

Operating Segments

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Specialty Steel Company



Koji Sato
President of the Specialty Steel Company

Basic policy of Medium-Term Management Plan

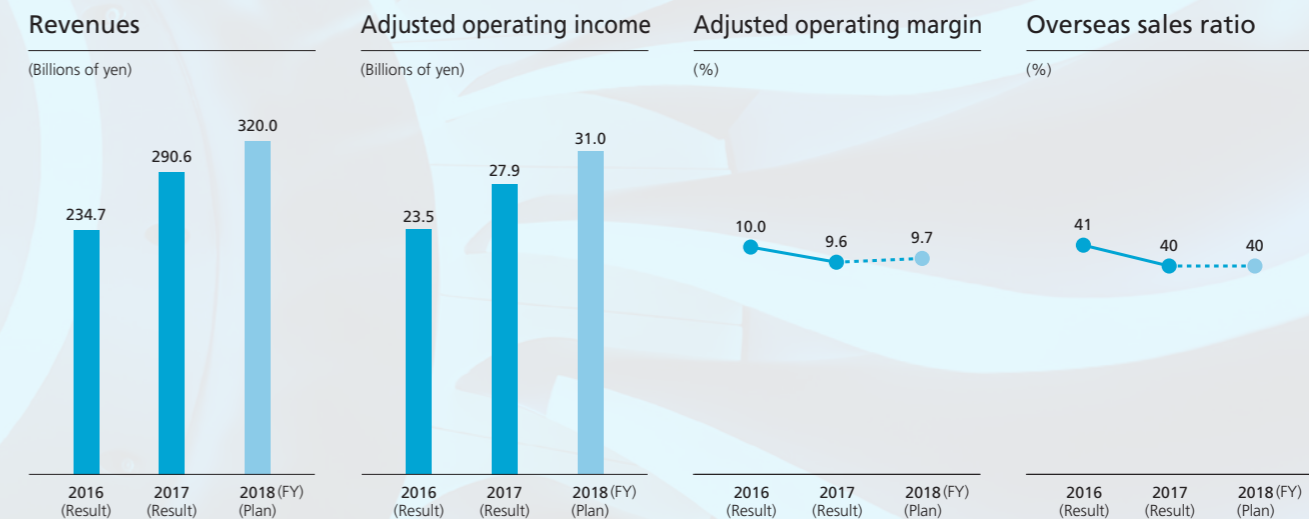
Achieve growth internationally by focusing on "special" steel

Monozukuri: Carry out "eye-opening" manufacturing

Sales capabilities: Further enhance strength

- Reap the benefits of major investments

Progress vis-à-vis numerical targets



Business progress relative to Medium-Term Management Plan

Market environment and business overview

With tighter environmental regulations and increased demand for energy conservation, demand for environmentally conscious products is growing, and significant growth is forecast going forward.

Against this backdrop, both sales and profit grew in fiscal 2017, primarily on increased demand for molds and tool steel, materials for industrial equipment, and electronic materials. Results were at record levels, even excluding the effect of the business reorganization. In particular, there was large growth in demand for lead frame materials, organic EL-related components and materials, and cladding materials. In addition, flexibility in production structures that allowed us to shift from molds and tool steel to materials for industrial equipment and electronic materials enabled us to maximize total marginal profit at the Yasugi Works.

Going forward, we will pursue global growth by focusing on "special steel," strengthening *monozukuri* and sales capabilities, and making large-scale capital expenditures under the slogan "Transforming changes into opportunities!"

Individual businesses Molds and tool steel

To achieve global growth, we are building heat-treatment and processing service structures at country and regional levels, and developing and increasing sales of new products. A 10,000-ton forging press has begun operating at the Yasugi Works, strengthening our capability to handle larger aluminum die-cast molds. We are also increasing our production volumes for new types of steel including SLD-[®] cold-worked die steel.

Materials for industrial equipment

Even with the accelerating shift to EVs, we expect internal combustion engine-related demand to grow. Sales of high-performance internal combustion engine-related components and materials, including piston ring materials, CVT belt materials, and turbine wheels grew in fiscal 2017. We intend to increase sales of these high-performance internal combustion engine-related components and materials going forward, while also working to develop new products and markets to increase sales of non-internal-combustion engine-related components and materials, for growth in all industrial sectors.

