

Business Strategy of the Specialty Steel Company

Hitachi Metals IR Day 2018

May 25, 2018

Hitachi Metals, Ltd.

Koji Sato

Vice President and Executive Officer
President of the Specialty Steel Company

Business Strategy of the Specialty Steel Company

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OUR HERITAGE, YOUR ADVANTAGE YASUGI SPECIALTY STEEL

Hitachi Metals

“Transforming changes into opportunities !”

- ✓ Focus on “special” steel
- ✓ Strengthen *Monozukuri* + Sales
- ✓ Effective use of large-scaled capital expenditures

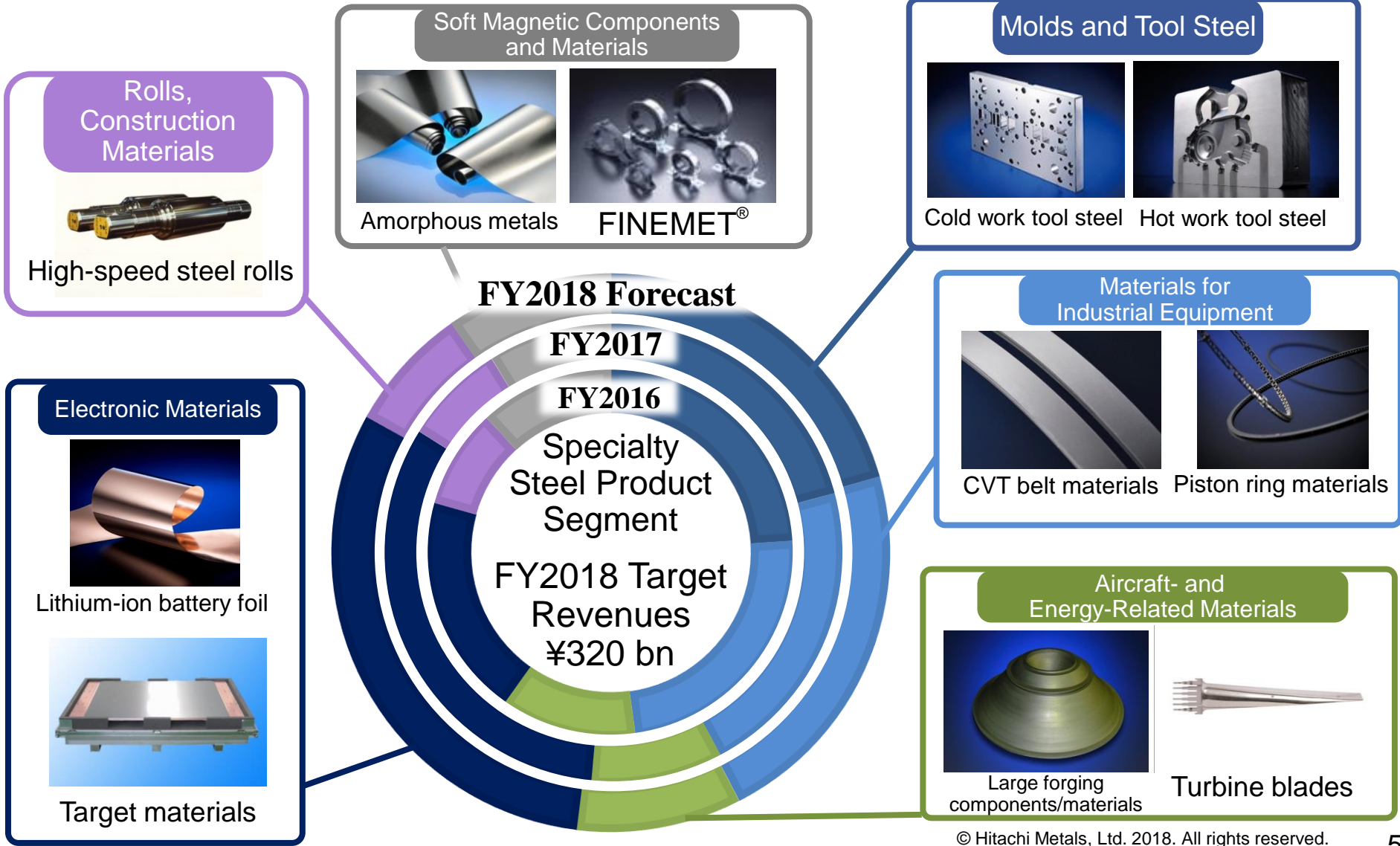
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2-1. Performance Overview (Business Composition)

Top manufacturer in Japan with the No. 1 share in numerous products



2-2. Performance Overview (FY2018 Policy and Strategy)

■ Basic Policy and Growth Strategy of the Specialty Steel Company

**Achieving global growth
by focusing on “special” steel**

“Gross utilization of know-how”

