

三菱マテリアル

MITSUBISHI MATERIALS

IR Meeting Handout

March, 2019

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○ **(FYI) Medium-Term Management Strategy**

(Announced on May 16, 2017) p44-55

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

Corporate Profile / Business Situation

Corporate Profile

Corporate Profile

Company Name : Mitsubishi Materials Corporation
Head Office : 3-2, Otemachi 1-chome, Chiyoda-ku,
Tokyo 100-8117 Japan
President : Naoki Ono
Capital Stock : ¥119,457 million (as of Mar. 31, 2018)
Year of Establishment : 1950
Number of Employees : Consolidated 26,959 (as of Mar. 31, 2018)
Non-consolidated 4,664 (as of Mar. 31, 2018)

Consolidated Subsidiaries : 149 (as of Mar. 31, 2018)

Affiliated company accounted for by the equity-method : 17 (as of Mar. 31, 2018)

(The group has established about 151 operating bases in about 31 countries.)



Common Stock (Ticker symbol : 5711)

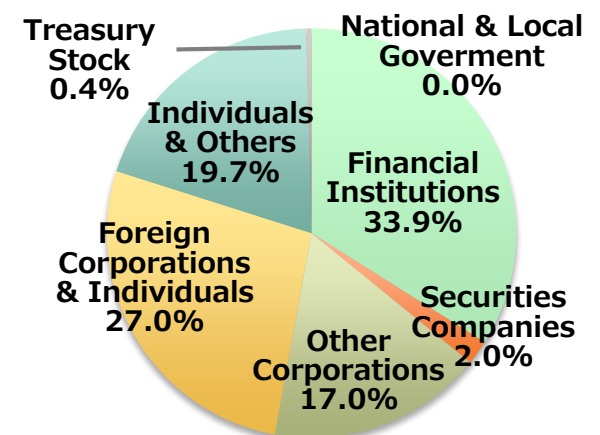
■ Shares of issued and Outstanding: 131 million
Number of Unit Shareholders: 73,514
Share Unit Number: 100

*as of March 31, 2018

The Company changed the number of unit shares and consolidated its common stock with an effective date of October 1, 2016.

- Change in the number of unit shares : 1,000 ⇒ 100
- Consolidation of shares : 10:1 ratio of its common stock

■ Distribution of shareholders
*as of Mar. 31, 2018



Business Structure

Cement



- Portland cement
- Cement-related products
- Ready-mixed concrete
- Aggregate

Advanced Products



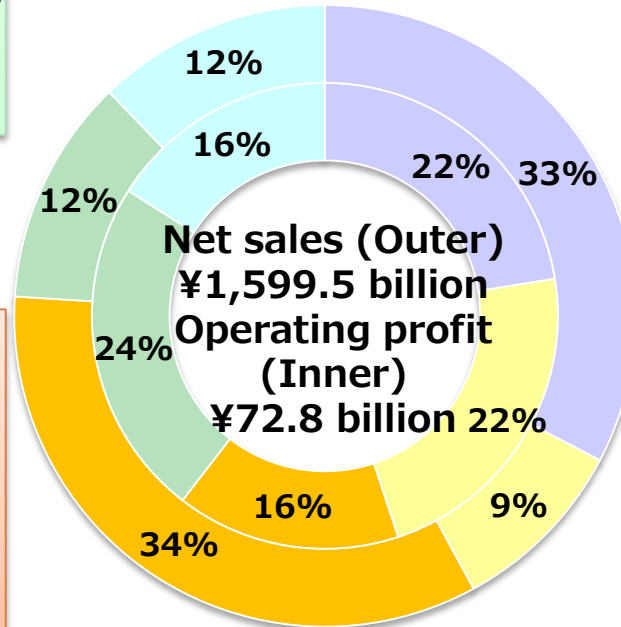
- Copper and Copper alloy products
- Electronic Materials & Components
- Aluminum

Metals



- Copper smelting and refining
- Mineral Resources

Financial Performance by segment (FY2018)



Metalworking Solutions



- Cemented carbide products
- Sintering parts

Others

Environment & Energy

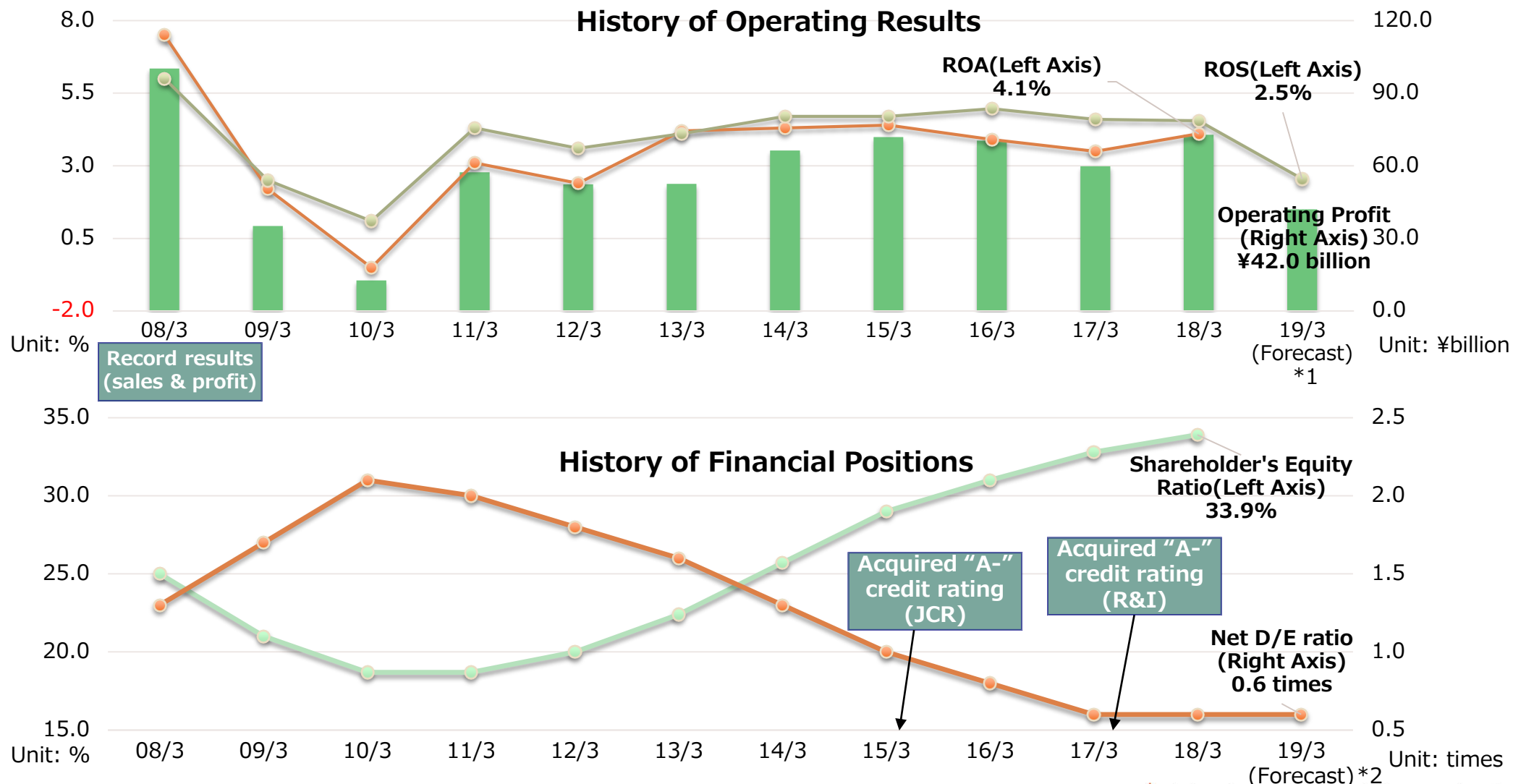


Others

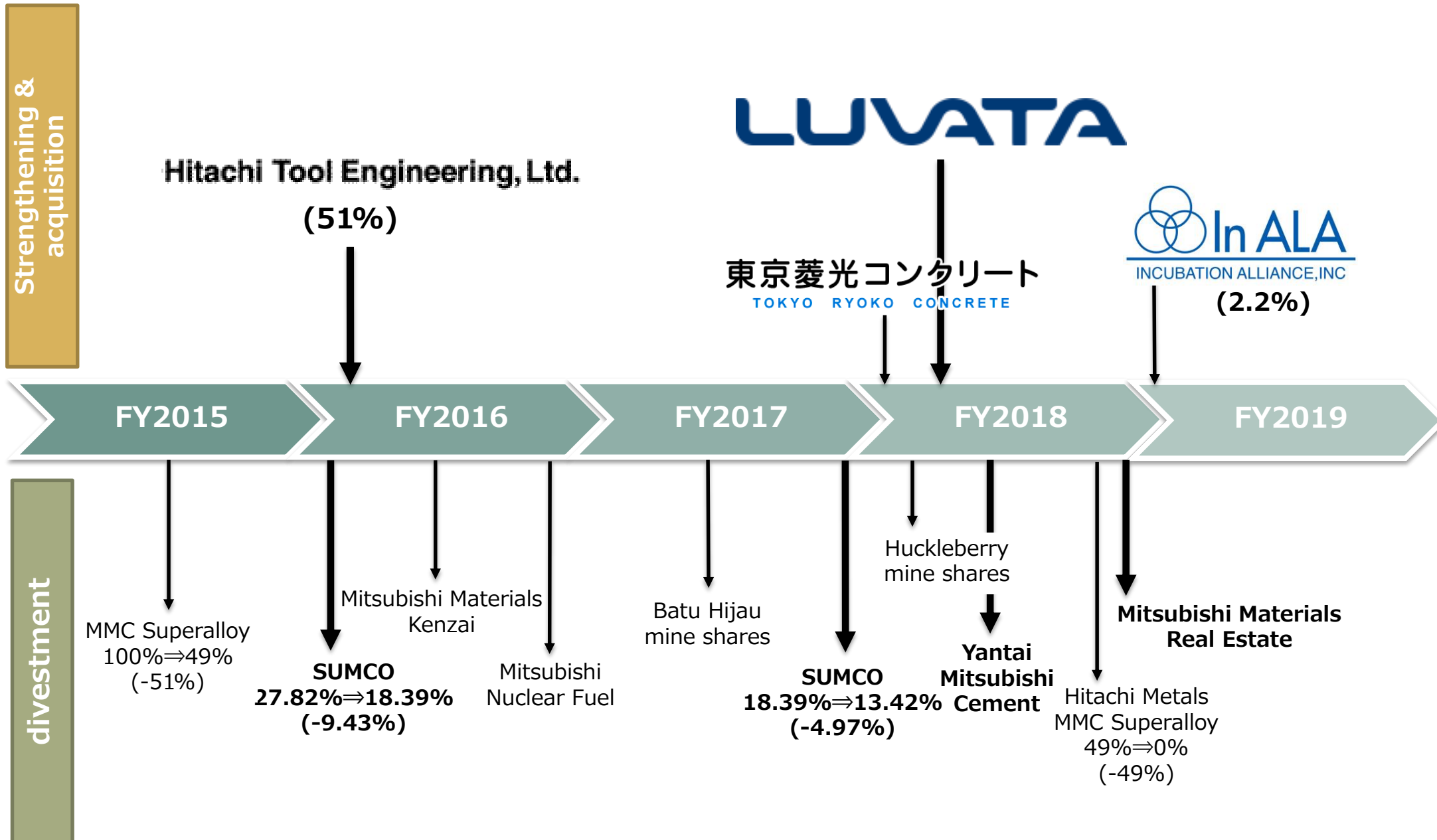
- Engineering
- Others etc.

History of Operating Results

09/3-11/3 : Following the Lehman shock, introduced comprehensive management measures to strengthen the corporate constitution
 12/3-14/3 : Medium-term Management Plan (Materials Premium 2013 - Aiming for New Creation)
 Twin focus on growth strategy and enhancement of financial position
 15/3-17/3 : Medium-term Management Plan (Materials Premium 2016 - Challenge to become the world's leading business group)
 Fortifying the foundation
 18/3-20/3 : Medium-term Management Strategy (- Transformation for Growth -)



History of Business Restructuring



History of Provision for Environmental Measures

Provision for environmental measures at abandoned mines has completed in FY2019

Provision for environmental measures at abandoned mines

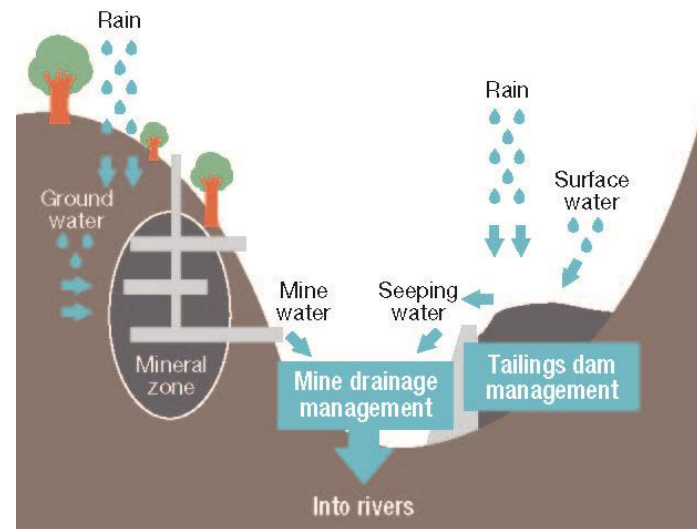
1. Tailings Dam Reinforcement

Construction work to design and implement stability measures at the tailings dam

2. Countermeasure work to prevent mining-induced pollution

Measures for the prevention of dumping untreated water with a focus on the reinforcement of water treatment capacity in response to the changes in the natural environment in recent years

Overview of Wastewater Treatment in Abandoned Mines



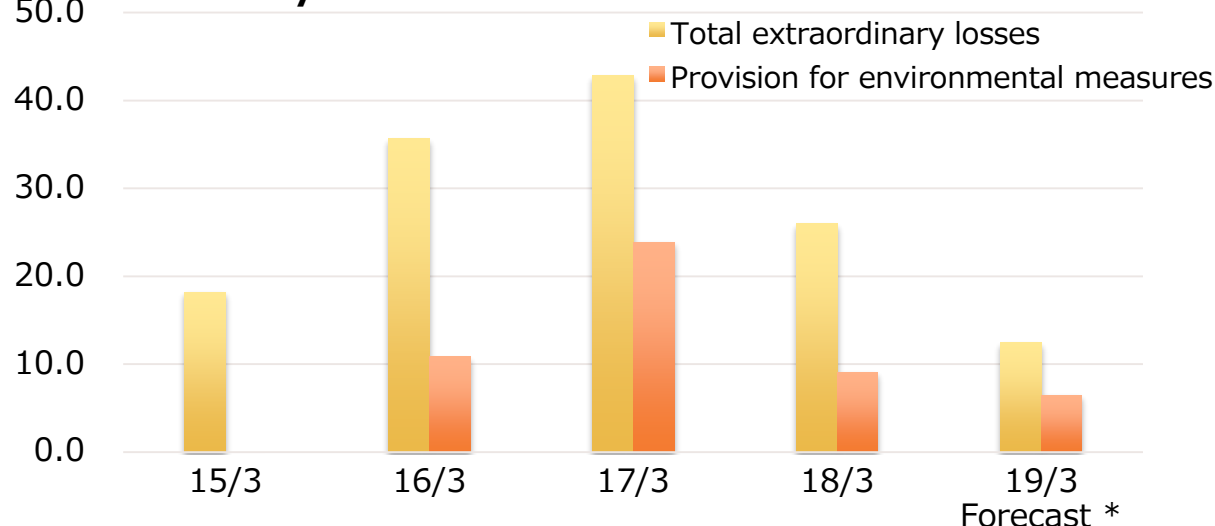
Reinforcement work on the Yotani Mine Tailings Dam No.1



Contamination containment work at Komagi Mine: membrane section waterproofing

Unit: ¥billion

History of Provision for Environmental Measures



Results of Provision for Environmental Measures

FY2016 ¥10.8billion

Countermeasure work to prevent mining-induced pollution
Tailings Dam Reinforcement (2sites)

FY2017 ¥3.9billion

Tailings Dam Reinforcement (4sites)
Countermeasure work to prevent mining-induced pollution

FY2018 ¥9.1billion

Countermeasure work to prevent mining-induced pollution

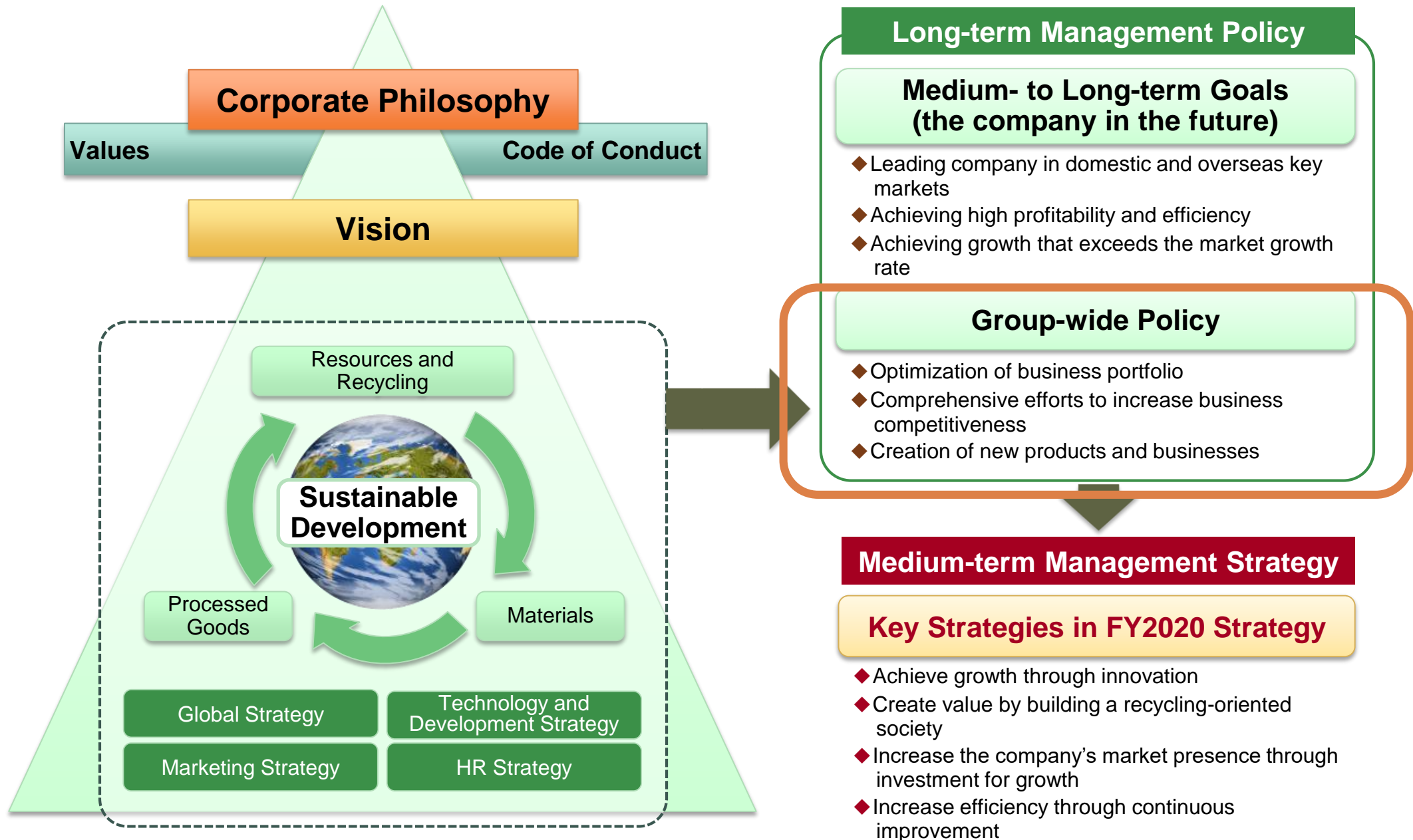
FY2019 ¥6.5billion

Tailings Dam Reinforcement (4sites)

Total ¥50.3billion

Progress on the Medium-term Management Strategy

Overview of FY2020 Strategy



Group-Wide Policy

Group-wide Policy under the Long-term Management Policy

Optimization of business portfolio

- ◆ To separate product manufacturing business and process manufacturing business, which differ in management style, strategies, customers, etc., and establish the optimum management system in each business form.

