# Strategies by Business

The MinebeaMitsumi Group consists of three business segments, namely the Machined Components business, the Electronic Devices and Components business, and the MITSUMI business segments.

We originally embarked on business as a manufacturer specializing in ball bearings, but later applied our capabilities in ultra-precision technologies developed through machining operations to our Electronic **Devices and Components business.** 

As a result, our Electronic Devices and Components business now outperforms our Machined Components business in terms of percentage of net sales.

This section of the report provides an overview of our respective business segments.



Machined Components **Business** 

20

Chapter III

Electronic Devices and Components

51.

MITSUMI Business

29

**Fiscal year** ended March 2018 Net sales

¥879.1 billion **Operating income** '9.2 billion

composition Machined Components Business 45

**Operating income** 

Electronic Devices and Components Business

33

MITSUMI Business



# Income up

#### SWOT analysis

# 9.1% YoY

We achieved firm and certain sales and income increases particularly due to higher ball bearing volume and improved profitability.



# **Electronic Devices and Components Business**

Income up 42.4% YOY SWOT analysis

#### Strengths

Motors performed well, centered on products for automobiles. Sales and income increased as a result of firm demand of ultrathin LED backlights for LCDs.

#### High-quality and mass production echnologies Product supply speed High market share in niches Extensive product lineup

Opportunities nnovation of products More sophisticated and a Demand for greater energy efficiency

## **MITSUMI** Business

Income up ¥20.0 billion YoY

#### SWOT analysis

Strengths

YoY profitability improved across all businesses. There was a significant improvement in overall productivity in addition to an increase in shipments of new game consoles and

camera actuators.

R&D capability/proposal-based sales capabi Capability for handling mass productic Product supply speed

**Opportunities** 

Demand for greater energy efficiency Increased demand for connectivity elated products Emergence of revolutionary products

#### Weaknesses

- Supply shortages due to increased
- Greatly improving in recent years )

#### Threats

Rising raw materials prices Shift to low-priced products

#### Future growth strategy

- Response to increasing demand
- Boosting the production capacity
- Improvements in productivity
- Enhancement of aerospace area and entry into new area
- Development of new technologies

#### Weaknesses

ow profitability for some products Insufficient sales channels for new products

#### Threats

Substitution with new technology Intensifying competitive environments Rising raw materials and parts prices

#### Future growth strategy

- Core business centered on motors and sensing devices
- Expansion of automotive product lineup
- INTEGRATION with former **MITSUMI ELECTRIC's** technologies
- Development of new technologies
- Maximization of profitability of LED backlights for LCDs

#### Weaknesses

Low profitability for some products Susceptibility to demand trends Product portfoli

#### Threats

Substitution with new technology ntensifying competitive environment Change in trend of major customers

#### Future growth strategy

- Creation of new products utilizing development capabilities
- Expansion of automotive product lineup
- Further improvements in productivity
- Development of business focused on sales of modules rather than sales of single units

# **Machined Components Business**

High profitability generated by overwhelmingly high market share and accumulated core technologies

#### **Major products**

Ball bearings Rod-end bearings Spherical bearings Roller bearings Fasteners

Bushings Pivot assemblies Mechanical assemblies Aerospace fasteners

market shares



#### Overview of the fiscal year ended March 2018



involving shift to electric vehicles. etc.

### Overview of the fiscal year

#### Record highs with respect to both net sales and operating income

Demand for ball bearings, MinebeaMitsumi's main products, remained robust particularly with respect to those with applications for automobiles and data center cooling fans. External sales volume of 213 million units was recorded in March, making that the fifth record high achieved on a monthly basis. In addition, production volume increased significantly to 288 million units per month in March 2018, from 250 million units at the beginning of the fiscal year, due to successive initiatives to improve productivity. Rodend and fastener sales increased due to heightened demand in the small and medium-sized aircraft market. Sales of pivot assemblies contributed to consistent profitability, with the Company having maintained over 80% market share despite effects of a shrinking hard disk drive (HDD) market.

As a result, net sales and operating income for the period finished at record highs of 176.4 billion yen and 42.7 billion yen, respectively.

Since the third quarter, the acquired companies C&A Tool Engineering (C&A) and Mach Aero Group (Mach Aero) entered the scope of consolidation.

