

# Hitachi Metals, Ltd.

## Progress of Fiscal Year 2018 Medium-term Management Plan

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- 1. Summary & Overview of Initiatives for the First Half, FY2018**
- 2. FY2018 Performance Targets**
3. Main Measures of FY2018 Medium-term Management Plan
4. Action Plans

October 25, 2018

## ■ Performance

(¥ billions) Profit margin in brackets	1H, FY2017 Actual US\$1=¥111		1H, FY2018 Actual US\$1=¥110	Year-on-Year
Revenues	482.4		519.0	+8%
Adjusted operating income	[6.7%] 32.2		[6.4%] 33.1	+0.9
EBIT	29.1		38.2	+9.1
Income before income taxes	28.0		37.2	+9.2
Net income*	19.6		28.1	+8.5

- Responses on a sliding scale of the greatest issue, i.e., the rise in raw materials and sub-materials prices, were completed; price correction effects emerged.
- The profitability of the two “businesses with issues” improved (heat-resistant cast steel, aluminum wheels).
- Specialty steel products grew.
- The drop in demand mainly for smartphones and FA affected products.

## ■ Revision to dividends (increase)

	Annual dividends (Forecast at beginning of fiscal year)	Interim dividends (Actual)	Term-end dividends (Forecast)	Annual dividends (Forecast)
<b>FY2018</b>	<b>¥26</b>	<b>¥17</b>	<b>¥17</b>	<b>¥34</b>

**Achieve the relevant balance between growth and shareholder return**

(Dividend payout ratio target: 30%)

## 2-1. Performance Target of FY2018 for Main Managerial Indicators

(¥ billions) Profit margin in brackets	FY2017 Actual US\$1=¥111	FY2018 Forecast 1H Actual US\$1=¥110 2H Assumption US\$1=¥105
Revenues	988.3	1,020.0
Adjusted operating income	[6.6%] 65.1	[7.2%] 73.0
EBIT	48.9	67.0
Income before income taxes	47.0	64.5
Net income*1	42.2	48.0
ROE*2	7.5%	8.3%
ROA*3	4.0%	4.5%

- Aggressively take in orders in the areas of large capital investment and harvest gains from the investments.
- Expand price correction effects.
- Expand profit improvement of the two “businesses with issues.”

\*1 Net income attributable to owners of parent

\*2 Return on equity attributable to owners of the parent company ratio (ROE) = Net income attributable to owners of the parent company / Term-end equity attributable to owners of the parent company x 100

\*3 Return on total assets (ROA) = Net income attributable to owners of the parent company / Term-end total assets x 100

## 2-2. Target Revenues & Adjusted Operating Incomes by Segment

(¥ billions)		FY2017 Actual (US\$1=¥111)	FY2018 Plan (1H Actual US\$1=¥110) (2H Assumption US\$1=¥105)	Year-on-Year
Specialty Steel Products	Revenues	290.6	320.0	+10%
	Adjusted operating income	27.9	31.0	+3.1
	Adjusted operating margin	9.6%	9.7%	+0.1%
Magnetic Materials and Applications	Revenues	106.1	115.0	+8%
	Adjusted operating income	9.6	7.5	-2.1
	Adjusted operating margin	9.0%	6.5%	-2.5%
Functional Components and Equipment	Revenues	360.1	345.0	-4%
	Adjusted operating income	11.8	17.0	+5.2
	Adjusted operating margin	3.3%	4.9%	+1.6%
Wires, Cables, and Related Products	Revenues	230.5	240.0	+4%
	Adjusted operating income	14.9	17.0	+2.1
	Adjusted operating margin	6.5%	7.1%	+0.6%
Others/ Adjustments	Revenues	1.0	0	—
	Adjusted operating income	0.9	0.5	—
Total	Revenues	988.3	1,020.0	+3%
	Adjusted operating income	65.1	73.0	+7.9
	Adjusted operating margin	6.6%	7.2%	+0.6%

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# 3-1. Trend of Performance & Recognition of Issues

- Expansion of business scale and areas through M&A



- Long-term reduction in investment weakened capabilities of *monozukuri*, development, and sales.
- Corporate culture with a tendency towards specific optimization