Comprehensive efforts to increase business competitiveness

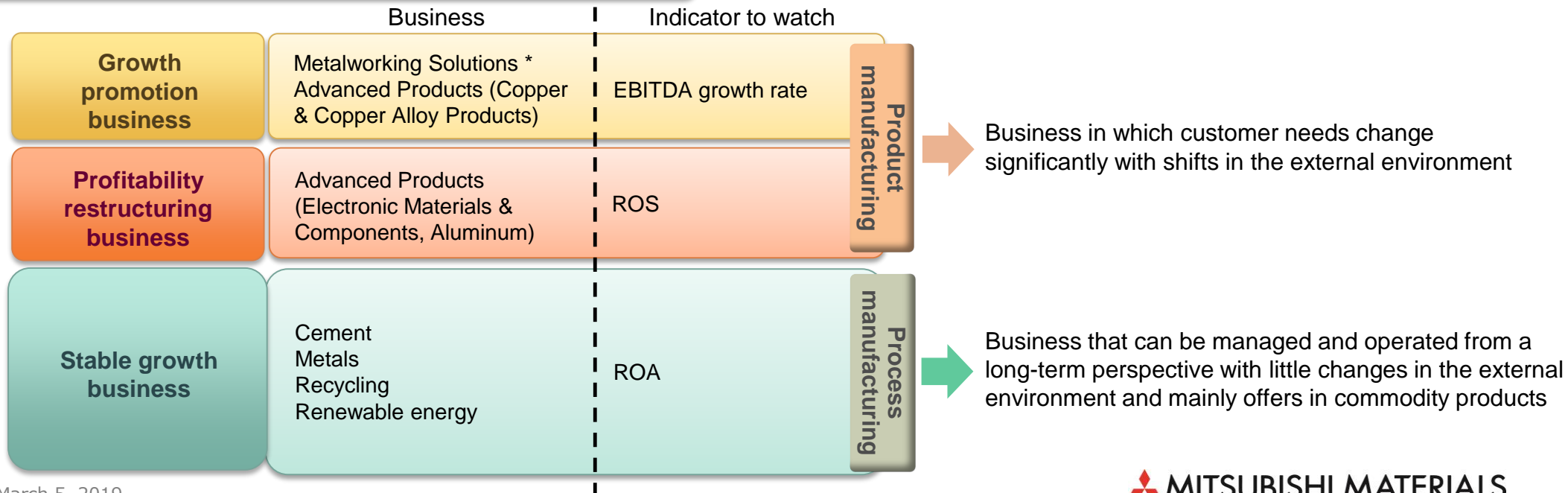
- ◆ To promote improvement and innovation in “manufacturing” in business divisions by the Technology Div.

Creation of new products and businesses

- ◆ To promote the creation of new products and businesses in product manufacturing business, considering establishment of new cross-functional organization to develop and strengthen target products and business from a long-term perspective. At the same time, to review the organization system of business divisions.

Classification of business of the Company

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



Establishment of Advanced Products Company (October, 2018)

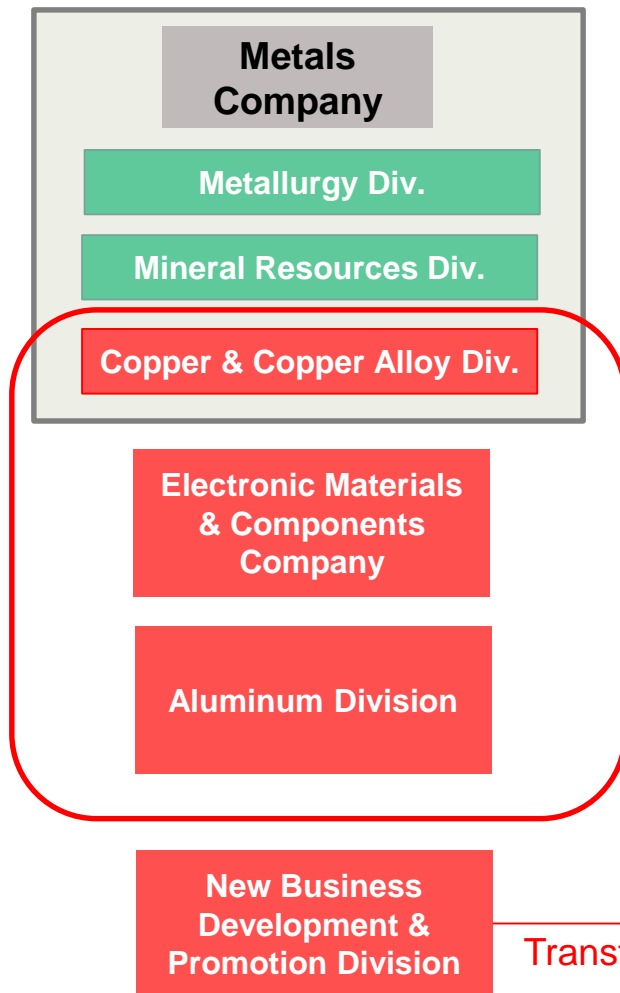
Change of the organization

- ◆ To integrate three product manufacturing businesses and establish a new in-house company

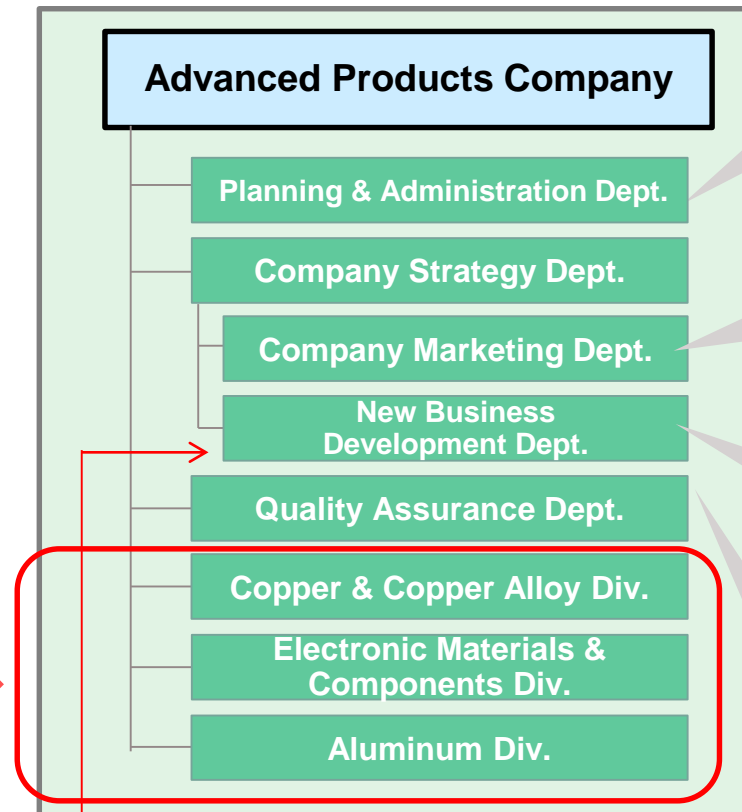
Purpose

- ◆ To promote the creation of new products and businesses in product manufacturing business, establishing cross-functional organization to develop and strengthen target products and business from a long-term perspective
- ◆ Establishing the system to appropriately respond to customer needs and contribute to customers

Business organization (As of Sep. 30)



Establishment of a new in-house company (As of Oct. 1)



Integration

Transfer of part of functions

Governance system

- To become a contact point to put together governance cases within the in-house company and manage progress of the plan for the conduct of governance.

Marketing system

- To conduct marketing at common fields and customers in three business divisions.

New products and businesses

- To make plans for new products and business within the in-house company and conduct planning and promotion of business models.

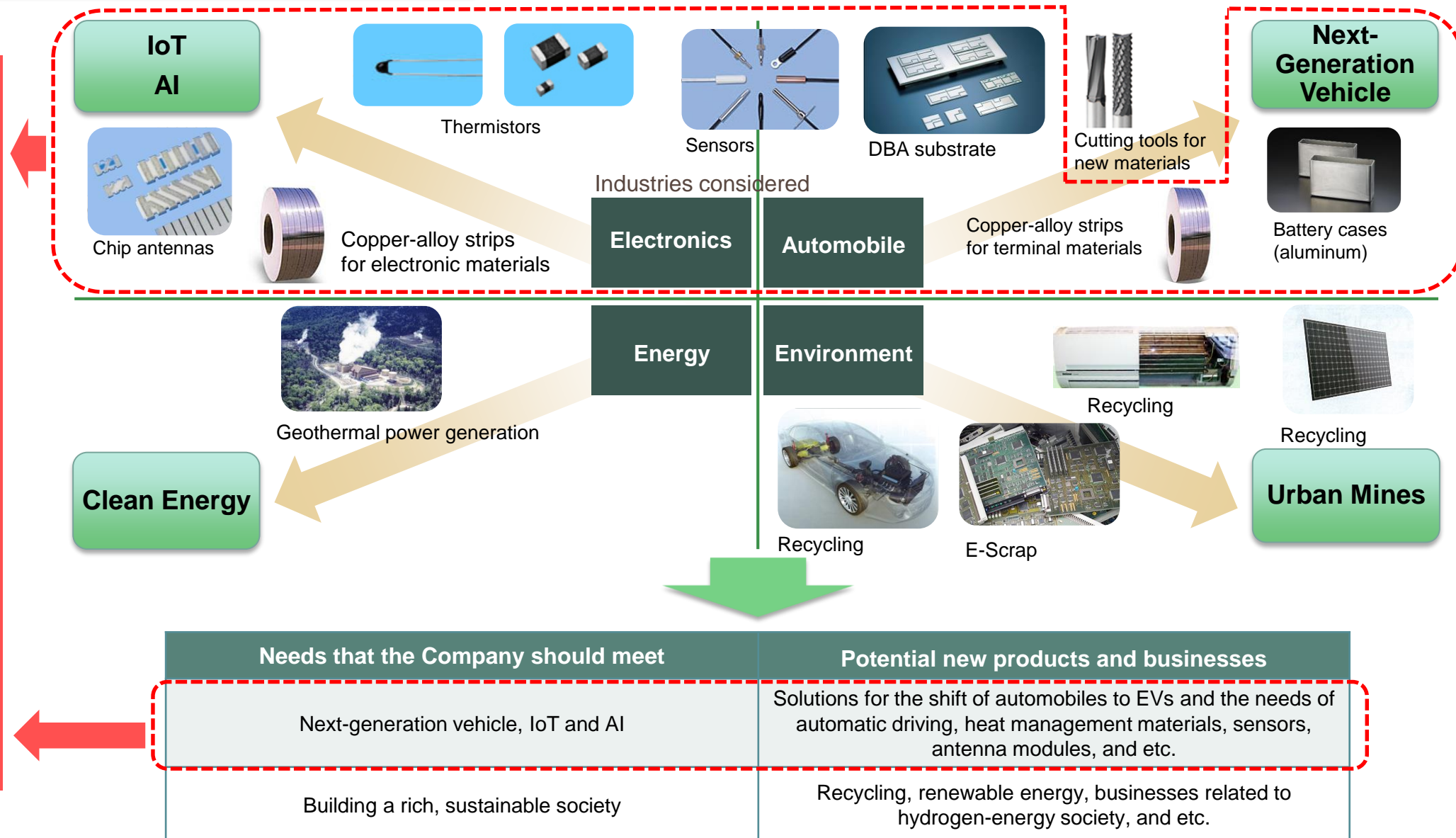
Quality assurance and quality governance systems

- To strengthen quality assurance and quality governance within the in-house company.

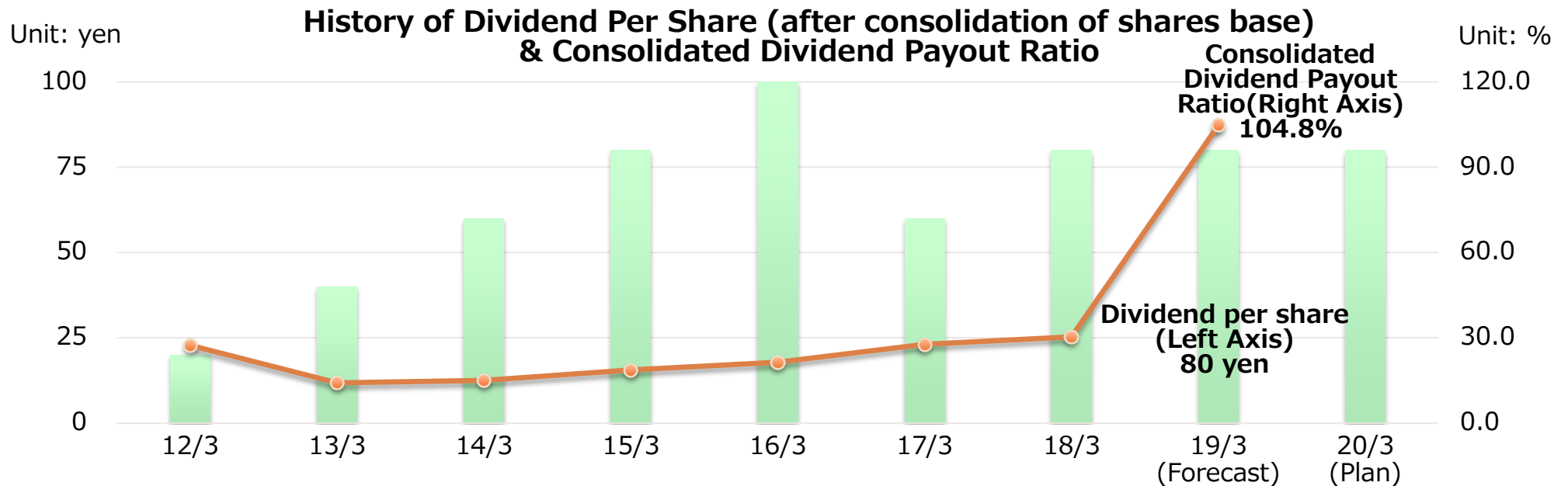
Establishment of Advanced Products Company (October, 2018)

New products and businesses

Fields of new products and businesses of
Advanced Products Company



Group-wide: Capital Policy



	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.

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
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 • “Machining Technology and Education Center in North America” was relocated, and improved and expanded * New
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"> • Capacity of waste plastic processing at Kyushu Plant increased 1.7 times
Other 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 • “New Energy Fujimino Co., Ltd.” was established for operating a business of producing biogas from food waste * New
Common	<ul style="list-style-type: none"> • “New Business Development & Promotion Division” and “EV Material Development & Recycling Business Promotion Dept.” were established • Investment to “Incubation Alliance, Inc.”, which is involved in the development and manufacture of new carbonaceous material “graphene” • To begin the joint development of recycling technology of cobalt, nickel and other metals with Nippon Magnetic Dressing Co., LTD. * New
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

Business Strategy & Overview by Segment

Advanced Products

Advanced Products Overview

Copper Processing

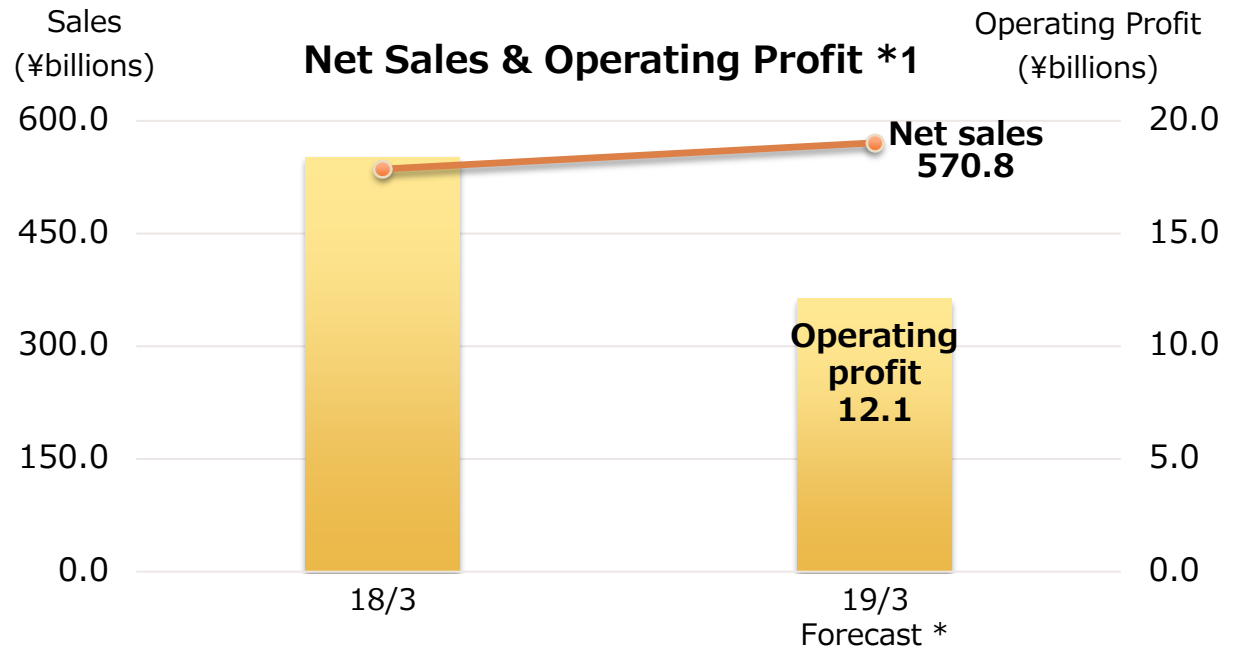
- **Mitsubishi Shindoh:** Sales volumes centering on terminal materials for automobiles and leadframes for semiconductors are firm.
- **Luvata:** Luvata will contribute to consolidated results as full year starting from FY2019 and creation of business synergies will be achieved.

Electronic Materials & Components

- **Electronic Materials:** Impact related to slowdown of semiconductor and smartphone market is expected to decrease in sales.
- **Electronic Components:** Firm sales of the products for automotive, although sales of the products for home appliances in China is expected to decrease.

Aluminum

- **Mitsubishi Aluminum:** Sales of sheet products for heat exchanger for automobiles, and foil products for lithium-ion battery cases has remained strong, while sales of sheet products for beverage cans and litho sheets decreased.
- **Universal Can:** Sales of regular cans recovered thanks to strong sales of RTD beverages, etc. Bottle cans decreased due to expansion of coffee in PET bottles.