Notes to charts of "Net sales" and "Operating income/operating margin"

\* Figures for periods up through the fiscal year ended March 2018 are based on JGAAP, and forecast for the fiscal year ending March 2019 are based on IFRS

#### Outlook for the next fiscal year

#### Major increases in sales and income are accelerating growth

As for ball bearings, our main products, in conjunction with rising worldwide demand we will develop a framework for substantial

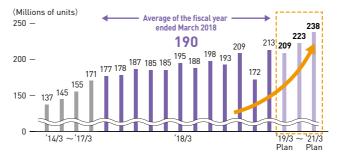
#### Seven Spears strategy (Machined Components business)

### Seven Spears strategy (1) Bearings

#### Ball bearings: to the next growth stage

Whereas external sales of ball bearings had been growing at an annual rate of between 5% and 7%, the annual rate of growth has accelerated to 10% from the fiscal year ended March 2017 onward. The Company's ultra-high quality, ultra-precision bearings are being used in the areas of business driving demand, which include automotive, cooling fans for data centers, high-end household electrical appliances, and small robots (drones, etc.), amid a shift to increasingly high performance in terms of energy savings and safety in those business areas. We are also actively moving ahead to expand production capacity given the robust demand. Going forward, we will further strengthen our earnings base, leveraging our overwhelming competitive advantages in the market. particularly in terms of our quality and product supply capabilities.

External sales volume of ball bearings



#### Towards the future

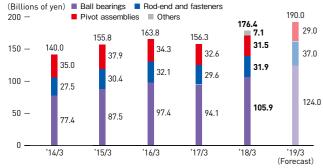
#### Consistent growth and portfolio expansion to continue substantially driving results

A basic strategy of the Machined Components business, which has been the Company's core business since its founding, is to maintain consistent and permanent growth while maximizing growth areas by expanding the business portfolio. To such ends, we have been increasingly fortifying the business of miniature and small-sized ball bearings which already boasts overwhelming competitive advantages in the market, while taking steps to further strengthen the earnings base by actively arranging M&As with aims that include acquiring new technologies and expanding the business portfolio.

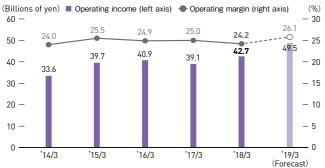
This has included M&A deals involving two overseas companies carried out in the fiscal year ended March 2018. One of the companies, C&A of the U.S., owns 3D printing technologies and



units/month



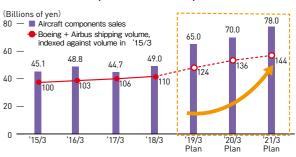
#### Operating income/operating margin



production gains which involve improving productivity and undertaking capital expenditure, while also continuing to actively expand sales to the automotive and other industries. Moreover, in the rod-end and fastener realm we will further enhance our competitive strengths by improving productivity, increasing sales centered on small and medium-sized aircraft, and leveraging acquisition synergies.

#### Aircraft components: improved profitability, and synergies from acquisition to drive growth way up

In the worldwide aircraft market, we anticipate consistent growth over the long term given mega-trends that include increasing passenger numbers and improvements in fuel efficiency. With respect to aircraft components, we are developing production frameworks capable of consistently supplying high-quality products in the three geographic markets of Europe, North America and Asia (Japan, Thailand, India) amid demands for safety and substantial durability sufficient to withstand harsh environments in terms of high temperatures, speeds and loads. Going forward, we will continue to forge ahead in strengthening production frameworks on a global basis, while also pursuing robust growth drawing on synergies with acquired entities C&A and Mach Aero.



#### Aircraft components sales plans

technologies for fabricating special metals, looking toward the medical and aircraft fields. The other company, Mach Aero of France, owns operations involving engines and rotors for the aircraft market. Moreover, both companies are likely to bring substantial top-line synergies with respect to the Company's location strategy.