Electronic materials

The merger of SH Copper Products Co., Ltd., and Hitachi Metals Neomaterial, Ltd. was completed in April 2018, strengthening our supply and sales structure for battery-related materials, organic EL-related components and materials, smartphone components and materials, and semiconductor components and materials. We are also investing ¥20 billion to increase production capacity, in stages to be completed in the first half of fiscal 2019. Through these initiatives, we are working for growth through increased sales for a variety of applications for high-performance electronic materials, including organic EL-related components and materials that are growing rapidly.

Aircraft/energy-related materials

We have made large-scale investments to increase production capability of aircraft/energy-related materials at three locations: a 24-ton vacuum induction melting and casting (VIM) furnace and a high-speed radial forging machine at the

Yasugi Works; an 840-ton ring mill at the Okegawa Works (established in April 2018 through the merger with Hitachi Metals MMC Superalloy, Ltd.), and a 50,000-ton die forging press at Japan Aeroforge, Ltd. By realizing synergies of three locations, we will obtain certification and proceed to mass production. We are aiming to generate sales of ¥60 billion by fiscal 2025 through leveraging our innovative technologies at a global level.

Soft magnetic components and materials

To address rapid market growth, we are transitioning to become a power electronics materials innovator. Specifically, we established a new Power Electronics Business Promotion Office in April 2018 to generate combined growth in soft magnetic components and materials and the ceramics business. Keeping up with the speed of market needs, we are addressing trends toward increased energy efficiency and more advanced telecommunications.

External risks

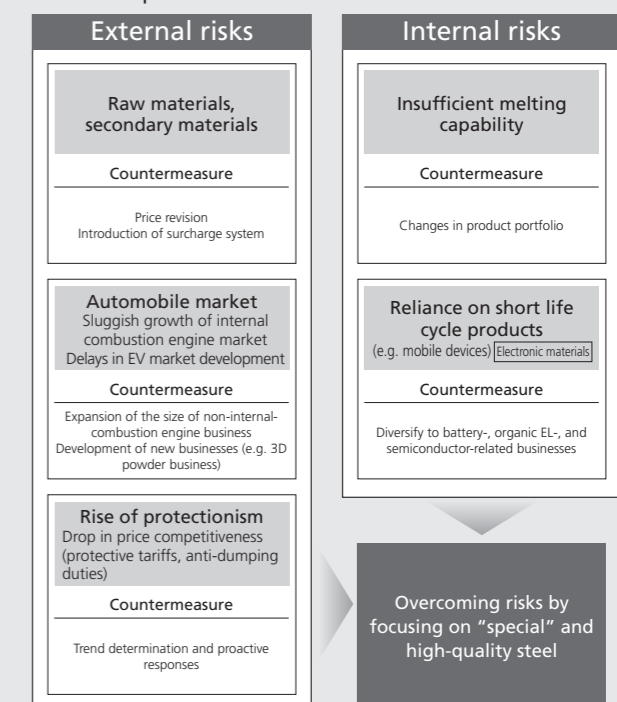
We have begun applying a surcharge system, which includes secondary materials, to address the jump in prices for raw materials and secondary materials. With the automobile market experiencing slower growth in the internal combustion engine market and delays in the development of the EV market, we are expanding the scope of our non-internal-combustion engine-related business and cultivating new businesses including powders for 3D printers.

Internal risks

With regard to insufficient melting capacity, we are verifying

trends in demand and considering increasing capacity, including through changes in our product portfolio. We also plan to diversify to reduce the risks related to our reliance on products like electronic materials with short life cycles.