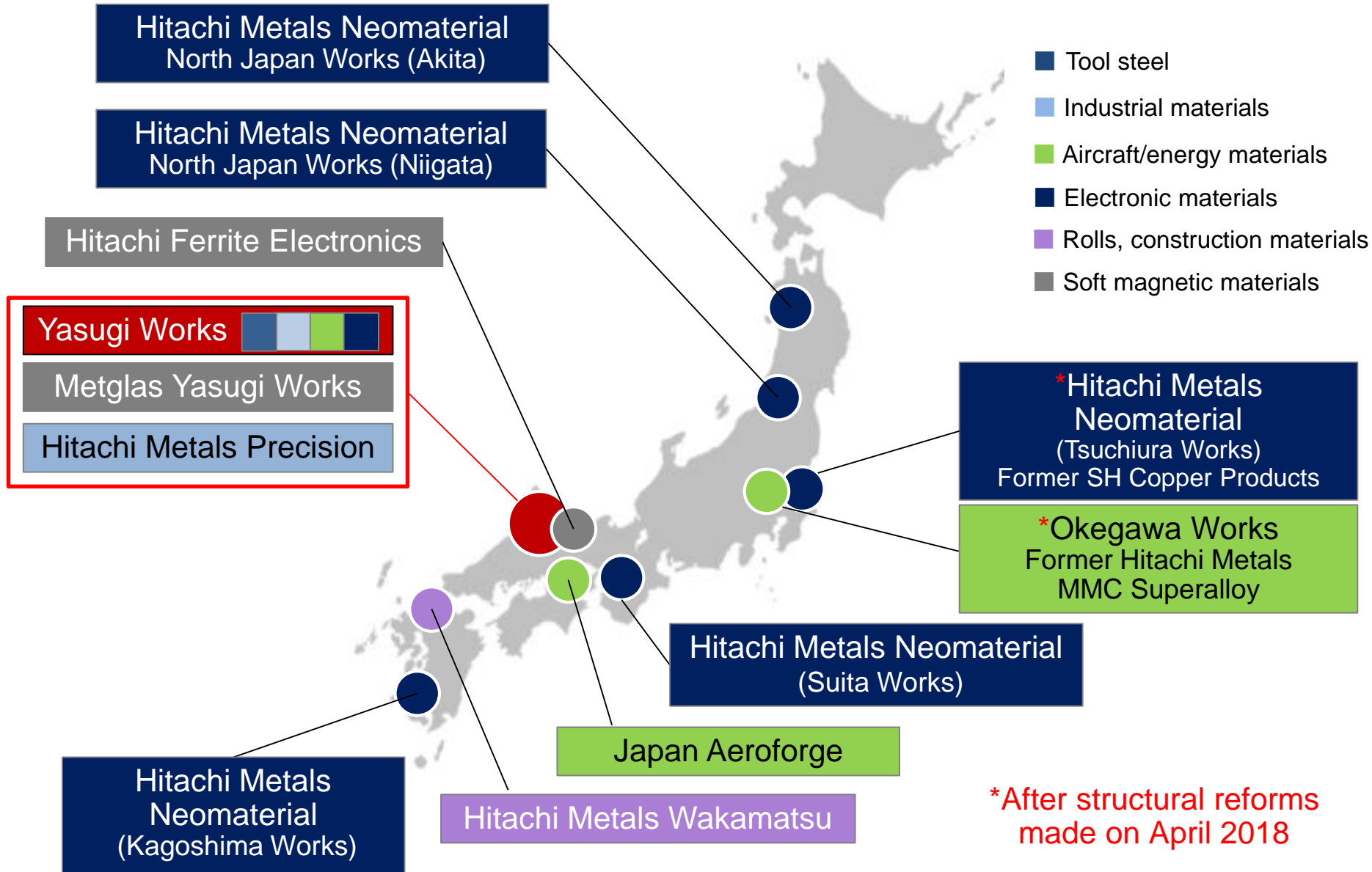
Monozukuri : Achieving “eye-opening” manufacturing
Sales abilities : Further enhancing the strengths

Reaping the benefits of major investments

■ FY2018 Medium-term Management Plan: Actual Performance and Goals

	FY2016	FY2017	FY2018 Plan (¥105 = US\$1)	Change vs. FY2017
Revenues	¥234.7 bn	¥290.6 bn	¥320.0 bn	+10%
Adjusted operating income	¥23.5 bn	¥27.9 bn	¥31.0 bn	+ ¥3.1 bn
Adjusted operating margin	10.0%	9.6%	9.7%	+0.1%
Overseas Sales Ratio	41%	40%	40%	±0%

2-3. Performance Overview (Major Domestic Production Bases)



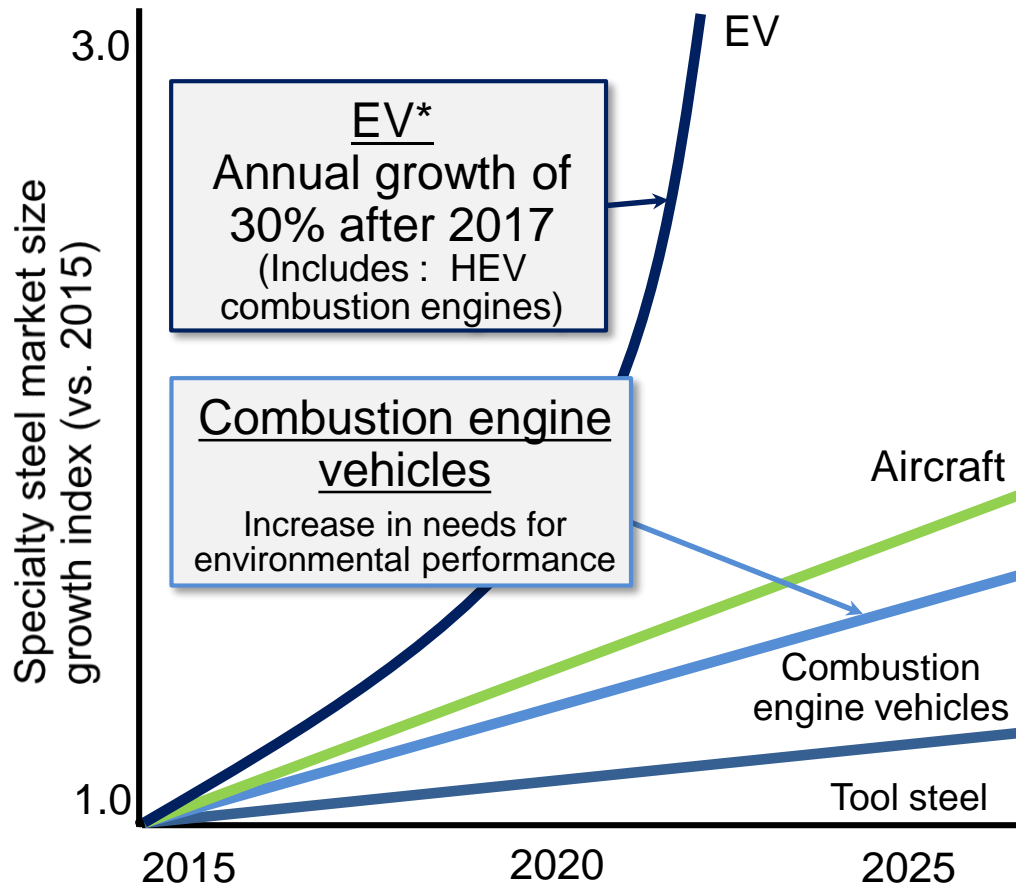
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3-1. Market Environment

