

**Change and Challenge!**  
**For the creation of the future**  
**of Earth and People.**

Integrated Report **12/2018**

Fiscal Period Ended December 2018



**NISSHINBO**

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**NISSHINBO**

## Integrated Report Rationale

April 2019 marked exactly ten years since we divided Nisshin Cotton Spinning Co., Ltd. into separate business segments and established Nisshinbo Holdings Inc. as the Group's holding company.

In the past decade, we have restructured the Group's portfolio along three key lines — the environment, energy, and safety and security — and diversified our business to increase corporate value. At the same time, our operations have become more international. The Group's overseas sales ratio has risen from 30% to 50% and we now employ more people overseas than in Japan.

That diverse corporate culture is supporting innovation. However, we have to ensure our increasingly diverse business is united in purpose and direction. Three long-held principles in our Corporate Philosophy have been key to creating a cohesive Group — Public Entity, Consistent Integrity and Innovation. However, with the Group becoming even more global, we have formulated a more relatable Corporate Philosophy that also reflects our focus on environmental, social and governance (ESG) factors:

### Change and Challenge! For the creation of the future of Earth and People.

Guided by that philosophy, we will continue to help tackle some of mankind's shared challenges and increase the Group's corporate value.

In addition to financial data, this Integrated Report includes a broader range of non-financial information, such as our ESG initiatives and efforts to realize the Sustainable Development Goals (SDGs). We want the report to be an informative tool for investors as part of constructive dialog.

**Masahiro Murakami**

President  
Nisshinbo Holdings Inc.

#### Guidelines Used to Prepare the Report

- "International Integrated Reporting Framework," International Integrated Reporting Council (IIRC)
- "Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation," Ministry of Economy, Trade and Industry (METI)
- "Sustainability Reporting Standards," Global Reporting Initiative (GRI)



## Supporting Efforts to Realize the SDGs

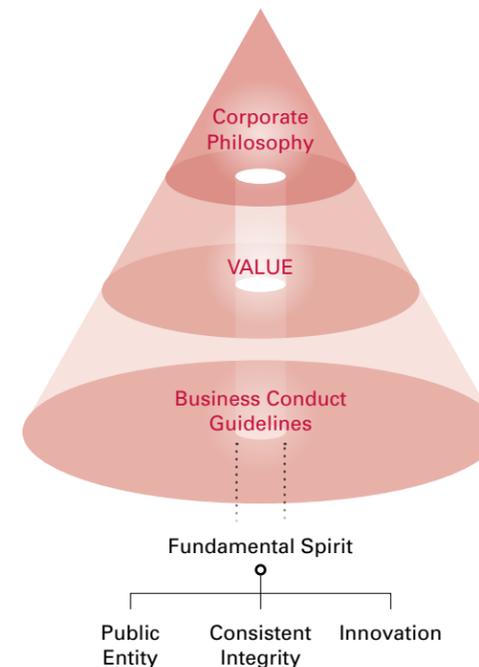
The Nisshinbo Group's Corporate Philosophy is "Change and Challenge! For the creation of the future of Earth and People." That philosophy coincides with the aims of the Sustainable Development Goals (SDGs), which we are working towards through our business activities as an *Environment and Energy Company* group.



Nisshinbo Group

# Corporate Philosophy

Nisshinbo revised the Nisshinbo Group Corporate Philosophy on January 1, 2019. Under the revised philosophy, Nisshinbo aims to increase corporate value together with stakeholders as an *Environment and Energy Company* group that works to create a sustainable society.



### Nisshinbo Group Corporate Philosophy

#### Change and Challenge!

G

#### For the creation of the future

G

#### of Earth and People.

E

S

**E = Environment**  
Prevent climate change and atmospheric pollution, protect biodiversity, manage water resources, etc.

**S = Social**  
Respect human rights, promote diversity, ensure employee health and safety, etc.

**G = Governance**  
Compliance, risk management, etc.

### VALUE

— The value we provide and the approach we take to realize our Corporate Philosophy

- We provide our customers with eco-friendly products and services to create a safer and more secure society with integrity.
- We create new value to inspire and satisfy our customers.
- We improve upon our corporate value and meet the expectations of our shareholders.
- We hold dear a corporate culture in which our employees can proudly work with vigor and boldly engage in new endeavors.

### Business Conduct Guidelines

— Standards of behaviour expected of every Group employee

- Respect for Human Rights
- Respect for Diversity
- Safety is the Basis for Everything
- Boldly Striving Forward
- Quality Communication
- Thorough-Going Compliance
- Awareness and Concern towards our Environmental Impact
- Fair and Transparent Business Practices
- Innovation

### Fundamental Spirit of the Nisshinbo Group



\*1 A sustainable society is a society where environmental preservation and effective resource use are balanced with economic rationality and where, as a result, all people can enjoy comfortable lifestyles long into the future.

\*2 A stakeholder is any person or organization involved in or affected by our corporate activities, including customers, shareholders, employees, business partners, community residents, and governmental organizations.

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ESG Index Selection



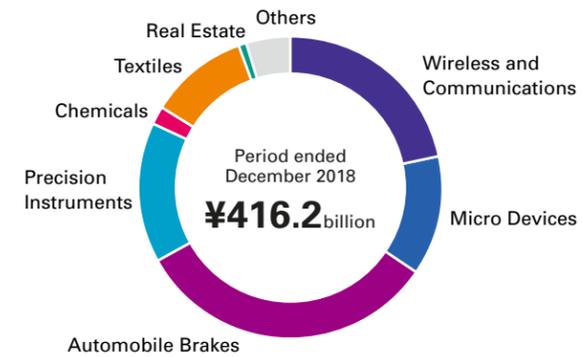
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Editing Policy

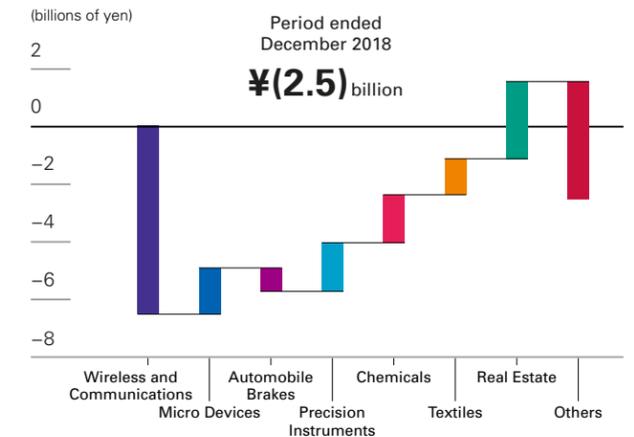
In addition to the usual financial data and information about business strategies, Nisshinbo's Integrated Report 12/2018 includes an in-depth section about the Group's environmental, social and governance (ESG) activities to provide readers with a more detailed picture of the Group's business activities. This information highlights how the Nisshinbo Group is striving to increase corporate value in areas such as personnel training and the environment, complementing efforts to increase value through earnings growth.

Note: The fiscal period ended December 2018 is a nine-month transitional period (Mar-Dec 2018) due to a change in fiscal year-end.

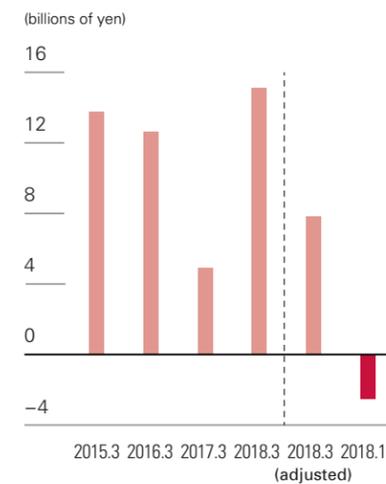
Net Sales



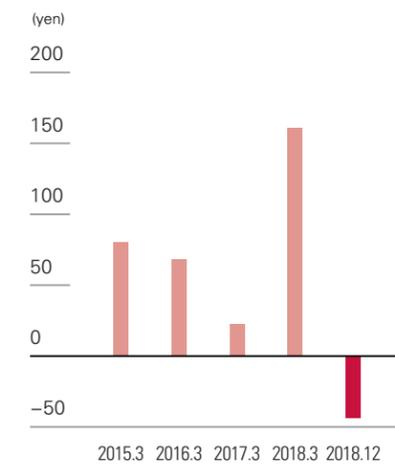
Operating loss



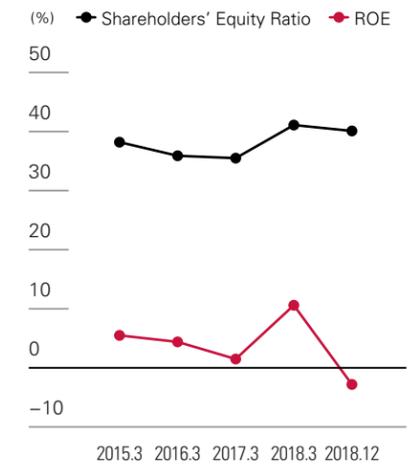
Operating income / loss\*



EPS

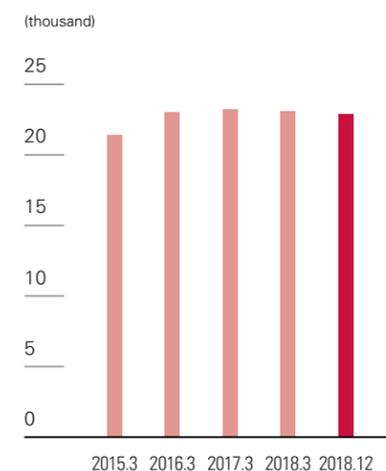


Shareholders' Equity Ratio and ROE

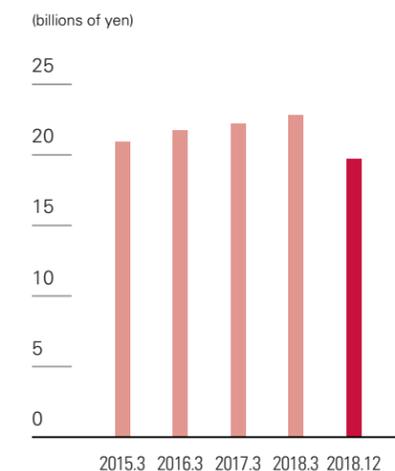


\* Operating income for the fiscal year ended March 2018 has been adjusted to facilitate year-on-year comparison.

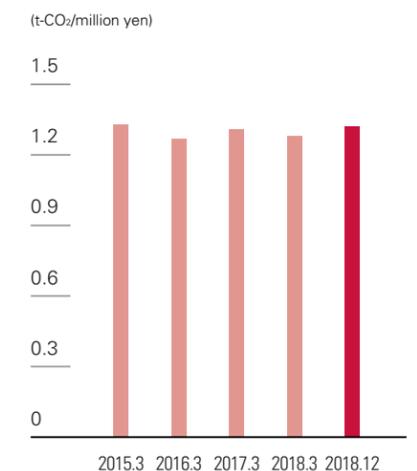
Number of Employees



Research and Development Expenses



Greenhouse Gas Emissions per Unit of Sales



## Transforming the Business Portfolio to Address Society's Changing Needs

TMD's brake business has the longest history of any business in the Nisshinbo Group, tracing its roots back to 1878. Nisshin Cotton Spinning Co., Ltd. was established not long after that in 1907. From those starting points, the Group has continued to expand by actively reorganizing its portfolio to align its businesses with society's changing needs. Nisshinbo's mission is to contribute to society through its business activities, guided by the Nisshinbo Group Corporate Philosophy – "Change and Challenge! For the creation of the future of Earth and People."