Implementing a global growth strategy for sustainable business expansion



Magnetic Materials Company



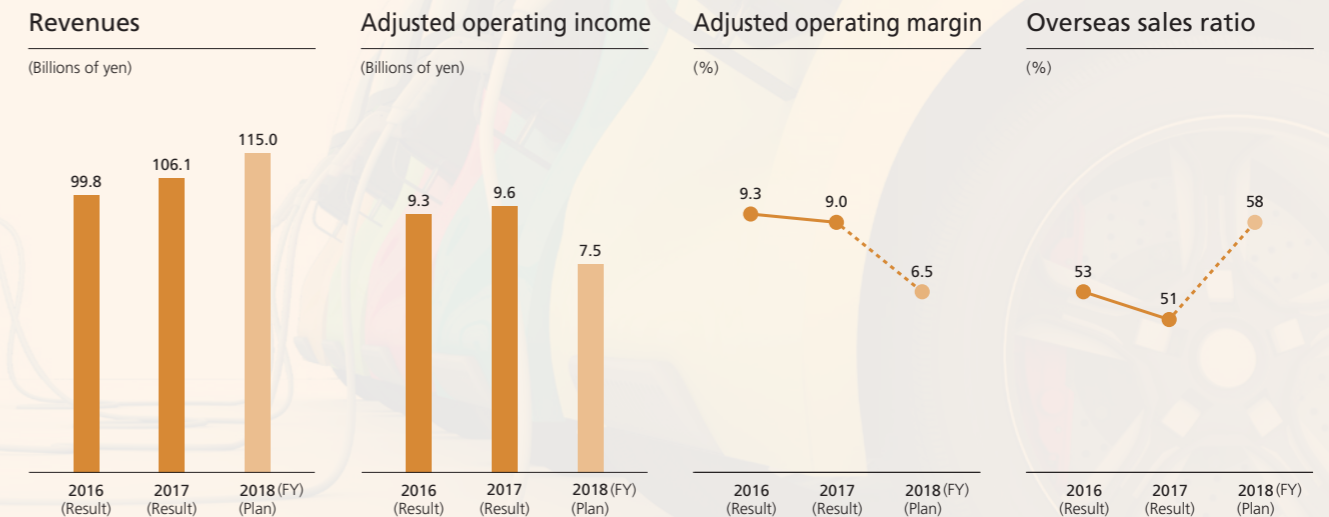
Ryouji Akada
President of the Magnetic Materials Company

Basic policy of Medium-Term Management Plan

Innovate *monozukuri* to pave the way for growth

- Strengthen global production system
- Build innovative production lines

Progress vis-à-vis numerical targets



Business progress relative to Medium-Term Management Plan

Market environment

Demand for neodymium magnets and other high-performance magnets is expected to increase significantly on global growth in EV demand and the automation of production equipment. The Magnetic Materials Company is building a structure to address this demand as per the Medium-Term Management Plan.

Strengthening global production system

To strengthen our global production system, we established Hitachi Metals San Huan Magnetic Materials (Nantong) Co., Ltd. in April 2017. This put in place a structure for a neodymium magnet business in China, from raw materials procurement to manufacturing and sales, and mass production commenced from 2018.

Building innovative production lines

In Japan, we have introduced new, innovative production lines in the Kumagaya district for neodymium magnets and ferrite magnets. Thoroughly automated and using the Internet of Things, these lines pursue enhanced quality and maximum productivity.

Strengthening the business base

We made Santoku Corporation a subsidiary in April 2018 to establish an integrated production system from raw materials to finished magnet products. We are strengthening our business base by maximizing synergy effects through initiatives including reducing procurement costs for raw materials,

concentrating alloy manufacturing and recycling to increase production volumes, and creating an integrated development structure to accelerate product sophistication.

“Mother plant” in the Kumagaya district

We are integrating our Magnetic Materials Research Laboratory with the Kumagaya Works to create a “mother plant.” This is accelerating technological development that meets customer needs.

Building innovative production lines

Carry out *monozukuri* innovations: Innovative production lines

Improve quality and maximize productivity through thorough automation and use of IoT

Neodymium magnets

- Adopt a new heavy rare earth diffusion process
- Production line specializing in mass production
- Further line expansion planned



NEOMAX[®] neodymium magnets



Mass production in 2H FY2018

Ferrite magnets

- Enhance production lines to address small and thin shapes
- Quality and trend management using IoT technology
- Further line expansion planned



NMF[™] ferrite magnets



Mass production in April 2018

Medium- to long-term vision

The Magnetic Materials Company is expanding the scope of its business to increase its share in growth markets, with the aim of ¥200 billion in revenues by fiscal 2025. We recognize that this will require a greater than 150% increase in production capacity by fiscal 2025 relative to fiscal 2015. In addition to increasing productivity and production capacity, going forward, we plan to handle raw materials processing internally and accelerate the evolution of heavy rare earth-

saving technologies, and to drive the market by focusing on high-performance neodymium magnets. By fiscal 2025, we also expect the automotive-related portion of sales to grow to 70%, and the overseas portion of sales to reach 55% on the growth of the Chinese, European, and American markets.