- Introduction of tighter environmental regulations
- Increase in demands for energy-efficiency
- ➔ Expansion of demand for environmentally-friendly products



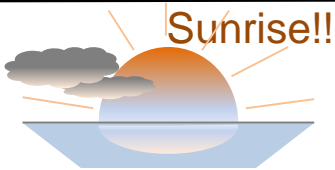
<p>EV</p> 	<p>EV components/materials</p> <ul style="list-style-type: none"> ▪ Battery-related components/materials ▪ High frequency compliant materials
<p>Aircraft and energy</p> 	<p>Large forged products</p> <ul style="list-style-type: none"> ▪ Aircraft engine components/materials ▪ Turbine blades and others
<p>Combustion engine vehicles</p> 	<ul style="list-style-type: none"> ▪ CVT belt materials ▪ Piston ring materials ▪ Turbine wheels and others
<p>Tool steel</p> 	<ul style="list-style-type: none"> ▪ Hot work tool steel ▪ Cold work tool steel

Source: Hitachi Metals' estimate based on various research materials

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

3-2. Market Environment (by Business Segment)

Economy level



Sales volume



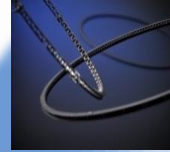
Rolls

Expansion of Olympic-related demand



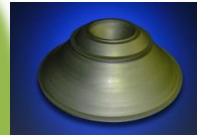
Tool steel

Robust automobile-related sales
Strength expected to continue



Industrial Materials

Robust sales in automotive-related combustion + α



Aircraft and energy

Engine replacement phase
Rapid rise in demand



Electronic Materials

Medium/ long-term expansion phase for electronics/batteries



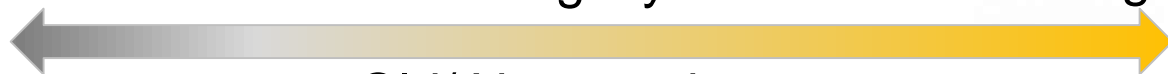
Soft magnetic

Transition phase of technology
Rapid growth expected

Traditional

Legacy

Emerging



Old/ New products

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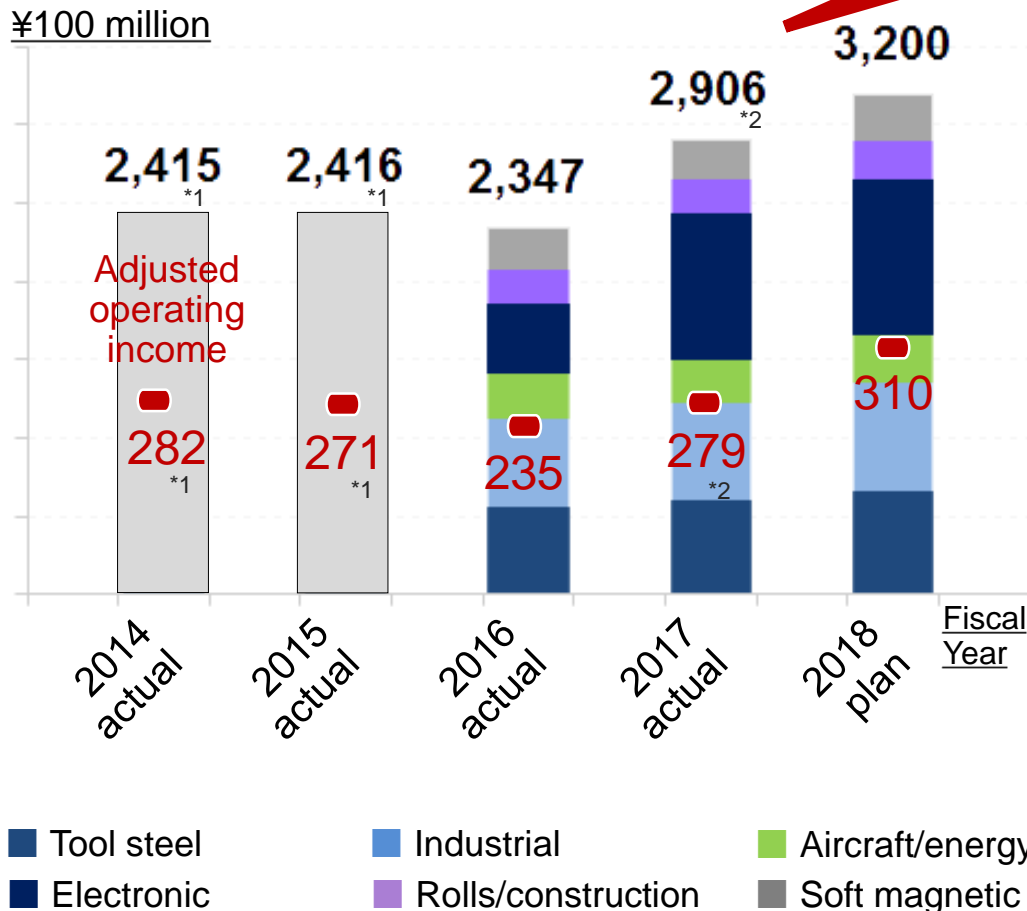
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4-1. Business Overview