After 1945, the Group stepped up moves into new business fields such as automobile brakes and chemicals, diversifying its operations during Japan's recovery and rapid economic growth in the postwar period. In the 1960s, the automobile brakes business expanded, spurred by the growing popularity of cars in Japan. Nisshinbo also actively developed its precision instruments and chemicals businesses, building new plants and adding capacity. The yen's appreciation after the Plaza Accord in 1985 forced Nisshinbo to reorganize its operations and actively move into overseas markets. Today, more than 50% of the Group's sales are generated overseas and over half of the Group's workforce is outside Japan. There have also been major changes in the consolidated sales ratio of each business.

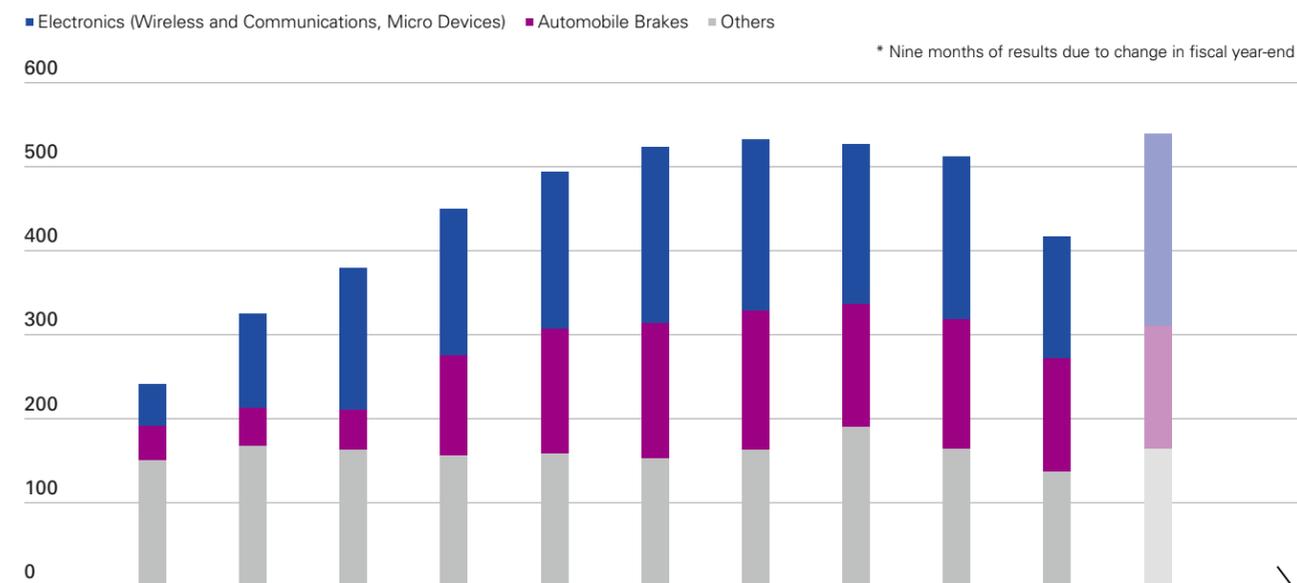
1878-	1940-	1950-	2000-	2010.3	2011.3	2012.3	2013.3	2014.3	2015.3	2016.3	2017.3	2018.3	2018.12*	2019.12 (forecast)	
<b>Business portfolio reforms</b>															
<b>1878</b> • Walter Willson Cobbett Ltd., TMD's forerunner company, founded  <b>1907</b> • Nisshin Cotton Spinning Co., Ltd. founded  <b>1915</b> • Nippon Radio Telegraph Manufacturing Co. founded (now Japan Radio Co., Ltd.)	<b>1944</b> • Production of friction materials started  <b>1946</b> • Nisshin Cotton Spinning Co., Ltd. starts operating its Nishi Arai Plant as a chemicals production facility  <b>1949</b> • Nagano Japan Radio Co., Ltd., Ueda Japan Radio Co., Ltd., TOKYO SHIRTS CO., LTD. founded	<b>1958</b> • Established Nihon Kohbunshikan Co., Ltd., begins production of plastic bobbins  <b>1959</b> • New Japan Radio Co., Ltd. founded	<b>2005</b> • New Japan Radio Co., Ltd. becomes a consolidated subsidiary  <b>Corporate governance reforms</b>  <b>2005</b> • Outside director system and managing officer system introduced, term of office for directors changed (reduced from 2 years to 1)	<b>Holding company system adopted</b>											<b>2010</b> • Japan Radio Co., Ltd. and Nagano Japan Radio Co., Ltd. become consolidated subsidiaries  <b>2011</b> • TMD Friction Group S.A. acquired  <b>2013</b> • Alphatron Marine Beheer B.V. acquired  <b>2014</b> • CHOYA CORP. sold  <b>2015</b> • TOKYO SHIRTS CO., LTD. acquired • Nanbu Plastics Co., Ltd. acquired  <b>2017</b> • Papers business sold • Japan Radio Co., Ltd. becomes a wholly owned consolidated subsidiary  <b>2018</b> • Foundation brakes business sold • Acquired Ricoh Electronic Devices Co., Ltd., making it a consolidated subsidiary • ProNav AS acquired • New Japan Radio Co., Ltd. becomes a wholly owned subsidiary
<b>Corporate governance reforms</b>															
<b>2015</b> • Dividend policy revised (dividend raised from ¥15 to ¥30, consolidated dividend payout ratio target of 30% adopted) • Number of outside directors increased (from 3 to 4, including one female director), takeover defense measures abolished • Stock's industry classification changed, trading unit reduced  <b>2016</b> • Corporate Governance Policy formulated • Nomination Committee and Remuneration Committee established • Number of directors reduced (from 13 to 10, including 4 outside directors)  <b>2017</b> • Internal advisor and consultant system abolished  <b>2018</b> • Fiscal year-end changed															

## Long-term Goal: ROE 12% (FY2025)

### Strategic business domains

- |  |   |   |
|--|---|---|
| <b>Mobility</b><br><ul style="list-style-type: none"> <li>Develop our business in fields such as industrial machinery, ships, aircraft and drones, as well as automobiles.</li> <li>Go beyond the production of parts and materials, utilizing the data our equipment gathers to develop businesses that support safe ship operation and energy efficiency.</li> </ul> | <b>Infrastructure &amp; Safety</b><br><ul style="list-style-type: none"> <li>Help to prevent or mitigate disasters (including through water management systems and weather radar).</li> <li>Support the creation of a hydrogen-oriented society (develop fuel cell parts and materials.)</li> </ul> | <b>Life &amp; Healthcare</b><br><ul style="list-style-type: none"> <li>Leverage our strengths in sensor, ultrasound, wireless and other technologies to create new businesses.</li> </ul> |
|--|---|---|

Nisshinbo Group Net Sales (billions of yen)





## Targeting sustainable profits by expanding into services

I became president of Nisshinbo Holdings Inc. in March 2019, taking over the role in Nisshinbo's tenth year as a holding company. As the person ultimately responsible for business execution, I plan to lead the Group's continued transformation to drive further growth.

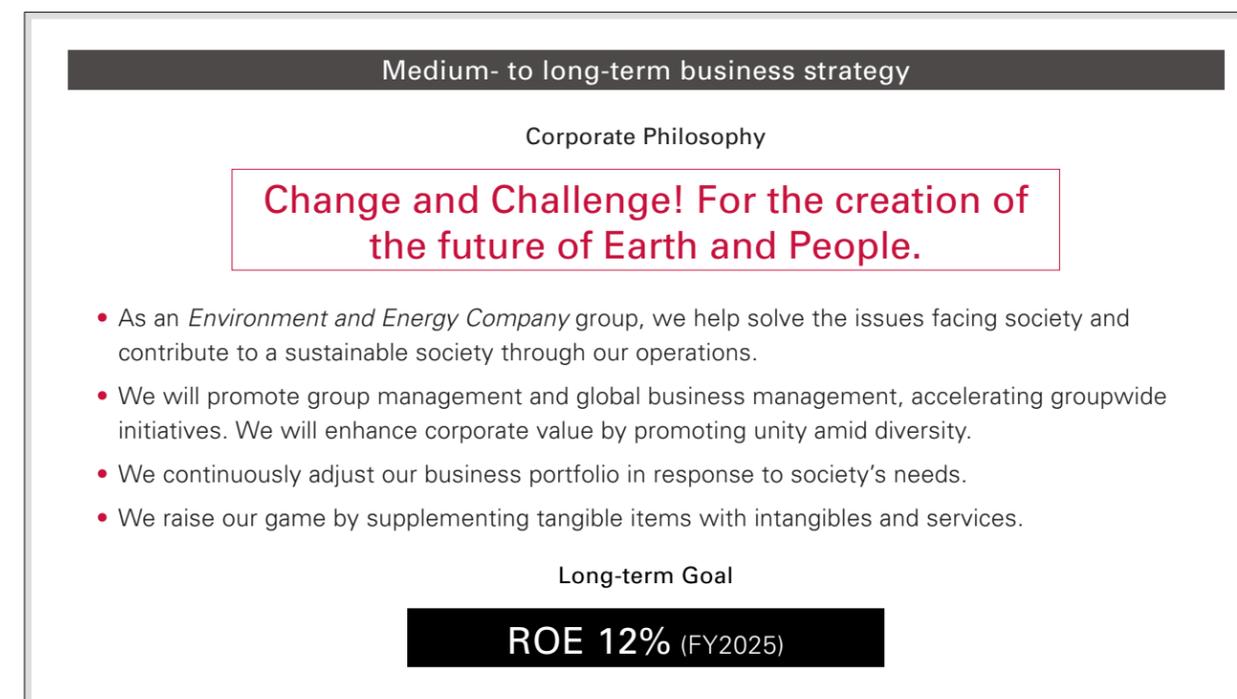
### Corporate Philosophy and Portfolio Management

Any role in an organization is part of a wider story. Every employee, not just the president, has a duty to fulfill the functions of their role. When the time comes, they have to hand over their roles to the next person in line. As president, it's my duty to realize Nisshinbo's Corporate Philosophy and lead the Group into the next phase of growth. The role comes with heavy responsibility, but I will do my best to make my tenure a success.

The Nisshinbo Group is aiming to generate growth as a diverse, cohesive corporate group by realizing its Corporate Philosophy – "Change and Challenge! For the creation of the future of Earth and People." Our philosophy is anchored by the concept of the company as a Public Entity. Contributing to society is our *raison d'être* and sustained contributions are the driving force behind the Group's growth. Our business strategy of helping to create safe and secure living environments as an *Environment and Energy Company* group also stems from that philosophy.

As such, the basic premise of the Group's businesses is to play a meaningful role in society. That's why we have to constantly adjust our business portfolio to ensure it remains relevant to the times and the changing needs of society. Since moving to the holding company structure, we have transformed our business portfolio by acquiring and selling businesses to create the optimum configuration. Going forward, we will continue to ask ourselves what kind of businesses society needs, aiming to accelerate growth as an *Environment and Energy Company* group by continuing to dynamically adjust our portfolio.

Many people know that Nisshinbo's first business when it was established in 1907 was textiles. But our oldest business is in fact brake friction materials, with TMD tracing its roots back to 1878. Japan Radio Co., Ltd. was established in 1915. Drawing on the diverse history of those three businesses, we aim to create innovative products and services that help solve some of the issues faced by society today.



### Shifting Our Focus to Services

Refining our manufacturing capabilities is an important mission for the Nisshinbo Group, which has typically focused on making products. However, as the boundaries between different businesses dissolve, we need to switch our focus away from only manufacturing and move deeper into the service sector by providing value that leverages our manufacturing technology and products.

One example of how we are doing that is our J-Marine Navigational electronic Conning Station Table (NeCST). Supplied by Japan Radio, which manufactures marine radar and other systems, J-Marine NeCST provides an integrated package of information services via the internet, such as digital map, weather and shipping data, significantly improving the efficiency and safety of ship navigation.

To make the shift to service businesses, we have to drive innovation by coordinating the Group's diverse business domains, people and values, complemented by external partnerships and M&A deals in areas where the Group lacks resources.