Strengthening the business base

Synergies from the acquisition of Santoku Corporation as a subsidiary

Procurement	Reduction of procurement cost by consolidating procurement of raw materials
Process management	Reduction of work-in-progress due to reduced lead time through unified management
Production	Increased production volume due to concentration of alloy manufacturing/recycling Reduction of processing cost due to enhancement of recycling process
Technology	Acceleration of product sophistication due to an integrated development system

Strengthen business platform by handling the raw materials processing internally

Medium- to Long-Term Vision

Increase share in growth markets to expand business scale

FY2025 revenues target: ¥200.0 billion

(FY2016 result: ¥99.8 billion ⇒ FY2018 plan: ¥115.0 billion)

Lead the market with the top performance neodymium magnets

Increase in productivity and production capacity
(Target: More than 150% vs. FY2015)

In-house raw materials processing

Evolution of heavy rare earth-saving technologies

Functional Components Company

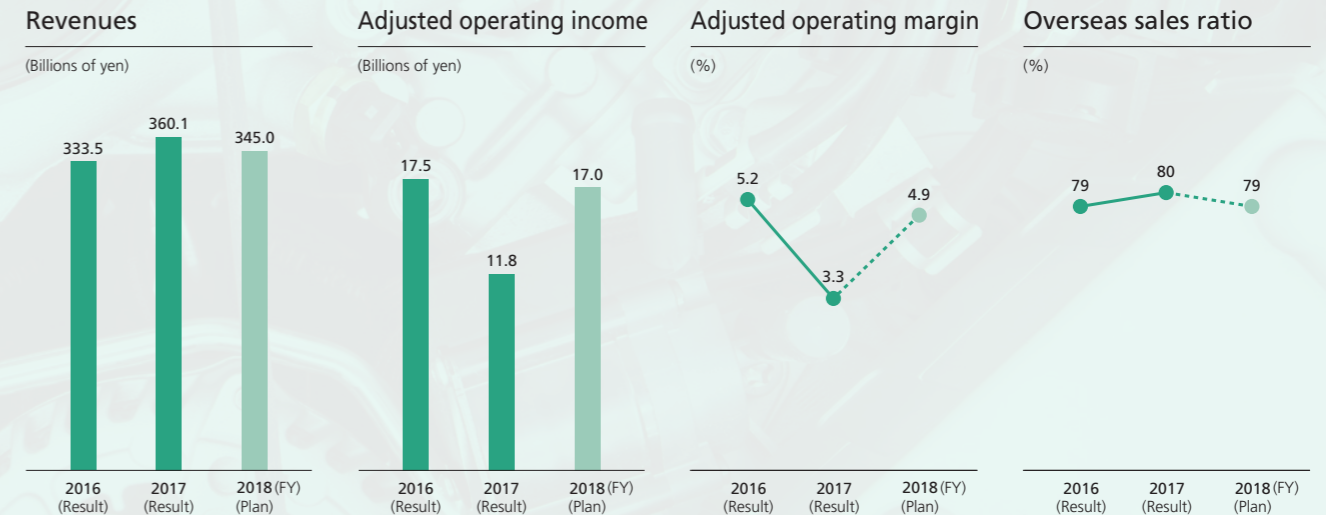


Hiroshi Watanabe
President of the Functional Components Company

Basic policy of Medium-Term Management Plan

Accept the challenge of creating new value by improving the foundation of *monozukuri* to achieve global growth

Progress vis-à-vis numerical targets



Business progress relative to Medium-Term Management Plan

Business overview

The Functional Components Company is pursuing four business areas—cast iron, heat-resistant cast steel, aluminum, and piping components—under the Medium-Term Management Plan’s basic policy of “accept the challenge of creating new value by improving the foundation of *monozukuri* to achieve global growth.”

We have recently been addressing the important issues of improving business results in the heat-resistant cast steel and aluminum businesses. In the heat-resistant cast steel business, an increasing degree of difficulty in manufacturing has led to lower productivity and created issues in areas including pricing, resulting in the business recording a loss in fiscal 2017. We have realigned prices and improved productivity, however, by optimizing casting conditions and improving processing efficiency, and in March 2018, the business

returned to profitability on a single-month basis. We aim to achieve full-year profitability for fiscal 2018. The aluminum business has also seen productivity decline and recorded a loss, on excessive fixed cost reductions and an increasing degree of difficulty in manufacturing aluminum wheels. We continue to work to improve productivity, and are also reorganizing our management structure at U.S. locations to stabilize the business.

Market trends and strategies

The Functional Components Company’s main products are cast metal automobile components, products for which higher performance and lighter weights are sought to enhance their environmental performance. Turbo components used in internal combustion engines require heat resistance and the ability to be formed into increasingly difficult shapes. For EVs,

new requirements include motor and inverter cases. At the same time, stability of supply and large casting are sought in components for commercial vehicles, as market needs diversify.