* Announced on February 12, 2019

Establishment of Advanced Products Company

◆ Change of the organization

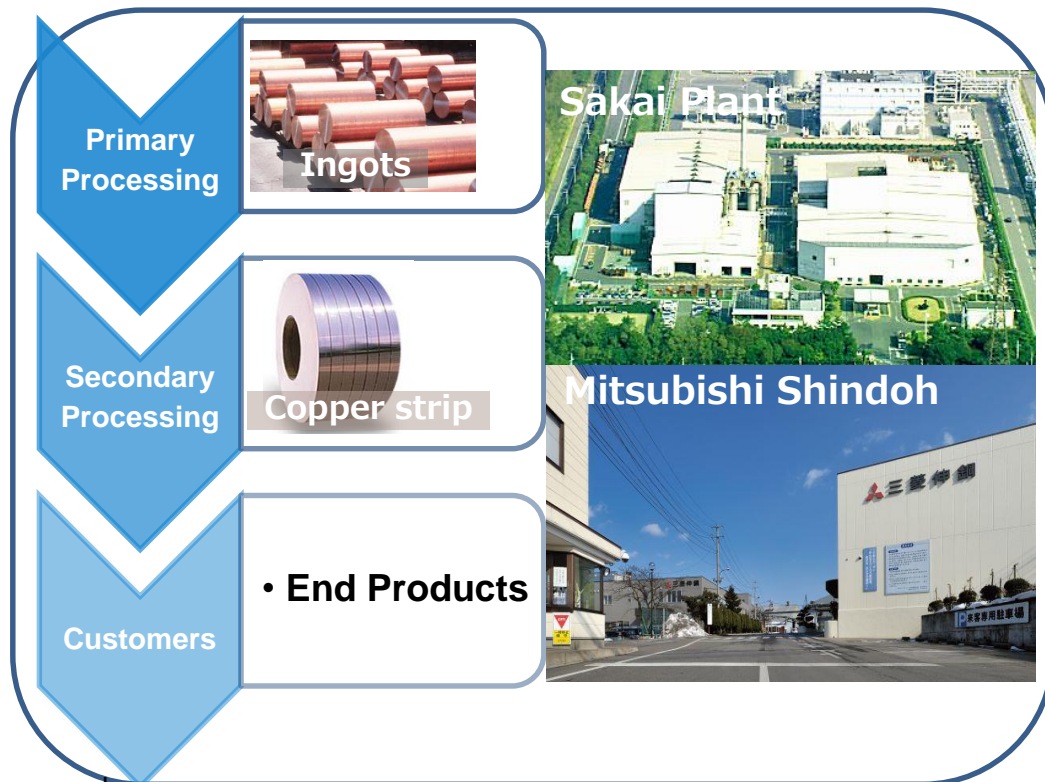
- To integrate three product manufacturing businesses and establish a new in-house company

◆ Purpose

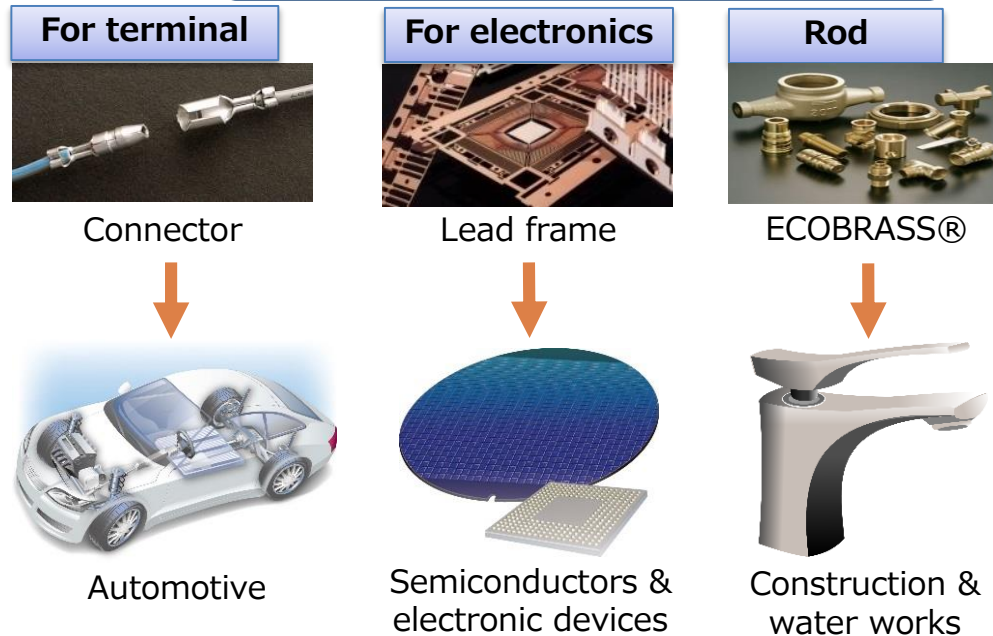
- To promote the creation of new products and businesses in product manufacturing business, establishing cross-functional organization to develop and strengthen target products and business from a long-term perspective
- Establishing the system to appropriately respond to customer needs and contribute to customers

Advanced Products - Copper & Copper Alloy (1) -

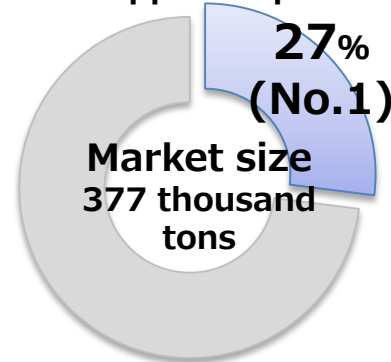
Operation system:
Supply of our copper strip to our group company



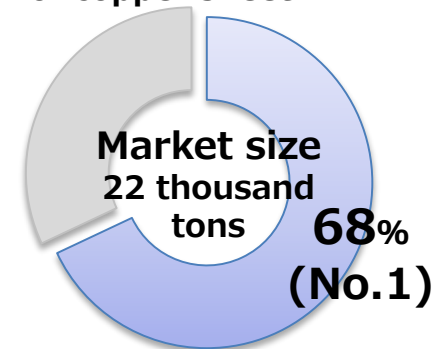
Application for main products of
Mitsubishi Shindoh



Domestic market share
of copper strip *2

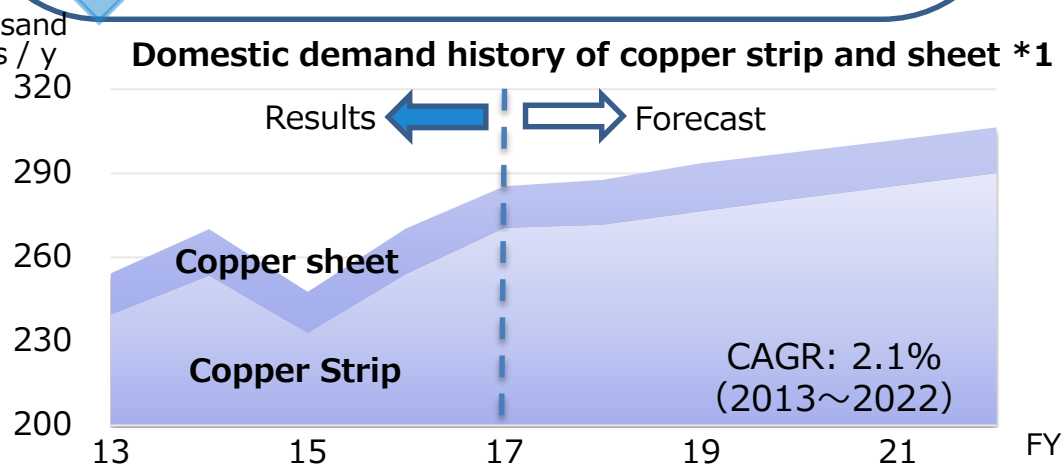


Domestic market share
of copper sheet *2



*2 Weight base, Japan Copper and Brass Association (FY2018)

Domestic demand history of copper strip and sheet *1



*1 Japan Copper and Brass Association

Advanced Products - Copper & Copper Alloy (2) -

Acquisition of Luvata SP Division

Sep. 2016 Conclusion of share sale and purchase agreement on acquisition of Luvata SP Division
May 2017 Completed the transaction

LUVATA

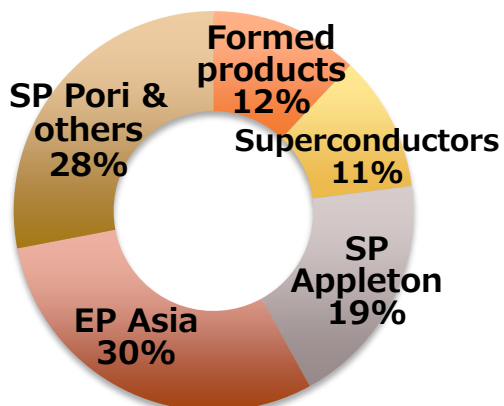
Company profile * FY ending Dec. 31, 2017

- Head Office: Pori, Finland
- Net sales: €591 million
- Operation (Manufactures & Sales):
12 entities, 7 countries
- Employees: 1,371

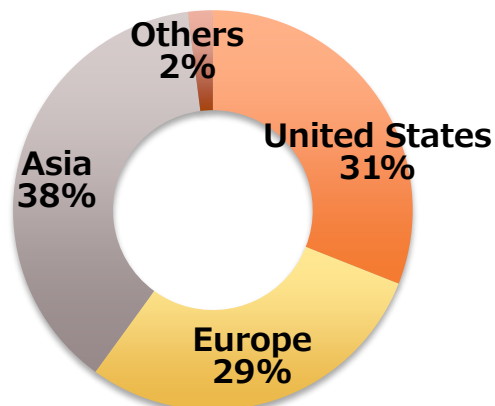


▲Copper Industrial Park in Pori

Sales ratio by Business Units



Sales ratio by Regions



Various products for targeted markets

Business Units

Products

End Markets

Formed Products

Welding Electrodes



Automotive



Superconducting Wires



Health Care



Superconductors

Photovoltaic



Infrastructure, Power & Energy and Others



Anodes



Busbar



Hollow Conductors



Cooling Elements



Battery Wire
(SP Appleton)

Photovoltaic
(Formed Products,
SP Appleton,
EP Asia, SP Pori)

Anodes
(EP Asia, SP Pori)

Busbar
(EP Asia, SP Pori)

Special Rods
/ Profiles
(SP Pori)

Hollow Conductors
(SP Pori)

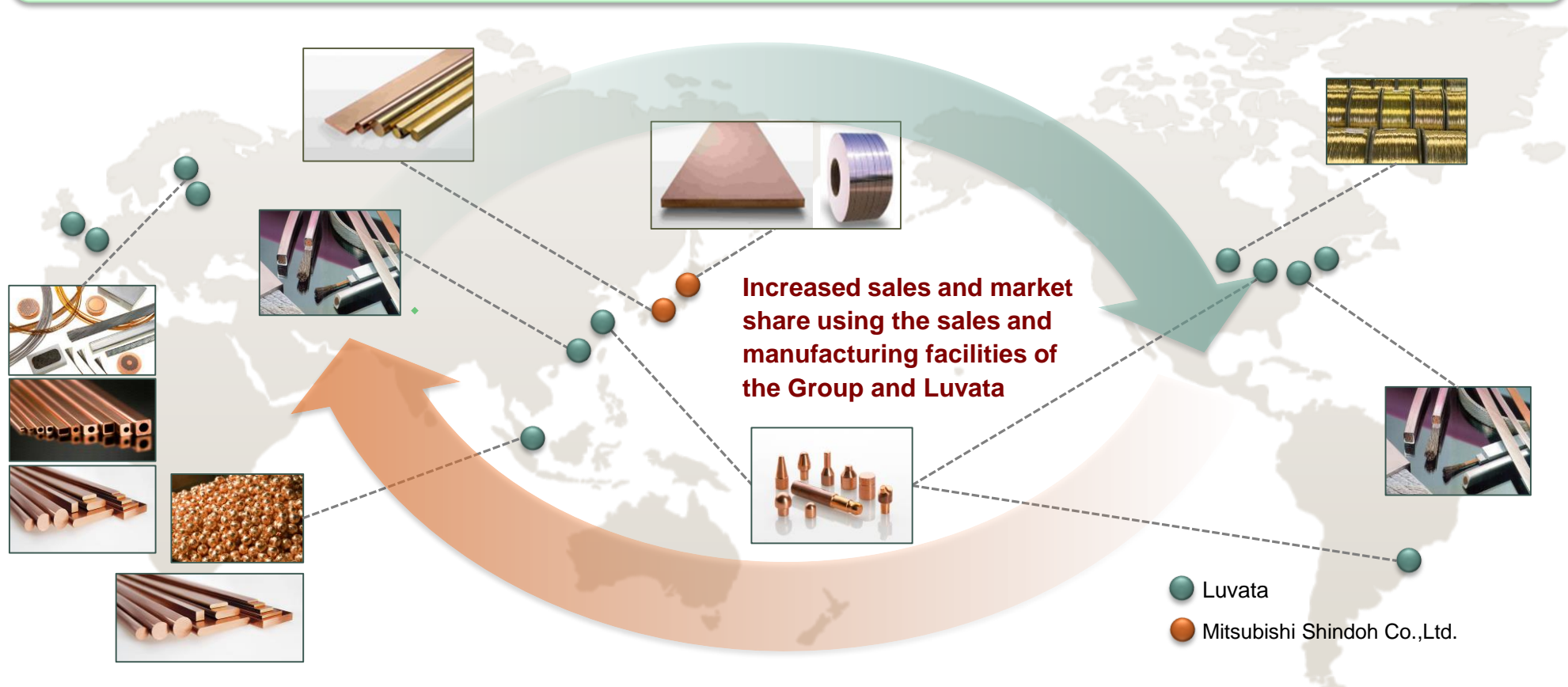
Cooling Elements
(SP Pori)

Other Products

SP Appleton / EP Asia / SP Pori & Others

Advanced Products - Copper & Copper Alloy (3) -

Priority measures: Synergy with Luvata



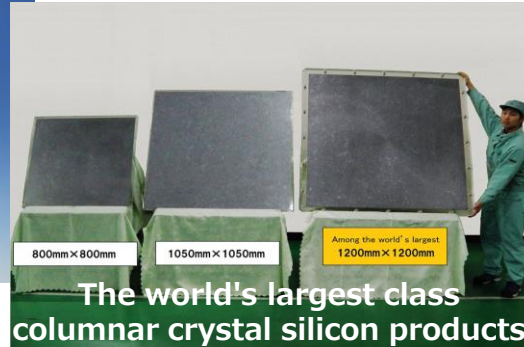
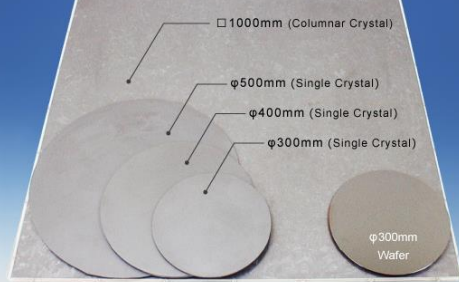
- ◆ Increased sales of copper & copper alloy products of the Group using the sales and manufacturing facilities of Luvata located mostly in North America and Europe
- ◆ Boost sales using the Company's domestic facilities for Luvata's products
 - ➡ Establish global sales and manufacturing systems using Luvata's facilities
 - ➡ Optimize product mix and increase market share with the cooperation of Luvata

Advanced Products - Electronic Materials & Components -

Operation system: Electronic Materials, Electronic Components, Polycrystalline Silicon

Electronic Materials & Chemical Products

Precision Silicon Products

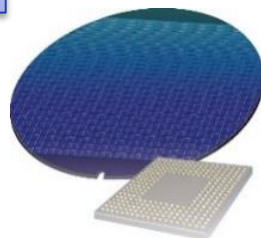


Polycrystalline Silicon

Production Capacity
Yokkaichi Plant: 2,050t
MIPSA : 1,550t



▲11N Grade
(99.999999999%)



Monocrystalline Ingot,
Silicon Wafer
(SUMCO Corp.)
Stake ratio approx. 13%

Semiconductor

Key Strategies: New products and sales expansion in the IoT - related market

◆ Antenna modules

Established "Antenna Solution Center" inside Saitama Property Management Office (March, 2018)

three-dimensional enabled anechoic chamber ▶



◆ Thermistor sensors

The world's smallest Flake-type thermistors with long-term reliability (Sep. 2018)



Key Strategies: New products and sales expansion in the next-generation vehicle market

◆ Insulated substrates with high thermal conductivity

Enhancement of production system and development of new products for high-output power control inverters in response to increased demand for the shift of automobiles to EVs



◆ In-vehicle sensors

Promote the development of in-vehicle sensors in order to enter the EV market which is expected to grow



◆ solar heat-ray shielding



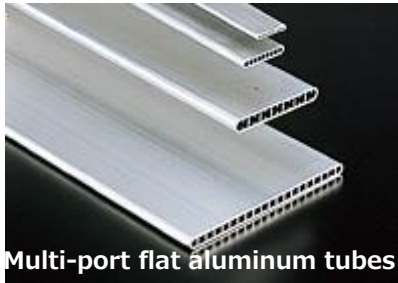
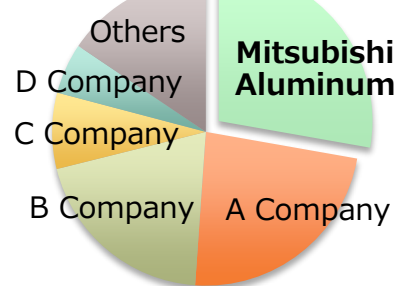
Advanced Products - Aluminum -

Mitsubishi Aluminum Company, Ltd.

Stake ratio: 90%

- Top-class market share of multi port flat aluminum tubes for automotive heat exchanger materials in the world.
- Shift to heat exchanger sheet materials for automobiles.
⇒ Increase slitter facilities

W/W production share of extruded multi-port tube*1

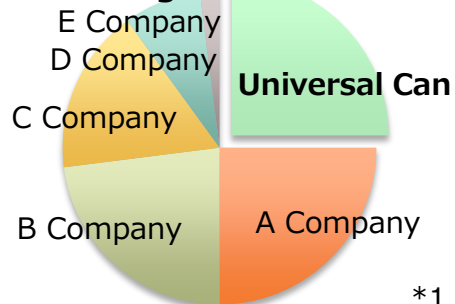


Universal Can Corporation

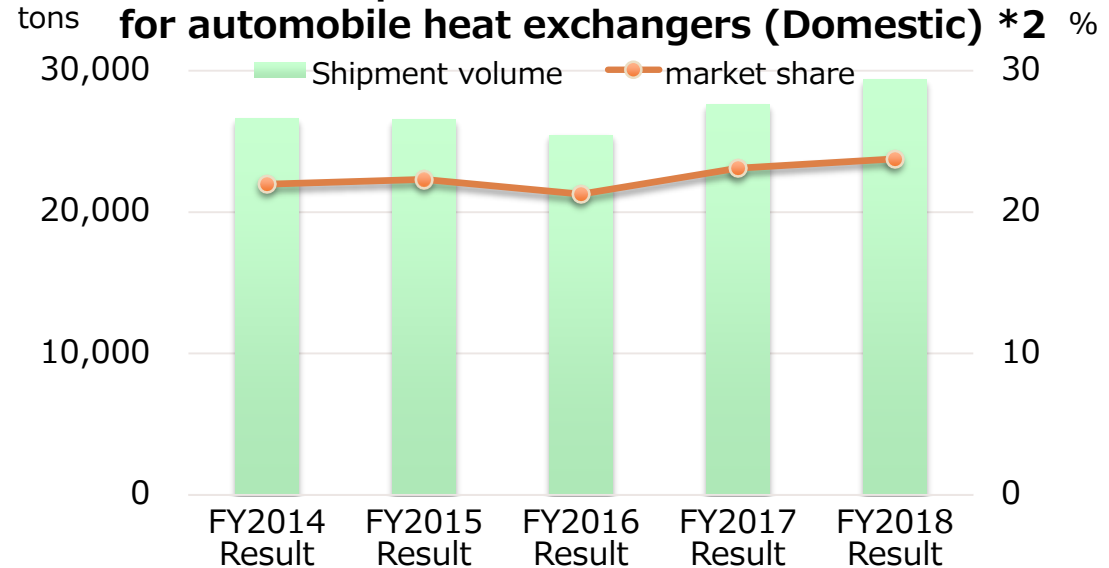
Stake ratio: 80%

- Top-class market share of beverage aluminum cans & bottles cans in Japan.
- Develop and launch bottle cans with weight saving & new shapes.
⇒ Establishing a new production line at Gifu Plant (operation will be started in FY2020)
- Development overseas business ⇒ Considering development business in the Southeast Asian market, etc.