Nisshinbo is currently focusing on Group R&D activities, which draw on expertise from across the Group to develop new businesses. We also run workshops, primarily for younger employees, to explore the kind of company we should be in the future. This is all part of our broader efforts to harness diversity and drive innovation. Group R&D activities are leading to many new initiatives, but most are business models that combine products and services. We are starting to see a new business approach taking root across the Group.



### Strategic Business Fields

We redefined the Group's strategic business fields in 2019. We are now focusing on Mobility, Infrastructure & Safety, and Life & Healthcare. We have added Mobility because we are seeing an accelerating shift in society's mobility needs and in the Group's operations. Unlike our previous strategic business field of Automotive Parts and Devices, Mobility covers all types of modes of transport, from cars to industrial machinery, ships, aircraft and drones, because technological barriers between different transport fields are disappearing. From that perspective, more than 60% of the Group's net sales are already related to mobility. The mobility field has a faster business cycle than the wireless and communications field, so decision-making processes at existing Japan Radio businesses will not be able to keep up. That's why we established a mobility-focused company called JRC Mobility Inc. in the fiscal period ended December 2018.

The automotive business of Japan Radio is steadily increasing shipments of products for automated vehicle toll charging systems. We plan to transfer the business to JRC Mobility in 2020. Meanwhile, JRC Mobility has been contracted to further develop its automotive radar for ADAS\*.

In the Infrastructure & Safety strategic business field, hydrogen-related businesses are a key focus. We are starting to get a clearer picture of how fuel cells will be used in the future. Fuel cells can be refueled with hydrogen more quickly than lithium-ion batteries (LiBs) can be recharged, and they also have a better energy density than LiBs. That means we are likely to see different global applications for LiBs and fuel cells, with LiBs used in passenger cars and fuel cells used in transport and work vehicles, for example. Drones could be powered by fuel cells and trains might have a hybrid setup of LiBs and fuel cells. Our bipolar plates and platinum catalysts for fuel cells, which both incorporate the Group's carbon technologies, have the potential to drive the development of the hydrogen-powered society by lowering costs. We are currently working with Canadian fuel cell company Ballard Power Systems Inc. to develop and grow sales of fuel cells for forklifts and fuel cell vehicles.

In addition to the above areas, we plan to continue focusing on business projects aimed at preventing and mitigating the impact of disasters – an area the Nisshinbo Group has been involved in for many years – and leverage

the Group's technologies in sensors, ultrasound and wireless communications to launch new businesses in the healthcare field.

\* Advanced driver assistance systems

#### Strategic business domains

##### ○ Mobility

- Develop our business in fields such as industrial machinery, ships, aircraft and drones, as well as automobiles.
- Go beyond the production of parts and materials, utilizing the data our equipment gathers to develop businesses that support safe ship operation and energy efficiency.

##### ○ Infrastructure & Safety

- Help to prevent or mitigate disasters (including through water management systems and weather radar).
- Support the creation of a hydrogen-oriented society (develop fuel cell parts and materials.)

##### ○ Life & Healthcare

- Leverage our strengths in sensor, ultrasound, wireless and other technologies to create new businesses.

### Financial Results for the Fiscal Period Ended December 2018

The fiscal period ended December 2018 is a transitional period due to a change in the Group's fiscal year-end from

March 31 to December 31. Results for this fiscal period do not include earnings for the January-March quarter at Group companies that previously had March fiscal year-ends. Results appear much weaker compared with the previous fiscal year ended March 2018, mainly because earnings at Japan Radio tend to be weighted to the January-March quarter, which is not included in the fiscal period under review.

To facilitate a more accurate year-on-year comparison, we have adjusted results for the previous fiscal year to strip out those factors.

On an adjusted basis, net sales in the fiscal period ended December 2018 increased 0.7% year on year to ¥416.2 billion. Sales in the micro devices business increased sharply following the consolidation of Ricoh Electronic Devices Co., Ltd., but sales in the automobile brakes business declined due to the sale of the foundation brake business. Precision instruments and chemicals reported solid growth, but sales fell in textiles and real estate.

On an adjusted basis, Nisshinbo Holdings reported an operating loss of ¥2.5 billion, compared with operating income of ¥7.8 billion last year. The sale of the foundation brake business pushed down profits, but the deterioration in profitability largely reflected problems with TMD's aftermarket product shipment system after moving to a new warehouse. While the issues have now been resolved, the impact on the bottom line was substantial. Profits in the micro devices business also fell short of expectations due to weaker sales to makers of smartphones and industrial equipment amid a slowdown in the Chinese economy.

#### Method Used for Year-on-Year Comparisons

Year	2017				2018			
	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12
Subsidiaries settling in March (Domestic subsidiaries)								
Subsidiaries settling in December (Overseas subsidiaries)								
Fiscal year	FY3/18				FY12/18			

FY3/18 results (adjusted)
FY12/18 results

To facilitate comparison, we have adjusted financial results for the fiscal year ended March 2018 by deducting fourth quarter (January-March) earnings for Group companies that previously had March fiscal year-ends.



### Near-term Challenges – Business Restructuring

As illustrated by the bottom-line loss in the fiscal period ended December 2018, the Group still faces issues with earnings stability. In the near-term, we need to restructure the brake business at TMD and the wireless and communications business at Japan Radio.

After acquiring TMD in 2011, we completed the amortization of substantial goodwill in five years, but TMD reported an operating loss of ¥4.0 billion in the fiscal period ended December 2018. That was partly caused by one-off factors, but the loss is still disappointing. Underlying profit trends are still below our expectations at the time the company was acquired. TMD has a manufacturing and sales network across 13 countries worldwide, but we need to tackle the major issue of turning around unprofitable locations.

Although we restructured TMD's operations after the acquisition, the pace of reform has not been fast enough. We started sending senior managers from Nisshinbo Brake Inc. to TMD in 2018. They are now accelerating the reform program based on a new list of priorities. TMD is currently consolidating production

sites in Germany, which is likely to support a significant improvement in margins. The company is also looking at integrating or closing other sites worldwide to lift profitability. In addition, we are planning to pass on the Japanese manufacturing expertise of Nisshinbo Brake Inc. to TMD to improve product quality, safety and cost.

The wireless and communications business and the automobile brakes business are the Group's two largest businesses. As explained earlier, the loss in the wireless and communications business mainly reflected the exclusion of the key January-March quarter from this period's results due to the change in fiscal year-end. However, underlying profit levels were still unsatisfactory, and Japan Radio, the core company in the business, has reported operating losses on several occasions since becoming a consolidated subsidiary in 2010. Japan Radio has focused on public-sector demand in Japan for many years, but it has been working to reposition its business to target overseas customers and private-sector demand. The company has made some progress with business restructuring. For example, it has established offices in Indonesia, launched video streaming services to provide

public service messages about natural disasters and daily life, and above all, has developed a range of new products for mobility applications. However, we anticipate a further negative impact on profits if the contraction in the company's existing markets outpaces business restructuring. Japan Radio became a wholly owned subsidiary of Nisshinbo Holdings in October 2017. Using our full control of the subsidiary, we now plan to accelerate the pace of reform.

### The Path to Growth

Friction materials that are compatible with new regulations on copper content are currently our most promising product. In NAO\* materials, Nisshinbo Brake Inc. has taken the lead over competitors. The company has already started volume production of copper-reduced and copper-free materials, and it is now becoming clearer that automakers intend to steadily increase adoption of the new materials to complete the shift to copper-free friction materials by 2025. To meet that demand, the Nisshinbo Group plans to invest around ¥20 billion from 2018 onwards to increase capacity at production sites in Japan and the US. After that, the next step will be to increase production capacity at our sites in Thailand, China and South Korea.

Growth has recently picked up in the micro devices business. Despite continued uncertainty about the outlook for the Chinese economy, we plan to increase investment in production capacity to tap into projected growth in demand in the automotive sector and other fields. While the business is exposed to conditions in the market for communications equipment, we are confident that trends in mobility and IoT will spur strong demand for micro devices in the automotive and industrial equipment fields. We see potential synergies across all sales, manufacturing and product development functions between New Japan Radio Co., Ltd., which has a strong position in signal processing-related products, and Ricoh Electronic Devices, which is focused more on power management devices. The main challenge for the micro devices business is to build even greater trust with large enterprise customers. To do that, we need to expand the business further through partnerships and M&A to increase sales to the ¥100 billion level.

The precision instruments business continues to increase output, supported by its close links to customers. However, we are targeting a further improvement in

profitability by reorganizing operations at Nanbu Plastics Co., Ltd. Over the years, Nanbu Plastics has built an extensive network of production sites in Japan and overseas. We plan to rebuild that network to create a more efficient, high-quality manufacturing and sales framework.

The chemicals business is seeing strong demand for Carbodilite, with sales on track to exceed ¥3.0 billion. We want to grow Carbodilite into a ¥10.0 billion business. To increase sales globally, we will need to develop a new sales strategy that includes business partnerships and other initiatives. In bio-carriers for wastewater treatment, we are making preparations to expand the business in partnership with a local manufacturer in China.

\* Non-Asbestos Organic

### Our Vision for the Nisshinbo Group

The Nisshinbo Group has many promising businesses with good near-term prospects. In the ten years since adopting the holding company structure, we have focused on restructuring the Group's business portfolio. However, we have not been able to reliably grow profits during that period. Solving that issue is my personal mission. Business leaders need to have bold ideas, but also an attention to detail. Even with the right approach in theory, they must have empathy with employees and partners outside the Group to gain their support and make the approach work.

At Nisshinbo, we believe people are crucial to the future of our business – encapsulated by the phrase, "people are real, businesses are abstract." In essence, true corporate value is created when growth is driven by the personal development of employees. I want our diverse human resources worldwide to constantly look for ways to contribute to society, unified by a single corporate philosophy. That is my vision for the Nisshinbo Group.

March 2019

Masahiro Murakami  
President  
Nisshinbo Holdings Inc.

## Nisshinbo has growth potential as a corporate group made up of businesses with high shares in niche markets.

Mikiya Yamada is an equities research analyst at Mizuho Securities Co., Ltd., where he has covered Nisshinbo Holdings, Inc. for many years, publishing numerous research reports about the Group. In this section, we talk to him about how capital markets view Nisshinbo's management capabilities and corporate value.

### Mikiya Yamada

Senior Analyst  
Equity Research Dept.  
Mizuho Securities Co., Ltd.



### How visible is Nisshinbo in capital markets?

Nisshinbo is a well-known name and is also seen as a company with considerable potential. However, Nisshinbo is not attracting a high P/B valuation. I see three reasons for that: (1) an uncertain earnings outlook in the electronics business, (2) losses in the automobile brakes business, which investors had hoped would become a stable source of earnings, and (3) a lack of strong growth drivers, despite a large number of small but promising growth businesses.

Nisshinbo's goal of becoming an *Environment and Energy Company* group is convincing, but so far we have not seen that vision feed through to profits. One area Nisshinbo is focusing on is the super smart society, which could become a super efficient society with effective use of IT. Nisshinbo's size means it has no intention of handling the main elements of IT infrastructure, but it has proprietary technologies that can be used for applications such as digital-analog conversion to visualize information in electronic components and at communication

interfaces. In the automobile brakes business, brakes are likely to be used more frequently in the early uptake phase for autonomous vehicles. That should spur growth in demand for environmentally friendly copper-free brakes and friction materials. However, poor prospects for profits in other parts of the Group are holding back Nisshinbo's market valuation.

Nisshinbo is prioritizing management resources in areas where it has realistic prospects of being competitive. While I think that is the right management approach, it is not translating into profits. That suggests there is a gap between business strategy and business execution.

