected to maintain solid sales of terminal materials for automobiles at the same level as the previous year and increase sales of electronic materials for semiconductors, MSP alloys, etc.

Luvata Group is expected to increase sales of welding-related products to North American, European, and Japanese automobile manufacturers and superconducting wires for MRI in China and other areas of Asia.

◆ Electronic Materials & Components

Sales of products such as insulated substrates with high thermal conductivity and solar heat-ray shielding for next-generation vehicles and electronic components for in-vehicle equipment and optical communication-related equipment are expected.

◆ Aluminum

Mitsubishi Aluminum Co., Ltd. is expected to increase sales of products such as heat exchanger sheet materials for automobiles through the stabilization of sheet production and foil products for lithium-ion battery cases.

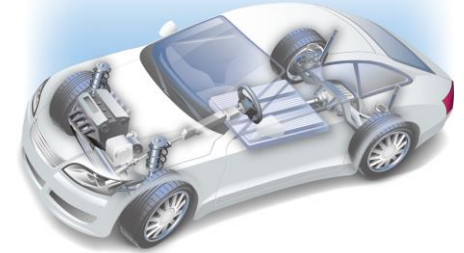
Universal Can Corporation plans to launch upsized aluminum bottle cans and expects a recovery in demand for aluminum bottle cans.

Advanced Products

Medium-term Management Strategy - Progress of Key Strategies

◆ Automotive Market

Rapid shift of automobiles to EVs, automatic driving technology, and progress of connected technology



【Key Results in FY2019】

Key Strategies		Measures	Progress
C&CAP	Sell products meeting customer needs / Increase sales of terminal materials and new alloys	Increase sales of terminal materials to major customers in the industry with a focus on the MSP series	Some customers decided to use MSP5 and MSP8, mass production commenced, and progress is generally steady
EM&C	New products and sales expansion in the next-generation vehicle market	<ol style="list-style-type: none"> 1. Strengthen insulated substrates with high thermal conductivity business 2. Increase sales of solar heat-ray shielding 	<ol style="list-style-type: none"> 1. Expanded production capacity for heat sink-integrated substrates 2. Achieved sales exceeded the previous year result
Aluminum	Promote of selection and concentration / shift to heat exchanger materials	Increase facilities	Under construction, aiming for operation in FY2021

【Key Plans for FY2020】

Key Strategies		Measures & Plans
C&CAP	Fortify the manufacturing system of rolling business	Increase production capacity of terminal materials for automobiles by introducing continuous annealing furnaces
EM&C	New products and sales expansion in the next-generation vehicle market	<ol style="list-style-type: none"> 1. Strengthen insulated substrates with high thermal conductivity business 2. Increase sales of solar heat-ray shielding 3. Increase sales of thermistors and surge absorbers
Aluminum	Promote of selection and concentration / shift to heat exchanger materials	Although consideration for a joint venture with Gränges was canceled, we continue to hold discussions on future business opportunities



Heat exchanger for automobiles (End products)

Advanced Products

Medium-term Management Strategy - Progress of Key Strategies

◆ Electronics Market

Utilizing Big Data, expansion of IoT, AI, 5G, etc.

◆ Semiconductor Market

Growth in demand for semiconductor manufacturing equipment and related materials that support demand for automobiles and electronics



【Key Results in FY2019】

Key Strategies		Measures	Progress
EM&C	(Electronics) New products and sales expansion in the IoT- related market	Increase market shares in the optical communication equipment market based on high reliability and compact-sizing as its strengths	Implementing to expand sales in the U.S. and Chinese markets
C&CAP	(Semiconductor) Expand sealing materials business	Increase sales to global customers	Increased the facilities at Minoshima Works as planned

【Key Plans for FY2020】

Key Strategies		Measures & Plans
EM&C	(Electronics) New products and sales expansion in the IoT- related market	Enhance facilities to prepare for an increase in orders receiving
C&CAP	(Semiconductor) Expand sealing materials business	Complete the facility expansion at Minoshima Works Commence an increase in production and sales expansion in FY2021



Sealing materials

* C&CAP: Copper & Copper Alloy Products EM&C: Electronic Materials & Components

Advanced Products

◆ Development of corrosion protective plating technology for connectors in aluminum wire harnesses

(Announced on December 3rd, 2018)

New technology	Corrosion protective plating technology for connectors in aluminum wire harnesses
What is ?	A corrosion protective plating technology that limits the progress of galvanic corrosion* by adding an anti-corrosion layer that includes zinc (Zn) to tin-plating that is widely used for surface treatment of copper alloy terminals
Properties & Functions	In addition to preventing galvanic corrosion*, this technology has an advantage in terms of production cost compared with conventional technologies
In the future	Demand is expected to expand due to the replacement to aluminum wire harnesses according to the weight reduction for automobiles that is demanded for the purpose of reducing CO ₂ by improving fuel efficiency.



Corrosion protective plated connectors connected to aluminum wires

* Galvanic corrosion: A phenomenon in which a metal corrodes when it is in electrical contact with another (different) metal in the presence of an electrolytic solution. It is caused by the flow of galvanic current between the two metals, with the difference in corrosion potential acting as the driving force.

◆ Development of Two Types of Sintering Bonding Materials for Next-generation Power Modules

(Announced on March 6th, 2019)

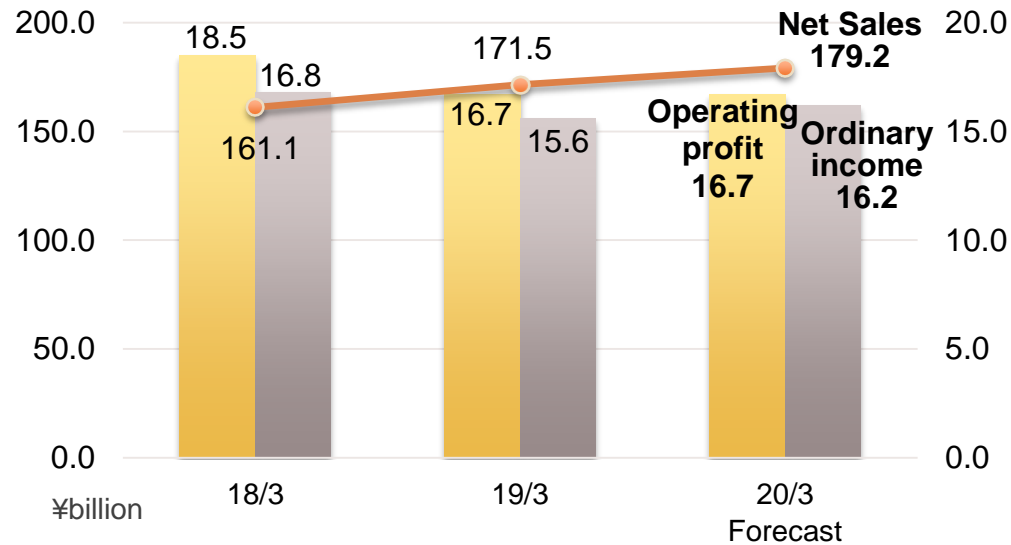
New product	Sintering copper bonding material	Core-shell bonding material
What is ?	Bonding material using low-temperature sintering submicron copper particles	Bonding material using core-shell particles including copper coated with tin
Properties & Functions	Usable for bonding at low temperatures and in an inert atmosphere	Implements bonding in a short amount of time
In the future	It is expected that the use of the new products will expand as sintering bonding material for next-generation power modules for which high heat resistance and high reliability are desired.	