Revenues/ Adjusted operating income	FY2016 Actual Sales ¥234.7 bn Profit ¥23.5 bn	→	FY2017 Actual Sales ¥290.6 bn Profit ¥27.9 bn Record-highs	→	FY2018 Plan Sales 320.0 bn Profit ¥31.0 bn Jump even higher!
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*1 Excluding Hitachi Tool Engineering's portion
*2 Including SH Copper Products before the merger



[Major trends in FY2017]

Electronic Materials Increase in revenues & profit ↗

- Incorporated business of SH Copper Products
- Demand rose for : lead frames, organic EL components/materials, and cladding materials

“Maximization of sum of marginal profits”

Tool steel → Industrial Materials Electronic Materials

Accommodation of production capacity

[FY2018 Jump-up Plan]

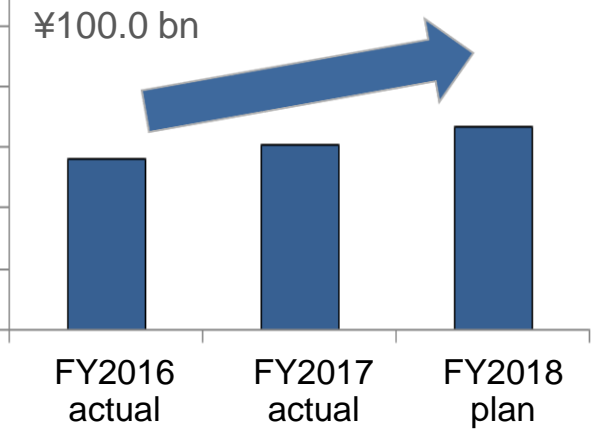
Focus on “special” steel

“Reaping the benefits of capital expenditure”
“Monozukuri innovation” → Improved productivity

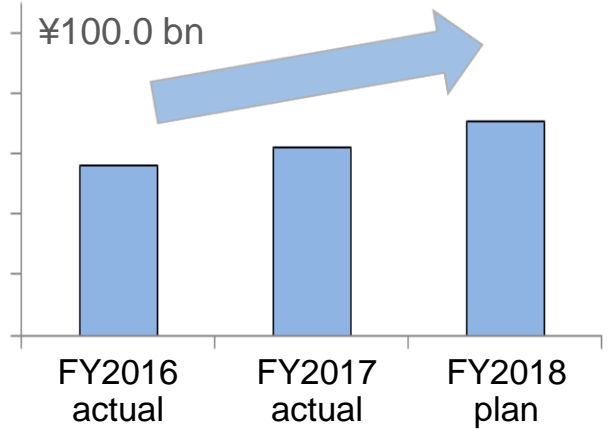
Carry out : solution sales

4-2. Business Overview (by Business Segments (Sales))

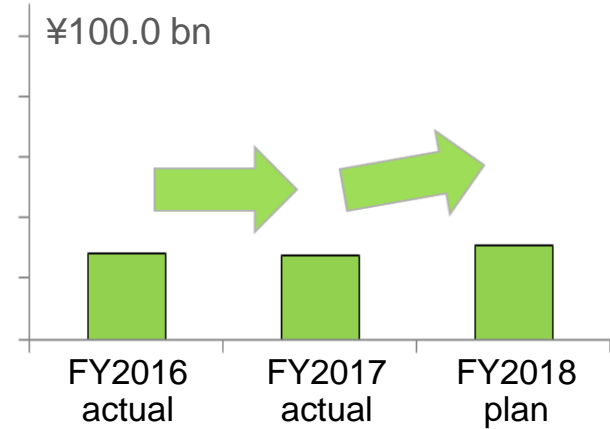
Tool steel Increase size of aluminum diecast!
Global development



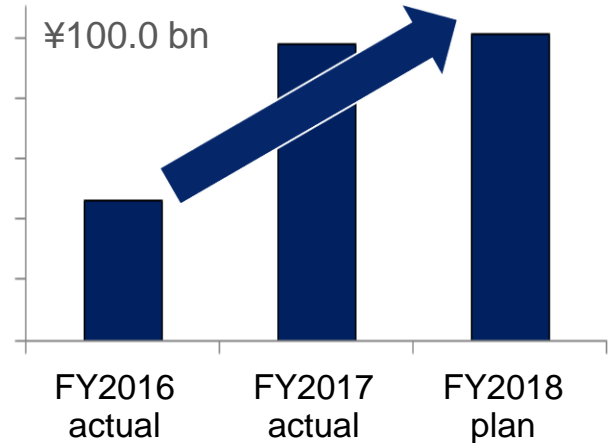
Industrial Materials Automobile application
Strong environmentally friendly components/materials



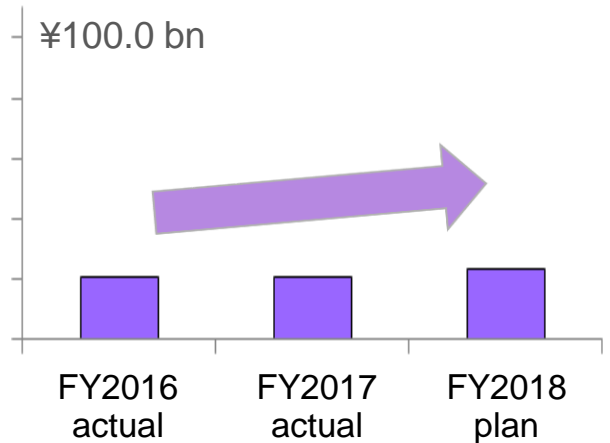
Aircraft/energy Aircraft engine components/materials
Certification and mass production seeing progress