- Sluggish organic growth
- Delay in profitability improvements, failure to fulfill the plan



- Carry out large growth investment
- Strengthen front-line operations, implement organizational reforms
- Respond to “businesses with issues”

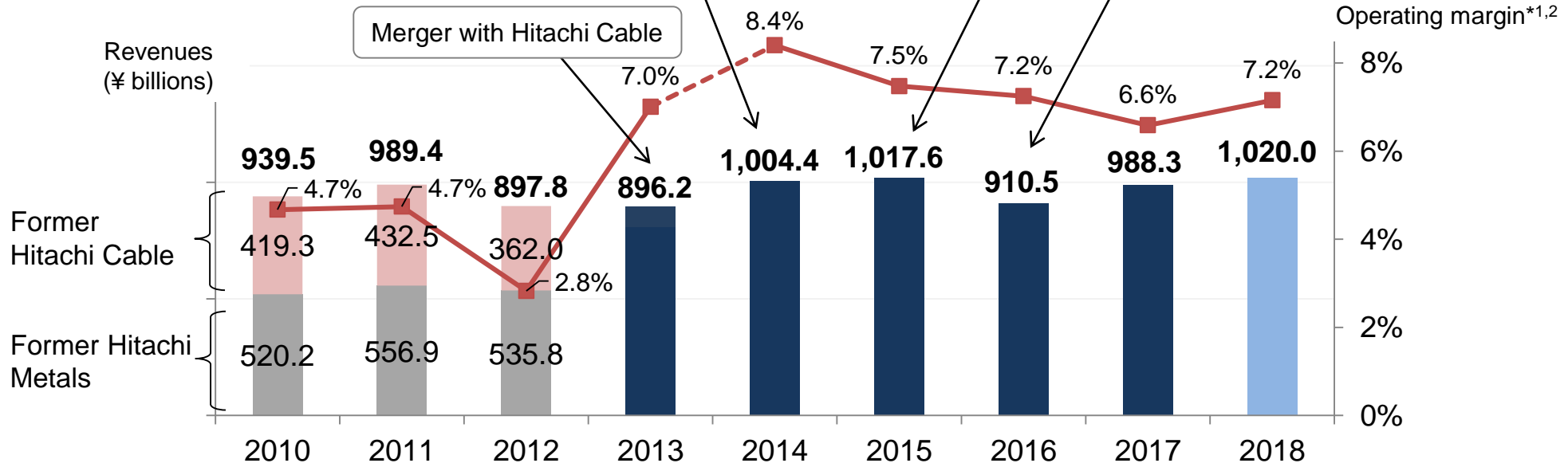
(2000s)

- 2003: Acquired the amorphous business
- 2004: Acquired Sumitomo Special Metals

- Acquired Waupaca
- Made Mitsubishi Materials' aircraft and energy materials business a subsidiary
- Sold Hitachi Metals Techno

Sold Hitachi Tool Engineering

Sold the information network business



\*1 Operating margins for 2010–2013 are the sum of Hitachi Cable and Hitachi Metals before the merger.

\*2 FY2010–2013: Operating margin; FY2014 and onward: Adjusted operating margin

2018 Medium-term Management (Forecast)

## Early full-scale operation of large growth investments

Target market	Main actions	FY2018	FY2019 and onward
EV*	<Rare earth magnets> Innovative production line	·Start of operation	·Full-scale mass production
	Raw materials recycling by acquisition of Santoku	·Acquisition	·Synergy effect
Organic EL, smartphones	<Magnet wires> New casting line	·Start of operation	· Full-scale mass production
High efficiency combustion engine components	<Clad metals> Increased production capacity	· Start of operation	· Full-scale mass production
Aircraft engines	<Specialty steel> Increased production capacity	· Large-scale investment in upstream process	· To make acquired companies wholly owned subsidiaries for acquisition base

## Strengthen front-line operations, promote organizational reforms

- Corporate-wide sales and collaboration centered around Corporate Research Lab, “GRIT”
- Organizational reforms that can fully exercise the comprehensive strengths of the Group are currently being considered.