Metalworking Solutions Business *

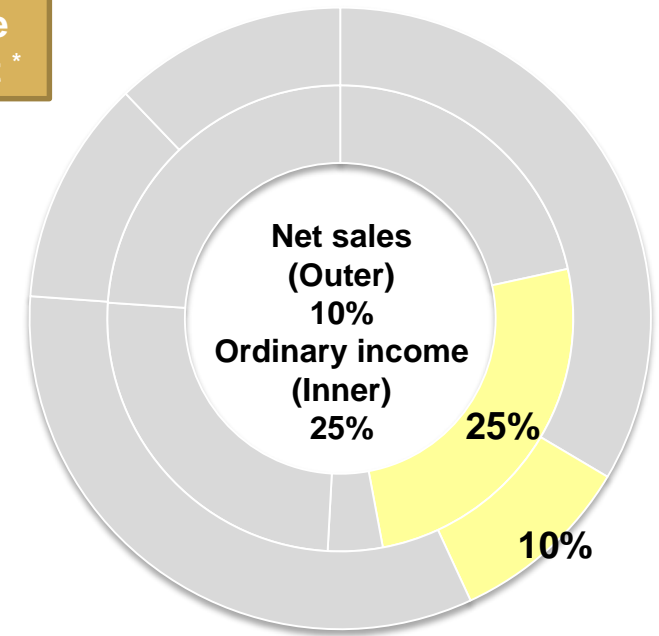
* As of October 1, 2018, “Advanced Materials & Tools Company” has changed its name to “Metalworking Solutions Business Company.”

Metalworking Solutions Business

History of Consolidate Earnings



Net sales & Ordinary income ratio by Segment *



*FY2019 Result
Net sales is for outside customers

FY2020

◆ Cemented Carbide Products

Increase of sales according to reinforce and accelerate the key account strategy, expand sales to key industries - Automotive, Aerospace, Medical, and Mold & Die, and expenditures for sales expansion for the future are expected to the plan.

Metalworking Solutions Business

Medium-term Management Strategy - Progress of Key Strategies

◆ Cemented Carbide Products Business

Become a global player capable of providing high value-added products and service solutions



Cemented carbide tools

【Key Results in FY2019】

Key Strategies		Measures	Progress
Cemented Carbide Products	Enhance the power of solution	Expanding sales for Automotive, Aerospace, Medical, & Mold & Die (mainly expanding into key accounts)	Increase sales above 3% against target
Cemented Carbide Products	Expand technical center networks	To establish and expand overseas locations and technical center	Machining Technology and Education Center in North America was relocated, and improved and expanded (Oct. 2018)

【Key Plans for FY2020】

Key Strategies		Measures & Plans
Cemented Carbide Products	Expand technical center networks	Plan to establish new technical centers in Germany and India
Cemented Carbide Products	Promote tungsten recycling	Increase scrap collected from overseas and the recycle ratio in raw materials



Insert

Metalworking Solutions Business

◆ Expand technical center networks

MTEC North Carolina

(North Carolina, United States)
Relocated, improved and expanded
in 2018



MTEC Valencia

(Valencia, Spain)
Established in 2008



East Japan Technical Center

(Saitama, Japan)
Established in 2010



Central Japan Technical Center

(Gifu, Japan)
Established in 2017

Sharing
information

Utilizing mutual
facilities

Experiment
support

MTEC Tianjin

TianJin LingYun tool
Design Co.,LTD
(TianJin, China)
Relocated, improved
and expanded in 2017



MTEC Bangkok

(Bangkok, Thai)
Established in 2015



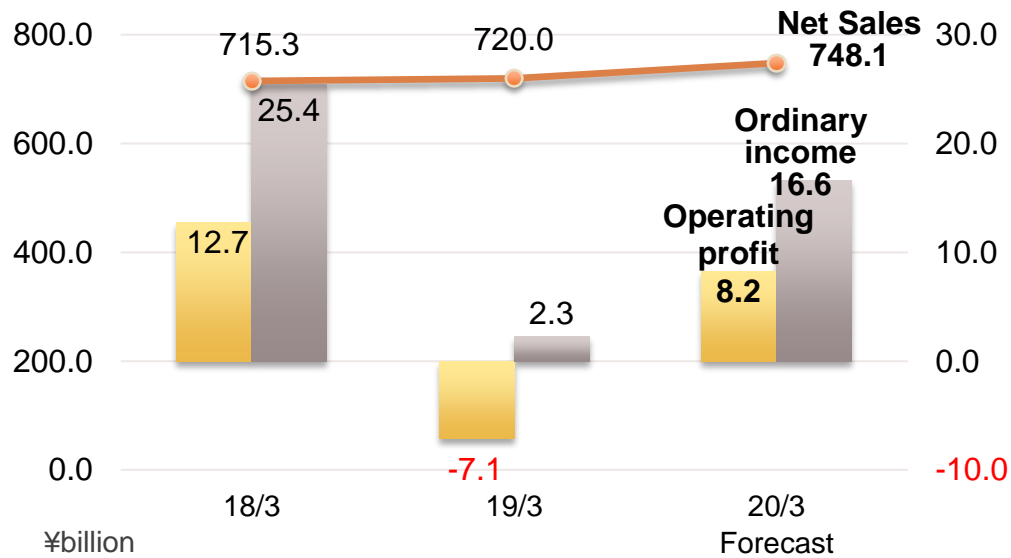
MTEC Germany
(Stuttgart, Germany)
*Plan to establish

MTEC India
(Pune, India)
*Plan to establish

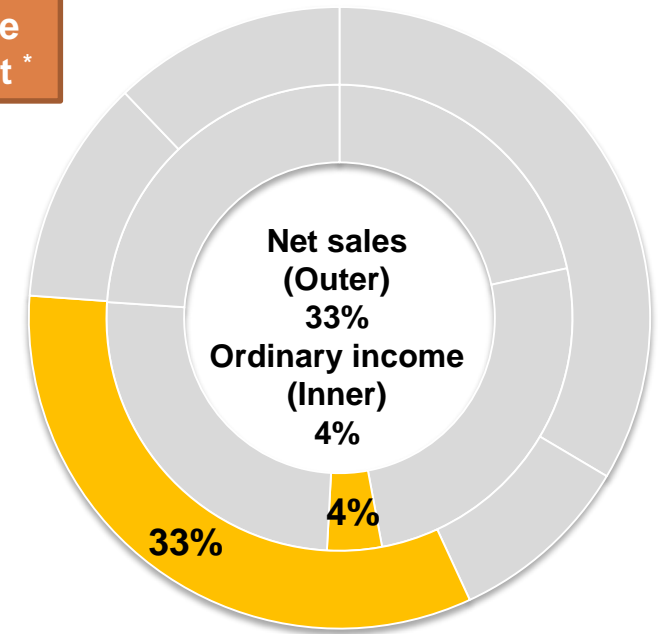
Metals Business

Metals Business

History of Consolidate Earnings



Net sales & Ordinary income ratio by Segment *



*FY2019 Result
Net sales is for outside customers

FY2020

◆ Mining

Expecting dividend income from copper mines of 12.0 billion yen, down 0.8 billion yen year on year.