Going forward, we will further develop the Machined Components business, while aiming to create multifaceted synergies globally







Mach Aero Bretigny Rectification SAS

# **Electronic Devices and Components Business**

Substantial growth opportunities in both core businesses and cash cow businesses

#### **Major products**

Electronics devices (LED backlights for LCDs, sensing devices, etc.) HDD spindle motors Stepping motors

at five locations worldwide

DC motors Air movers (fan motors) Precision motors Special components



### Overview of the fiscal year ended March 2018

Electronic Devices and Components business highlights

ROIC Location strategy Net sales composition Approximately Expansion of 50 7. locations share in numerous niche fields e.g. Slovakia plant Technological Promoting global Overwhelming Currently innovation industry presence in expanding as a driver of growth. high-end LCD involving shift to electric smartphones

the product portfolio

### Overview of the fiscal year

#### Record highs with respect to both net sales and operating income

vehicles, etc.

The business of LED backlights for LCDs exceeded initial targets despite effects of a decrease in sales volume of end products to our major customers, due to still firm demand for MinebeaMitsumi's ultra-thin LED backlights for LCDs. Moreover, sales of automotive LED backlights for LCDs which require high degrees of quality and durability continued to achieve consistent growth. Results of stepping motors and other motors were favorable, centered on products for automobiles and office automation equipment. The motor business which was transferred from the MITSUMI business segment beginning this fiscal year also stably contributed to profitability. However, sales of sensing devices have stalled due to demand trends involving certain products.

As a result, net sales and operating income for the period finished at record high of 451.5 billion yen and 31.2 billion yen, respectively.

Notes to charts of "Net sales" and "Operating income/operating margin' \* Figures for periods up through the fiscal year ended March 2018 are based on JGAAP, and forecast for the fiscal year ending March 2019 are based on IFRS

#### Outlook for the next fiscal year

Strong contribution to profitability by core business

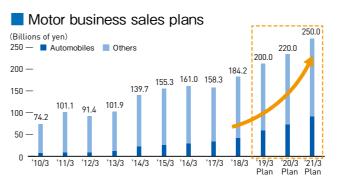
As for LED backlights for LCDs, we will continue to supply high value-added products such as ultra-thin light guide plates for high-

## Seven Spears strategy (Electronic Devices and Components business)

### Seven Spears strategy (2) Motors

#### Significant growth through focusing on automotive products

We anticipate growth in net sales of motors amounting to no less than 10% annually over the next three years. Having achieved substantial growth also in terms of profitability, the business has become established as a robust platform which already acts as the second pillar of the Company's operations. With business involving automobiles largely driving growth, the ratio of automotive motor sales to overall motor sales has been increasing with each successive year.



## Towards the future

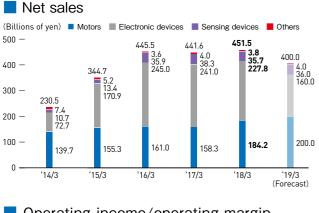
Achieving sustainable growth through dual power of core businesses and cash cow businesses

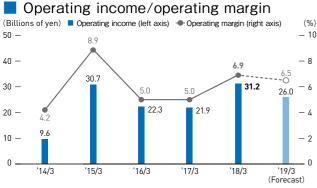
In the Electronic Devices and Components business, our basic strategy will involve maximizing profit generated from the cash cow business of LED backlights for LCDs, and reinvesting that profit in strengthening the platform of our core businesses of motors and sensors

In high-end LCD smartphones, we will create business opportunities involving LED backlights for LCDs for which we boast an overwhelming market presence, by achieving further cost reductions and developing state-of-the-art technologies as the top player in the industry.

With the aim of achieving consistent growth in the core businesses of motors and sensors over the long term, we will expand the portfolio and develop new areas of business by taking an INTEGRATION approach with other Seven Spears products.

One example of this is our development of the new high sensitivity strain gauge film MINEGE<sup>™</sup>. It is a revolutionary





end smartphones, and advance sales for automotive products where future expansion is expected. We will further improve the quality of motors such as stepping motors and reduce their costs and advance sales expansion of high value-added products for automobiles, servers, etc., to further improve results.

Fueled by robust demand trends, we are actively strengthening development and production frameworks geared to the automobile market. With respect to production, in June 2018 we commenced operations of a plant in Slovakia which mainly handles automotive motors. As for development, in 2018 we plan to open the China Technical Center in the outskirts of Shanghai, specializing in development of automotive products centered on motors.