The Functional Components Company views this diversification of market needs as an opportunity, and aims to transform itself by integrating cast iron and aluminum to become the No. 1 supplier. As a step toward achieving this, we have integrated the three automotive-related business units to create a structure that is able to provide optimal solutions. In addition to our technological capabilities, we provide value to customers through our diverse product lineup and our planning and proposal skills.

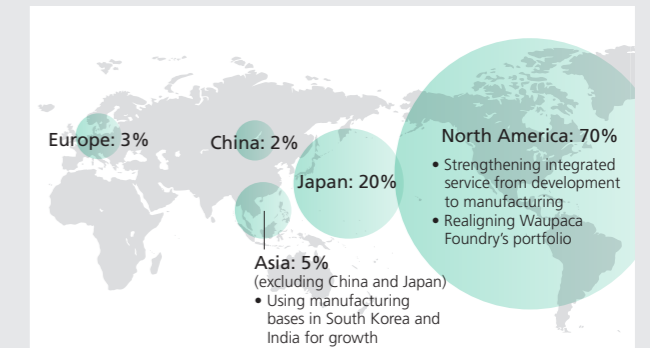
Strengthening our global supply structure

Overseas sales account for approximately 80% of the Functional Component Company’s sales. Going forward, we intend to strengthen our global supply and service structures further. In the automotive sector, we plan to strengthen our integrated services from design and development to manufacturing of lighter weight products in North America; and in Asia, to use our manufacturing bases in South Korea and India to expand our business in developing markets.

Realigning Waupaca Foundry’s portfolio

Waupaca Foundry, Inc. is North America’s No. 1 manufacturer of cast iron products, with an overwhelming presence from its economies of scale and strong cooperative relationships with leading customers. Going forward, we will look beyond passenger vehicles and strengthen our earnings base by expanding our product lineup to meet needs for high added value in the heavy duty sector.

Sales by region and major initiatives



Piping components business

In addition to the growth of existing businesses and the strengthening of its *monozukuri* capabilities, the piping components business is pursuing growth by developing and enhancing a solutions business as a new business.

Along with investing management resources in growth businesses like mass flow controllers and flexible piping systems, we intend to strengthen our *monozukuri* capabilities through capital expenditures that will bring innovation to processes at domestic manufacturing bases.

We are also launching a new solutions business that will be able to contribute to the resolution of social needs in areas including energy conservation, labor shortages, and achieving a safe, peaceful society.

Market trends and strategies

Mechanism	Required needs	Response		Our product	
		Existing business	Enhancement domain		
Passenger vehicles	Combustion system	High mileage/Low cost	Conformity to heat-resistance requirements	Diverse heat-resistant components technology	Heat-resistant cast steel
		Small gasoline/Turbo	Design, casting, processing/Response ability of locations	Strengthen design & evaluation, processing	Heat-resistant cast iron
	EV	Diversified specifications Multifunctional	Form, size, materials Combine light weight and heat dissipation	Accommodate gravity casting, LPD*1, HPD*2 methods Develop new materials and methods	Battery cases Motor/inverter cases
Non-passenger vehicles	Chassis (Structural components) (Suspension components)	Low cost Light weight Quantitative response ability	Optimization of materials x strength design Response ability of locations	Develop new materials Japan, U.S.A., South Korea, India	Aluminum wheels Suspension components
		Load bearing Low cost Accommodate large size	Stable supply Large casting	Waupaca Foundry, Inc. Horizontal casting technology	Ductile and gray iron Large ductile cast iron

*1 LPD: Low-pressure die-cast; *2 HPD: High-pressure die-cast

Cable Materials Company



Kazuya Murakami
President of the Cable Materials Company

Basic policy of Medium-Term Management Plan

Change to a high-profit structure by expanding growth areas

Progress vis-à-vis numerical targets

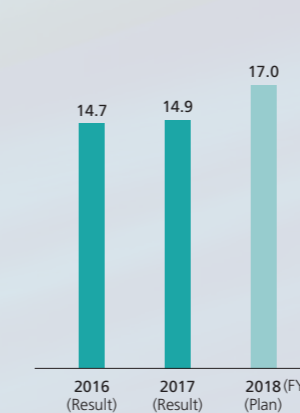
Revenues

(Billions of yen)



Adjusted operating income

(Billions of yen)



Adjusted operating margin

(%)



Overseas sales ratio

(%)