◆ Smelting

Increase profit by improving the recovery rate of valuable metals, in addition to full production at Naoshima Smelter and Refinery and PT. Smelting (no periodic furnace repairs).

Metals Business

Medium-term Management Strategy - Progress of Key Strategies

Medium- to Long-term Goals

- ◆ Increase synergy between new copper mine development and smelting
- ◆ Expand the recycling business and increase its profitability



【Key Results in FY2019】

Key Strategies		Measures	Progress
Mining	Improve of existing projects and strengthen the system	Stable operation at Copper Mountain Mine (Canada)	Achieved a record high volume of ore dressing by improving facilities for the crashing and grinding process
Mining	Develop new projects	Implementation of feasibility study at Zafranal area (Peru)	Implemented economic efficiency assessment based on geological information, mining plans, mining water, ore dressing-related data, etc.
Smelting	Increase E-Scrap recycling	Establishing E-Scrap sampling facility	MM Metal Recycling B.V. completed in May 2018, and increased operation line capacity gradually

【Key Plans for FY2020】

Key Strategies		Measures & Plans
Mining	Develop new projects	For the Zafranal area, focus on the task of acquiring environment licenses and permits after examining the feasibility study Meanwhile, start making an approach to new projects
Smelting	Optimize the smelting business	Build a new processing and collection flow across the production locations Establish a system for increasing capacity of processing copper ore at PT. Smelting in Indonesia



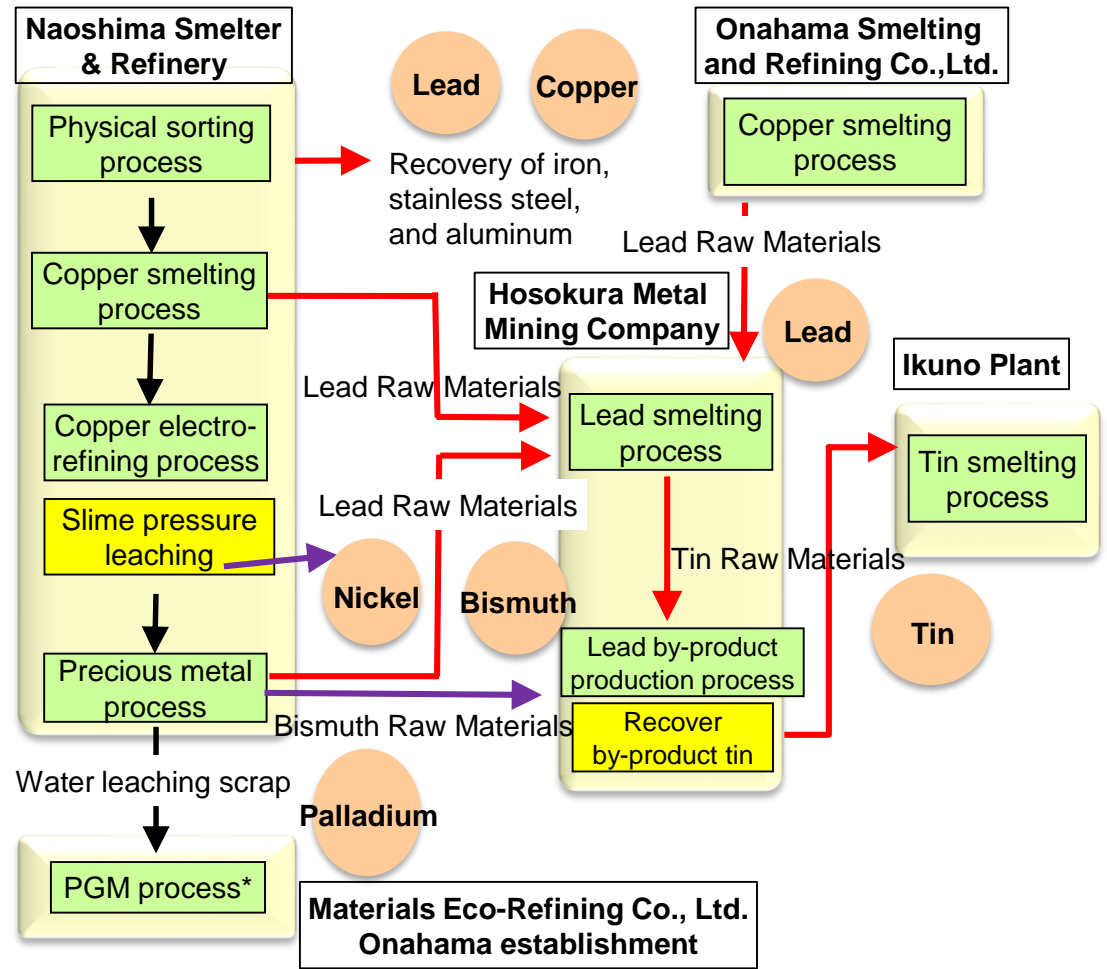
Metals Business

◆ Development foundation for increasing E-Scrap recycling

An increase in E-Scrap recycling resulted in growth in the load of impurities, which has begun to cause troubles. The Company positions the FY2020 as a “willful slowdown” and will actively undertake the sorting and recycling of impurities contained in E-Scrap and smelting metals from them utilizing the strength of smelter network in the Group.

Through this measures, troubles will be reduced. Furthermore, E-Scrap recycling will be also stabilized by acquiring a new income source, and we will expand processing amount in the future.

Items	FY2019	FY2020
Concentrate lead raw materials generated at two copper smelters, Naoshima and Onahama (increase the recovery of copper in lead raw materials)	Commence the concentration of lead raw materials generated at copper smelters.	Increase the amount of lead recovered from lead raw materials generated at copper smelters
Introduce the pressure leaching process at Naoshima Smelter & Refinery (increase in amount of nickel recovered from slime, production of bismuth raw materials)	Developing business plan	Plan to start construction (Plan to be completed in FY2021)
Recover tin raw materials from intermediate products generated at Hosokura Metal Mining Company and produce tin at Ikuno Plant	Conducting pilot test Developing business plan	Plan to start and complete construction (operation will be started in FY2021)
Increasing capacity of processing palladium at Onahama establishment of Materials Eco-Refining Co., Ltd.	Increase production line Plan to complete construction	Establish a system for increasing capacity of processing