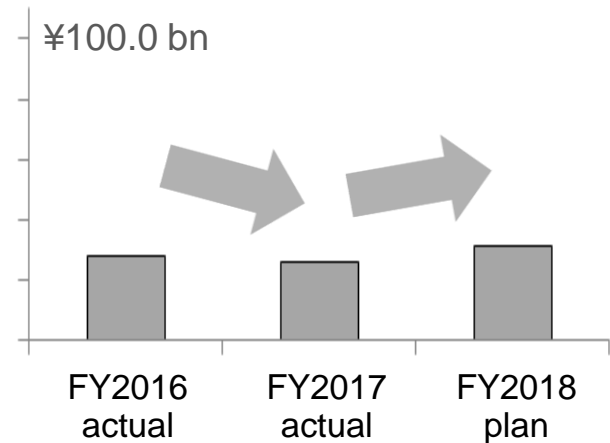
Electronic Materials Electronic/battery materials
Mass production & sales expansion in all areas



Rolls Capture Olympic-related demand by increasing production capacity



Soft magnetic EV and power semiconductors recovery expected due to rapid growth of applied products

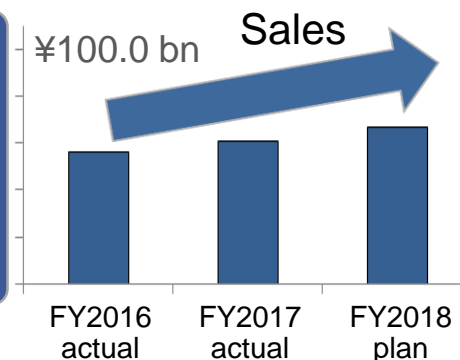


4-3. Business Overview (Tool Steel)

✓ “Grow globally”

— Grow at the base of industries (growth beyond industry areas) —

- ➔ Post-process business according to country/region
- ➔ Development and sales expansion of new products



Topics

Large-size aluminum diecast

- ➔ Launched operation of 10,000-ton forging press
- ➔ Developed new hot work tool steel products



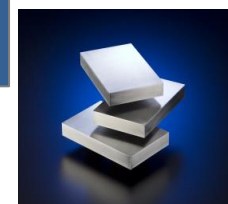
10,000-ton forging press



High-speed forging machine

Improved quality precision of cold work molds

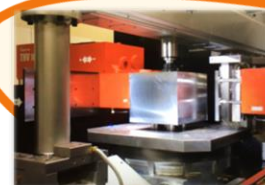
- ➔ SLD-i®
From “quasi” mass production to full-scale mass production



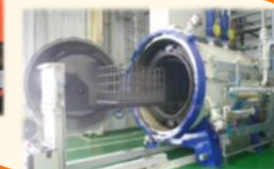
Global development

- ➔ Provide solutions including post-processing (Enhance/introduce machine processing, heat treatment, surface treatment facilities for US, China, Asia)

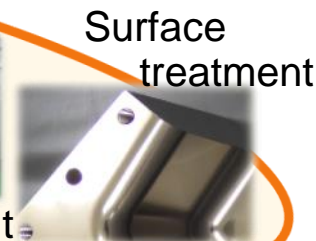
Solution



Machining



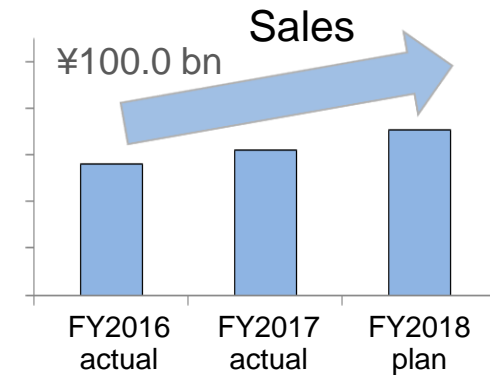
Heat treatment



Surface treatment

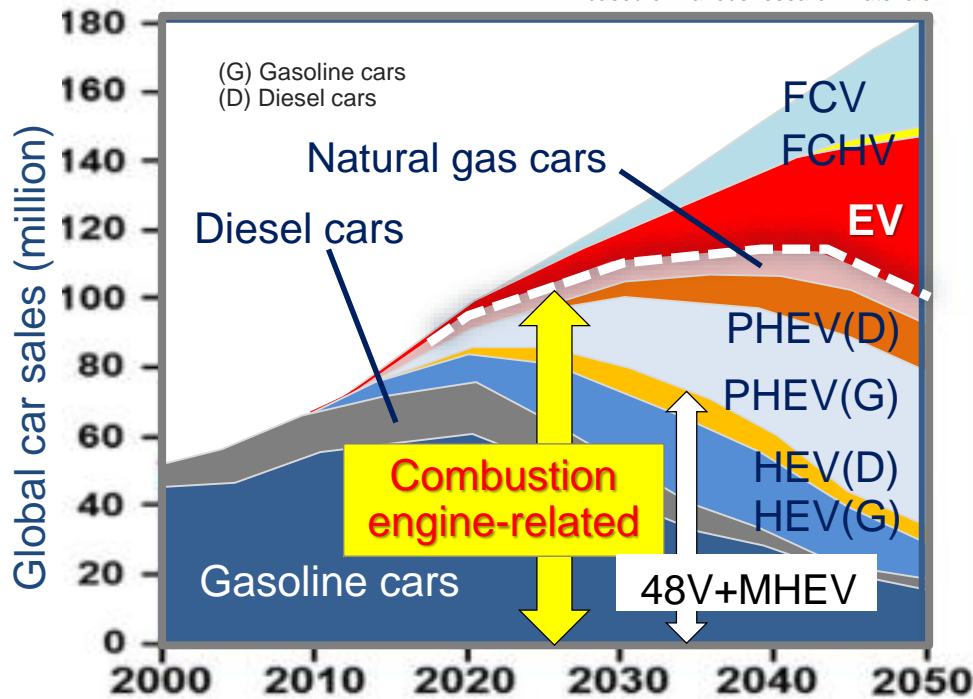
4-4. Business Overview (Industrial Materials)

- ✓ “Achieve in making the ultimate combustion engine materials”
 - Accelerate development of high-performance, environmentally friendly products —
 - Grow through co-existence with EV
- ✓ “Grow by placing an eye on all industry areas”



[New car sales forecast]

Source: Hitachi Metals' estimate based on various research materials



FCV: Fuel Cell Vehicle
FCHV: Fuel Cell Hybrid Vehicle
PHEV: Plug-in Hybrid Electric Vehicle

HEV: Hybrid Electric Vehicle
MHEV: Mild Hybrid Electric Vehicle

High-performance combustion engine components and materials



Piston ring materials



CVT materials

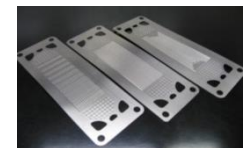


Turbine wheels

Non-combustion engine components/materials

Product development/ Market cultivation

- ➔ Semiconductor manufacturing device-related components/materials
- ➔ Fuel battery-related components/materials
- ➔ New product development
Powder materials for 3D printers, MIM, etc.