Domestic Aluminum Beverage Can Market*1

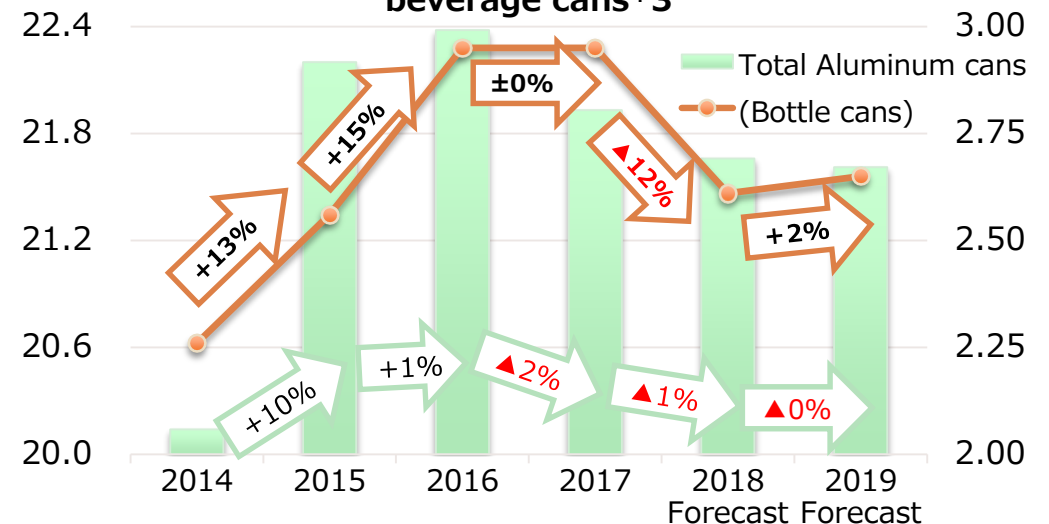


Trend of shipment volume and market share for automobile heat exchangers (Domestic) *2



*2 Japan Aluminium Association

Billion cans Demand history for domestic aluminum beverage cans*3



*3 Japan Aluminum Can Recycling Association

*1 MMC's assumption

Metalworking Solutions Business *

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

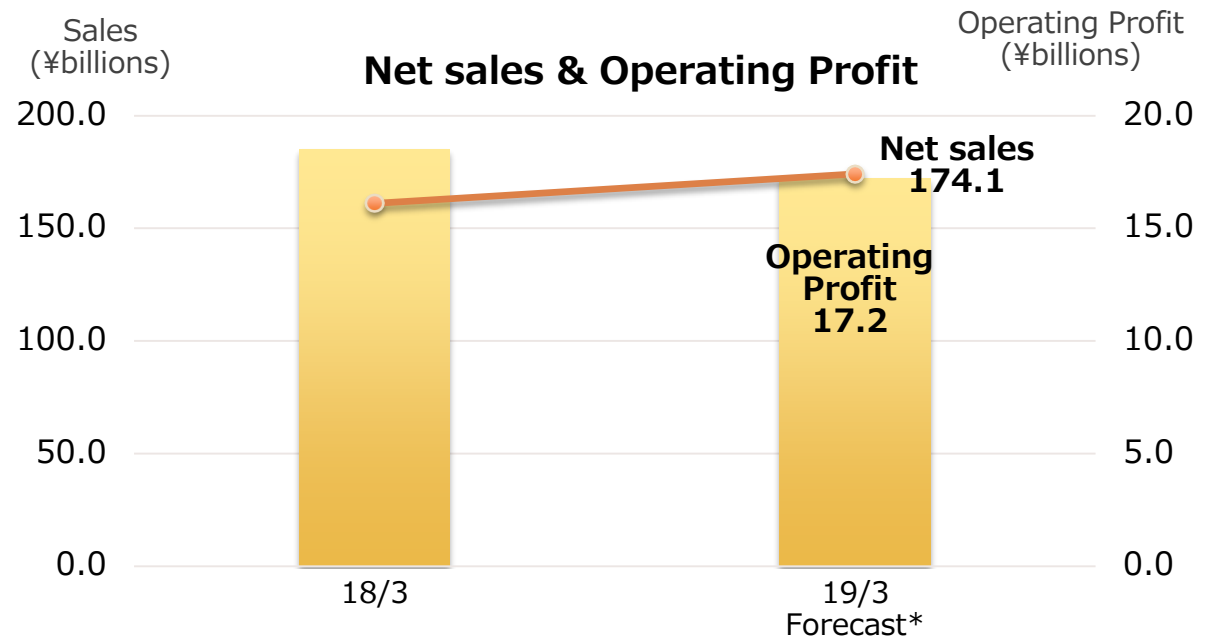
Metalworking Solutions Business Overview

Cemented Carbide Products

Main Products

Cutting tools for metal working industries (automotive & aerospace)

- Cutting tools (Insert, drills, and etc.)
- Wear Resistant Tools
- Rock Tools



* Announced on February 12, 2019

Sintering Parts

Main Products

Key components of automotive engines & transmissions

- Oil-retaining Bearing
- Parts for Variable Valve Units
- Transmission-related Parts



Demand and sales forecast (Cemented Carbide Products)

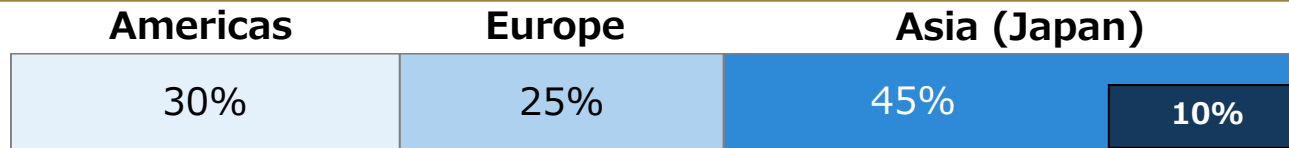
- Strong global demand for products related to automobiles, industrial machinery, and aerospace.
- Revised sales prices as planned due to rising raw material costs.
- Increased the capacity of recycling tungsten, a raw material of cemented carbide products, by 50%. (October 2017)

Metalworking Solutions Business

~Cemented Carbide Products (1)~

Market Size of Cemented carbide tools approx. ¥2,000.0 billions *

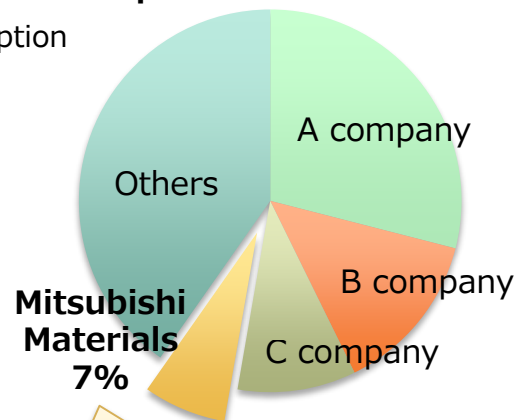
*2017, MMC's assumption



Market share: 4th grade in w/w top share in Japan

Global market share of cemented carbide products*

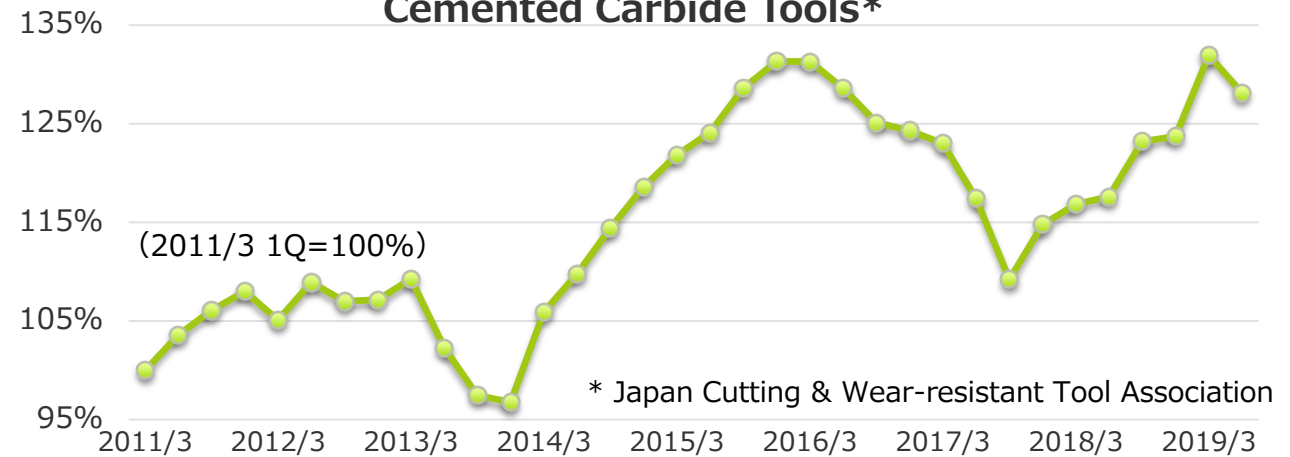
* MMC's assumption



Acquired Hitachi Tool Engineering (April, 2015)



History of value of shipments for Cemented Carbide Tools*



* Japan Cutting & Wear-resistant Tool Association

Eliciting Synergies with Mitsubishi Hitachi Tool Engineering

◆ Major items where synergy will be generated

- R&D: Developing new products making the most of each other's strengths (MMC's materials technology, Mitsubishi Hitachi Tool Engineering's coating and forming technology)
- Production: Improving production efficiency by using each other's facilities (Elimination of bottlenecks, etc)
- Sales: Expanding sales globally mainly through mutual sales channels (United States and Southeast Asia)
- Other: Integrated purchasing of materials, integrating and sharing IT systems & logistics, etc.

◆ Expected effects of synergies (from FY2018 to FY2021)

⇒ Effects of 0.5 to 1.0 billion yen annually are planned.

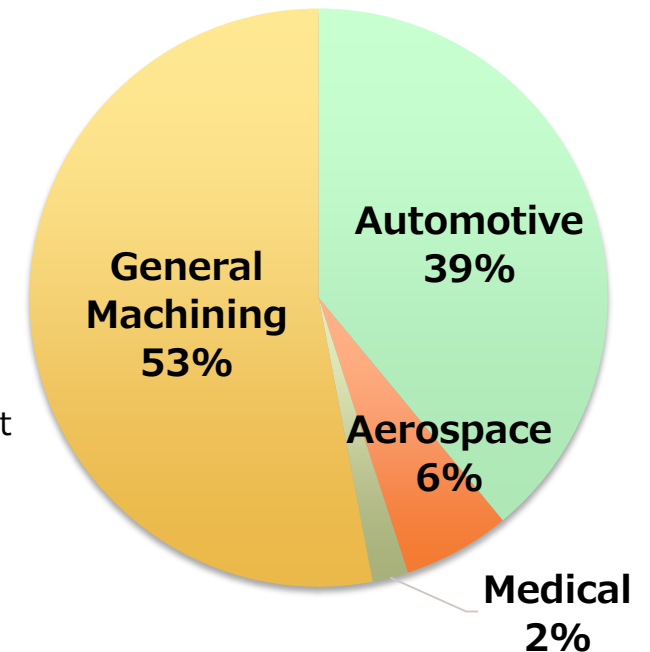
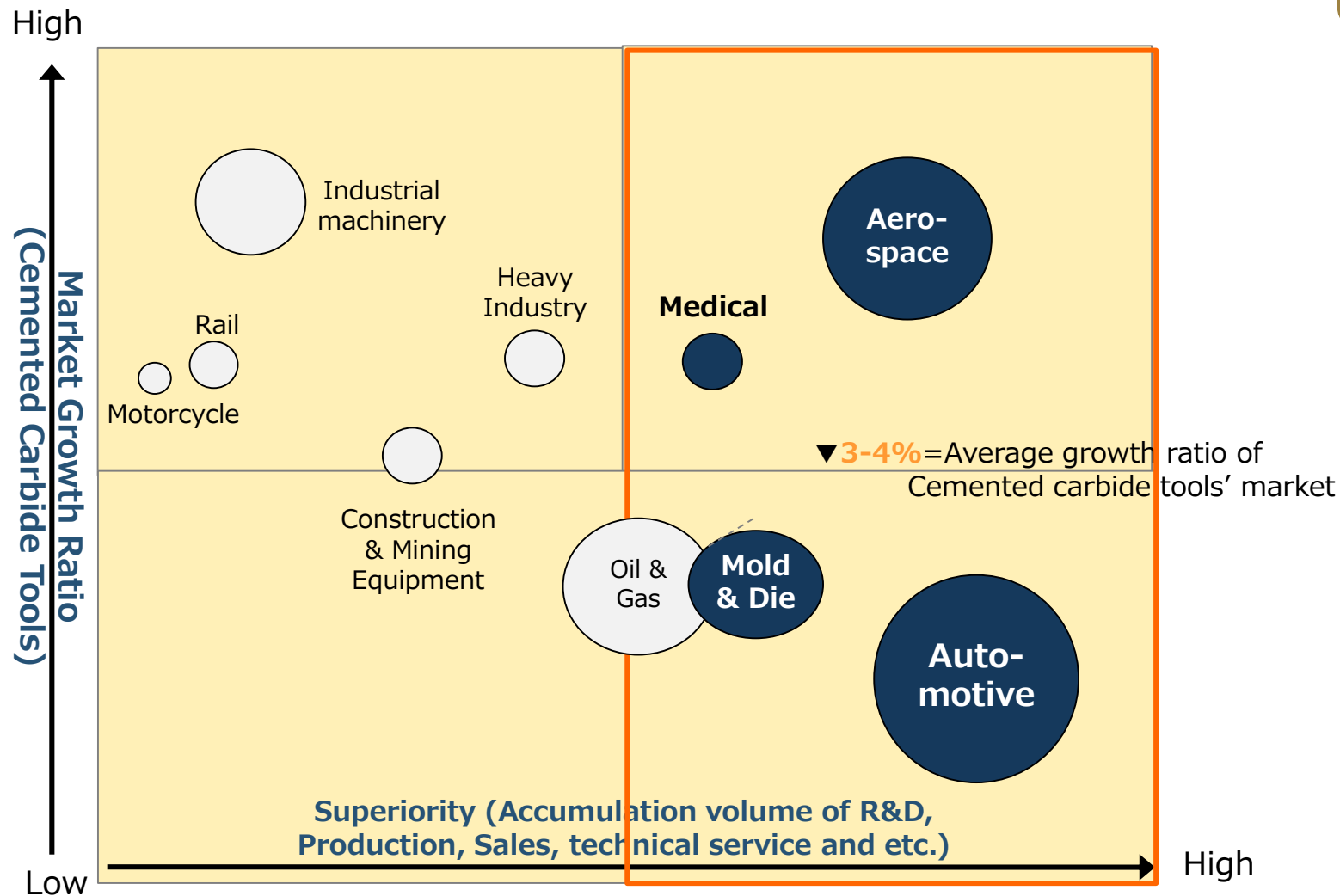
Metalworking Solutions Business

~Cemented Carbide Products (2)~

Importance analysis of each industry *

*MMC's assumption
The size of circles represent market size.

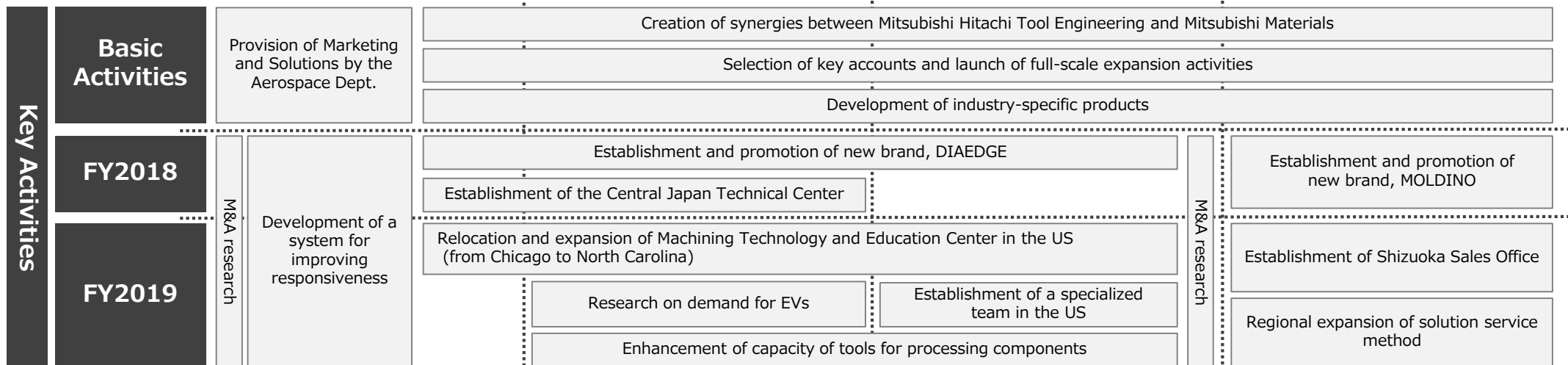
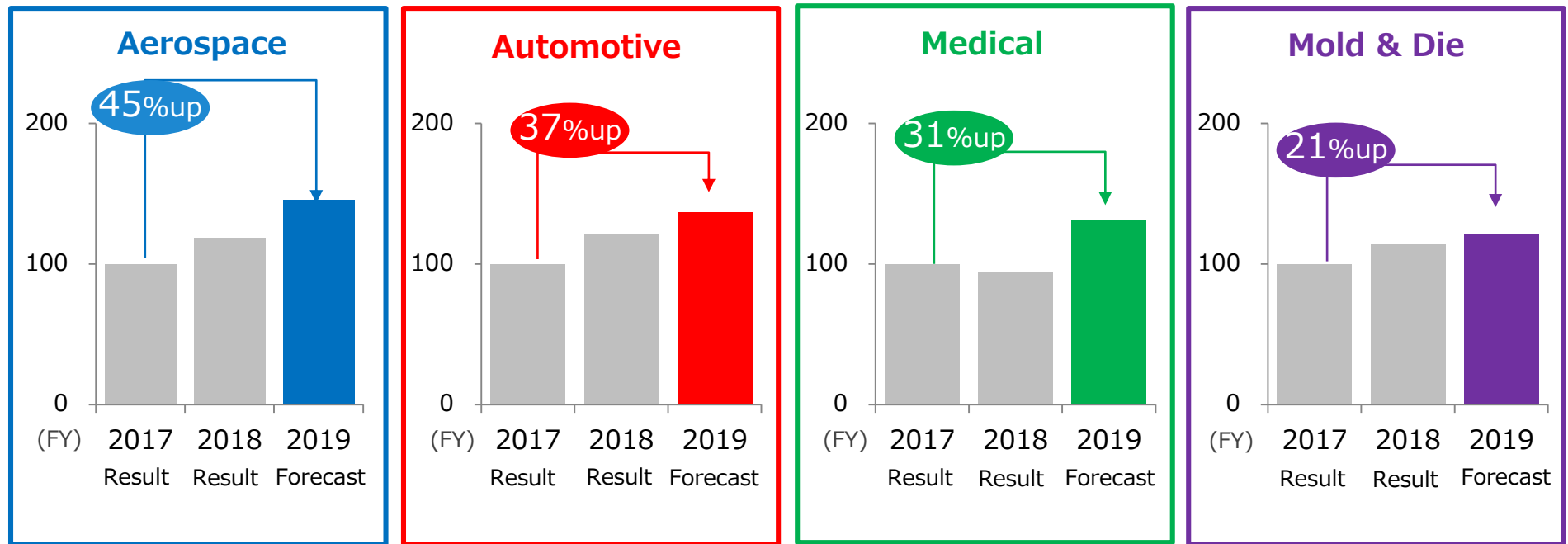
MMC's sales ratio of demand by industry (FY2018)



Metalworking Solutions Business ~Cemented Carbide Products (3)~

Sales Trend by Industry (FY2017 result = 100)

* "2019 Forecast" are as of November 6, 2018.