### Targeting resources on core businesses

I'm positive about Nisshinbo's strategy of channeling management resources into core businesses. Also, Nisshinbo is not afraid to sell non-core businesses even though they are generating profits, which is something other Japanese companies could learn from. In 2017, Nisshinbo made Japan Radio Co., Ltd. a wholly owned

subsidiary. My take on that move is positive, as it has created a framework that will allow Nisshinbo to more rapidly implement structural reforms at Japan Radio. The same goes for New Japan Radio Co., Ltd., which also became a wholly owned subsidiary. I'm also upbeat about the textiles and electronics businesses, where Nisshinbo is using M&A, albeit small-scale deals, to reinforce its position. One of the key things to avoid in M&A is paying too high a premium for businesses, but Nisshinbo's M&A deals are always conducted on friendly terms, making issues unlikely.

The fiscal period ended December 31, 2018 was TMD's seventh year as a wholly owned Nisshinbo subsidiary, but earnings deteriorated significantly, raising concerns about post-merger integration. Nisshinbo has rapidly increased its proficiency in M&A in recent years, but investors will now be looking for concrete figures showing improvements at acquired businesses.

### Management's vision for the Nisshinbo Group

Nisshinbo is targeting ROE of 12% by 2025. It aims to do that by emphasizing capital efficiency over sales. Capital efficiency should always be a priority, but I think Nisshinbo also has growth potential as a corporate group made up of businesses with high shares in niche markets. The Group currently faces a tough earnings environment for radar systems used in large ships, but radar systems are one of Nisshinbo's core competences and the business fits with the Group's vision due to prospects for long-term growth driven by rising global trade. At the least, I think Nisshinbo needs to achieve an operating margin of 6-7%.

As I said earlier, Nisshinbo's corporate vision of becoming an *Environment and Energy Company* group is the right strategy. Nisshinbo tends to use a "backcasting" approach to business planning, as opposed to "forecasting." Backcasting is an effective way of bringing all an organization's stakeholders together to work towards future goals. However, problems start to arise when the future initially envisaged by planners changes constantly. The best business managers can deliver results in line with their vision while constantly adapting to changes, based on dispassionate understanding of current conditions and outstanding strategy execution. If managers are unable to do that, the backcasting approach becomes nothing more than delusional.

Even at Nisshinbo, some management themes have failed to deliver results. Examples include unsuccessful efforts in the wireless and communications field to win business in the small and mid-size vessel market, as well as the integration of TMD's business sites. Going forward, I'd like to see management execute strategy more effectively based on clear milestones and quantitative targets for each theme.

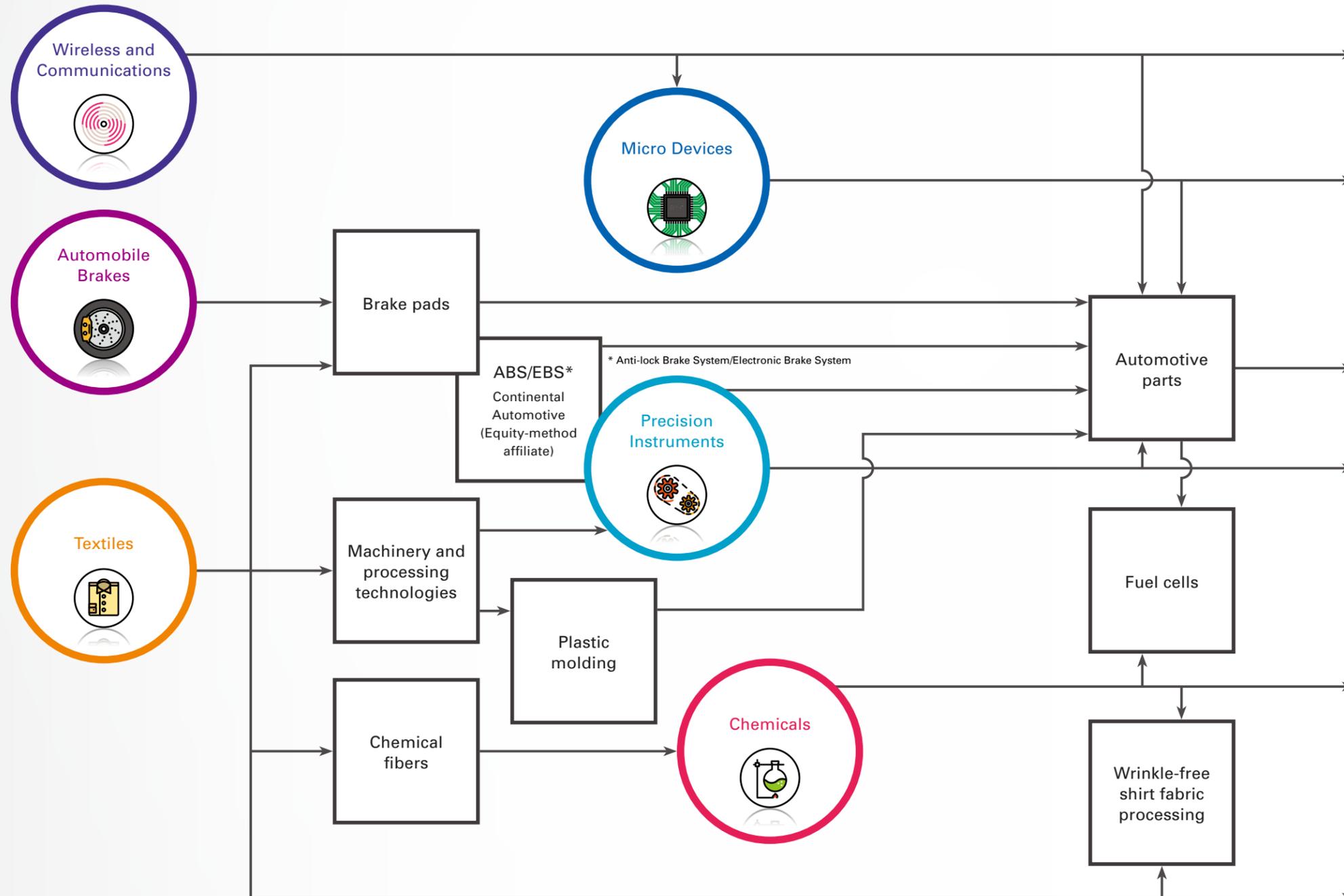
### Nisshinbo's ESG activities

As a company with a long history in chemicals and textiles, Nisshinbo has always carefully controlled industrial waste. Like other Japanese companies, Nisshinbo is fully committed to tackling environmental issues. The Group is focused mainly on B-to-B businesses, which do not provide much information about their social activities, but I don't see any major problem in this area. Nisshinbo has made a clear commitment to contributing to the environment and society with its products and services, but I think it needs to take a more proactive stance through its business operations.

There is no definitive approach to corporate governance. For me, the important thing is that managers fully exercise leadership on all matters and tackle any sign of corruption. Nisshinbo is poised to move up into the next rank of companies, centered on its electronics and automobile brakes businesses. That means managers will need to demonstrate strong leadership and outstanding business execution. Nisshinbo's managers understand clearly what issues they have to tackle and are highly motivated about increasing the Group's corporate value. I hope to see senior management show leadership in outstanding execution and corporate governance, which will support sustained improvement in earnings over the long term.

## Innovation and Value Creation Powered by Diversity

The Nisshinbo Group, with its founding businesses of wireless and communications, brake friction materials and textiles, has grown and developed by constantly mixing and matching technologies and businesses. Today, the Group's business model is based on harnessing the power of diverse businesses, people and values to drive innovation and address the ever-changing needs of society. Using that approach, we are allocating management resources to growth fields and developing new businesses.



### Strategic business domains



## Overview of Business Segments — At a Glance

The Nisshinbo Group is made up of seven distinct businesses — wireless and communications, micro devices, automobile brakes, precision instruments, chemicals, textiles and real estate. Nisshinbo supplies high value-added products that meet customer needs, driven by innovation born out of business collaboration and portfolio reorganization that has kept the Group aligned with changing needs.

### Main business areas

	<p><b>Wireless and Communications</b> P.17</p> <p>Supplies solutions such as disaster prevention systems and weather radars, as well as marine systems and communications equipment.</p>	<p><b>Marine systems</b> ▶ Marine radar and communications equipment <b>Communications equipment</b> ▶ GPS receivers, ITS equipment for vehicles <b>Solutions and specialized equipment</b> ▶ Disaster prevention systems and weather radars <b>Mechatronics and power supplies</b> ▶ Power supplies, Large-format copiers <b>Medical equipment</b> ▶ Probes for ultrasound diagnostic equipment, oscillators for catheters</p>
	<p><b>Micro Devices</b> P.25</p> <p>Working to expand sales of analog semiconductors and other electronic devices, supported by microelectronics technologies.</p>	<p><b>New Japan Radio</b> ▶ Semiconductor devices and SAW filters <b>Ricoh Electronic Devices</b> ▶ Power management ICs, etc.</p>
	<p><b>Automobile Brakes</b> P.31</p> <p>The Nisshinbo Group is the world's leading maker of brake friction materials by market share; now expanding its presence as a true global supplier using its network covering key markets worldwide.</p>	<p><b>Friction materials</b> ▶ Disc pads and brake linings</p>
	<p><b>Precision Instruments</b> P.38</p> <p>Manufactures plastic products for home appliance and automotive applications and supplies processed precision automotive parts and customized production equipment for customers worldwide, primarily in Asia.</p>	<p><b>Plastic products</b> <b>Precision parts processing</b> including parts for electronic brake systems (EBS) <b>Customized production equipment</b></p>
	<p><b>Chemicals</b> P.42</p> <p>Manufactures a range of highly promising products in the environmental and energy fields, such as Carbodilite, a modifier for biodegradable plastics and waterborne resins, and bipolar plates for fuel cells.</p>	<p><b>Carbodilite high-performance chemical additive</b> <b>Thermal insulation products</b> <b>Bipolar plates for fuel cells</b> <b>Fine carbon products</b></p>
	<p><b>Textiles</b> P.46</p> <p>Mainstay business is products made from natural cotton; supplies high-quality "Made by Nisshinbo" dress shirts, denim, uniforms and other products to markets worldwide.</p>	<p><b>Shirts</b> ▶ Dress shirts, casual shirts and fabric <b>Textiles</b> ▶ Uniform fabric and casual fabric <b>Denim</b> ▶ Jeans and denim fabric</p>
	<p><b>Real Estate</b> P.48</p> <p>Procures funds to support the Nisshinbo Group's growth strategy by effectively utilizing idle plant sites and other real estate assets arising from business restructuring.</p>	<p><b>Sales</b> ▶ Housing lots <b>Leasing</b> ▶ ARIO Nishi Arai and other properties</p>

## Overview of Business Segments



# Wireless and Communications

## Japan Radio Co., Ltd. / JRC Mobility Inc.

The wireless and communications business supplies communication and navigation equipment with world-leading reliability to users in the shipping sector. It also provides various disaster prevention systems, such as dam and river management systems and weather forecasting systems. In April 2018, Nisshinbo Holdings, Inc. established JRC Mobility Inc. as a wholly owned subsidiary. JRC Mobility will focus on the mobility field, developing communication-related products for autonomous driving applications. It will also take over responsibility for ITS\* products and other existing automotive products from Japan Radio Co., Ltd.

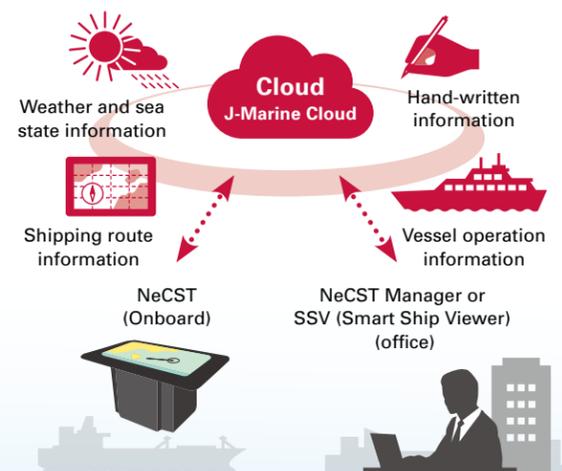
\* Intelligent Transport Systems: Systems that use data processing technology to solve traffic issues such as accidents and congestion

## Main Business Areas

The wireless and communications business is active in a wide range of business fields, providing high-quality products with advanced wireless technologies that contribute to the safety and security of people worldwide and that help to protect the global environment. We supply products for public infrastructure such as disaster prevention systems and monitoring systems, marine radar and mobile communications equipment for cars, and power supply and energy equipment focused on environmental performance and energy efficiency.