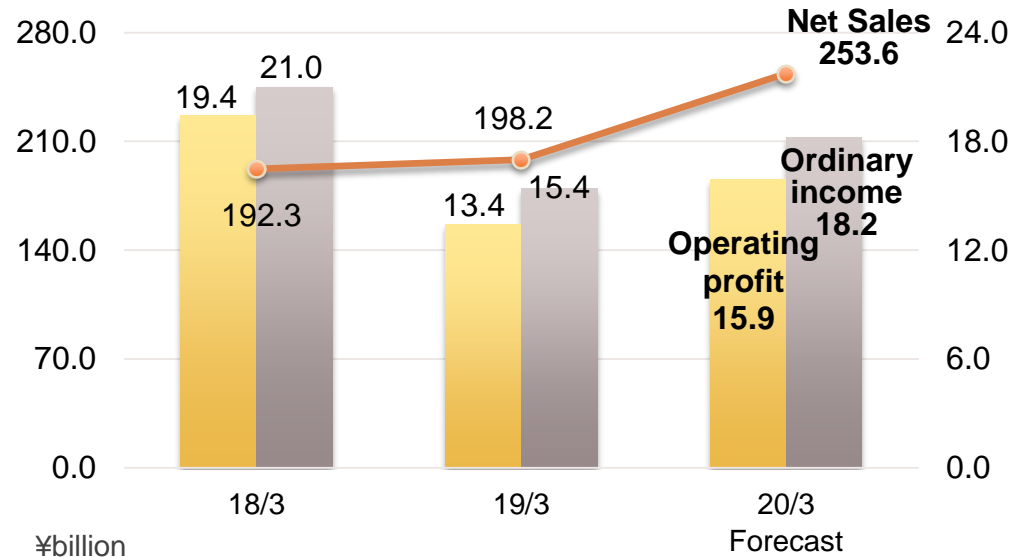


* PGM: platinum-group metals

Cement Business

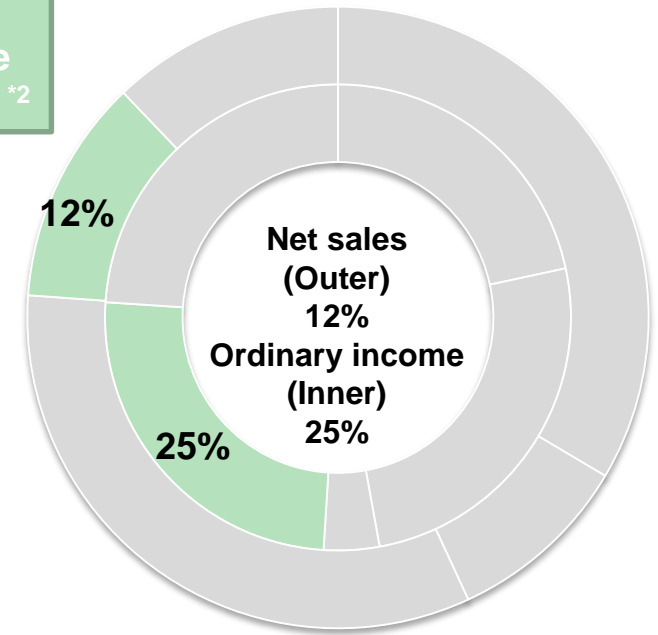
Cement Business

History of Consolidate Earnings *1



*1 As of April 1, 2019, the coal-related business in the “Others business” changed to the “Cement business.”

Net sales & Ordinary income ratio by Segment *2



*2 FY2019 Result
Net sales is for outside customers

FY2020

◆ Japan

While an increase in construction investment is expected due to growth in public investment, total domestic demand for cement is expected to be 42.5 million tons, taking into account factors such as labor shortages in construction work and transportation companies.

As in FY2019, the Company will persistently explain the necessity for sales price optimizations of cement and continue negotiations. Moreover, we will contribute further processing of industrial waste and by-products and work on thorough cost reductions.

◆ California, USA

The Company plans to increase sales prices, in addition to sales growth, under steady demand for both cement and ready-mixed concrete is expected to continue.

Cement Business

Medium-term Management Strategy - Progress of Key Strategies

- ◆ Become a leading company in terms of efficiency in the cement industry
- ◆ Become a local-area champion in overseas

【Key Results in FY2019】

Key Strategies		Measures	Progress
Japan	Fortifying the domestic foundation for competitiveness	Increase global competitiveness at Kyushu Plant	Continuing the measures to reduce the production cost, despite some delay due to the revision of the plan
Japan	Expand the environmental business	Capacity of waste plastic processing increased	Completed in May 2018, and capacity increased 1.7 times
Japan	Fortifying the foundation for ready-mixed concrete business	Strengthen acquisition of high value-added projects at middle of the city	Relocated the concrete technology center to the Tokyo metropolitan area (bay area) and developed ready-mixed concrete plants
Overseas	Expand the US business (Expand the ready-mixed concrete business)	Expanding business to Northern California	Opened new ready-mixed concrete plants in Stockton area since Nov. 2018 (currently, 2 plants are in operation)



【Key Plans for FY2020】

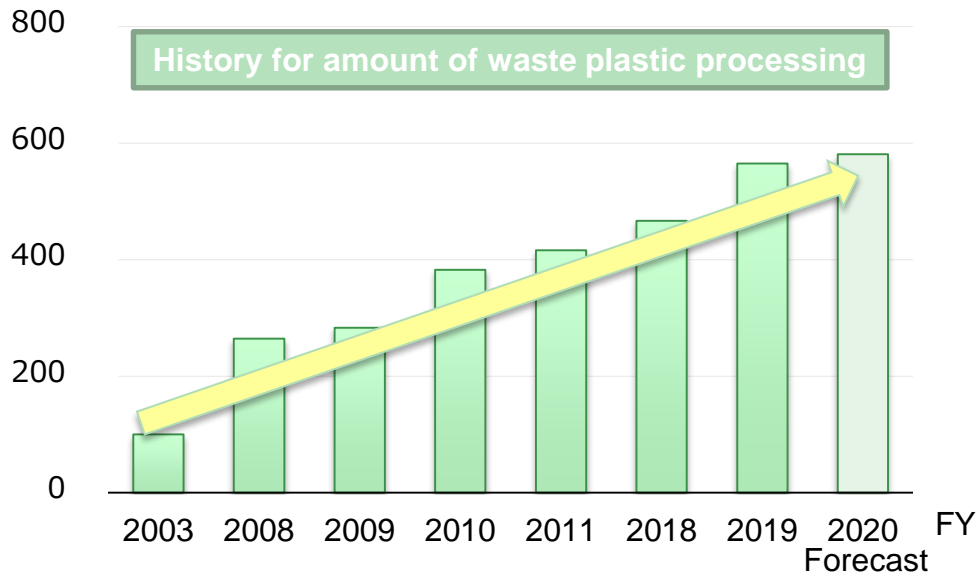
Key Strategies		Measures & Plans
Japan	Establish a stable operation system	Improving production total efficiency (increase the efficiency of combustion burners and clinker coolers)
Overseas	Expand the US business (Expand the ready-mixed concrete business)	Plan to start operation at Simi Valley plant (FY2020/1Q)
Overseas	Expand the US business (Expand the ready-mixed concrete business)	Considering further development of facilities in the Northern California