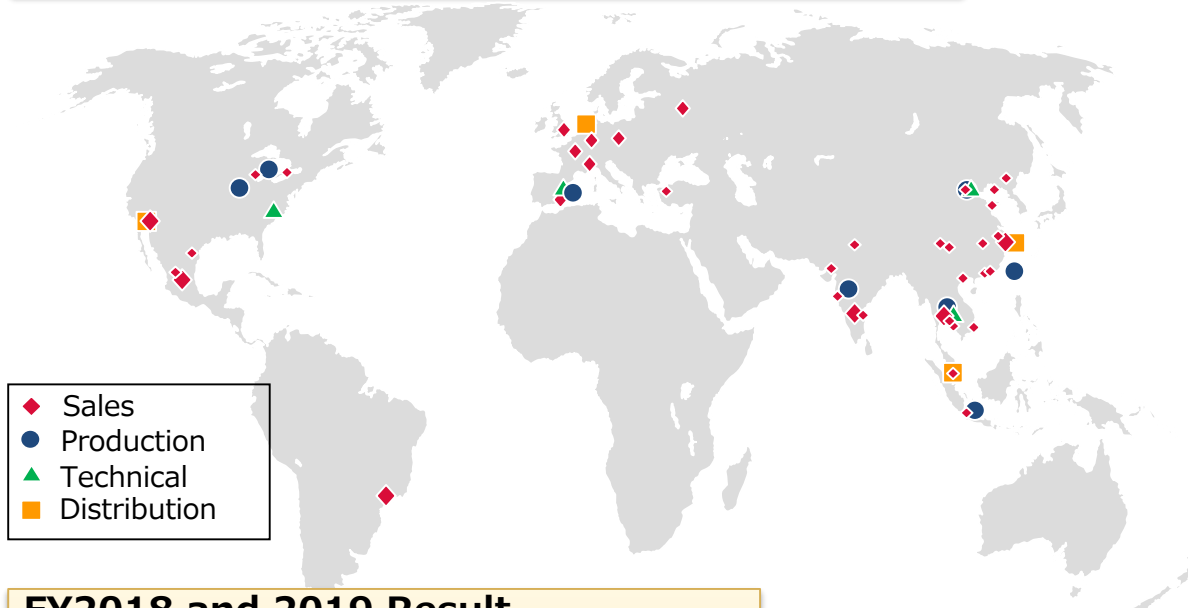
Metalworking Solutions Business

~Cemented Carbide Products (4)~

Expansion of Sales & Production Networks

Cemented Carbide Tools network

- Sales sites: 38
- Production sites: 7
- Technical sites: 4
- Distribution sites: 4



FY2018 and 2019 Result

Technical sites:

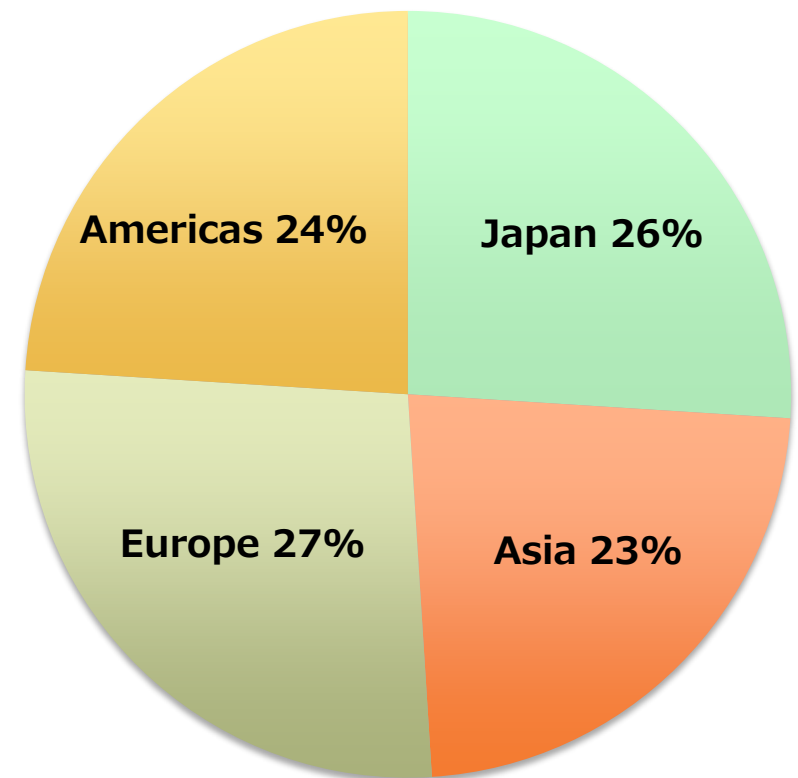
- June 2017: Central Japan Technical Center
- Oct. 2017: Relocation and expansion of the technical center in Tianjin, China
- Oct. 2018: Relocation and improvement of the Machining Technology and Education Center in North America

Plan for after FY2019

Technical sites:

Plan to establish new technical centers in Germany and India

Sales ratio of Cemented Carbide Tools by area (FY2018)



▲ Exterior of MMC Technical Center in North Carolina

Metals Business

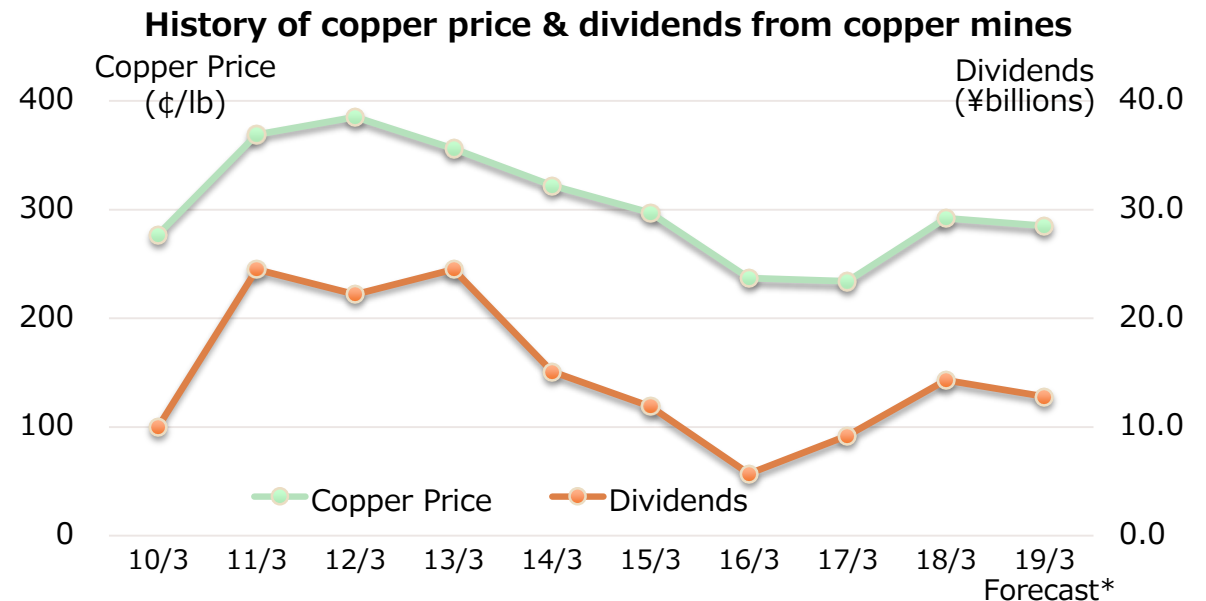
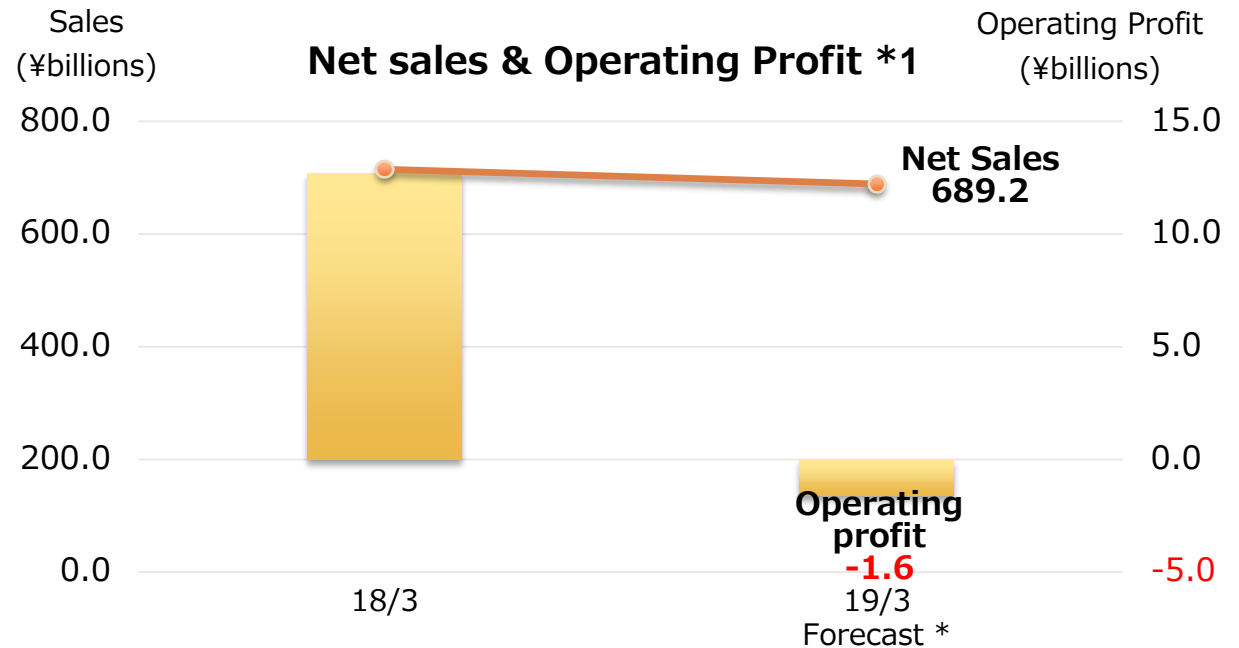
Metals Business Overview

Mining

- **FY2019 copper price outlook:** average 285¢/lb
- **New mine development:**
Zafranel project in Peru
Aim to complete F/S in 2019

Smelting

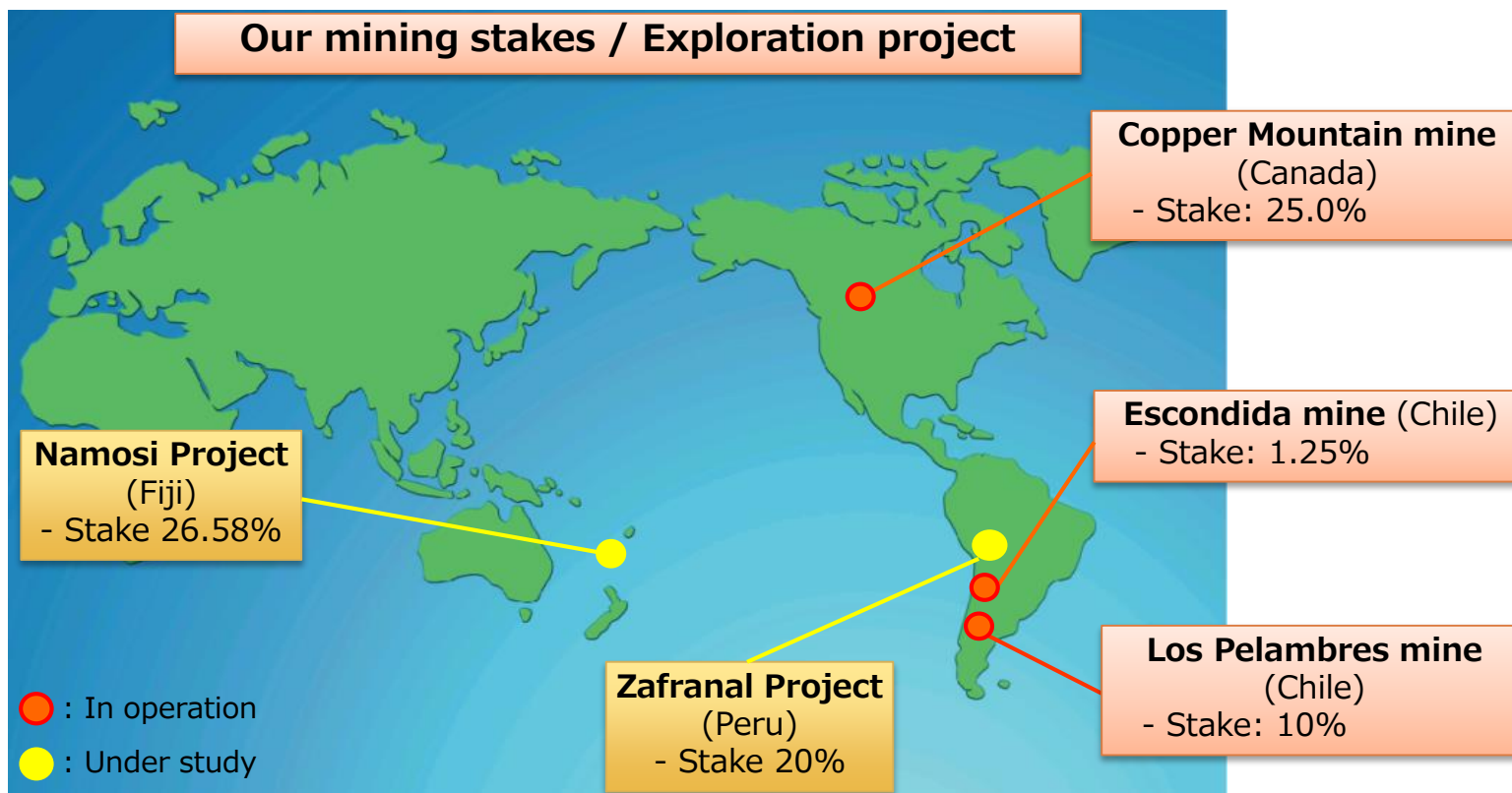
- **Smelting margin in FY2019:** YoY decrease
- **Expansion of the recycling business:**
Recycling capacity has increased to approx. 160,000 tons a year



Metals Business - Mining -

Long-term Target: Controlled volume ratio*
Approx. 30% \Rightarrow Approx. 50%

*Controlled volume ratio:
The ratio of the volume of ore according to mining interests plus the volume under off-take agreements.



Metals Business - Smelting (1) -

Operation system: Total 3 smelter
(2 in Japan, and 1 in Indonesia)

Naoshima Smelter & Refinery



Copper: 230,000 tons / y
E-Scrap: 120,000 tons / y

Onahama Smelting & Refining

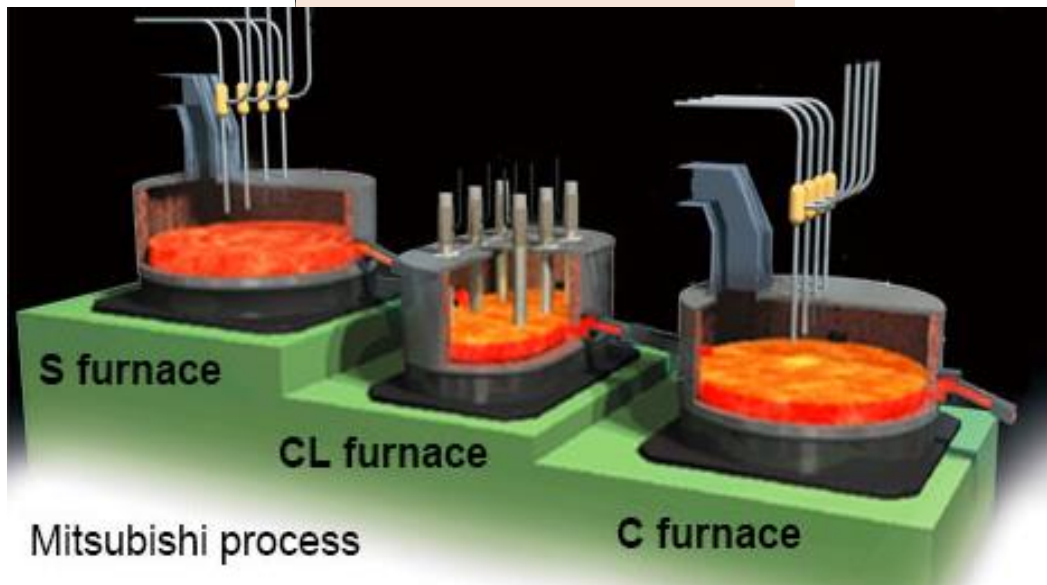


Copper: 300,000 tons / y
E-Scrap: 40,000 tons / y

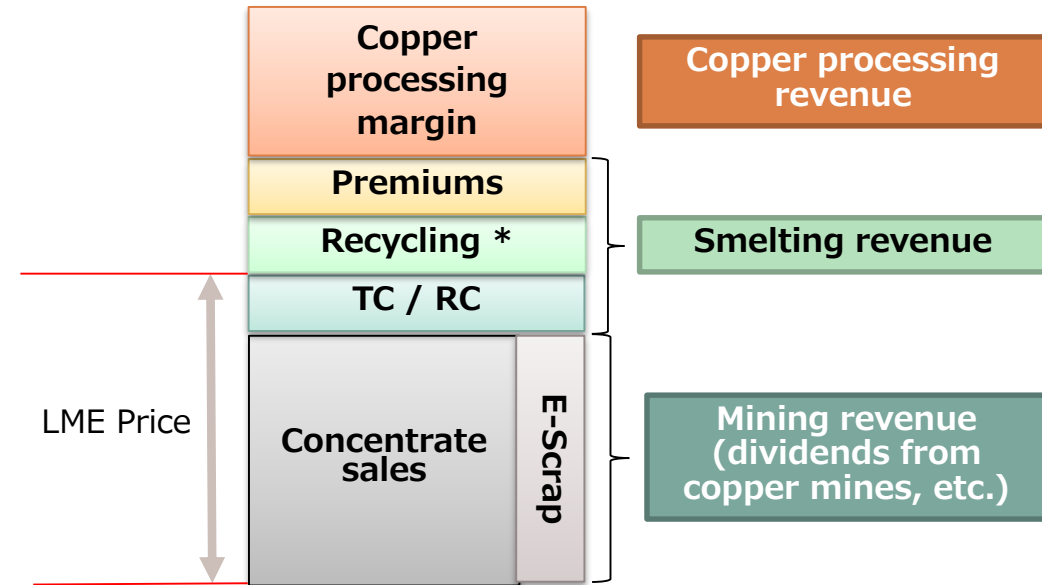
PT Smelting



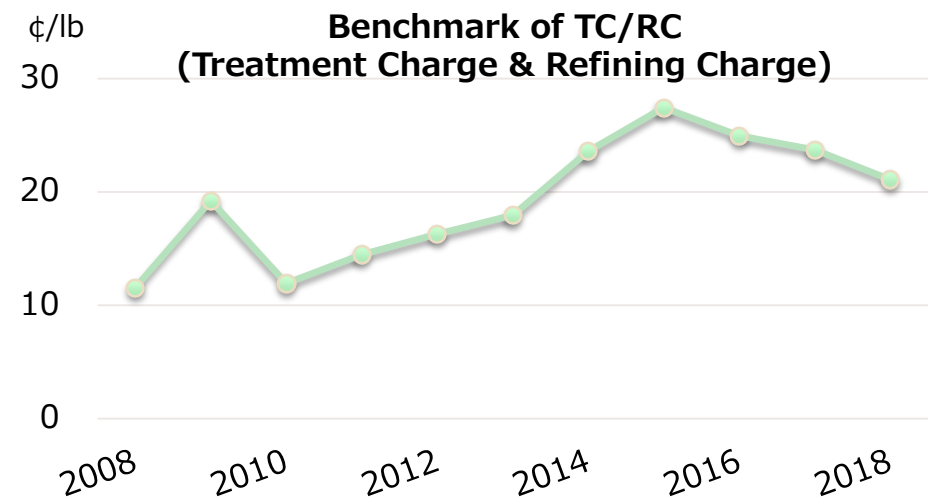
Copper: 300,000 tons / y



Metals Business
(Income breakdown image)



* Consist of the treatment charge and the profit of free metal income difference, etc.