### 1 Marine Systems

In the marine systems business, we sell wireless communication systems for marine applications (primarily satellite communication equipment) and navigation systems (mainly marine radar) for commercial ships and fishing vessels worldwide. We also supply the J-Marine Navigational electronic Conning Station Table (NeCST), a vessel navigation support system that allows users to manage and share various shipping route information such as digital nautical charts. The J-Marine NeCST can also be linked to J-Marine Cloud, a package of cloud-based maritime information services. We aim to spur uptake of the system to help realize autonomous shipping operations.

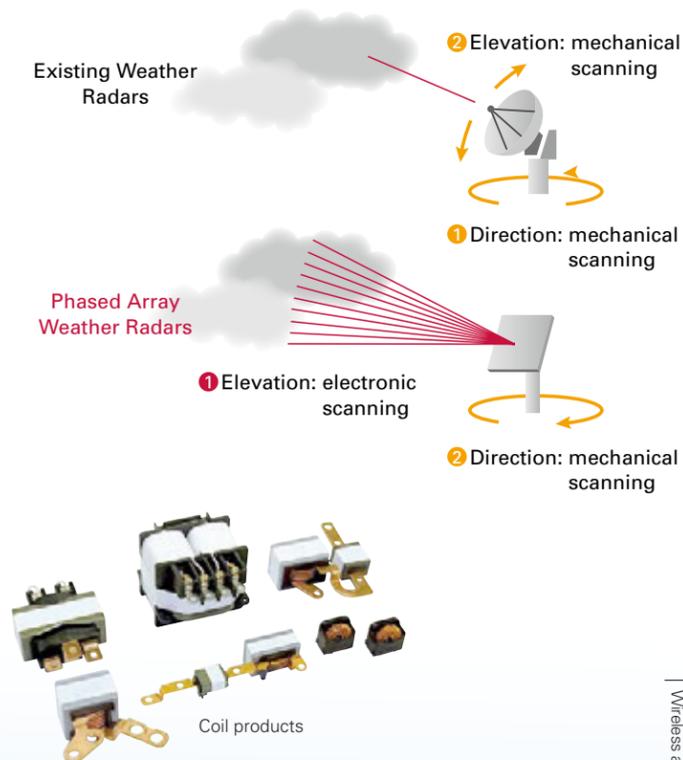


### 3 Solutions

The solutions business provides total support for key systems that ensure the safe and reliable operation of public infrastructure such as dam and river management facilities and disaster prevention and mitigation facilities. We are supporting the development of public infrastructure on a global level by supplying integrated dam management systems that prevent damage from flooding, disaster prevention information relay systems that help to ensure the safety of the public during disasters, and weather forecasting systems used for meteorological reports.

### 4 Mechatronics and Power Supplies

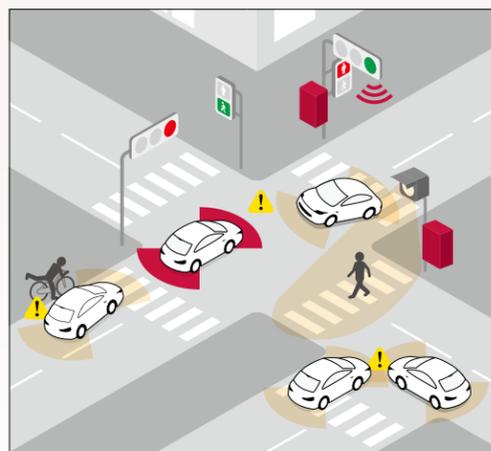
In the mechatronics and power supplies business, we develop and sell production equipment, office printers and power supplies for electric vehicles (xEV). Electric vehicles are projected to see rapid uptake, helping to reduce greenhouse gas emissions. To address that demand, we plan to expand the business by harnessing synergies with NJ Components Co., Ltd., which recently became part of the Nisshinbo Group.



Coil products

### 2 Communication Equipment

In the communication equipment business, Japan Radio Co., Ltd. is harnessing its existing radar sensing technologies for ship and weather radar to develop automotive applications. The company supplies ADAS products such as high-performance millimeter-wave radar and ultrasound sensors, as well as automotive intelligent transport systems (ITS) and electronic toll collection (ETC) devices, which are contributing to the creation of safe traffic infrastructure. Japan Radio is also developing global navigation satellite system (GNSS) chips, which enable high-precision GPS-based positioning and are set to become a key technology in a wide range of mobility markets such as railways, agriculture and construction machinery. In April 2018, JRC Mobility Inc. was established to handle all the Group's mobility-related operations.



### 5 Medical Equipment

Japan Radio manufactures ultrasound diagnostic equipment and image processing equipment, as well as mechatronics devices for X-ray equipment and other medical applications. We produce many ODM products\* using state-of-the-art technology based on our quality management system, which is certified to the international ISO 13485 standard for medical devices.

\* Original Design Manufacturer products are designed and manufactured under contract for supply to other companies.

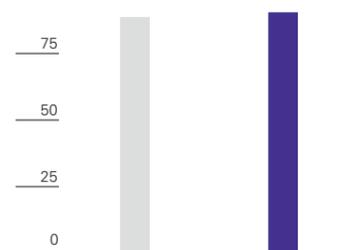


Medical ultrasound equipment

# Business Results and Strategy

## Net Sales

(billions of yen)  
100

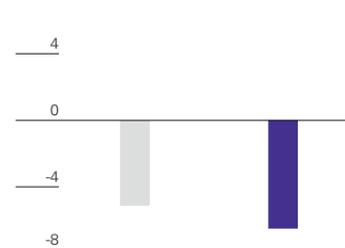


(millions of yen)

	18.3 (adjusted)	18.12
Marine systems	28,345	28,323
Communications equipment	11,680	12,180
Solutions and specialized equipment	29,839	28,252
Mechatronics and power supplies	10,965	13,454
Medical equipment	5,927	6,297
Other businesses/Eliminations	1,710	1,921
<b>Total</b>	<b>88,466</b>	<b>90,427</b>

## Segment Profit

(billions of yen)  
8



(millions of yen)

	18.3 (adjusted)	18.12
Marine systems	(1,408)	(1,950)
Communications equipment	953	1,005
Solutions and specialized equipment	(4,497)	(5,690)
Mechatronics and power supplies	(245)	168
Medical equipment	439	526
Other businesses/Eliminations	(375)	(569)
<b>Total</b>	<b>(5,133)</b>	<b>(6,510)</b>

Note: Figures for the previous fiscal year have been adjusted to facilitate comparison with figures for the fiscal period ended December 2018, which is a transitional period due to a change in the Group's fiscal year-end from March 31 to December 31.

## Summary of financial results for the fiscal period ended December 2018

In the fiscal period ended December 2018, the wireless and communications business reported net sales of ¥90,427 million, up 2.2% year on year on an adjusted basis, and a segment loss of ¥6,510 million, a deterioration of ¥1,376 million on an adjusted basis.

In marine systems, sales promotion activities led to higher sales in the information services field, but sales of equipment for merchant vessel retrofit projects declined year on year amid slowing aftermarket demand. As a result, marine systems sales fell slightly and higher expenses led to a wider loss in the business. Targeting market share gains in equipment for fishing vessels, Japan Radio acquired Norway-based ProNav AS in July 2018, making it a subsidiary.

In communications equipment, sales and profits increased year on year, supported by firm sales of ITS products for automotive applications. In 2018, Japan Radio also won an order to develop a next-generation safety protection system for railway maintenance workers on bullet train lines.

In solutions and specialized equipment, sales of water and river information systems increased, but sales declined overall and losses widened year on year due to a drop-off in shipments of disaster prevention systems for local governments. In December 2018, Japan Radio teamed up with several other companies and NEDO\* to test the detection capabilities of the world's first collision avoidance system for unmanned aircraft.

In mechatronics and power supplies, sales increased year on year and the business moved into profit, supported by rising demand for information equipment and ICT and strong OEM production of office equipment.

In medical equipment, sales and profits increased on the back of firm sales of ultrasound diagnostic equipment and strong demand for oscillators used in catheters.

\* New Energy and Industrial Technology Development Organization

## Business strategies for the fiscal year ending December 2019

In the wireless and communications field, we are working to create a stable and profitable operating structure by rebuilding the earnings base in our two main businesses — marine systems and solutions. We also aim to shift to a high value-added business model by providing service-based solutions.

In marine systems, we will continue to expand our LCM\* business in the aftermarket. In small and medium-size vessels, we will strengthen products, sales and services and tap into ProNav's sales channels in the North European fishing

## Japan Radio Co., Ltd. — Message from the President

In the wireless and communications business, we are bringing together our extensive range of communication and information technologies and our expertise and know-how to develop and supply invaluable products that address the needs of the public and our customers and make a significant contribution to society. To achieve sound and stable growth, we aim to generate solid profit margins and build a robust financial structure. To establish a highly profitable business, we will switch away from our business model focused on equipment sales and realign our business portfolio to create a new digital business based on the provision of information services that make life safer and more secure for people everywhere.



**Kenji Ara**  
President  
Japan Radio Co., Ltd.

vessel market to increase market share. We also aim to expand our menu of services that support safe vessel operations through ship-to-shore networks, centered on our second-generation J-Marine NeCST system, which was released in December 2018. In April 2019 we also launched NeCST Manager, a vessel management support service that shares emergency information between shipping in real time.

In communications equipment, we plan to expand overseas sales of on-board ITS equipment for vehicles, as well as launch a new business that supplies global navigation satellite system (GNSS) chips to support high-precision positioning in mobility markets such as railways, agriculture and construction machinery. Communications equipment for automotive applications will be transferred to JRC Mobility by the end of 2019.

In solutions and specialized equipment, integrated disaster prevention systems will remain our core product, but we will also focus on capturing maintenance demand for public infrastructure. In the private sector, we aim to move into new fields with services such as Alertmarker+, which uses monitors to share real-time information about disasters and other events.

Overseas, we will focus on increasing sales of disaster prevention systems and marine safety systems, primarily in Asia, while also moving into the aviation field with products such as our multilateration system for airport surveillance.

In mechatronics and power supplies, NJ Components Co., Ltd., which took on some of the operations of FDK Corporation, became a wholly owned subsidiary of Nagano Japan Radio Co., Ltd. in July 2019. The acquisition is aimed at reinforcing Nagano Japan Radio's capabilities in power supply design, development and production, potentially opening up new earnings opportunities in the rapidly growing electric vehicle market (xEV).

In medical equipment, we will offer a wider choice of next-generation diagnostic imaging equipment and compact ultrasound image processing equipment, while also stepping up efforts to capture demand in the new fields of disease prevention and prognosis. We also plan to draw on our wireless technologies to actively promote the use of wireless equipment in clinical practice.

\* Life Cycle Management: Support services for the entire life cycle of vessels, from delivery to decommissioning

## Main Locations

Key Companies	Main Locations and Key Subsidiaries	Location	Main Products and Services
Japan Radio Co., Ltd.	Nagano Plant	Nagano, Nagano Prefecture	Disaster prevention systems, mobile communications equipment
	Nagano Japan Radio Co., Ltd.	Nagano, Nagano Prefecture	Disaster prevention systems, mechatronics
	Ueda Japan Radio Co., Ltd.	Ueda, Nagano Prefecture	Wireless communication equipment, medical equipment
	Alphatron Marine Beheer B.V.	The Netherlands	Navigation equipment, Wireless communication equipment
	ProNav AS	Norway	Navigation equipment, Wireless communication equipment

## Growth Strategy

In the wireless and communications business, we are targeting further growth by extending our reach into the services field, backed by the Group's existing manufacturing technologies. Our goal is to ensure the Nisshinbo Group plays a meaningful role in society by providing services that make life safer and more secure.