## Respond to “businesses with issues”

- <Aluminum wheels> Review the U.S. subsidiary management system
- <Heat-resistant cast steel> *Monozukuri* Innovation, price correction, adjustment of production volume

\*Including term for hybrid electric vehicles (HEV) and plug-in hybrid electric vehicles (PHEV)

## Transformation into a Genuinely “Development-driven Company”

### ■ Start up the Corporate Research Lab, “GRIT”

[Threats and opportunities] Promote R&D of advanced materials, which will contribute to sustainable growth and the society, with an eye toward the medium and long-term

[Collaboration] Open innovation through cooperation with research institutions, universities, and other companies

April 2018: Completion of new building

More than 140 companies’ representatives in total have visited. After the visit, businesses and open innovation projects have started in several themes.

#### ■ Visitors to GRIT (since April 2018)

Area	Target product	Total no. of visitors
Automobiles	Motors and inverter-related materials	123
3DP	Aircraft Semiconductor manufacturing equipment, etc.	127
Robots	Motor-related materials	68
Others	—	275
<b>Total</b>		<b>593</b>



3DAM open lab



New GRIT building  
(Kumagaya in Saitama prefecture)



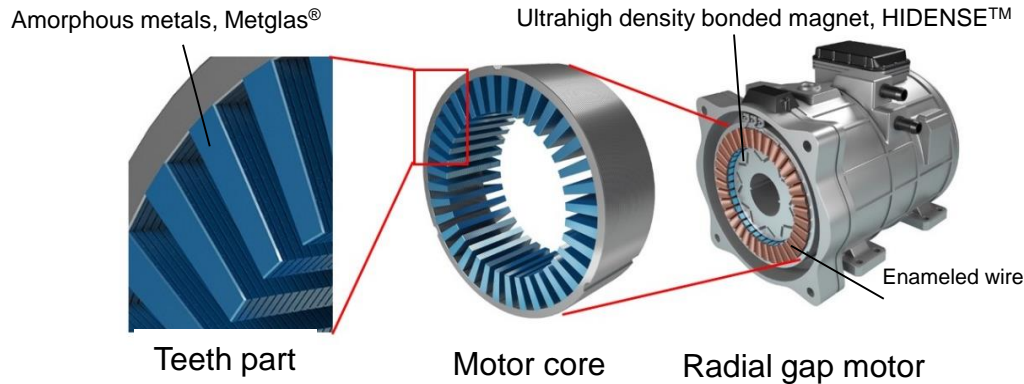


# 3-4. Exercising a Comprehensive Strength of the Hitachi Metals Group [an Example]

## Developed core structure with amorphous metals for high efficiency motors

Hitachi Metals' products are used in the developed core, magnets, and enameled wires

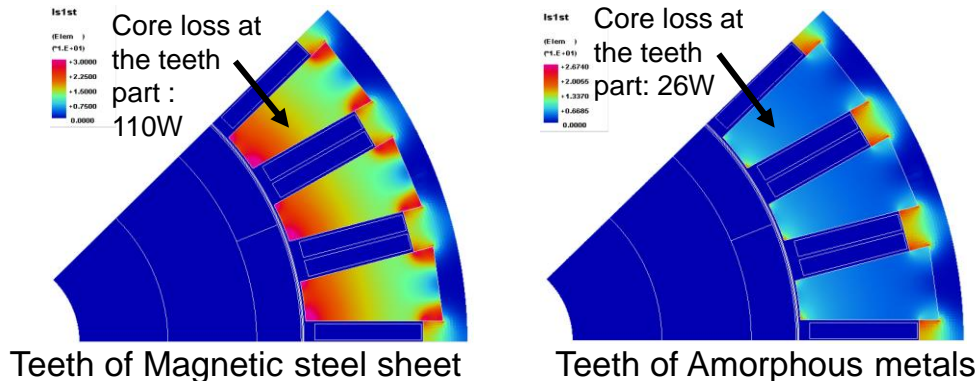
[Image of newly developed iron core structure]



### Core motor of low core loss amorphous metals, Metglas®

- Considered a structure with mass production feasibility  
→ Only applied to the teeth part
- Motor efficiency: 97.2%\*  
\* Conforms to IE5, the top level of motor efficiency guideline
- Applied Radial gap motor, the mainstream type in the market