Cement Business

◆ Capacity of waste plastic processing expanded

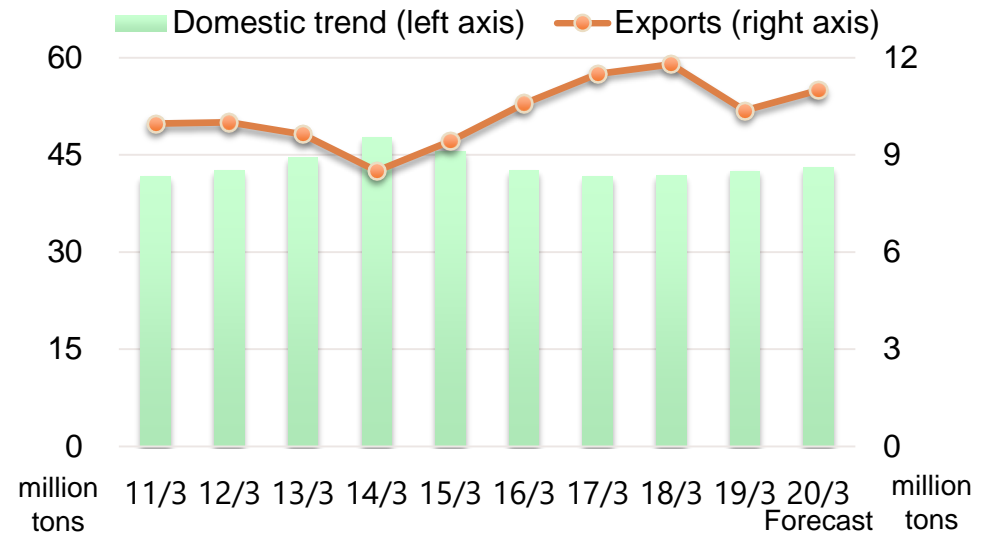
Locations	Capital Expenditure	History
Kyushu Plant	Establish processing facility	2002
Kyushu Plant	Increase processing facility (1st term)	2007
Yokoze Plant	Increase processing facility	2008
Kyushu Plant	Increase processing facility (2nd term) Introduce high chlorine removal system	2008
Iwate Plant	Increase processing facility	2009
Yokoze Plant	Increase high chlorine removal system	2010
Kyushu Plant	Increase processing facility (3rd term) Increase high chlorine removal system	May, 2018



*FY2003 Result = 100, amount is including wood waste and shredder dust

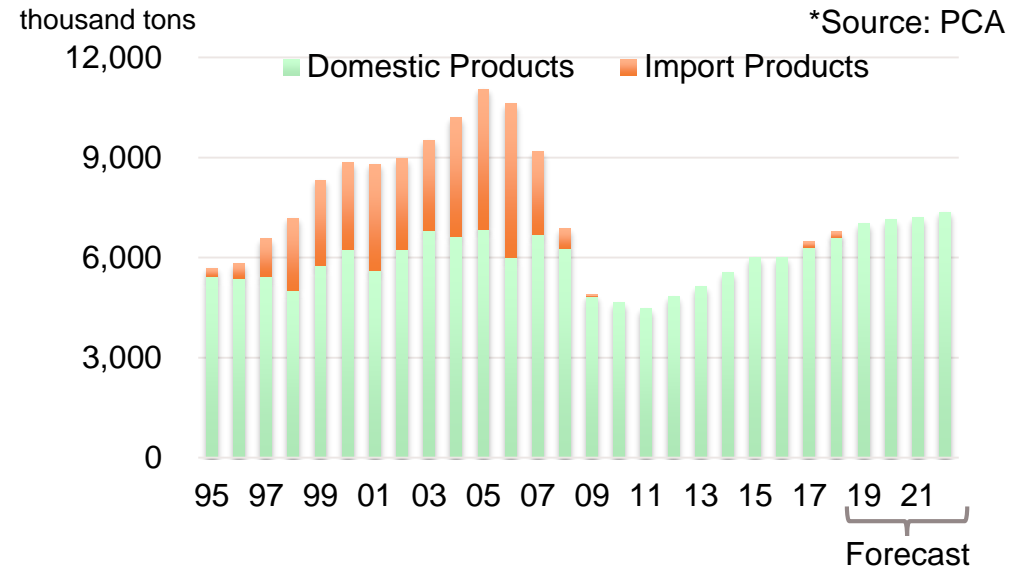
◆ Demand History (Domestic / Export) *

*Source: Japan Cement Association



◆ Demand history for cement in Southern California *

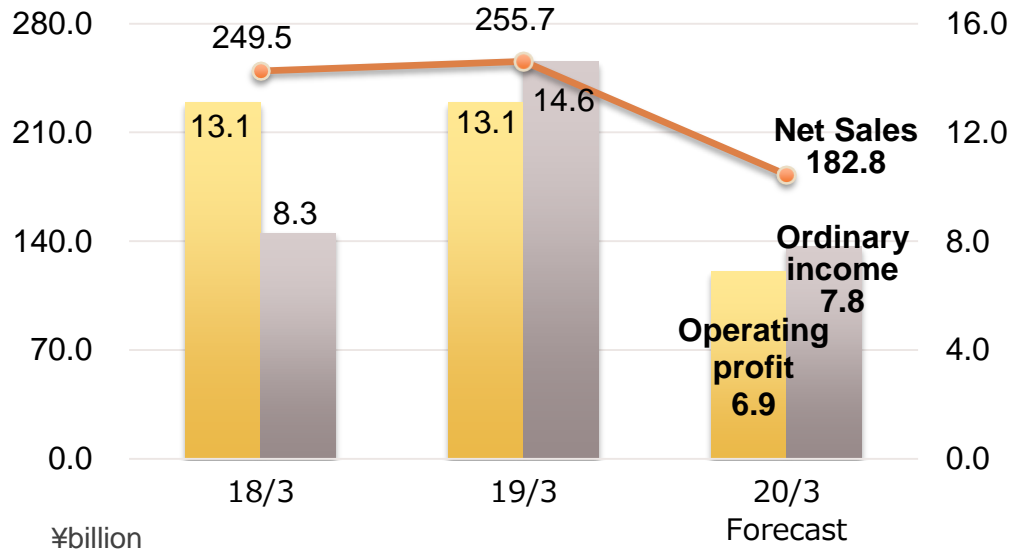
*Source: PCA



Others Business

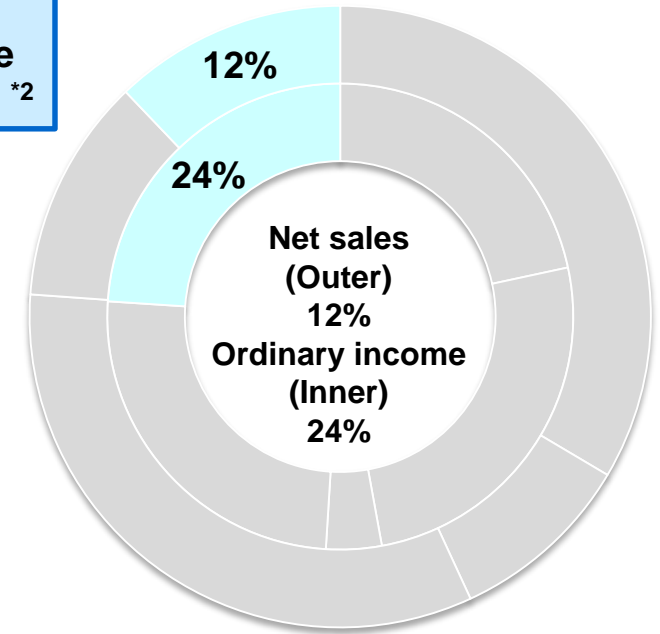
Others Business

History of Consolidate Earnings *1



*1 As of April 1, 2019, the coal-related business in the "Others business" changed to the "Cement business."