### Safety at Sea

#### J-Marine Cloud

Growing use of the internet in marine environments means ships can now share information with offices on shore and use that information effectively. J-Marine Cloud is a total support package designed to realize safe, reliable and smart ship operations by giving ships access to a wide range of content and enabling shore-based personnel to visualize all assets at sea. The package is also available for individual users, helping to make private leisure boating and marine fishing trips safer.

- **Smart Ship Viewer (SSV):** A web-based service that allows shipping managers to use internet browsers to view all types of fleet data, such as sea conditions, navigation routes and vessel tracks. Shipping route information generated by J-Marine NeCST can also be shared ship-to-ship and ship-to-shore.
- **JRC Remote Maintenance System (RMS):** A system that allows Japan Radio to remotely analyze the latest information from equipment on board vessels to rapidly identify reasons for equipment failures or carry out preventative maintenance, helping to reduce maintenance costs.
- **JM-Weather:** An app for smart devices that gives users access to weather maps, typhoon information, wave height and other meteorological and marine information.

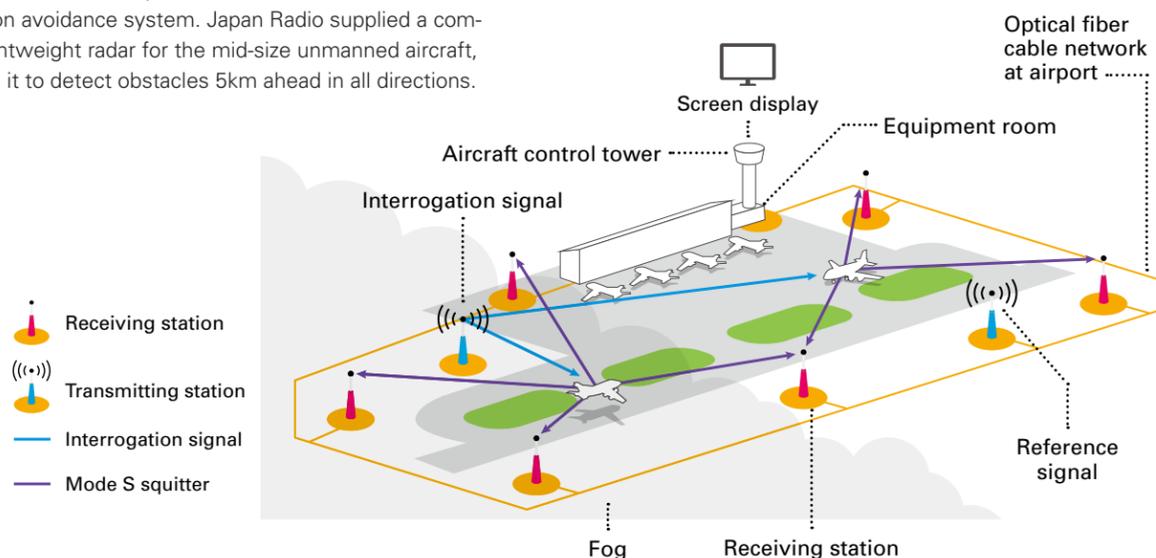
### Safety in the Air

#### Unmanned Aircraft Collision Avoidance System

Amid growing use of small and mid-size unmanned aircraft in a range of fields, there is an urgent need to develop collision avoidance technologies to ensure safe operation. With the support of Fukushima Prefecture and Soma City, Japan Radio, NEDO and four companies jointly ran the world's first test of the detection capabilities of an unmanned aircraft with a collision avoidance system. Japan Radio supplied a compact, lightweight radar for the mid-size unmanned aircraft, allowing it to detect obstacles 5km ahead in all directions.

In Vietnam, we have started operational testing of our multilateration system\* for airport surveillance.

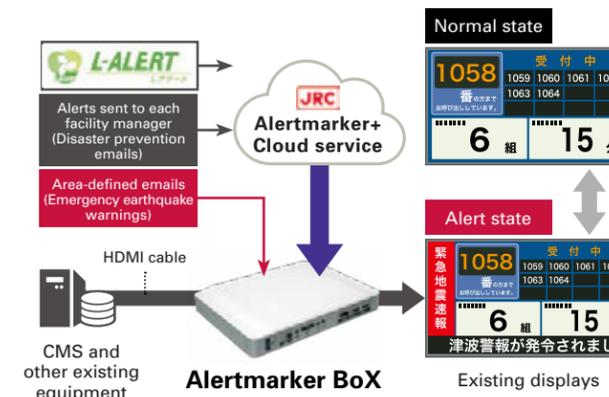
\* Multilateration systems receive secondary radar signals from aircraft via multiple receivers located around airports, enabling precise detection of aircraft positions based on the difference in time between signal reception at each receiver.



### Disaster Prevention Services

#### Alertmarker+

Japan Radio has launched a new service called Alertmarker+ that sends information such as area-defined messages, evacuation orders and disaster information to digital signs and other display equipment. The system automatically sends J-Alerts and disaster information using existing displays in municipal offices, public halls, hospitals, schools and other facilities where people gather. The service is easy to access with Japan Radio's Alertmarker BoX add-on, which connects to displays via an HDMI cable. Existing facilities require no other external connection, making the service resilient to cyberattack.



#### Deploying Disaster Prevention Systems Overseas

Japan Radio is actively targeting demand overseas as part of efforts to transform its business model, which is heavily reliant on demand from the public sector in Japan. To mitigate the impact of natural disasters in Asia, which has seen a large number of disasters in recent years, particularly in the Oceania region, the company is focusing on increasing sales of integrated disaster prevention systems, which incorporate systems that gather information and warn local residents.

We are currently deploying dam and river management systems with radars for customers in the Philippines and Vietnam and a digital wireless information and warning system in Tonga in the South Pacific. In Indonesia, we are testing a tsunami detection system that uses marine radar to receive wave height readings.



**Kinji Kato**  
President  
JRC Mobility Inc.

#### JRC Mobility Inc.

JRC Mobility is developing millimeter radar for vehicle collision avoidance systems, ultrasound sensors for parking-assist systems and a range of other projects in the ADAS field. We are targeting sales of ¥20 billion in 2025. Onboard ETC devices, GPS receivers and other automotive products are scheduled to be transferred from Japan Radio to JRC Mobility by the end of 2019, and we also aim to increase sales of sensors, location data devices and other products. We plan to use the Group's traffic counters\*1, DSSS\*2 and other technologies and products to drive growth in the mobility business.

\*1 Installed on expressways and at other sites, traffic counters monitor vehicle volume and identify cars driving in the wrong direction.

\*2 Driving safety support systems: Transmit information about road conditions, traffic lights and other traffic data to drivers at intersections and other locations to prevent accidents.

## Main Locations

Since it was founded in 1915, Japan Radio Co., Ltd. has developed and constantly improved its cutting-edge manufacturing technologies in the wireless and communications field. In this section, we look at Japan Radio's key global business sites and research and development centers, which support the Nisshinbo Group's broad range of strategic business fields.



### Nagano Plant and Advanced Technology Center

The Advanced Technology Center at the Nagano Plant site was constructed in 2015 as part of Japan Radio's restructuring program. The building has six aboveground floors and a total floor area of roughly 13,000m<sup>2</sup>. Engineers can use the shared roof space and balconies on each floor to conduct testing, helping to improve links with research work conducted inside the building. The building has received a Good Design Award and the Nikkei New Office Award for its office space design, which improves communication between engineers in different departments and groups. The Nagano Plant next to the center manufactures products for Japan Radio's solutions and specialized equipment business. Together, the plant and the Advanced Technology Center play a key role in the development and production of many technologies for the Nisshinbo Group's wireless and communications business.

### NJ Components — Sanyo Works

NJ Components Co., Ltd. became a subsidiary of Nagano Japan Radio Co., Ltd. in July 2019. The company's Sanyo Works (Yamaguchi Prefecture) manufactures coils and transformers for electric vehicles, which are expected to see rapid uptake, helping to reduce emissions of greenhouse gases. The site also makes high-performance magnetic materials (ferrite) used in those products. Nagano Japan Radio aims to combine its strengths with those of NJ Components to increase competitiveness and drive business expansion.



### Kawagoe Works

The Kawagoe Works in Fujimino, Saitama Prefecture was built by Japan Radio as a center for fundamental research and as a base for the solutions business, which provides disaster prevention systems and other products. The site's excellent location near central Tokyo means it can provide after-sales services to the whole Kanto region, while also focusing on providing products and services for local governments, such as dam and river management systems and disaster warning systems that relay information from local governments to the public.



## Micro Devices

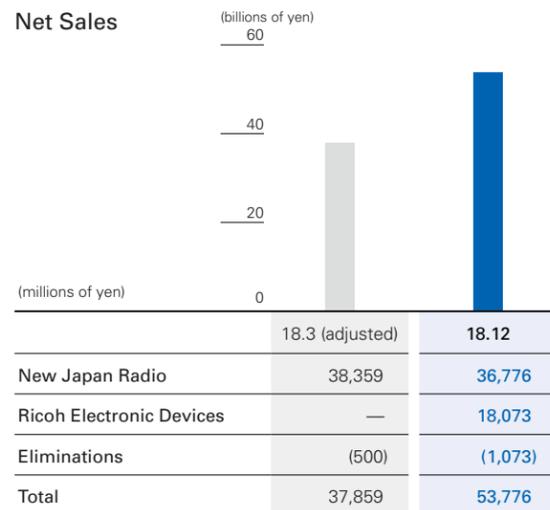
### New Japan Radio Co., Ltd. / Ricoh Electronic Devices Co., Ltd.

In the micro devices business, New Japan Radio Co., Ltd. supplies analog semi-conductors, SAW filters\* and other electronic devices and microwave products, while Ricoh Electronic Devices Co., Ltd. mainly supplies compact, energy-efficient power management integrated circuits (PMICs). Harnessing synergies between the two companies, the micro devices business is stepping up the development and production of devices for automotive and industrial equipment applications to capture projected growth in demand.

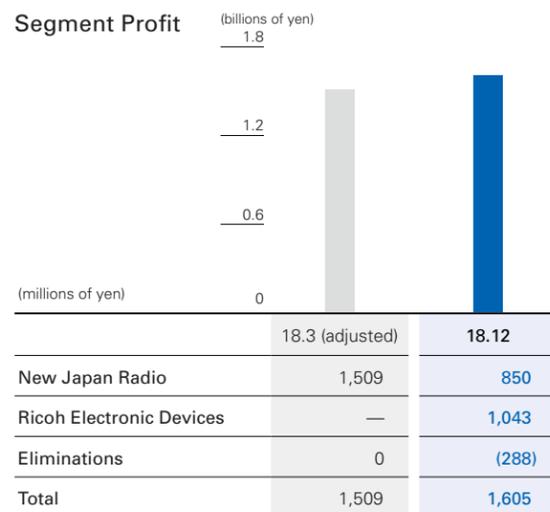
\* Surface Acoustic Wave filters: used in smartphones and other communication devices

# Business Results and Strategy

## Net Sales



## Segment Profit



Note: Figures for the previous fiscal year have been adjusted to facilitate comparison with figures for the fiscal period ended December 2018, which is a transitional period due to a change in the Group's fiscal year-end from March 31 to December 31.

### Summary of financial results for the fiscal period ended December 2018

In the fiscal period ended December 31, 2018, the micro devices business reported net sales of ¥53,776 million, up 42.0% year on year on an adjusted basis, and segment income of ¥1,605 million, up 6.3% on an adjusted basis.