Comparison of core loss between the teeth made of magnetic steel sheet and the teeth made of amorphous metals

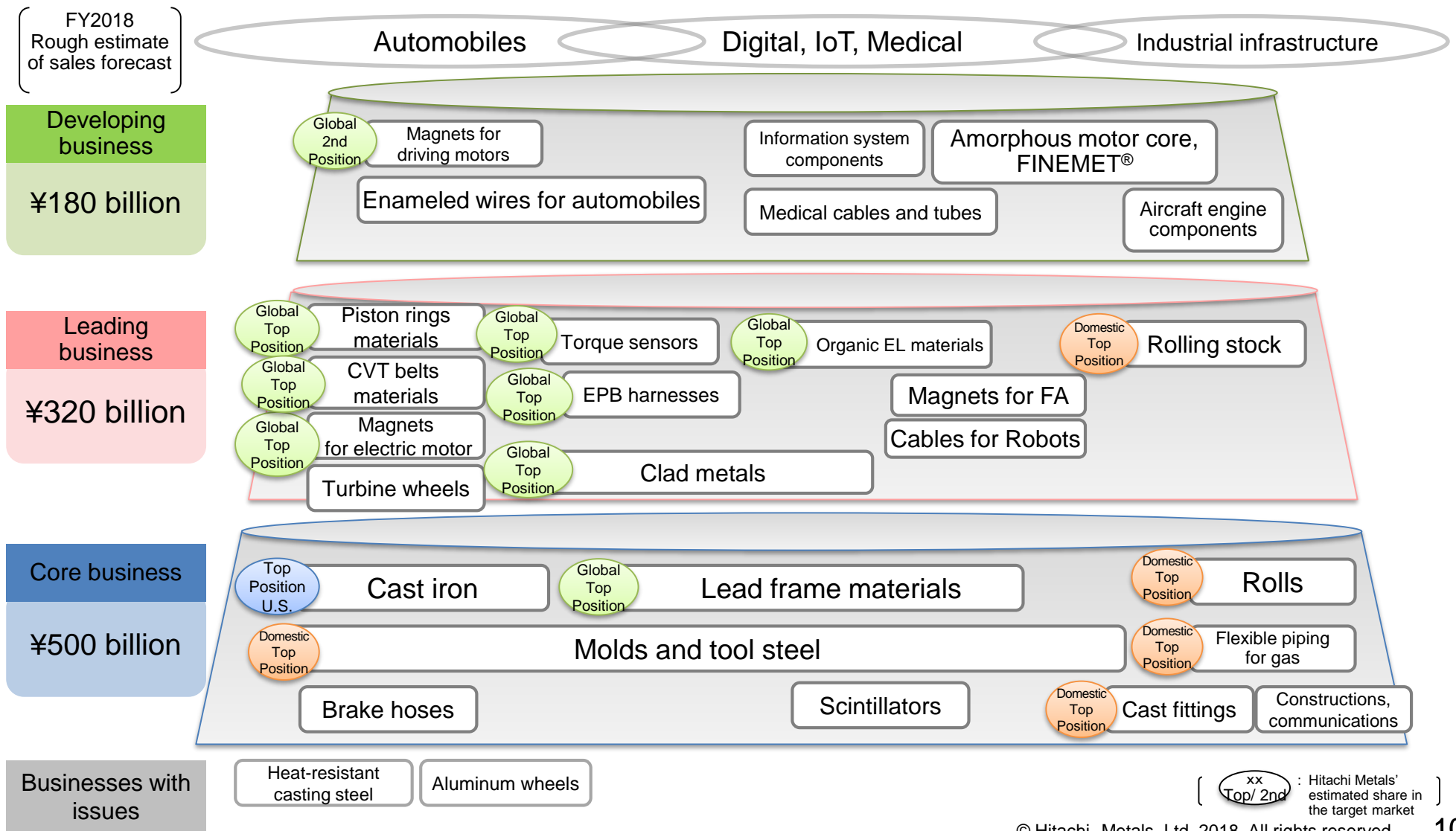


Take on the challenge of expanding into the in-vehicle driving motor market  
There are strong needs for small and high-output motors