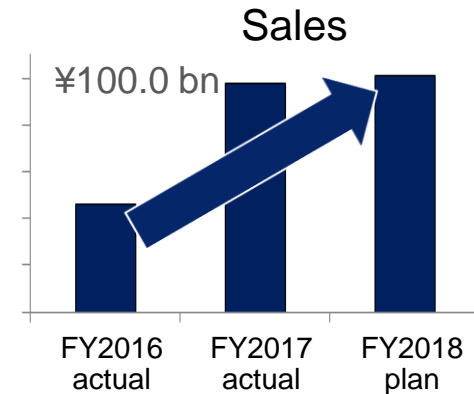
MIM: Metal Injection Molding

4-5. Business Overview (Electronic Materials)

✓ “Electronics, batteries, Ni, and Cu”

— Expand sales of high-performance alloys for electronic products from all sides to achieve growth —

- ➔ Establish a supply system of both Ni and Cu components/materials
- ➔ Build a mutually compensating system for battery-related materials, organic EL components/materials, smartphone components/materials, and semiconductor components/materials



Topics

April 2018

“SH Copper Products” merged with
“Hitachi Metals Neomaterial”

➔ Tsuchiura Works

**Investment for production
increase: ¥20.0 bn**

(Mar.–Oct. 2019 To be completed in stages)

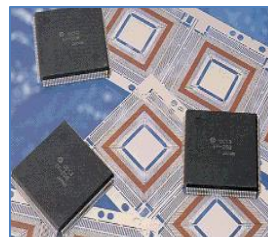
Cladding materials

Battery-related components/materials
High-end smartphone
components/materials



Lead frames

High-reliability lead
frame materials



Organic EL

Organic EL-related
components/materials



4-6. Business Overview (Aircraft and Energy Materials)

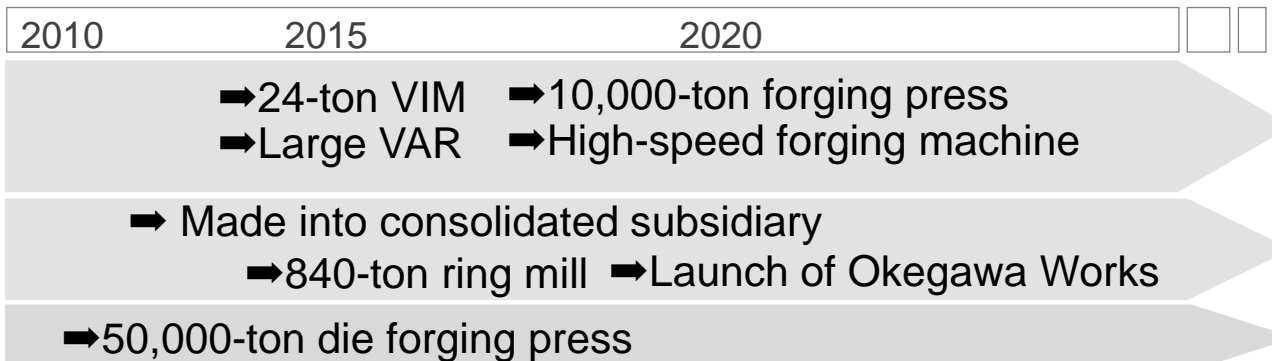
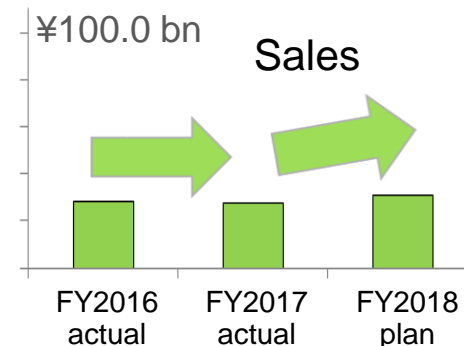
✓ **Solidify business platform toward
“¥60.0 bn sales in FY2025”**

— From acquisition of certification to mass production:
Compete globally with innovative technology —

Topics

April 2018

Merger with “Hitachi Metals MMC Superalloy” → Establishment of Okegawa Works



Demonstrate synergies of the 3 bases

- Improve operation rate of hot working facilities
- Enhance machining
- Utilize CAE to reduce design costs and certification period



Topics

December 2017

Obtained certification of IHI corporation's aircraft engine-related components/materials

Developing new alloy and new process



Development of new technologies for Super Heat-resistant Alloys

Metallurgical Research Laboratory in Yasugi



4-7. Business Overview (Soft Magnetic Materials)

✓ “Transition to power electronic materials innovator”