Metals Business - Smelting (2) -

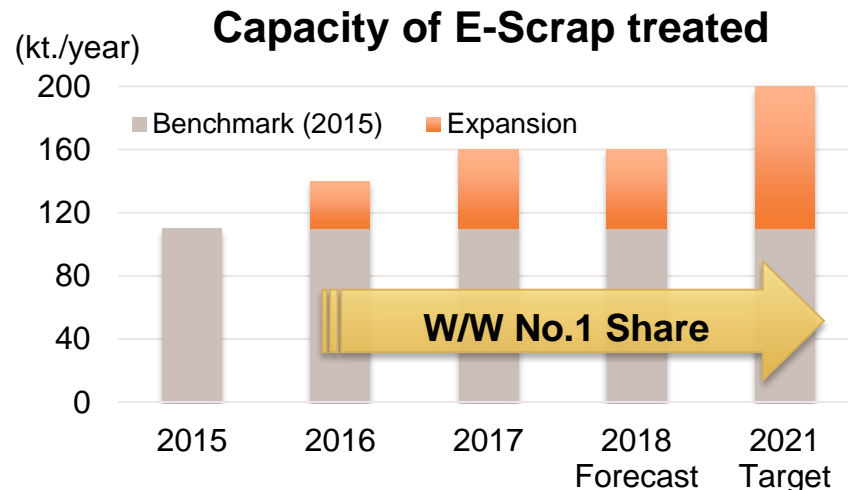
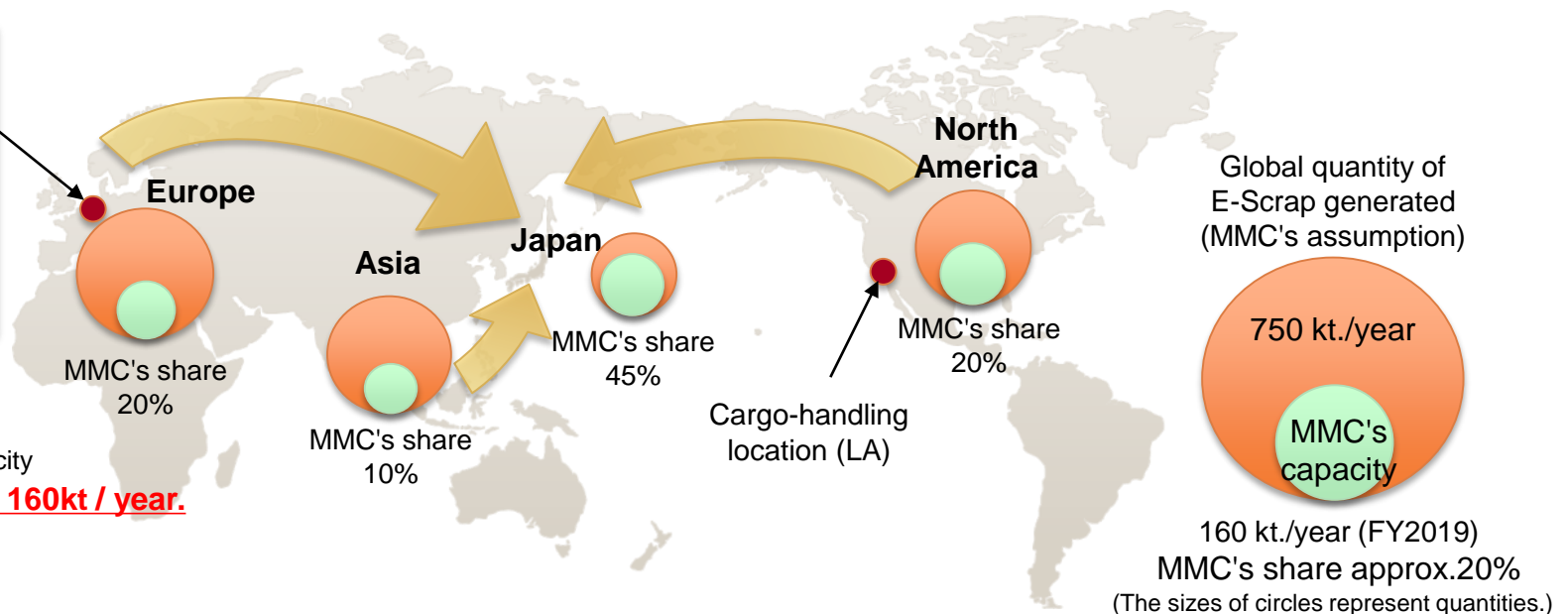
Priority measures: Increasing E-Scrap recycling



Establishment of MMR

(MM Metal Recycling B.V.):
increase in receiving and sampling capacity

Capacity has increased 20kt, to 160kt / year.



Naoshima Smelter & Refinery

Increase in receiving, sampling, analysis, and treatment capacities (from 2016)



Onahama Smelting & Refining Co., Ltd.

Increase in capacity +3kt./year (from 2018)

Cement Business

Cement Business Overview

Main Products

- Portland cement
- Cement-related products
- Ready-mixed concrete
- Aggregate

Production Capacity

Japan

- Mitsubishi Materials (Production)

Plant: Kyushu, Yokoze, Iwate and Aomori
Total production capacity (clinker):
Approx. 8.5 million tons / year

- Ube-Mitsubishi Cement (Sales)

California, USA

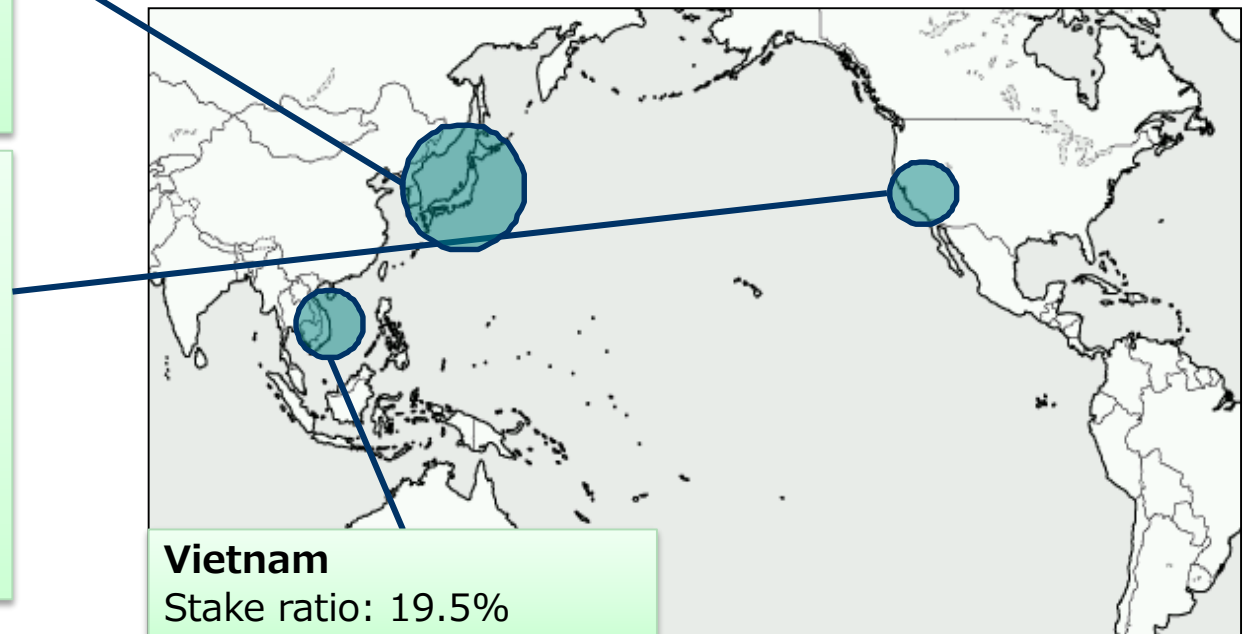
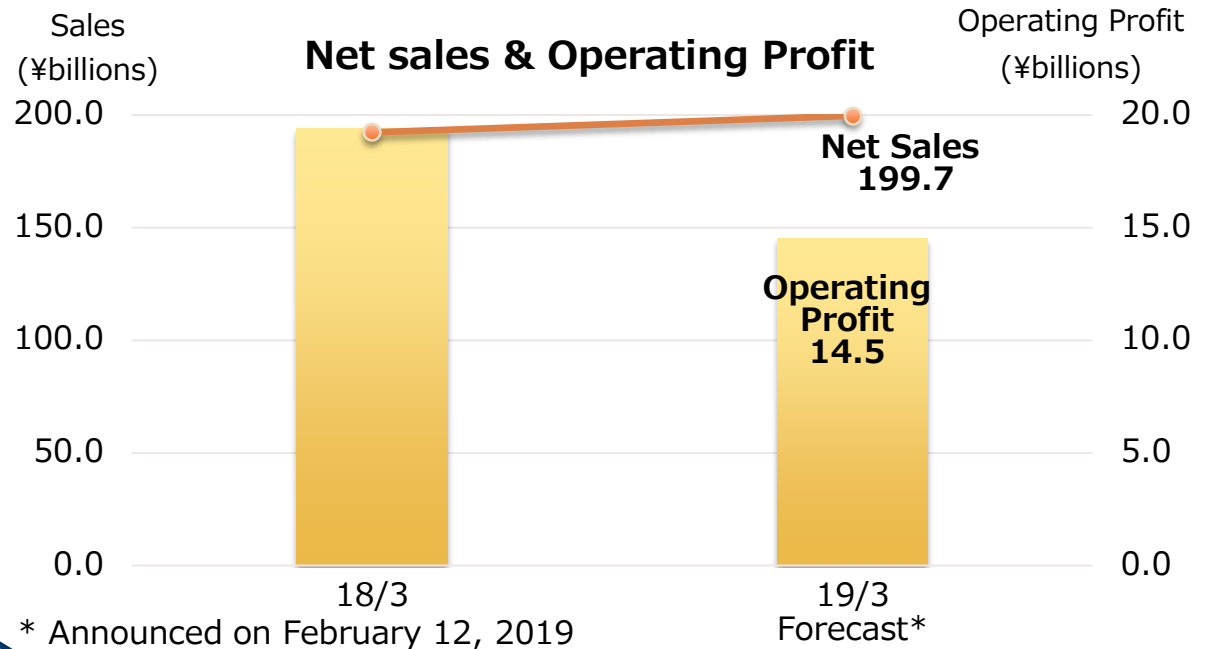
- Mitsubishi Cement (Production & Sales)

Total production capacity:
Approx. 1.6 million metric tons / year

- MCC Development

(Ready-mixed concrete & aggregate)

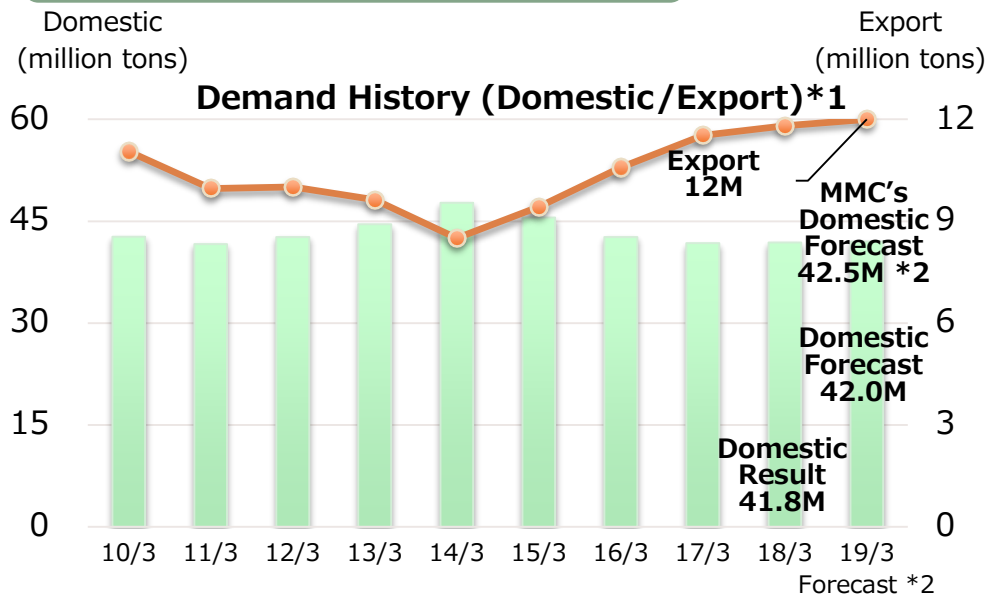
Ready-mixed concrete (RRM) : 48 plants
Aggregate quarry (RRM) : 11 locations



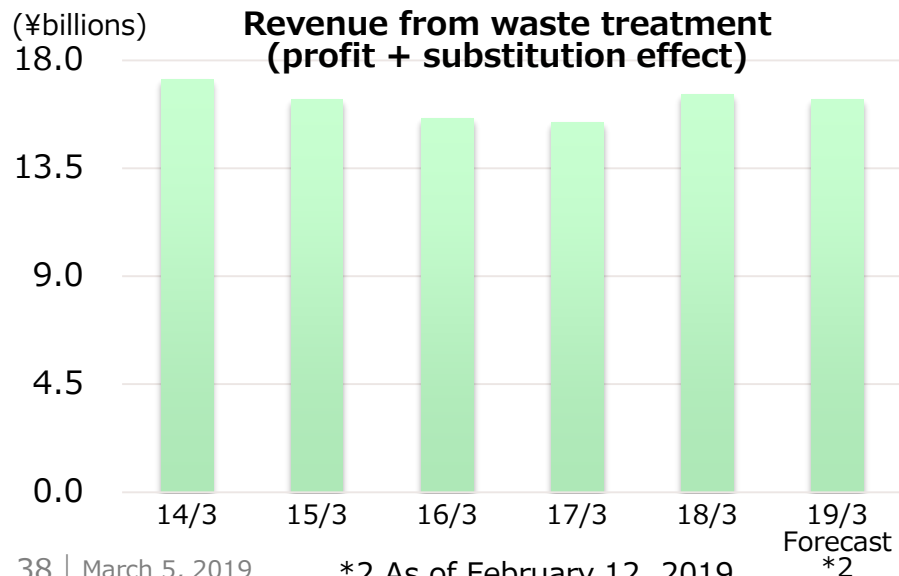
* RRM: Robertson's Ready Mix, Ltd.

Cement Business – Japan -

Fortifying the domestic foundation for competitiveness



Recycling business



Outlook for demand in Japan

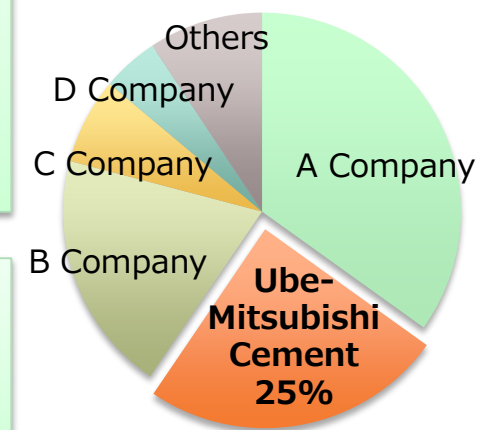
- ◆ 18/3 Result 41.88 million tons
- 19/3 Forecast (JCA): 42.00 million tons
- 19/3 Forecast (MMC): 42.50 million tons
- ◆ Dec. 2017 Announced of raising the prices of cement
 - More than 1,000 JPY / ton (from the shipment of April 2018)

Export environment

- ◆ Outlook for 19/3
- For Asia: YoY increase
- For Oceania: YoY decrease
- Total amount : YoY decrease

*MMC's assumption

Domestic Market Share*



Waste processing

Process the waste in cement manufacturing process
Rising processing prices and expand the difficult-to-treat waste

◆ Coal ash:

Trying to secure the quantity by taking various measures against the decrease in the generated amount.

◆ Waste plastic:

Capacity at Kyushu Plant increased 1.7 times. (operations began in February 2018)

◆ Fly ash treatment:

Established the KitaKyushu Ash Recycle Systems Co., Ltd. with Aso Corp. to promote the treatment of fly ash and cement recycling system.

◆ Waste related natural disasters:

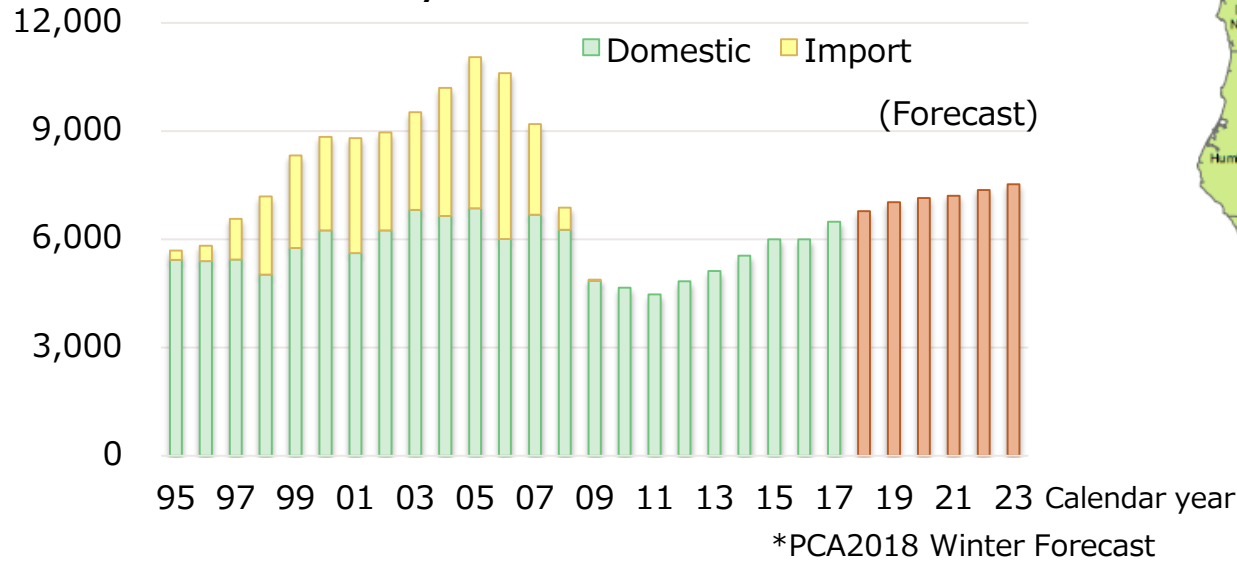
Making maximum efforts to accept waste related natural disasters such as earthquakes and torrential rains.

Cement Business - United States (1) -

Demand environment in the U.S.