To be a total materials innovator creating the future with smart materials

# 3-5. Portfolio Strategy

**Achieve high levels of revenue by utilizing cash flows of core businesses and injecting resources into leading and developing businesses**



( xx Top/2nd ) : Hitachi Metals' estimated share in the target market

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## Strengthen the profitable structure further through reaping benefits from continuous investment

Up to FY2015   FY2016   FY2017   FY2018 and onward

Existing growth areas



CVT belt materials

Process to build steel wires  
(Suzhou, China: 1H, FY2018; Yasugi: 2H, FY2018)



Piston rings

24 tons VIM  
(FY2015)



Molds and tool steel

10,000-ton class forging press  
(May 2018)



High speed forging machine  
(April 2018)

Mass production of new product DAC-i™  
(November 2018)



Aircraft and energy materials

Establishment of Japan Aeroforge (FY2010)

MMC Super Alloy  
(located in Okegawa, Saitama)  
becomes a subsidiary  
(FY2014)

840-ton ring mill  
in Okegawa  
(FY2016)

Launch of Hitachi Metals  
Okegawa Works  
(April 2018)



Clad metals

Enhancement of Tsuchiura works  
(2H, FY2018)

Enhancement of cold rolled steel strips  
(2H, FY2020)



Organic EL materials

New growth areas

Strengthen the existing growth areas and expand the business of new growth areas  
(Cumulative total of ¥70 billion FY2016–2018)

## Enhance the operation levels of the innovative production lines and establish a body plan of sales expansion

### Full-scale operation of innovative production lines

Nd-Fe-B magnets: Started mass production in Sep. 2018

Ferrite magnets: Started mass production in Apr. 2018

### Reduction in use of heavy rare earth

Expand the adoption of heavy rare earth-free magnets in the automobile field

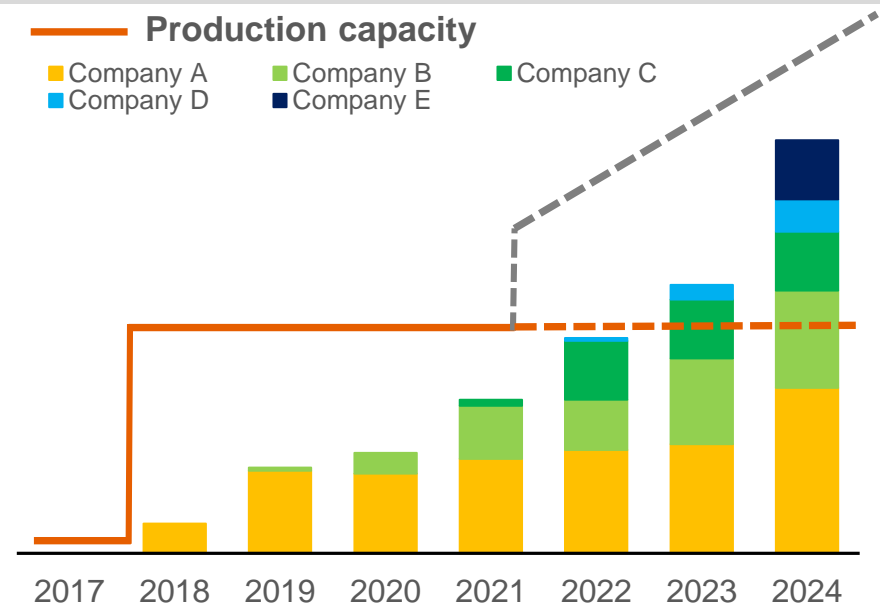
### Optimization of the materials flow

Produce raw materials internally through subsidiary Santoku

### Order intake for the innovative production lines

#### Production capacity

Company A (Yellow), Company B (Light Green), Company C (Dark Green), Company D (Light Blue), Company E (Dark Blue)




Strengthen the production capacity of Nd-Fe-B magnets by more than 2.5 times to increase share in the EV market