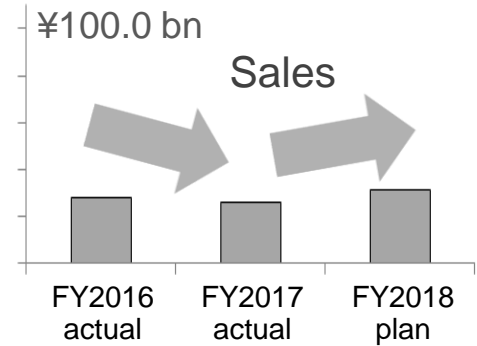
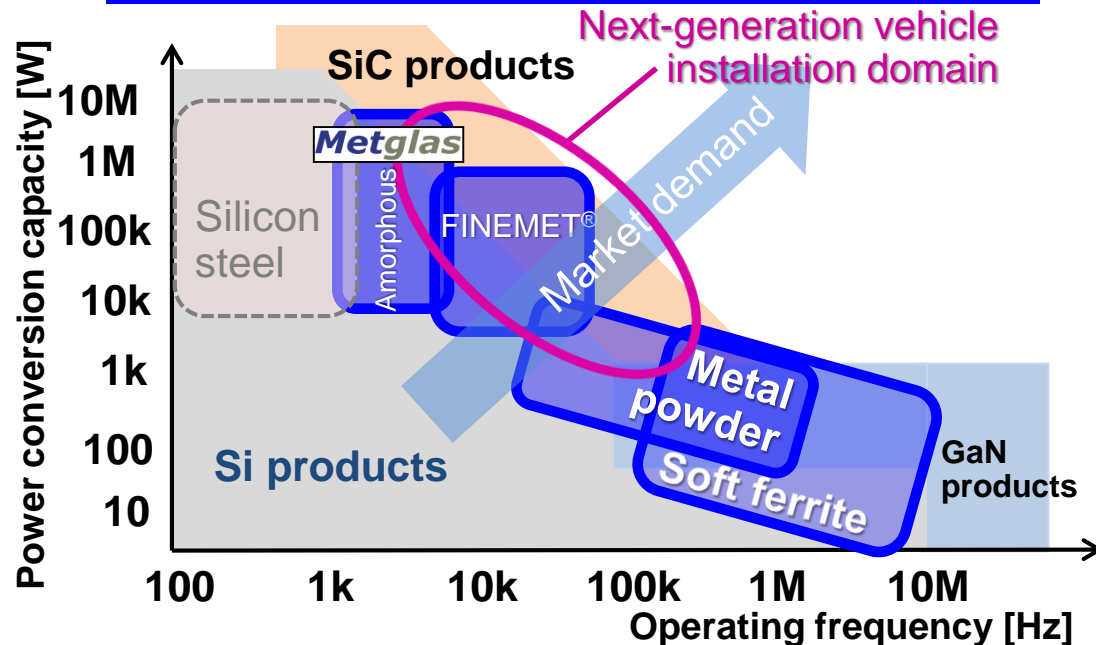
→ Expand soft magnetic components/materials and ceramic businesses in the rapidly growing power electronics market

Topics
Apr. 2018

Established Power Electronics Business Promotion Office

Keep up with the speed of market needs!
Respond to improved energy efficiency,
sophistication of information communication

Fits perfectly to next-generation demand



Automotive

EV

Motor

FINEMET®
Amorphous



Industrial infrastructure

Energy

Railway

Amorphous for
distribution transformers

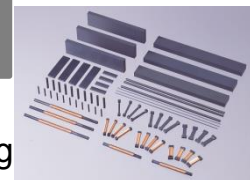


Electronics

Medical

Communication

Antenna module
FINEMET® for wireless charging



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5-1. Business Risks and Responses

External environmental risks

Raw materials, subsidiary materials



Counter-measure

- ➔ Price revision
- ➔ Introduction of surcharge system

Automobile market

Sluggish growth of combustion engine market
Delay in EV market development

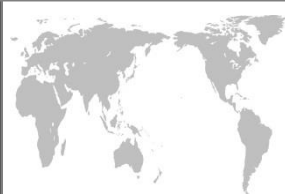


Counter-measure

- ➔ Expand size of non-combustion engine business
- ➔ Develop new business (e.g. 3D powder business)

Rise of protectionism

Drop in price competitiveness (protective tariffs, anti-dumping)



Counter-measure

Determine trends and take proactive responses

Internally potential risks

Insufficient melting ability

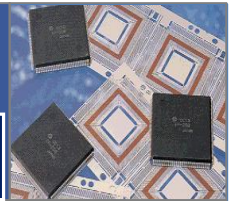


Counter-measure

Examine in FY2018

Dependency on short life cycle products (e.g. mobile devices)

Electronic Materials



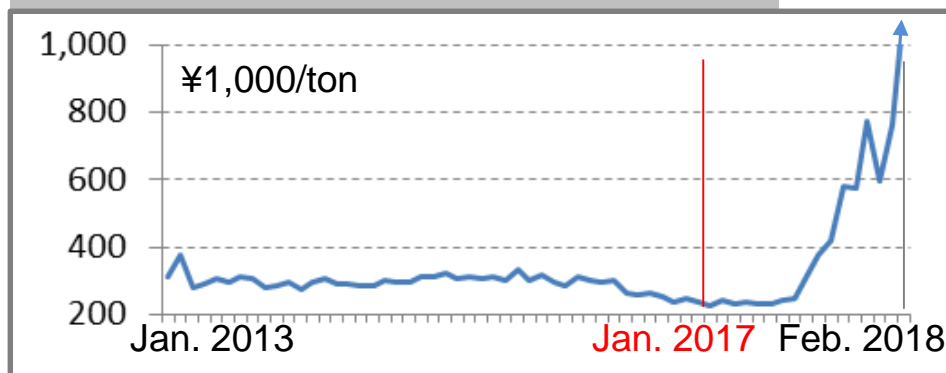
Counter-measure

Diversify into : batteries, organic EL, and semiconductor-related

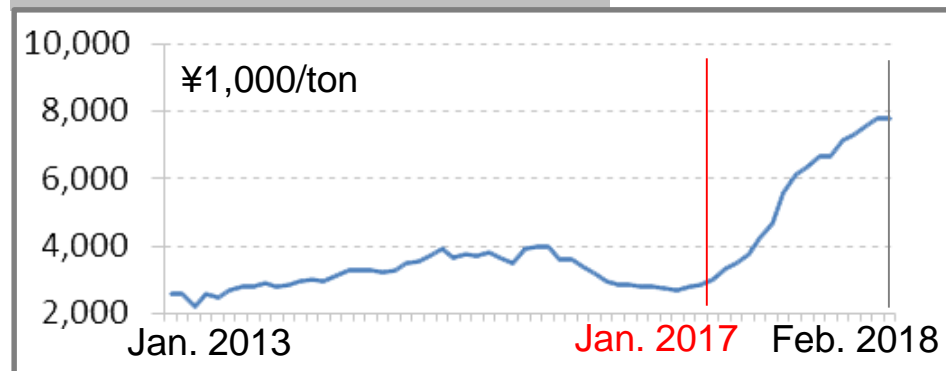
**Overcoming risks by :
focusing on “special”
and high-quality steel**