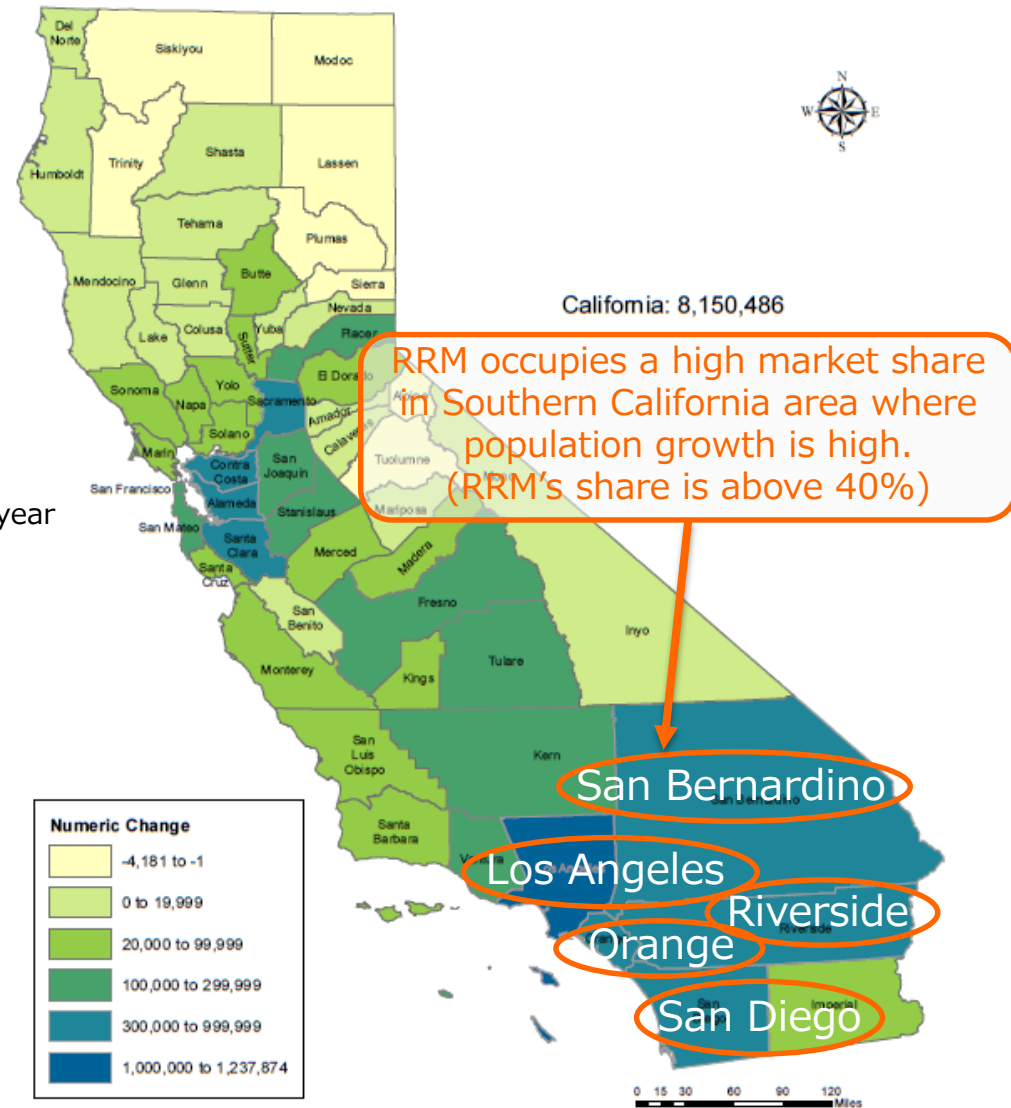
(thousand Mt)

Demand history for cement in Southern California*



▲ Ready-mixed concrete plant of Robertson's Ready Mix, Ltd.

California Projected Population Growth (2010 to 2035, Numeric change)



Source: California Department of Finance

MITSUBISHI MATERIALS

Cement Business - United States (2) -

Priority measures: Expansion of the US business and development of new business bases

Expansion of the US business, improvement of vertical value chains

Cement manufacturing and supply (import terminals)



Cushenbury Plant

Long Beach import terminal

Cement supply and sales

Ready-mixed concrete and aggregate business



Ready-mixed concrete plant

Aggregate quarries

Three measures

Cement manufacturing

Increased cost competitiveness

Stable operation through renovation, energy cost reduction, and recycling expansion achieved through renovation

Cement supply

Expansion of supply system

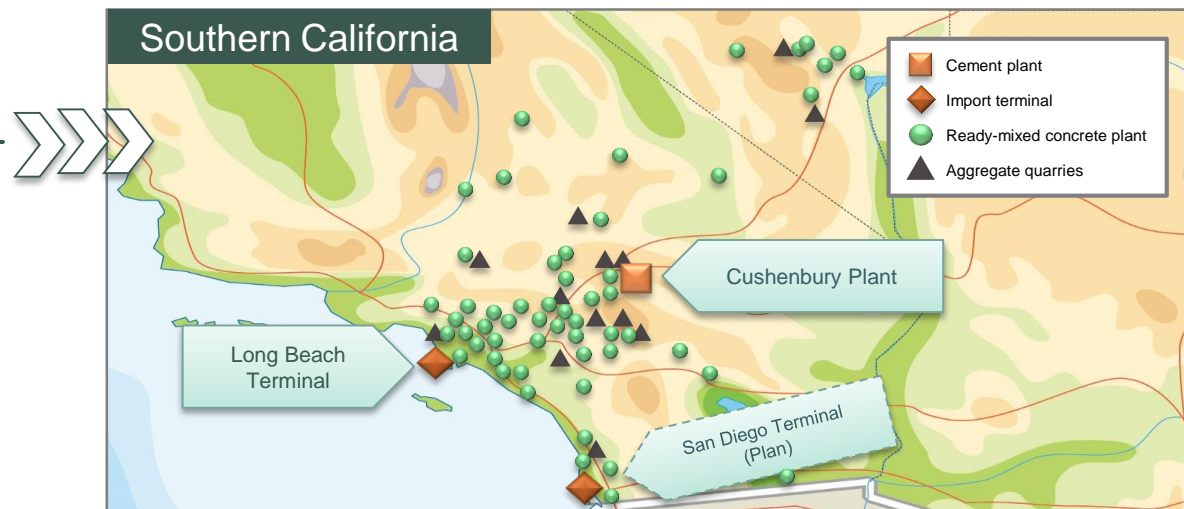
Accommodation to demand for cement-concrete admixture (LBT* expansion and new SDT* facilities)

Ready-mixed concrete business

Expansion of revenue foundation

Expansion of ready-mixed concrete business area (north and east LA), aggregate quarries development and enhancement

* LBT: Long Beach Terminal * SDT: San Diego Terminal



Development of new bases

(Overseas) Consider the Business acquisition

Area where a vertical integration model can be built

- ◆ Maximize profit throughout the value chains

Area with high import dependence

- ◆ Increase synergy with plants in Japan

Emerging market

◆ **Upstream business (manufacturing and sales of cement)**

- More differentiating elements than downstream business (ready-mixed concrete, etc)

◆ **Waterfront location**




- Export is available in case of change in supply-demand balance

Others Business

Other Business

Efforts in environment and recycling

Play a part in the development of a recycling-oriented society by creating and expanding a recycling business that uses the characteristics and functions of the material industry without relying on landfill disposal, and that is trusted by stakeholders.

-  "E-waste" (used electronics and electrical products)
-  Automobile recycling
-  Fly ash treatment



Automobile recycling







"E-waste" (used electronics and electrical products)
Recycling process of refrigerators



Fly ash treatment:
KitaKyushu Ash Recycle Systems Co., Ltd.

Efforts in renewable energy business

Expand the renewable energy business based on the management resources developed by the Company and provide a stable supply of low environmental-load energies to contribute to the development of a sustainable society.

-  Geothermal energy
() In the exploration stage
-  Hydroelectric
-  Mega solar



Hydroelectric: Moriyoshi Dam, Akita Pref.
Komatagawa No.4 Hydroelectric Power Plant



Mega solar: Fukui Photovoltaic Power Plant, Fukui, Fukui Pref.

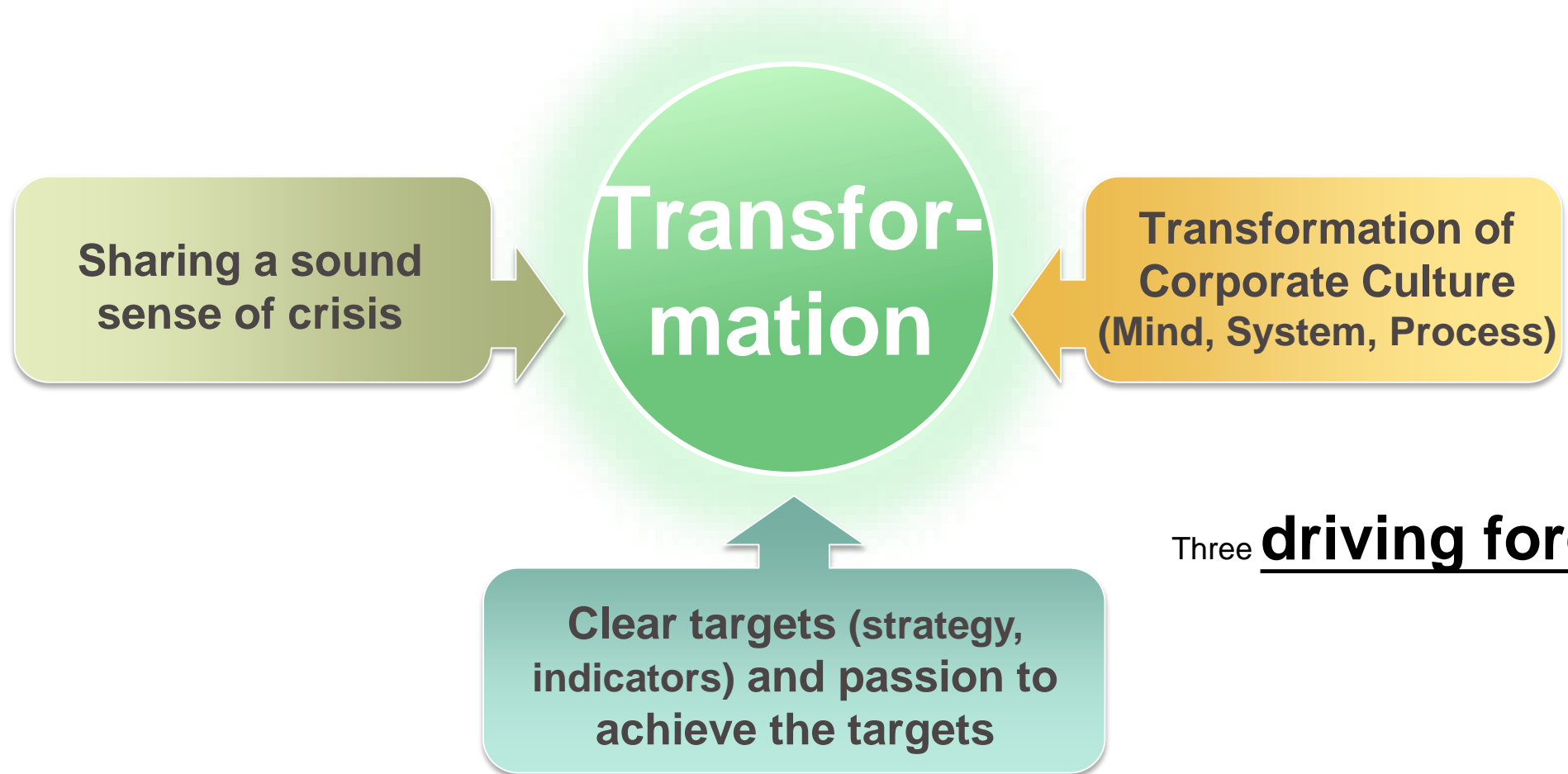


Geothermal power: Yuzawa, Akita Pref.
(Wasabizawa, under construction)

(FYI) Medium-Term Management Strategy (Announced on May 16, 2017)

Transformation for Growth

Undertake a range of **“Transformations”** to achieve the sustainable development of the Mitsubishi Materials Group

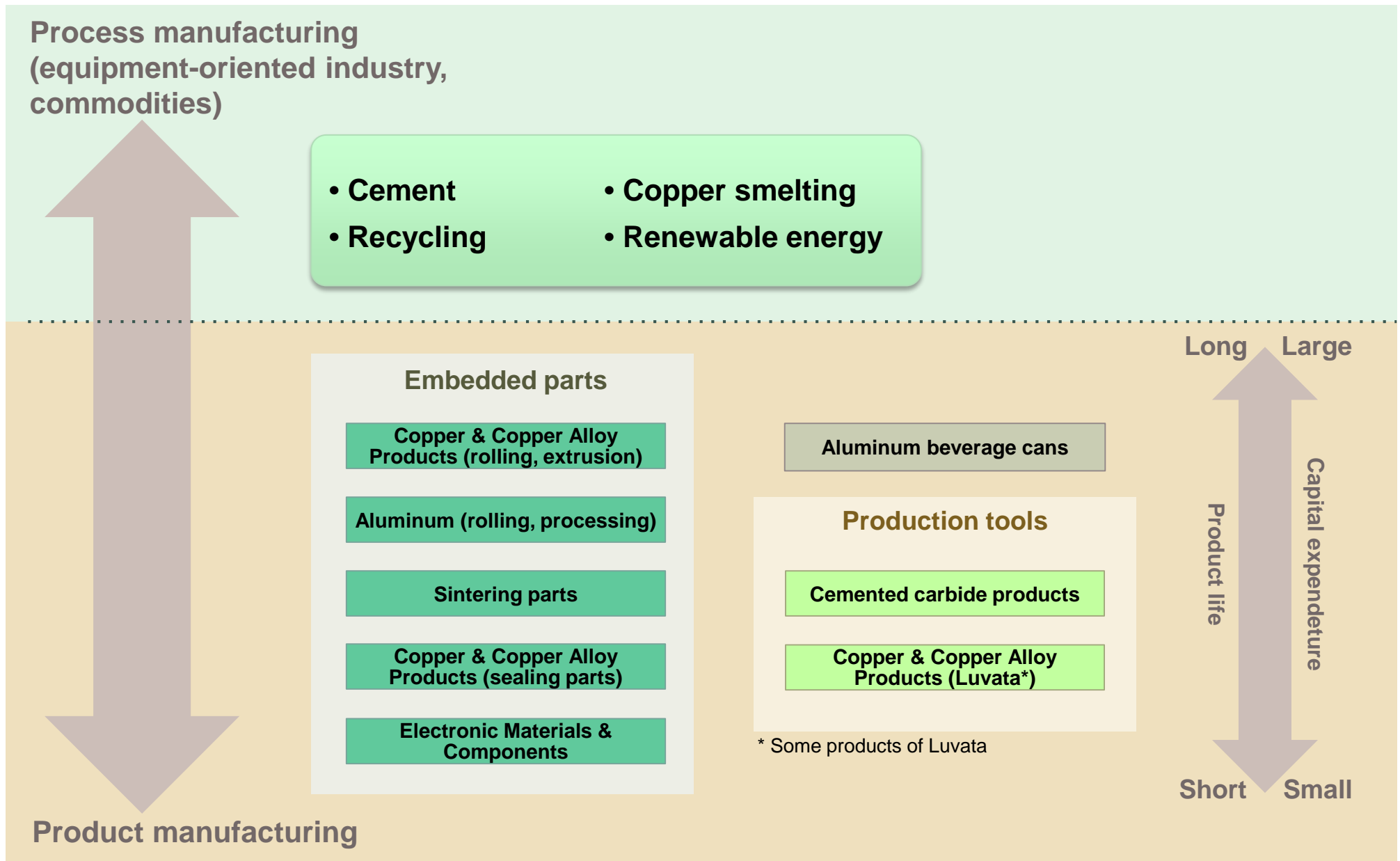


Three **driving forces**

Perception of External Environment (10 years from now)

Japan	Overseas
<ul style="list-style-type: none">◆ Super-aged society◆ Infrastructure development for disaster prevention and reduction◆ Hollowing out of domestic market due to progress of globalization◆ Increasing environmental consciousness (increase in EVs, recycling needs, etc.)◆ Super-advanced information society based on AI and IoT (accelerated speed of change)	<ul style="list-style-type: none">◆ Change in international order◆ Increase in protectionism◆ Slowdown in the growth of emerging BRICS economies◆ Increase in the need for infrastructure development due to growing population◆ Increasing environmental consciousness (increase in EVs, recycling needs, etc.)◆ Super-advanced information society based on AI and IoT (accelerated speed of change)

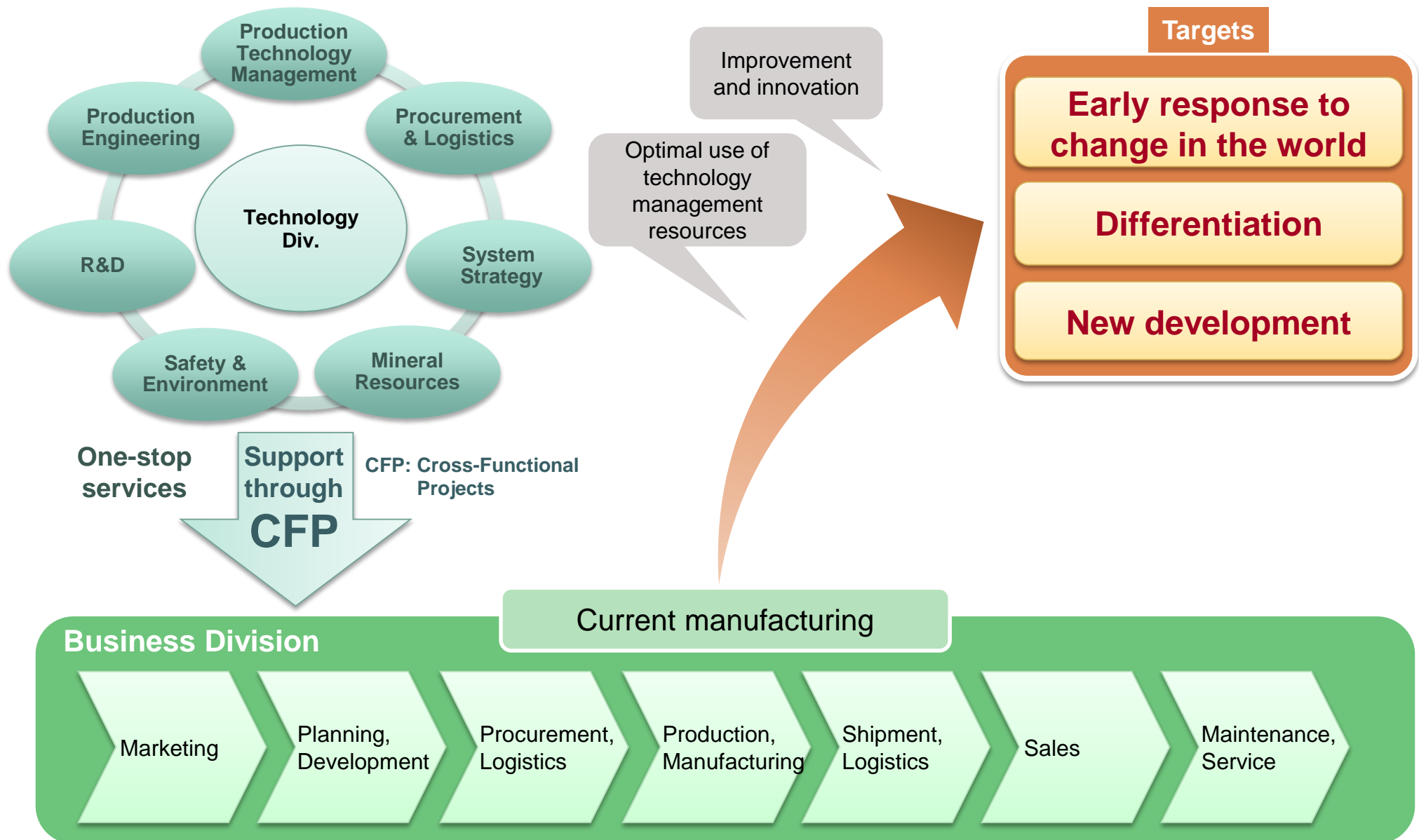
Group-wide Policy: Optimization of Business Portfolio (1)