Net sales & Ordinary income ratio by Segment *2



*2 FY2019 Result
Net sales is for outside customers

FY2020

◆ Environmental Recycling

Further increase processing capacity at "KitaKyushu Ash Recycle Systems Co., Ltd." engaging in the treatment of incineration fly ash. Ensure the steady construction of the head office plant of "New Energy Fujimino Co., Ltd." operating a business of producing biogas from food waste.

Carry out verification tests of the post-demolition recovery materials automatic sorting technology in the home appliance recycling business.

◆ Renewable Energy

Put the operation of the Wasabizawa Geothermal Power Plant on track and steadily carry out the construction work of Appi Geothermal Power Plant and the New Komatagawa Hydroelectric Power Plant according to the plan.

Conduct research on geothermal resources in new regions and consider the feasibility of commercialization.

Others Business

Medium-term Management Strategy - Progress of Key Strategies

- ◆ **Environmental Recycling**
Establish and expand recycling businesses trusted by stakeholders
- ◆ **Renewable Energy**
Aim to become a leading company in Japan with overall strengths in geothermal power generation



【Key Results in FY2019】

Key Strategies		Measures	Progress
Environmental Recycling	Expansion to new recycling items such as solar panels and lithium ion batteries	"KitaKyushu Ash Recycle Systems Co., Ltd.", which is engaged in the treatment of incineration fly ash, went into operation	Began operations in April, 2018
Environmental Recycling	Start the biomass recycling business	"New Energy Fujimino Co., Ltd." was established for operating a business of producing biogas from food waste	Established in May, 2018 Plan to commence operation in 2020
Environmental Recycling	Become recovery materials to high added value in home appliance recycling	"Chubu Eco Technology Co., Ltd." achieved seamless processing from resin mixtures to manufacture of PP raw material pellets	Started supplying raw material pellets in April 2019

【Key Plans for FY2020】

Key Strategies		Measures & Plans
Environmental Recycling	Promote automated demolition in home appliance recycling	"Chubu Eco Technology Co., Ltd." introduce an automatic sorting robot and commence verification tests
Renewable Energy	Expand new geothermal power generation business	Plan to begin operations at Wasabizawa Geothermal Power Plant in May, 2019
Renewable Energy	Expand new geothermal power generation business	Plan to start construction of Appi Geothermal Power Plant Plan to commence operation in 2024

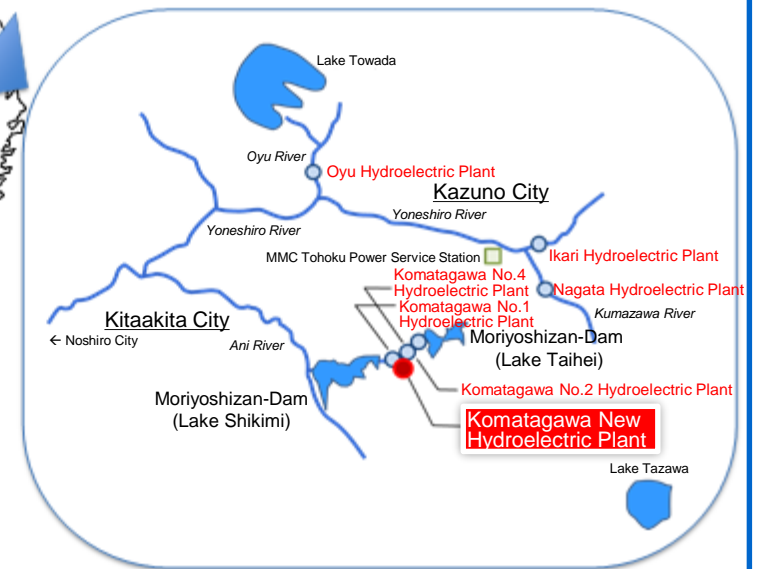


Others Business

◆ “Komatagawa New Power Plant” - a new hydroelectric power plant in Akita Prefecture will start construction in May 2019 for the first time in 66 years. (Announced on December 25th, 2018)

Komatagawa New Power Plant

Features of hydroelectric power generation	Eco-friendly method of power generation that does not emit CO ₂
Purpose	Achieve the efficient use of water resources by providing a long-term, stable supply of renewable energy using the hydropower of the Komatagawa water system while preserving the river environment
Location	Komatagawa river system, Kitaakita City, Akita Prefecture
Power generation capacity	10,326kW
Annual amount of power generation	Approx. 48,500 MWh
Plan to start	May, 2019
Plan to complete	December, 2022
Annual CO ₂ reduction amount through the operation of the new power plant	Approx. 9,800 tons (Equivalent to the amount of CO ₂ absorbed by approx. 1,100 ha of 40-year-old planted cedar forests)



Contents

1. Performance Summary (P.4 - 6)

2. Progress on the Medium-Term Management Strategy (P.8 - 14)

3. Initiatives by Segment (P.16 - 36)

4. Issues and Enhancement of Group Governance (P.38 - 45)

Recap

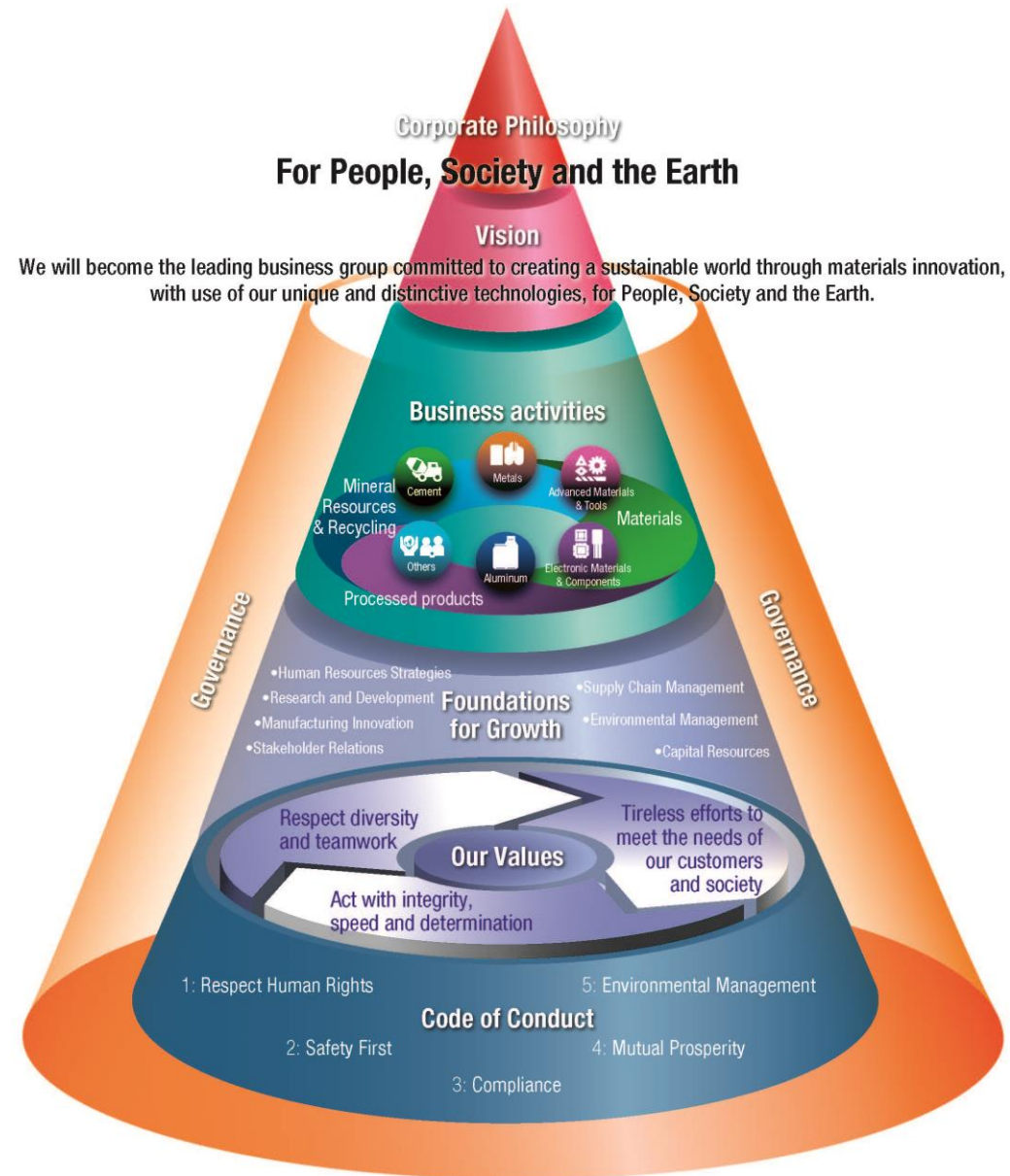
Enhancement of the Governance Framework for Quality Control