In mainstay electronic devices, demand for products used in smartphones and industrial equipment lost momentum in China, partly due to weaker domestic consumption amid the trade dispute between the US and China. Contract manufacturing of components for air conditioners was also weak. In parts for automotive applications, demand was affected by a decline in car sales in China, but the business received a high level of inquiries from major Tier 1 parts suppliers in Europe, resulting in the start of shipments to some of those companies. In microwave products, the business reported strong sales of products for satellite communication systems.

Effective from the fiscal period ended December 2018, earnings from Ricoh Electronic Devices were included in consolidated results for the whole period, providing a substantial boost to sales and profits. Significant cost savings are also anticipated in production, with New Japan Radio switching front-end fabrication processes for MEMS\* microphones from outside contractors to Ricoh Electronic Devices' Yashiro Plant, which manufactures 8-inch wafers. Volume production of wafers for MEMS microphones started in February 2019, but Ricoh Electronic Devices is now upgrading its 8-inch wafer lines, aiming to ultimately increase production capacity to 1.5 times the current level.

In addition, New Japan Radio became a wholly owned Nisshinbo subsidiary in September 2018, creating the necessary framework to accelerate growth in the micro devices business.

\* Micro-electro-mechanical systems: small devices made using semiconductor fabrication technology

### Business strategies for the fiscal year ending December 2019

Demand for automotive devices is firm. The micro devices business has positioned automotive applications as a growth field and is strengthening its business to tap into that growth. Specifically, New Japan Radio and Ricoh Electronic Devices will build a collaborative business framework covering production through to purchasing, expand their lineup of products for next-generation vehicles such as electric cars and autonomous vehicles, and increase their exposure to the automotive devices market, which is stable and growing at a

rapid pace. The outlook for the Chinese market remains uncertain, particularly smartphone-related demand, due to factors such as the trade dispute between the US and China. However, we will continue to strengthen the micro devices business to prepare for an expected recovery led by devices for IoT and industrial equipment applications. In microwave products, demand for products used in satellite communication systems is likely to remain strong and sensor-related demand is also projected to expand.

Ricoh Electronic Devices is working to increase production capacity by deploying IT tools in manufacturing, preparing for

expected growth in demand for automotive and industrial equipment applications. The company is making good progress in line with plans. Meanwhile, New Japan Radio is currently expanding its chip package plant run by subsidiary Saga Electronics Co., Ltd.\* The plant's new wing is scheduled to start production of automotive sensors in early 2020.

Nisshinbo aims to continue expanding the micro devices business, targeting segment sales of ¥100 billion to build even greater trust with customers.

\* A wholly owned subsidiary of New Japan Radio

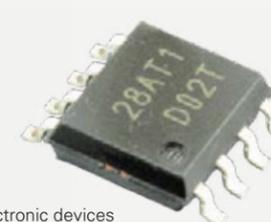
## Main Locations

Key Companies	Main Locations and Key Subsidiaries	Location	Main Products and Services
New Japan Radio Co., Ltd.	Kawagoe Works	Fujimino, Saitama Prefecture	Electronic devices, microwave products
	Saga Electronics Co., Ltd.	Kanzaki, Saga Prefecture	Electronic devices, microwave products
	NJR Fukuoka Co., Ltd.	Fukuoka, Fukuoka Prefecture	Electronic devices, microwave products
	THAI NJR CO., LTD.	Thailand	Electronic devices, microwave products
Ricoh Electronic Devices Co., Ltd.	Yashiro Plant	Kato, Hyogo Prefecture	Electronic devices

## Key Products



Electronic devices



Microwave products

### Automotive products

The number of ICs per vehicle continues to increase amid the shift to vehicle electrification and advances in autonomous driving technology. ICs are now needed for a growing array of applications, from car audio to power control units, which support basic vehicle functions, electric power-assisted steering and battery management systems, as well as sensors that are integral to parking assist systems, collision avoidance and prevention systems and autonomous driving.

### Industrial equipment products

Nisshinbo has a diverse lineup of products to meet customers' needs – operational amplifiers that play a key role in improving the sensing precision of encoders, which support movement in industrial robots, PMICs that support stable, low-noise operation of various industrial equipment, and analog front-end ICs that optimally integrate industrial equipment functions.

### Satellite communication system components

VSAT\* are satellite ground stations that play a crucial role in satellite-based internet connectivity, data transmission and telephony. New Japan Radio is Japan's only supplier of key components for VSAT and one of only a handful of specialist suppliers worldwide. It has the top share in the global market.

\*Very Small Aperture Terminal

## Interview with the Chairman of New Japan Radio



**Ryo Ogura**  
Chairman  
New Japan Radio Co., Ltd.

One of the objectives of the Nisshinbo Group's medium- to long-term management strategy is to contribute to the creation of a sustainable society as an *Environment and Energy Company* group by providing solutions that help solve some of the issues faced by society today. The role of the micro devices business is to design and manufacture electronic devices and grow its business in fields ranging from mobility, industrial equipment and communication devices to healthcare and satellite communication.

**Q1** In the fiscal period ended December 2018, micro device shipments for smartphones, automotive applications and industrial equipment started declining from around October 2018. What is the current situation in those markets?

In the smartphone market, shipments have been weak due to a slowdown in the Chinese economy. Also, migration to new communication technology tends to spur growth in demand, but the shift from 3G to 4G has already faded. However, we expect demand to pick up again once the move to 5G technology gathers pace. The timing of 5G uptake has the potential to trigger a major shift in market share at smartphone manufacturers, which will also have a knock-on effect for device shipments, depending on the type and volume of orders and which manufacturers place orders.

In the automotive market, shipments have been slow recently, but based on industry practice, we think it is unlikely that customers will cut planned procurement volumes. Micro devices being shipped now were developed and certified by customers three to four years ago. In fact, we see good prospects for business expansion, as we are

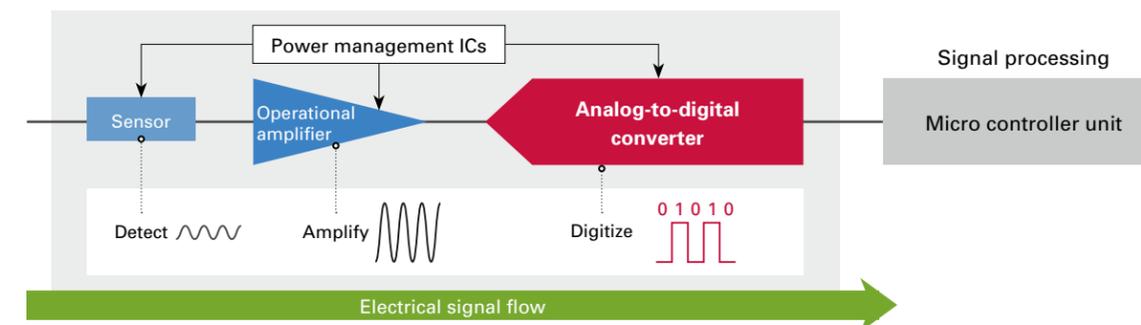
talking to domestic Tier 1 parts suppliers about products with a Start of Production (SOP) date of 2021 or later, and we have already secured a major order for our new products. That positive outlook for orders means we are confident of recovering our investment in those products.

In devices for industrial equipment, China's economic expansion and other factors have supported sustained growth in demand, uncoupled from the silicon cycle, but shipments have been sluggish recently. However, given the global shift to IoT, we forecast continued growth in the market over the long term, so we have no plans to slow the pace of product development.

**Q2** What are the Nisshinbo Group's strengths in the micro devices business?

Nisshinbo handles a broad range of sensors, operational amplifiers and ADCs\*, primarily for signal processing applications. We can also supply packaged modules customized to meet customer needs. In addition to raising quality and lowering costs, module products significantly reduce time and effort for customers in design processes and parts procurement, allowing them to focus resources

### How Analog Semiconductor Modules Work



on areas that are more important to them. We are proud of our ability to supply packaged modules, as it is something that larger competitors cannot typically handle.

Cooperation with Ricoh Electronic Devices Co., Ltd. has also gained traction in recent months, allowing us to supply modules that incorporate power management integrated circuits (PMICs) and other devices.

Unique technologies are another one of the Nisshinbo Group's strengths. In sensors, New Japan Radio's MEMS technologies help Nisshinbo stand out in the market. New Japan Radio has also used its microwave technologies to capture a high share of the market for receivers and transmitters for satellite communication systems. Microwave technologies are also being adopted for human detection sensors used in vending machines and hygiene applications. In addition, the Nisshinbo Group has a technological lead in optical semiconductor devices for industrial equipment. Our devices are used in applications such as sensors for encoders that detect the angle of rotation of robot arms.

\* Analog-to-Digital Converters: Electronic devices that convert analog signals to digital signals

**Q3** What progress have New Japan Radio and Ricoh Electronic Devices made in business cooperation?

Both companies have started collaborative projects at their manufacturing sites. New Japan Radio has switched fabrication of some wafers from outside contractors to Ricoh Electronic Devices' Yashiro Plant, while some of Ricoh Electronic Devices' assembly processes previously handled by contractors have been transferred to a plant run by Saga Electronics Co., Ltd.

Cooperation is also having a major positive impact on personnel costs. Device manufacturing plants tend to experience labor surpluses and shortages during certain periods, but we are now sharing personnel between plants run by New Japan Radio and Ricoh Electronic Devices to eliminate fluctuations in manpower.

Design and development teams at both companies

have set up joint working groups to start developing next-generation products.

In automotive products, we have to meet stringent safety standards in production processes. Ricoh Electronic Devices will be able to rapidly expand its lineup of automotive devices by using New Japan Radio's production lines, which have been certified to Japan's IATF 16949 standard and Europe's VDA 6.3 standard.

**Q4** What progress are you making in the European market?

Our devices are being adopted by a growing number of automotive parts suppliers in Europe. We are working more closely with leading Tier 1 suppliers, which has resulted in an order worth several billion yen. The order is for an automotive device developed jointly by New Japan Radio and Ricoh Electronic Devices.

**Q5** What ESG themes is management focusing on?

Reducing the environmental impact of our production sites is a routine part of our approach. But we are also putting the highest priority on work practice reforms, as the electronic device manufacturing sector tends to have long working hours. In 2016, New Japan Radio declared its commitment to becoming a Healthy Company and started implementing employee health management. The company provides various incentives to employees who want to improve their health and has installed training gyms and yoga rooms at its plants. Those initiatives have been recognized by the Ministry of Economy, Trade and Industry (METI), which selected New Japan Radio as a White 500 company with outstanding health management in 2017 and 2018. Our goal is to help employees achieve the right balance between life and work commitments by making working hours more flexible, increasing support for employees with children and implementing other personnel initiatives.

## New Japan Radio's Kawagoe Works

A "mother factory" supporting the development of world-class devices



New Japan Radio Co., Ltd. was spun off from Japan Radio Co., Ltd. in 1959 as Saitama Japan Radio Co., Ltd. Over the years, the company's Kawagoe Works has manufactured semiconductor wafers, microwave products such as SAW filters, MEMS microphones, radars and sensors, and microwave tubes and peripheral equipment. More recently, amid advances in vehicle electrification, the Nisshinbo Group is reinforcing its electronic devices business to develop some of the many components that will be required for next-generation vehicles. New Japan Radio's Kawagoe Works is a key facility with a "mother factory" role in Nisshinbo's micro devices business.

Location	2-1-1 Fukuoka, Fujimino, Saitama Prefecture, Japan
Opened	1959
Site area	57,510m <sup>2</sup> (slightly larger than Tokyo Dome stadium)
Building floor area	22,437m <sup>2</sup> (as of January 2019)
Electricity consumption	53,358MWh (fiscal period ended December 2018)
Fuel consumption	15,079KL (oil equivalent) (fiscal period ended December 2018)
Pumped groundwater use	640,981m <sup>3</sup> (fiscal period ended December 2018)

### Electronic Devices

The Kawagoe Works supplies a range of SAW, MEMS and other semiconductor-based electronic devices crucial to the development of today's electronics industry. The factory makes gallium arsenide wafers, as well as silicon wafers. Devices fabricated from gallium arsenide are used in many smart devices, particularly those with stringent quality requirements, as they are generally faster, more compact and more energy-efficient than devices made from silicon. Electronic devices are also assembled by subsidiaries in Kyushu and Thailand, as well as at the Kawagoe Works, and are held in high regard by customers in Japan and overseas.