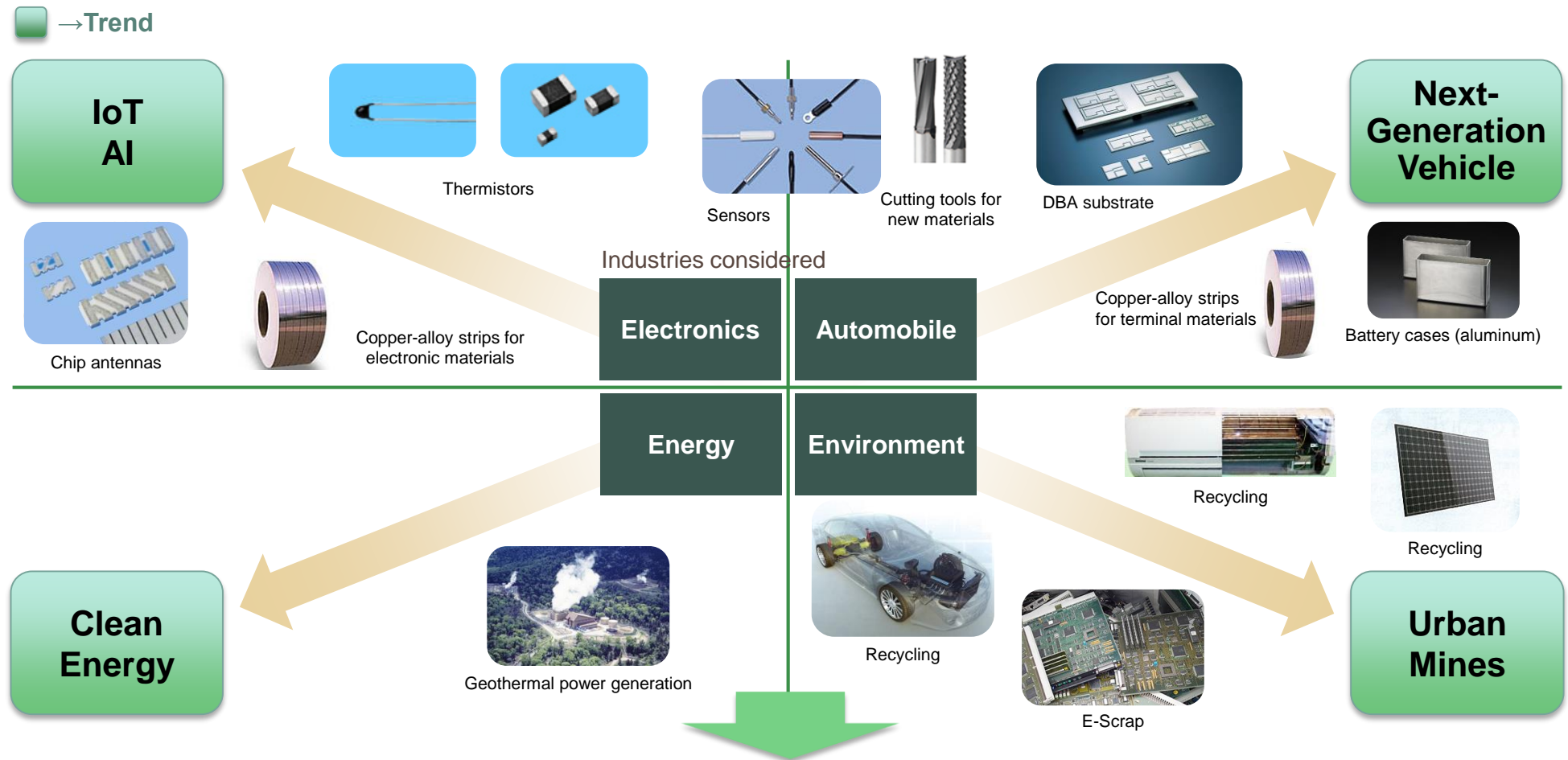
Group-wide Policy: Optimization of Business Portfolio (2)

		Direction	(Indicator to watch)
Stable growth business	Cement Metals (smelting) Recycling Renewable energy	<ul style="list-style-type: none"> ◆ Aim to strengthen the business foundation by increasing and maintaining cost competitiveness using recycling revenues, etc. and seek carefully selected opportunities for large investments 	ROA
Growth promotion business	Metals (Copper & Copper Alloy Products) Advanced Materials & Tools	<ul style="list-style-type: none"> ◆ Promote growth by matching customer and market needs and the Company's strength ◆ Business development in adjacent fields and global markets 	EBITDA growth rate
Profitability restructuring business	Electronic Materials & Components Aluminum	<ul style="list-style-type: none"> ◆ Work promptly to solve issues and define the future direction of growth. <ul style="list-style-type: none"> • Make investments in competitive advantages and support technological development • Ensure thorough selection and concentration 	ROS comparison with competitors

Group-wide Policy: Comprehensive Efforts to Increase Business Competitiveness



Group-wide Policy: Creation of New Products and Business



Needs that the Company should meet	Potential new products and businesses
Next-generation vehicle, IoT and AI	Solutions for the shift of automobiles to EVs and the needs of automatic driving Heat management materials Sensors, antenna modules, and etc.
Building a rich, sustainable society	Recycling, renewable energy, businesses related to hydrogen-energy society, and etc.

Group-wide: Investment Strategy

- ◆ Strengthen the businesses by utilizing operating cash flow and revenue from sale of assets
- ◆ If there is any other favorable large investment for growth, however, the Company will positively implement such an investment as far as keeping Net D/E ratio of 1.0 time or lower

FY2018 – 2020 Cumulative Cash Flow

Cash in		
Operating CF		240.0
Investing CF	Sale of assets	60.0
Total		300.0

Sales of share in SUMCO Corporation (moved forward in the previous period)	26.0
	326.0

¥ billions

Cash out		
Investing CF	Investment for growth	150.0
	Investment for maintenance and upgrading	170.0
	Subtotal	320.0
Financing CF	Dividend, etc ^{*1}	46.0
Total		366.0

Acquisition of Luvata (carry-over from FY2017)	-40.0
	326.0

280.0

FY2018 – 2020 Cumulative Investment Plan

Total amount of investment		280.0 ^{*2}				
Maintenance/upgrading		170.0		Growth strategy		
				110.0 ^{*2}		
Cement	Metals ^{*2}	Advanced Materials & Tools		4%	8%	7%
22%	33%	21%		5%		

Electronic Materials & Components
Aluminum
Environment & Energy
Common investment

^{*1} Total amounts of dividend payment from MMC and dividend payment to non-controlling interests from consolidated subsidiary

^{*2} Excludes the cost of acquiring Luvata (Approx. 40 billion yen) carried forward from the previous period.

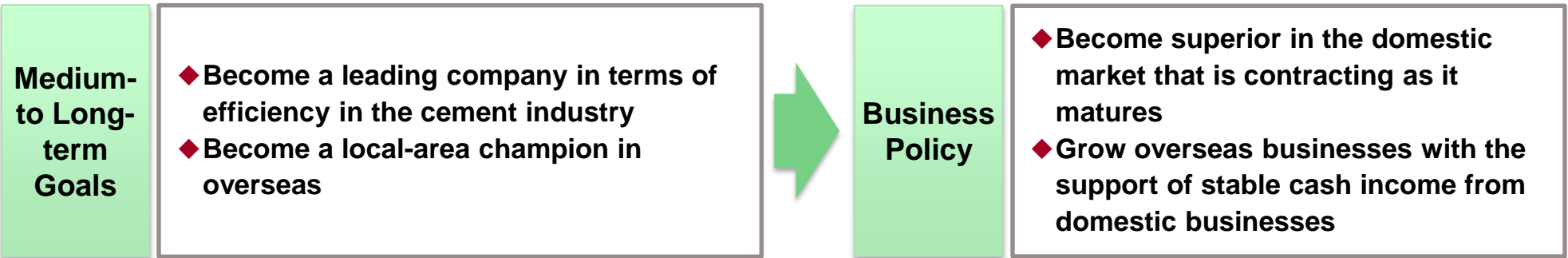
Group-wide: Provisional Financial Calculations

(¥ billions)

		Results for FY2017	Provisional Financial Calculations for FY2020	Remarks
Income statement	Consolidated net sales	1,304.0	1,620.0~1,840.0	[Principal reasons of changes, ordinary income base] Market conditions 12.0 Investment effect 15.0 Metal prices 3.0~7.0 Foreign exchange -6.0~8.0 Other -6.0 Total 18.1~36.1
	Consolidated net sales (excl. metals costs)	757.1	870.0~910.0	
	Consolidated ordinary income	63.9	82.0~100.0	
Balance sheet	Total assets	1,896.9	1,950.0	
	Net interest-bearing debt	386.9	450.0	
	Shareholders' equity	621.2	640.0	
ROA (ordinary income to total assets) (%)		3.5	4.5~5.0	
ROE (%)		4.8	7.0~8.0	
Net D/E ratio (times)		0.6	0.7	
Assumptions (*)	Exchange rate USD (yen/\$)	108	100~120	[Sensitivity] ◆ Exchange rate 1 yen/\$ (yen depreciation) 0.7 billion yen ◆ Copper price (LME) +10 ¢/lb 2.2 billion yen (Ordinary income)
	Exchange rate EUR (yen/€)	119	120	
	Copper price (LME) (¢/lb)	234	250~270	

* Median used for BS

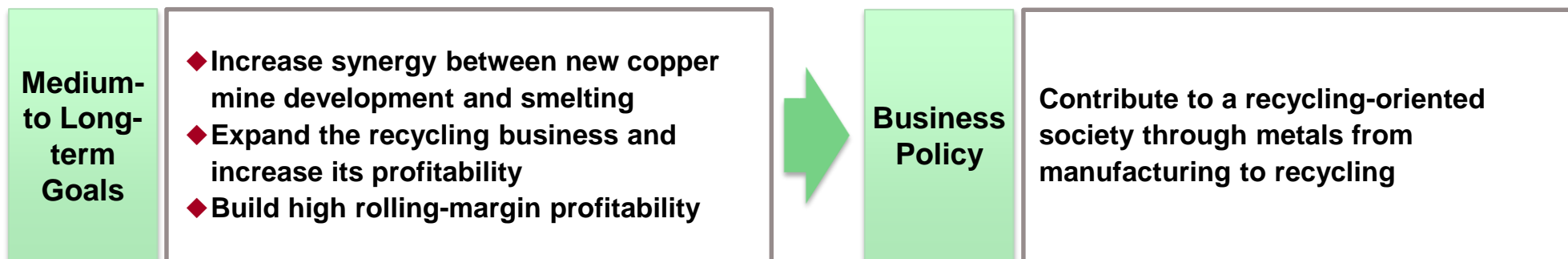
Cement Business Strategy



Key strategies

Achieve growth through innovation	Create value by building a recycling-oriented society	Increase the company's market presence through investment for growth	Increase efficiency through continuous improvement
◆ R&D and Innovation <ul style="list-style-type: none"> - Develop technology to reuse waste for cement manufacturing - Enhance concrete technology - Reduce CO₂ 	◆ Expand the environmental business <ul style="list-style-type: none"> - Develop new business in growth segment - Increase the alternative thermal energy rate 	◆ Fortifying the domestic foundation for competitiveness <ul style="list-style-type: none"> - Kyushu Plant: increase global competitiveness - Downstream business: fortifying the sales foundation in Tokyo metropolitan area, etc. ◆ Expand the US business <ul style="list-style-type: none"> - Expand the ready-mixed concrete business - Establish and reinforce MCC terminals ◆ Develop new overseas business bases	◆ Improve domestic and the US cement manufacturing technology <ul style="list-style-type: none"> - Establish a stable operation system - Reduce costs - Thoroughly conserve energy - Increase workplace capability

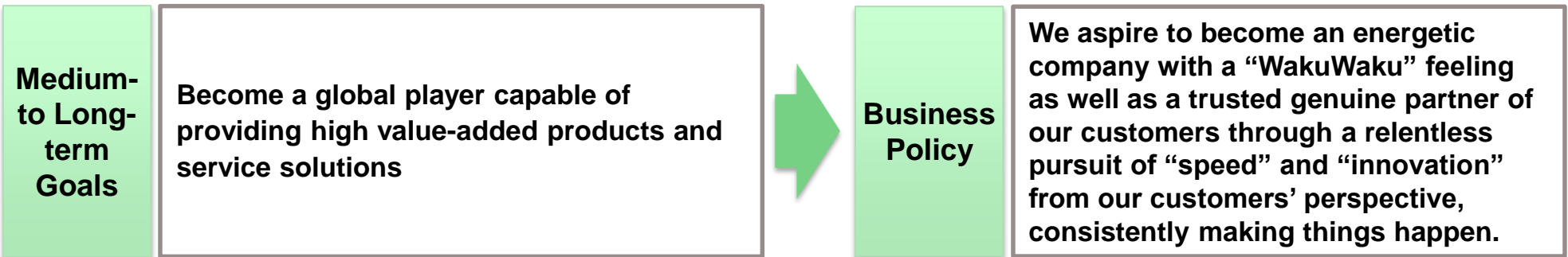
Metals Business Strategy



Key strategies

	Achieve growth through innovation	Create value by building a recycling-oriented society	Increase the company's market presence through investment for growth	Increase efficiency through continuous improvement
Mining			<ul style="list-style-type: none"> ◆ Develop new projects 	<ul style="list-style-type: none"> ◆ Improve the system of improving and making decisions on existing projects
Smelting		<ul style="list-style-type: none"> ◆ Increase E-Scrap recycling 		<ul style="list-style-type: none"> ◆ Increase process efficiency ◆ Optimize the smelting business
Copper & Copper Alloy Products	<ul style="list-style-type: none"> ◆ Sell products meeting customer needs - Increase sales of terminal materials and new alloys - Develop high-performance plating 	<ul style="list-style-type: none"> ◆ Promote alloy recycling 	<ul style="list-style-type: none"> ◆ Create synergy with Luvata <ul style="list-style-type: none"> - Make use of synergy effects - Establish global sales system ◆ Expand sealing materials business 	<ul style="list-style-type: none"> ◆ Fortify the manufacturing system of rolling business ◆ Strengthen cost competitiveness of extrusion business

Advanced Materials & Tools Business Strategy

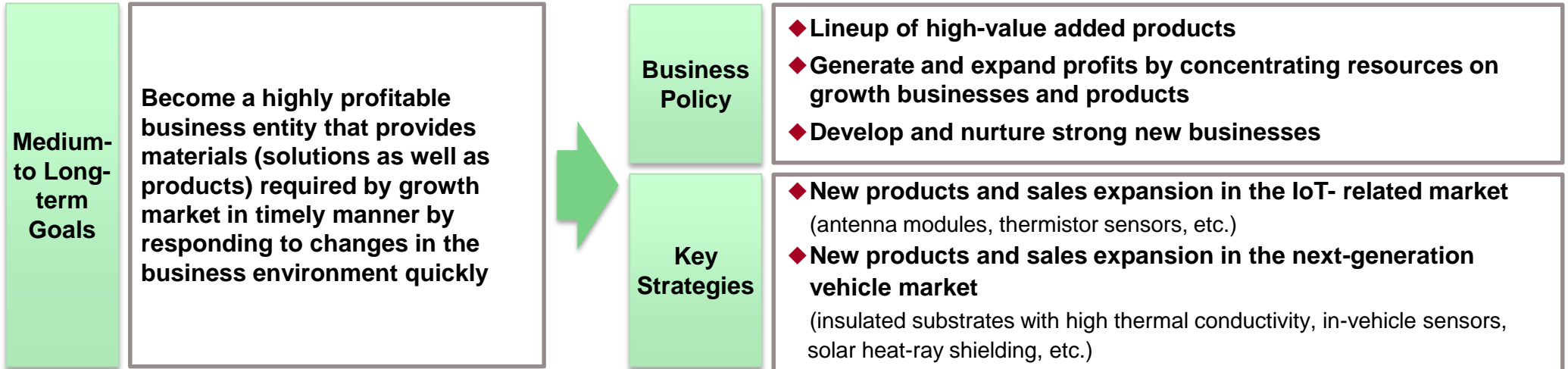


Key strategies

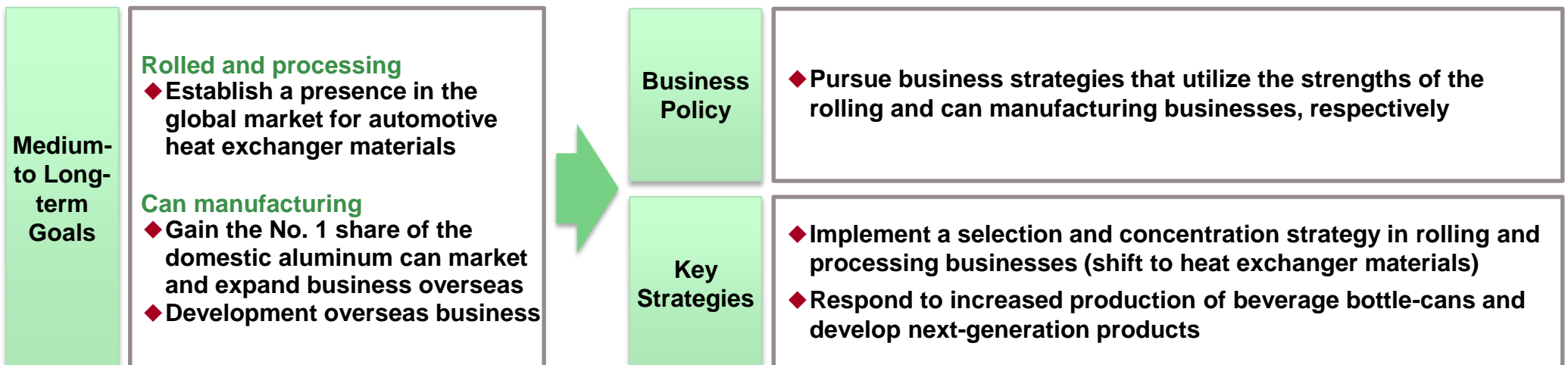
Achieve growth through innovation	Create value by building a recycling-oriented society	Increase the company's market presence through investment for growth	Increase efficiency through continuous improvement
<ul style="list-style-type: none"> ◆ Enhance the power of solution by industry oriented teams ◆ Create key technologies through the Company's original development and open innovation ◆ Get closer to the customers by utilizing IoT and Big Data and enhance the level of manufacturing capability 	<ul style="list-style-type: none"> ◆ Promote tungsten recycling 	<ul style="list-style-type: none"> ◆ Promote local production for local consumption by reinforcing factories and using local vendors ◆ Expand sales and technical center networks ◆ Create synergies with Mitsubishi Hitachi Tool Engineering 	<ul style="list-style-type: none"> ◆ Reinforce the Key Account strategy ◆ Decrease cost ◆ Improve asset efficiency at factories

Electronic Materials & Components Business & Aluminum Business

Electronic Materials & Components Business



Aluminum Business



For further information, please contact at:

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Note