Business progress relative to Medium-Term Management Plan

Market environment and business overview

We are expanding growth areas and implementing a change to a high-profit structure. During fiscal 2017, the rolling stock segment expanded its production capacity at the Chinese base and achieved customer growth in Europe. The medical devices segment worked to develop integrated catheter/cable products and increased its probe cable production capacity. The automotive electronic components segment made progress in increasing the production capacity of global bases and in developing new products. In addition, we worked to strengthen our core products by increasing production volume

for electronics-use wires and cables in the rapidly growing area of factory automation and robots, installed an innovative production line for EV magnet wires, and developed HiFC™ rectangular wire. Furthermore, the installation of a new continuous casting and rolling line was completed in April 2018, enhancing the competitiveness of our core products and creating a mass-production structure for HiFC™. In addition to the three existing growth segments of rolling stock, medical devices, and automotive electronic components, we have designated factory automation and robot-use wires and cables, and magnet wires as two new

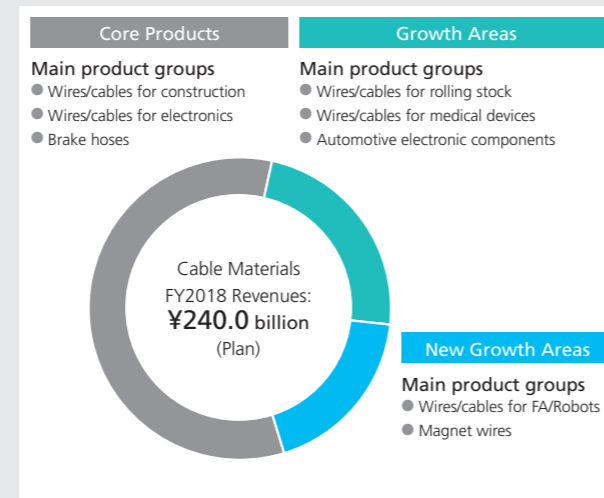
growth segments. Together, these five growth segments account for roughly 40% of Cable Materials Company sales. Going forward, we intend to change to a high-profit structure by raising this percentage to above 50%.

growing number of car models for which these products are used. With regard to semirigid wiring for EV motors, we have made assembly easier by automating connection to motors, and we are stepping up mass production.

Overview of Initiatives in FY2017

Measures to accelerate growth areas	
Rolling stock	Increased production capacity of Chinese base; Expanded the European customer base
Medical devices	Developed integrated catheter/cable products; Enhanced probe cable production capacity
Automotive electronic components	Enhanced production capacity of global bases; Developed new products
Measures to strengthen core products	
Wires/cables for electronics	Increased production volume for the rapidly growing FA/Robot segment
Magnet wires	Introduced innovative production line for EV magnet wires, of which growth is expected; developed HiFC™ rectangular wire
New continuous casting and rolling line	Completed in April 2018 ⇒ Strengthens competitiveness of core products; addresses HiFC™ mass production
Turn wires and cables for FA/Robots and magnet wires for EV into new growth drivers	

Business overview



Action plan for five growth segments

Rolling stock

China continues to build railway infrastructure at a rapid pace, and rolling stock production is at a high level. Using our rolling stock-use wire and cable technology accumulated in Japan, we are increasing our market share by introducing products like terminals for new extra-high voltage cables in the Chinese market. We aim to expand our harness business in Europe by continuing to propose solutions and increase production capacity.

Medical devices

Hitachi Metals possesses advanced technologies related to high-precision, small diameter tube manufacturing, ultra-small diameter coaxial cables, and microscopic terminal connections. We are fusing these technologies to develop a disposable catheter product for internal diagnosis, and mass producing and increasing sales of integrated catheter/cable products. We will also shift to mass production and increase our production capacity for a new probe cable product.

Automotive electronic components

We are implementing our global growth strategy for the continuous strengthening of our business expansion. Electric parking brake harnesses integrated with ABS and various sensors experienced robust demand in fiscal 2017. We are working to increase our production capacity to meet the

Magnet wires

We are using HiFC™ and an innovative production line to expand our business to meet robust EV-related demand. Compared with ordinary copper, HiFC™ is superior in terms of conductivity, flexibility, recovery of conductivity after winding, and weldability, making a significant contribution to higher motor performance.

Factory automation and robot-use wires and cables

We are developing and mass-producing products based on our flex-resistant cable technology developed for automotive sensor cables. We anticipate annual growth of roughly 20% to 2020 for this segment, and are making capital expenditures totaling ¥3 billion in Japan, China, and Vietnam.