## Strengthen and expand the piping components business

**Domestic business: Strengthen cash cow business through production efficiency improvement and capacity enhancement**

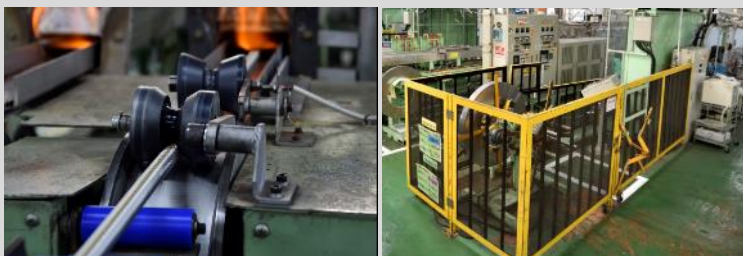
**International business**

**Cast fittings**




Pursue stable quality, energy saving, size reduction, and ease of maintenance  
(Launched August 2018)

**Flexible piping system**

Improve speed of pipe-making while seeking to improve quality and precision  
(Launched test line in Oct. 2018, start mass production in 3Q, FY2018)

Production efficiency improvement

20% capacity enhancement

Profitability improvement, share increasing






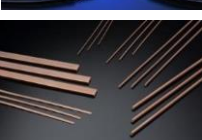
**Flexible piping system**  
Sales expansion to China and Europe

**Mass flow controller**  
Sales expansion to China

Business expansion through the solutions business

**Piping components business in FY2021: 30% increase of international sales (compared to FY2018)**

## Change to a high-profit structure by expanding growth areas

Growth area		Strategy	Measures
Rolling stock		Expand sales mainly to China and Europe	<ul style="list-style-type: none"> <li>Enhance capacity of the China base (launched FY2018)</li> <li>Expand harness business in Europe by proposing solutions and enhancing production capacity</li> </ul>
Medical devices		Integrate tube and wire technologies	<ul style="list-style-type: none"> <li>Develop and mass produce tube/wire composite products (FY2019)</li> <li>Enhance capacity of probe cables at the China base (launched FY2019)</li> </ul>
Automotive electronic components		Mass production for new products	<ul style="list-style-type: none"> <li>Enhance capacity of the Thailand, China and Mexico bases (continuous effort)</li> <li>Expand mass production of semirigid wiring for EV</li> </ul>
Magnet wires		Capture new demand for EVs	<ul style="list-style-type: none"> <li>Introduce innovative production lines (Japan/Thailand: launched FY2018; China: under consideration)</li> </ul>
Wires/cables for FA/robots		Integrate production in the three global bases	<ul style="list-style-type: none"> <li>Enhance capacity of Japan, Vietnam, and China bases (To be launched sequentially by FY2020)</li> </ul>
Conductors		<ul style="list-style-type: none"> <li>Significant improvement in efficiency and productivity</li> <li>Mass production of HiFC®</li> </ul>	<ul style="list-style-type: none"> <li>Switch to new continuous casting &amp; rolling line (within FY2018)</li> <li>Stably mass produce HiFC® and apply to magnet wires (FY2019)</li> </ul>

**Achieve FY2021 target of growth areas' sales ratio of 50% or more**

**This document contains forward-looking statements, such as results forecasts, management plans and dividend forecasts, that are not historical facts.**

**All such forward-looking statements are based upon all available information and upon assumptions and projections that were deemed reasonable at the time the Company prepared this document.**

**Changes to the underlying assumptions or circumstances could cause the actual results to differ substantially. The factors causing such differences include, but are not limited to, the following:**

- **Changes in economic conditions and regulations in the main markets where the Company operates, particularly Japan, the Americas, Asia and Europe**
- **Sudden changes in technological trends**
- **Changes in competitive advantage and the capabilities of the Company and its subsidiaries and affiliates to develop and commercialize new products and technologies**
- **Fluctuations in the status of product markets, exchange rates and international commodity markets**
- **Changes in the financing environment**
- **The capability of the Company and its subsidiaries and affiliates to cope with fluctuations in product supply and demand, the status of product markets, exchange rates and international commodity markets**
- **Protection of the Company's intellectual property, and securing of licenses to use the intellectual property of other parties**
- **Changes in the status of alliances with other parties for product development, etc.**
- **Fluctuations in Japanese stock markets**