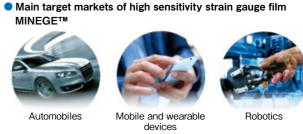
As such, we expect to keep achieving substantial growth going forward amid our focus on automotive products.

#### Seven Spears strategy (3) Sensors

#### Expanding the business centering on strain gauges and MEMS sensors

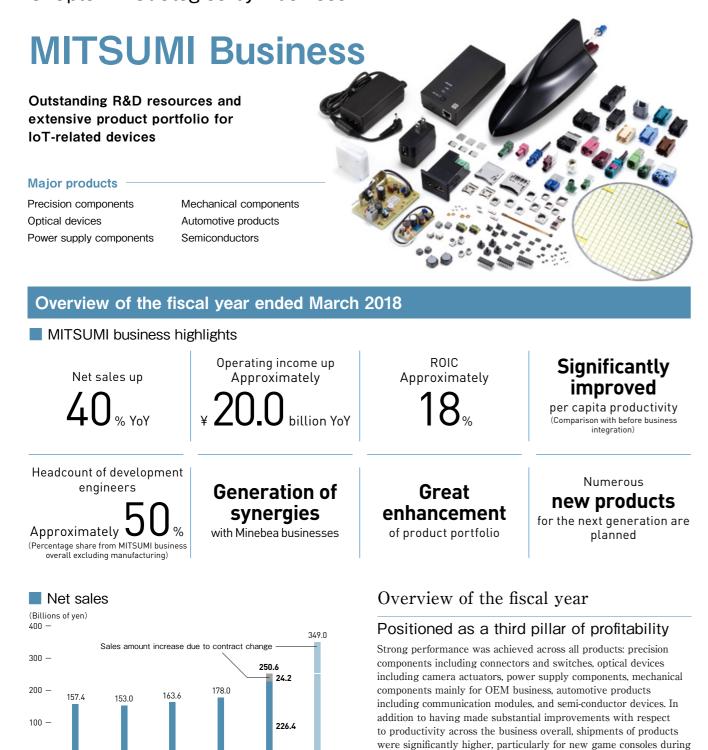
Of all the Seven Spears product lines, only the sensor products wield strengths of the respective Minebea and MITSUMI businesses. As such, we anticipate positive results from various business opportunities in areas that include wearables and robotics, in addition to mobile, automobile and other existing applications. We will accordingly work toward expanding this business given its important role in IoT technologies, centering on two types of sensors, each with differing approaches, namely, strain gauges boasting outstanding sensitivity, stability and fatigue life; and micro-electro-mechanical systems (MEMS) technologies applying semiconductor manufacturing technologies.

product with substantial improvements in sensitivity, size, durability and other attributes of existing strain gauges, and has been developed through synergies between the Minebea businesses handling the gauge component and the MITSUMI business handling the analog semiconductor component. Going forward, we are hoping to apply the product to an extensive range of applications in areas such as the automobile, mobile and wearable device, and robotics fields, and we think it will dramatically contribute further to the Electronic Devices and Components business.



Heading toward rapid growth of the sensing devices business

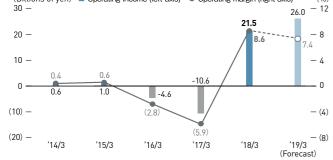
## Chapter II Strategies by Business



the peak demand period, and sales of camera actuators for major '16/3 '17/3 '18/3 '19/3 (Forecast) customers also increased. As a result, net sales finished at 250.6 billion yen and operating income finished at 21.5 billion ven, which, even when using the Operating income/operating margin (Billions of yen) 

Operating income (left axis) 

Operating margin (right axis) (%)



realistic comparison of including the period before the business integration, constitutes large increases in sales and income. (Previous fiscal year results stated for the MITSUMI business are for the period from the date of business integration on January 27, 2017. to March 31. 2017.)