5-2. Business Risks and Responses (Efforts towards Price Revision)

Market price of graphite electrodes



Market price of cobalt



Source: Hitachi Metals' estimate based on various research materials

FY2017

Raw materials (alloy)
Subsidiary materials (e.g. electrodes)

Surge in market prices

2H FY2017

Delay in revision of product sale prices

Pressure on revenues

Revision of selling prices

- ✓ Raise in base prices
- ✓ Application of surcharges to subsidiary materials

Mitigation of influence due to surge in raw and subsidiary materials prices
➔ **Recovery expected in 2H FY2018**

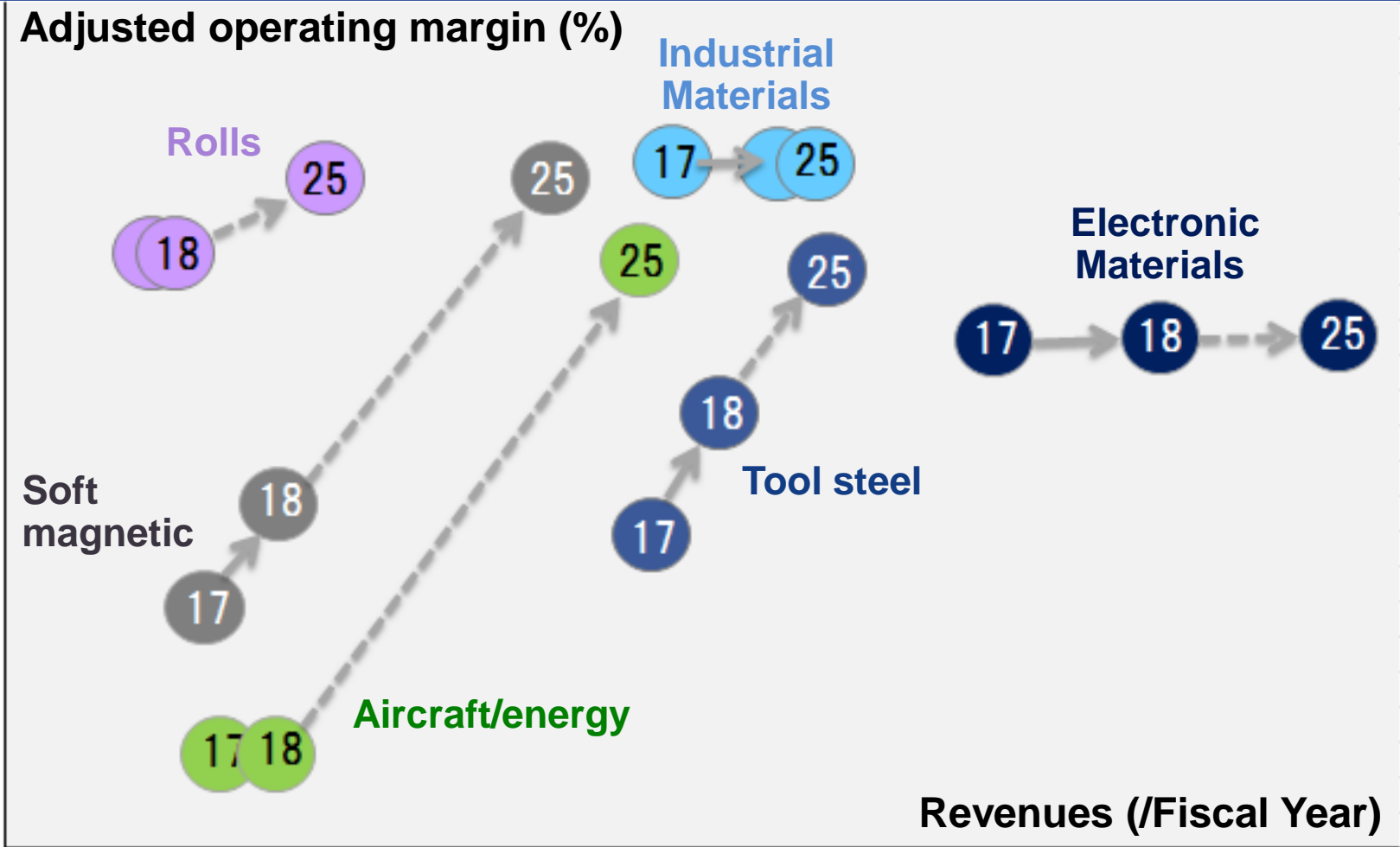
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6. FY2025 Vision

Continuous growth
Continuous growth of each business sub-segments drives the company's over-all profit



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Achieve growth globally by
focusing on “special” steel

Specialty Steel Company FY2018 Plan

Revenues:	¥320.0 bn	
Adjusted operating income:	¥31.0 bn	(9.7%)

This document contains forward-looking statements—such as results forecasts and management plans—that are not historical facts. All such forward-looking statements are based upon 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. 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 United States, Asia and Europe
- Sudden changes in technological trends
- Changes in the competitive advantage and the capabilities of the Company and its subsidiaries and affiliates to develop and commercialize new products and businesses
- 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