Thorough Enhancement and Promotion of Group Governance

Further Improvement of Governance Function

Implementation of More Timely and Effective Management

To Ensure Implementation of each Measures in Final Fiscal Year of the Medium-Term Management Strategy



Recognition of Issues and Initiatives

Recognition of issues



Initiatives to enhance governance

Becoming an organization that supports the enhancement of corporate value

Communication (■)

The amount and quality of communication is inadequate at all levels in the Group.

Awareness and system of compliance (■)

Sense of fulfilling responsibility is lacking.
The abilities to voluntarily discover inappropriate events, make efforts to improve it and promptly report it are lacking.

Resource allocation (■)

Resource allocation was inappropriate as a result of prioritizing operating performance and to postpone required investments.

- Visiting locations by executive officers and head office executives, and holding dialogue meetings and workshops
- Establishment of Governance Division /
 - Formulate, implement and follow-up the plan for the conduct of governance (Governance Deliberation Council)
- ■ Increasing the frequency of audits
- ■ Advocating and promoting SCQDE*
 - * The priorities when making decisions for the performance of operations
 - (1) Safety & Health
 - (2) Compliance & Environment
 - (3) Quality (4) Delivery (5) Earnings
- From the automation of quality inspections to the enhancement of the process
- Selection the group-wide risks (2019)
 - Gaps between workload and human resources
 - Obsolescence and degradation of production facilities

- 1) Organization with good and healthy communication where employee can be unrestricted communication
- 2) Organization capable of autonomously solving issues
- 3) Organization that adequately shares the understanding of its business
- 4) Organization that makes prompt and resolute decisions
- 5) Organization that manages business with awareness of the differences between the product manufacturing business and the process manufacturing business
- 6) Organization that aims for thorough digitization

Change of the Governance System

Shift to the Company with the Three Statutory Committees

Based on the assumption of approval at the 94th Ordinary General Meeting of Shareholders to be held on June 21, 2019, the Company plans to shift from the company with audit & supervisory board to the company with the three statutory committees. (Announced on March. 28, 2019)

< Purpose of the shift >

Further improvement of the corporate governance system and an enhancement of the corporate value

- ◆ Strengthen the management supervision function of the board of directors and increase the transparency and impartiality of the management by shifting to the company with the three statutory committees that has three committees: the nomination, audit, and compensation committees that majority constitute by external directors
- ◆ Accelerate decision-making in the performance of duties by transferring authority to the Executive Officers.

< Composition of the board of directors >

Make the majority of directors external directors to strengthen the management supervision function of the board of directors.

	External Directors	Internal Directors
Board of Directors	6 people	5 people

< Composition of nomination, compensation, and audit committee >

In addition to the majority of the members of each committee being external directors, make the chairman external directors.

	Nomination Committee	Compensation Committee	Audit Committee
External Directors	3 people (including chairman)	3 people (including chairman)	3 people (including chairman)
Internal Directors	2 people	2 people	2 people

Group Governance Framework Enhancement Measures

1

Enhancement of framework for discussion, and reporting of governance-related matters

- ◆ We will implement a framework for reducing risks and preventing problem occurrences
⇒ We have been deliberating and sharing policies, plans, etc. on governance-related matters through the “Governance Deliberative Council”

2

Improvement of functions of management divisions and their collaboration with operating divisions

- ◆ We have established the Governance Division to improve administrative division’s control and support functions for governance-related matters

3

Improvement of human resources training and encouragement of active interaction

- ◆ We expand educations regarding governance-related matters
- ◆ In addition to promoting human resources interactions in the Group, and endeavoring to deepen communication, we have been providing human resources training throughout the Group by developing the knowledge and experience in various divisions

4

Internal audit strengthening

- ◆ The frequency and content of audits has been enhanced through cooperation with each department within the Governance Division.

5

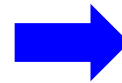
Studies with a business optimization focus

- ◆ Effectiveness of the governance is one of the important decision-making criteria when considering business portfolio
- ◆ We are seeking to achieve an appropriate balance so that the Group’s governance capabilities match the business domains

Group Governance Framework Enhancement Measures : Summary of FY2019 and Initiatives in FY2020

FY2019

Introduced measures to enhance governance



FY2020

Establish, further develop, and increase efficiency

Governance Enhancement Measures	Summary of FY2019	Initiatives in FY2020
(1) Enhancement of framework for deliberation and reporting of governance-related matters (2) Improvement of functions of management divisions and their collaboration with operating divisions	<ul style="list-style-type: none"> ➤ Development of group governance reporting system, etc. (establish rules) ➤ Holding of Governance Deliberation Council (April, October, and February) ➤ Operate plan for the conduct of governance and progress reports ➤ Introduction of new risk management system 	<ul style="list-style-type: none"> ➤ Continuous holding of Governance Deliberation Council ➤ Report on performance of operations, and review the flow of the plan for the conduct of governance and progress reports ➤ Select the locations for priority support and build a support system ➤ Enhance overseas regional management companies ➤ Operation of the new risk management system
(3) Improvement of human resources training and encouragement of active interaction	<ul style="list-style-type: none"> ➤ Hold governance training for executives of the Group (290 people) ➤ Implement measures to improve communication at all levels ➤ Compliance awareness surveys (May and December) ➤ Encouragement of active interaction (8 employees from the Company to the Group companies, and 7 employees from the Group companies to the Company) 	<ul style="list-style-type: none"> ➤ Continue governance training for new executives of the Group ➤ Promote to improve communication ➤ Continue the compliance awareness surveys (twice) ➤ Continue the encouragement of active interaction (approx. 20 employees)
(4) Internal audit strengthening	<ul style="list-style-type: none"> ➤ Change the cycle from once every 5 - 6 years to 2 years ➤ Introduce governance audits (120 locations) ➤ Implement quality audits (76 locations) ➤ Increase the number of auditors 	<ul style="list-style-type: none"> ➤ 2nd year in one cycle ➤ Continue the governance audits (120 locations) and quality audits (80 locations) ➤ Further increase the number of auditors
(5) Studies with a business optimization focus	<ul style="list-style-type: none"> ➤ Start segmentation of the Group companies from the perspective of governance 	<ul style="list-style-type: none"> ➤ Start reorganization of some companies