- Notes to charts of "Net sales" and "Operating income/operating margin" \*1 Figures for fiscal years 2014/3 to 2016/3 are results of the former MITSUMI ELECTRIC prior to the business integration.
- \*2 The figure for 2017/3 is a pro forma figure assuming the consolidation with MITSUMI ELECTRIC had been completed at the beginning of the fiscal year.
- \*3 Figures for periods up through the fiscal year ended March 2018 are based on JGAAP, and forecast for the fiscal year ending March 2019 are based on IFRS

#### Outlook for the next fiscal year

#### Increases in sales and income are expected as the result of synergies

Creating significant synergies utilizing the overall scale of MinebeaMitsumi, we will work to enhance our competitiveness and further boost performance. As greater functionality is

#### Seven Spears strategy (MITSUMI business)

Seven Spears strategy (3) to (7)

- (3) Sensors
- (4) Connectors/switches
- (5) Power supply components
- (6) Wireless/communications/software
- (7) Analog semiconductors

#### Contributed to stabilizing profitability of MITSUMI business

The Seven Spears products are defined as those that: (1) belong to a large market, (2) belong to a market that has permanence, (3) represent a niche area leveraging MinebeaMitsumi's core technologies, and (4) generate synergies among the Seven Spears. Five of the Seven Spears belong to the MITSUMI business, and are in areas of business that will grow substantially going forward.

For instance, the size of the market is estimated at 2 trillion ven annually for connectors, which are key devices particularly for accelerating communications. In that market, the high-speed transmission products for automobile such as FAKRA are currently generating rapidly increasing demand, and require super precise machining technology that we are strongest in. Moreover, we are able to create multi-function devices offering connectivity by combining connectors with wireless technologies owned by MITSUMI, such as those involving 6LoWPAN and nodes, and by adding sensors and actuators (combination of motors and mechanical components) to such devices we are able to develop solutions-oriented products.

#### Towards the future

The INTEGRATION of Seven Spears products to generate business opportunities for the entire Group

A major growth driver of the MITSUMI business is currently the area of optical devices centered on camera actuators and mechanical components particularly for game consoles. Going forward, we will continue maximizing profitability by aggressively expanding sales in both of our businesses.

Meanwhile, we are well aware that the key challenge of the MITSUMI business from the perspective of absolute permanence of business is that of facilitating robust growth of the future core businesses encompassing the Seven Spears product groups: sensors; connectors/switches; power sources; wireless/communications/ software and; analog semiconductors. As such, the basic strategy of the MITSUMI business involves strengthening the Seven Spears products using cash generated from optical devices and mechanical components as a growth resource. This will be achieved through (1)

0 -

14/3

'15/3

brought to smartphone-related products such as camera actuators, we will maintain quality while increasing productivity in an effort to further increase sales. As for game console-related products, we will pursue greater productivity and work to boost performance. In our automotive products such as antennas, communication modules and connectors, we will concentrate on further expansion of sales while increasing our lineup through new product development, and by reducing costs, such as material and logistics costs.

In so doing, we will create new business opportunities by enhancing our competitive strengths of the individual Spears and making progress through the INTEGRATION of respective synergies.

#### Initiatives of each area

#### (3) Sensors

- Centering on strain gauge and MEMS sensor technology
- Explore possibilities of temperature/environment sensors
- · Expand business for key IoT components employing strain gauges

#### (4) Connectors/switches

- Key words are ultra-precision/water-proof
- · Increase market share for water-proof tactile switches
- Significantly expand portfolio centered around automotive high-speed transmission products

#### (5) Power supply components Gaining a commanding position in the IoT era with high reliability/ high functionality

- · New markets: Develop micro converters for the electricity and power storage markets
- Existing markets: Expand sales by pursuing smaller products and products that support higher frequencies in the areas of lighting, telecommunications, household electrical appliance, and other markets

#### (6) Wireless/communications/software

#### Expand sales in the market, particularly in automotive products and respond to IoT

- · Quickly develop next-generation communication antennas for
- connected cars and promote sales/receive orders (TCU antennas, etc.) Utilize India/Slovakia plants

#### (7) Analog semiconductors

#### Analog semiconductors - the gateway to IoT

- · Expand sales of high value-added products targeting the industrial/ housing equipment market
- Increase share in the car infotainment market
- · Focus on high value-added products (ADC + IGBT)

organic growth, (2) development of the new products encompassing these businesses, and (3) performing M&A of companies thought to be able to effectively utilize these businesses. With respect to the Seven Spears products, it is crucial that we create new business opportunities by enhancing our competitive strengths in the individual Spears and making progress through the INTEGRATION of respective synergies.

Positive outcomes have already started to emerge in the wake of the business integration. One example of this is the synergies that have emerged with the Electronic Devices and Components business with respect to products such as MINEGE<sup>™</sup> high-sensitivity strain gauge film (page 28), and bed sensor systems (pages 4 and 32). In addition, we hope to raise MinebeaMitsumi's profitability amid plans to successively launch many new product groups.

Going forward, we will engage in innovative business initiatives that contribute to the IoT community particularly in terms of smart cities healthcare and robotics drawing on research and development resources including the MITSUMI business segment's overriding strengths particularly involving high-frequency technology and wireless communications technology.

# Acceleration of New Product **Development for IoT Era**

MinebeaMitsumi is further strengthening its development capabilities as a result of the business integration.

In new strategic areas, we will launch into the world new products and innovative solutions that incorporate cutting-edge technology.

#### Major products

Sensors Actuators Connectivity Lighting equipment New product trio

(SALIOT, bed sensor systems and smart city solutions)

Actuators

We have created a full lineup of small-sized

We are expanding the range of applications

automotive products, wearable

into various areas, such as mobile devices.

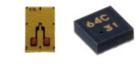
devices and other next-generation

intelligent terminal devices.

actuators that can implement a variety

of sensing modes (such as vibration) in

addition to existing small-sized motors.



Bearings Connectors/switches Power supply components Wireless/communications/ software Analog semiconductors



#### Core technologies

Ultra-precision machining

Mass production technology

Sensor technology (load, pressure, etc.)

Optical technology

MEMS technology

High frequency technology

Electrical circuit technology

Semiconductor design technology

## Sensors

These include the world's smallest strain gauge MINEGE<sup>™</sup>, as well as products for sensing a variety of data, such as air pressure, temperature, humidity and airflow.

We can provide one-module solutions that include analogue-digital converter ICs developed in parallel for the purpose of outputting the acquired data

Connectivity

In addition to next-generation connector products such as FAKRA, primarily for

high-speed transmission (automotive)

applications, we also offer modules

communications, including Wi-Fi and

to handle all kinds of wireless

Bluetooth

# New products

## Lighting equipment

We will expand the frontiers of basic technology to support the next generation of lighting, combining elements such as ultra-thin optical lenses and motors. power supply components and wireless modules to create products like smart LED lighting that can be easily operated by a smartphone, or high-efficiency LED street lights that can be adjusted wirelessly.

# New product trio

Within new products, we are pushing forward rapidly with the commercialization of the new product trio of SALIOT smart LED lighting, bed sensor systems and smart city solutions, through which we are contributing to smart working, energy saving and other initiatives.

We will work to expand these businesses and target global markets to create a new pillar of profitability.

# Lighting equipment SALIOT

We have been selling the smart LED lighting SALIOT (Smart Adjustable Light for the Internet Of Things) since 2015. SALIOT has a beautiful, spectrally even quality of light that has been achieved by arranging several optical elements to carve a fine prism pattern using an ultra-thin lens that was developed using our optical technology for LED backlight products used in smartphones. In addition, because SALIOT incorporates a motor, power supply components and wireless communication, a smartphone or similar device can be used to adjust vertical/horizontal positioning, angle of light distribution, brightness, and even color temperature. Now with an enhanced lineup that includes a model with inbuilt tracking sensor, SALIOT contributes to allowing complete freedom in lighting spaces, and reducing the burden of working in high places, etc.

- SALIOT gallery opened in September 2017
- Extensive track record in art museums, galleries, hotels and department stores both in Japan and overseas
- Working on initiatives to expand sales worldwide, such as in Thailand, Cambodia, Europe, the US, and China Broadening the lineup with tracking models, etc.

# Sensors **Bed sensor systems**

- Started sales aimed at care facilities, in cooperation with Ricoh Co., Ltd., in July 2018
- Expansion of sales overseas also being considered
- Expect expansion into home care field going forward
- Working on development of new products by combining with MINEGE™

# Sensors/lighting equipment Smart city solutions

- Started billing business in Cambodia
- Plan to start external sales in fall 2018
- Strengthening global marketing (Thailand, Cambodia, the Philippines, Slovakia, as well as various cities within Japan, etc.)