Preventive measures of the Matters of Non-Conforming Products

Main causes of the shipment of non-conforming products

- ◆ Inadequate framework for exerting influence on product development and order receiving processes at order receiving stage
- ◆ Attitude excessively prioritizing "order receiving" and "delivery date"
- ◆ Order received and mass production that the specifications exceeding manufacturing capability

- ◆ Insufficient framework of quality assurance system
- ◆ Pressure on quality assurance departments from other departments

- ◆ Low awareness of compliance with specifications
- ◆ Arrogance in thinking that quality control is being achieved
- ◆ Low sensitivity to risk in relation to quality issues

- ◆ Insufficient business resources (insufficient inspectors, inspection equipment, etc.)

- ◆ Audit procedures that has become a mere facade

Preventive measures

(Restructuring Measures of the Governance Framework for Quality Control in the Group)

1) Implementation of a front loading system for order receiving

2) Enhancement of the framework and authority of the quality control department


3) Expansion of quality training

4) Promoting automated inspection equipment

5) Enhancement of quality audits

6) Utilization of outside consultants

Preventive measures of the Matters of Non-Conforming Products : Summary of FY2019 and Initiatives in FY2020

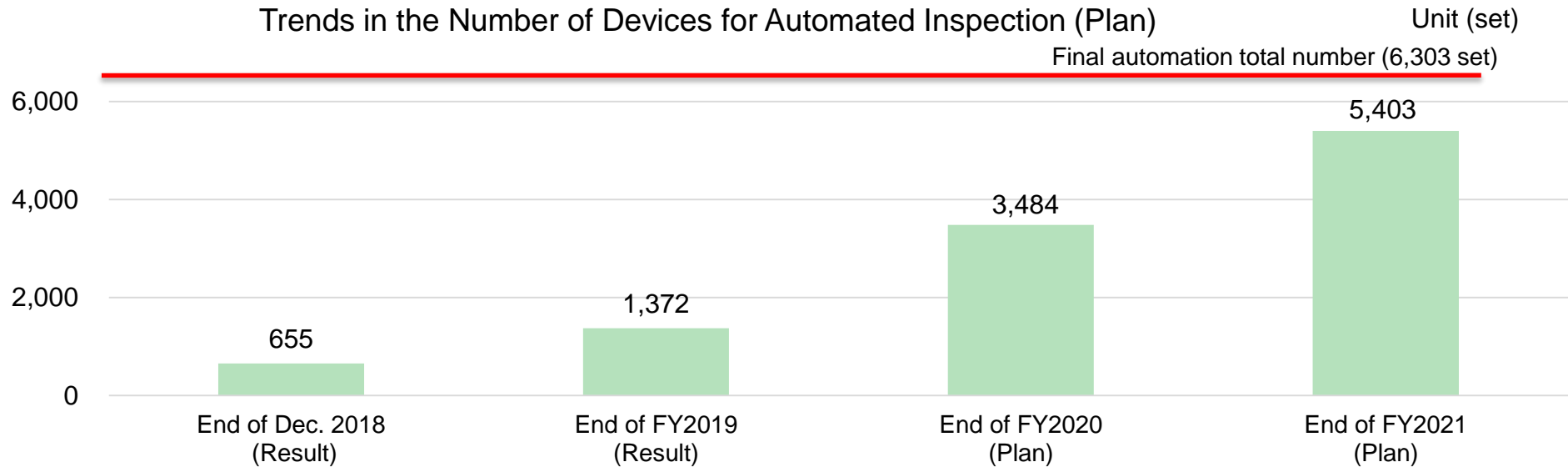
Sharing quality issues in the entire Group and implement to promote measures  Continue to "improve quality control"

Preventive measures	Summary of FY2019	Initiatives in FY2020
(1) Implementation of a front loading system (FLS)	<ul style="list-style-type: none"> ➤ Apply the improvement for the order receiving system to the Group ➤ Improve the order receiving system focus on 6 affected locations (utilize quality guidance meetings led by outside consultants) 	<ul style="list-style-type: none"> ➤ Accelerate improvement of the order receiving system in locations other than the 6 affected locations (utilize quality guidance meetings led by outside consultants)
(2) Enhancement of the framework and authority of the quality control department	<ul style="list-style-type: none"> ➤ Reorganize at each company and define rules ⇒ Confirmation of status 	<ul style="list-style-type: none"> ➤ Confirm the effectiveness and provide support for reorganization and rule definition in the quality audits ➤ Confirm the independence of the quality control division in small locations
(3) Expansion of quality training	<ul style="list-style-type: none"> ➤ Definition and dissemination of the basic quality rules ➤ Provide quality leader training (17 times, 260 employees) ➤ Holding meetings for person in charge of quality assurance (3 times) 	<ul style="list-style-type: none"> ➤ Dissemination of the basic quality rules again and to continue the training ➤ Provide support for quality improvement at overseas locations (including Asia, Europe and the U.S. and the methods of utilizing automation data) ➤ Holding meetings for person in charge of quality assurance utilizing case studies (3 times)
(4) Promoting automated inspection equipment	<ul style="list-style-type: none"> ➤ Formulate a three-year plan at each company ➤ Promote automation 	<ul style="list-style-type: none"> ➤ Periodically check and promote the automation plan ➤ Sharing information of the automation of inspection equipment
(5) Enhancement of quality audits	<ul style="list-style-type: none"> ➤ Commence audits once every 2 years (76 locations) ➤ Increase the number of auditors 	<ul style="list-style-type: none"> ➤ Quality audits in 80 locations (40 locations each in Japan and overseas) ➤ In the second year of the once every 2 year cycle, increase the number of quality auditors to accelerate quality audits
(6) Utilization of outside consultants	<ul style="list-style-type: none"> ➤ Hold quality guidance meetings (30 times) focus on preventive measures at the 6 affected locations 	<ul style="list-style-type: none"> ➤ Begin to provide support for the improvement of quality control in locations other than the 6 affected locations (twice a month, a total of 24 times)

Promoting Automated Inspection Equipment

Initially, promoting automated inspection equipment at overseas locations had planned to implement after the three-year inspection equipment automation plan.

However, **we will also proceed with automation at overseas locations as much as possible** and aim to reach the target early, by the end of FY2021.



Examples of measures for automation and addition of data transfer functions related to cement products

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Note