### Microwave Products

New Japan Radio's oldest business is microwave products. The company has the world's leading share in microwave devices for satellite communication components, marine radar components and motion sensor modules. These products are used in satellite communications and in various radars and sensors for marine, aerospace, meteorological and defense applications. Microwave devices are becoming even more important amid wider use of satellite internet systems. New Japan Radio is currently working on the development of new products for medical use (cancer treatment) as part of efforts to broaden its product applications.



## Automobile Brakes

### Nisshinbo Brake Inc. / TMD Friction Group S.A.

Nisshinbo is a global supplier with world-class development capabilities in the field of friction materials, which are key components in automobile brake systems. Our strategy in the automobile brakes business is to address the specific requirements of each market and customer with three businesses — Nisshinbo Brake, TMD Friction Group and Saeron Group — aiming to meet global automaker needs for optimum parts procurement as the world's leading friction materials company.

**P.32** Business Results and Strategy

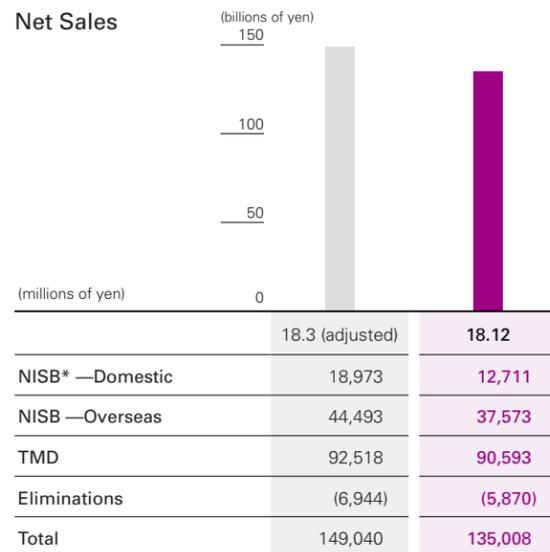
**P.33** Key Products

**P.34** Interview with the President of Nisshinbo Brake

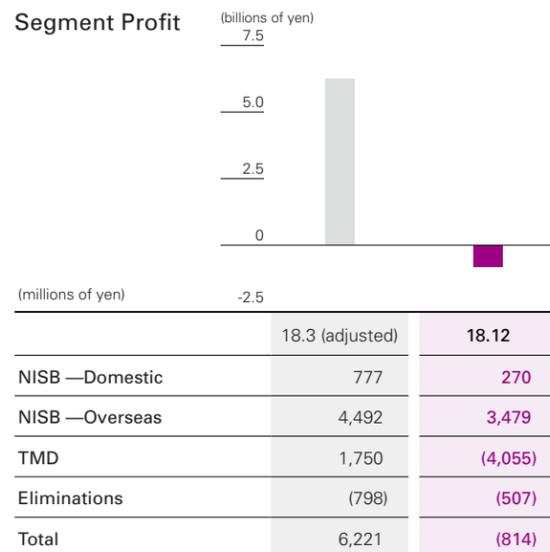
**P.36** Developing Our Business Worldwide

# Business Results and Strategy

## Net Sales



## Segment Profit



\* Nisshinbo Brake Inc.

Note: Figures for the previous fiscal year have been adjusted to facilitate comparison with figures for the fiscal period ended December 2018, which is a transitional period due to a change in the Group's fiscal year-end from March 31 to December 31.

## Summary of financial results for the fiscal period ended December 2018

In the fiscal period ended December 2018, the automobile brakes business reported net sales of ¥135,008 million, down 9.4% year on year on an adjusted basis, and a segment loss of ¥814 million, a deterioration of ¥7,036 million on an adjusted basis. The main reasons for the drop in sales and profits were the sale of the foundation brake business, weaker sales of TMD's aftermarket products and an increase in personnel expenses.

Despite growth in domestic car sales, led by light vehicles, and higher sales of new products, Nisshinbo Brake reported lower sales and profits in Japan due to the sale of the foundation brake business. In South Korea, the company's sales declined due to weaker sales at automaker customers, but cost reduction and other factors lifted profits year on year. In the US, new car sales were strong, but sales and profits both declined due to changes in the product mix, including higher sales of products for light trucks. Sales and profits fell in China amid weaker car sales, and sales and profits also declined in Thailand due to the sale of the foundation brake business.

TMD reported a steep drop in sales and profits, reflecting disruption related to a warehouse relocation started in 2017. The disruption prevented TMD from shipping aftermarket products to meet new orders. Orders for original equipment parts also slowed following a spike in demand before the introduction of Europe's new WLTP standards for exhaust gas emission testing in September 2018.

## Business strategies for the fiscal year ending December 2019

We anticipate a spike in domestic car sales in 2019 ahead of the planned increase to consumption tax, but the boost to sales is likely to be more modest than in the past, partly due to government measures to mitigate the impact of the consumption tax hike. In the US, where car sales have been firm, we are watching for any impact on internal demand from the trade dispute with China. Meanwhile, trade friction and other factors are weighing on domestic demand in China. We expect the market to recover over the long term, but sales in 2019 could be flat or lower year on year. Car sales in Thailand are likely to continue growing at a strong pace. We forecast flat sales year on year in Europe, but customs issues related to Brexit could paralyze logistics channels.

Against that backdrop, TMD's top priority is to turn around orders for aftermarket products, while also rapidly

implementing its restructuring program, including consolidating plants in Germany and realigning its network of global sites. Under the new business structure led by Nisshinbo Brake, which was launched in the fiscal period ended December 2018, we will steadily roll out new tools to improve the earnings cycle, such as monthly earnings and KPI management and a PDCA cycle. We aim to deploy the new tools across the TMD Group to return it to profitability, allowing us to resume strategic investment in new product development and growth fields.

Nisshinbo Brake is already stepping up shipments of copper-reduced and copper-free friction materials\*. We believe this is a good opportunity to increase market share, as Nisshinbo Brake is one of the first companies in the market to develop and launch friction materials that meet new environmental regulations. We started production of the new materials in the US and Asia in 2018. Over three years, starting from the fiscal period ended December 2018, we intend to invest a total of ¥20 billion to boost production capacity for new friction materials, including the construction of a new plant in the US.

At Nisshinbo Brake's Tatebayashi Plant, we are progressively introducing continuous production lines that integrate multiple processes. We are also adopting innovative new approaches in manufacturing, such as using IoT technology to visualize conditions on the production lines, allowing us to better predict issues and maintain equipment, and automatically collecting data in testing processes. The measures, which should be completed by 2021, are expected to reduce lead times and labor intensity.

Going forward, we expect authorities to start tightening rules on microparticle emissions caused by wear and tear in brake systems. After developing products compatible with regulations on copper content, we are now turning our attention to that issue in research and development.

\* Demand for these products, which are compatible with US regulations on copper content, is projected to increase worldwide. US environmental regulations, effective from 2021, prohibit the sale of new friction materials or vehicles fitted with friction materials that have a copper content of more than 5%. From 2025, the limit on copper content will be reduced to 0.5%.

## Main Locations

Key Companies	Main Locations and Key Subsidiaries	Location	Main Products and Services
Nisshinbo Brake Inc.	Tatebayashi Plant	Ora, Gunma Prefecture	Automobile brake friction materials
	Nisshinbo Automotive Manufacturing Inc.	USA	Automobile brake friction materials
	Saeron Automotive Corporation	South Korea	Automobile brake friction materials
	Nisshinbo Somboon Automotive Co., Ltd.	Thailand	Automobile brake friction materials
	Saeron Automotive Beijing Corporation	China	Automobile brake friction materials
	Nisshinbo Saeron Changshu Automotive Co., Ltd.	China	Automobile brake friction materials
TMD Friction Group	TMD Friction GmbH	Germany, etc.	Automobile brake friction materials

## Key Products



Disc pads



Brake linings

Nisshinbo Brake and TMD sell friction materials such as disc pads and brake linings designed for the original equipment and aftermarket needs of each region. Our friction materials offer reliable performance and durability under various conditions, while also achieving powerful and smooth braking. They are used on a wide range of vehicles, from

light cars, ordinary passenger vehicles and sports cars, to large trucks and buses. As a pioneer in the market, we are now focusing on growing sales of friction materials compatible with new regulations on copper content.

## Interview with the President of Nisshinbo Brake

The Nisshinbo Group's automobile brakes business is cementing its position as one of the leading suppliers of eco-friendly products, supported by rising orders of pioneering copper-reduced and copper-free friction materials, which were developed in-house. With a combined global market share of roughly 20%, Nisshinbo Brake Inc. and TMD Friction Group S.A. are also contributing to safety in the global automotive industry as manufacturers of world-class brake friction materials.



**Yasuji Ishii**  
President  
Nisshinbo Brake Inc.

**Q1 Earnings were weak in the fiscal period ended December 2018. What were the reasons for the decline in sales and profits at Nisshinbo Brake?**

The main reason for the year-on-year drop in sales and profits (adjusted basis) was the sale of the foundation brake business in April 2018. In our remaining friction materials business, earnings are steady in Japan and overseas.

To recap, we decided to sell our foundation brake business to focus management resources on the friction materials business, which has a competitive position in the market. Amid increasing competition spurred by the shift to electronic brake systems (EBS), we realized that we would have needed to invest heavily in facilities and product development to maintain our position.

**Q2 Why did TMD report weaker sales and a loss in the fiscal period ended December 2018?**

Most of the products supplied by Nisshinbo Brake are for original equipment for new vehicles, but TMD also has an aftermarket (replacement) product business, which is roughly the same size or larger than its original equipment business. However, the aftermarket business is TMD's main source of profits.

The aftermarket business was the direct reason for the loss. In Germany, TMD started consolidating its warehouse sites in 2017 and relocated to a larger single site as part of efforts to build a distribution system better suited to our global operations. However, disruption to systems at the new warehouse meant TMD was unable to ship products for new orders. That situation continued from early 2018 until around June, which led to higher costs to fix the problem, as well as lower sales, and the loss of some customers.

We are confident those customers will ultimately return to TMD because of its powerful brands, but we needed to run a major promotional campaign at retailers to drive a recovery in sales. Costs associated with that campaign will persist into 2019.

In original equipment products, TMD has expanded over the years through numerous M&A deals. Some of the brands and business structures inherited from those deals have been retained in certain markets. To address those inefficiencies, TMD is consolidating its Leverkusen and Essen sites in Germany – the company's largest market – at a single location in Essen. The project, launched several years ago, was expected to significantly improve profit margins, but targets have not been achieved due to poor local execution.

To resolve the issues, we overhauled TMD's management structure in mid-2018 and began providing full support to the company, including even sending personnel from Nisshinbo Brake to support operations. While implementing our response, we have gained a clearer picture of the issues faced by TMD in safety, quality, production processes and other areas. By carefully tackling each issue, we expect to see a positive economic impact emerge from 2020.

**Q3 What is the current situation with Nisshinbo Brake's copper-reduced and copper-free friction materials?**

As of April 2019, roughly one-fifth of disc pads manufactured at our Tatebayashi Plant were copper-reduced or copper-free products. In the automotive parts sector, shipment volumes for orders are decided several years in advance, so we already have a good idea of Nisshinbo Brake's shipments of copper-reduced and copper-free products through to around 2025.

At the Tatebayashi Plant, we plan to increase production capacity by roughly 20% by 2025, compared with April 2019 levels. We forecast more than 60% of output will be allocated to products compatible with stricter rules on copper content. At our US plant, about 10% of output is currently copper-reduced and copper-free products, but we intend to increase the plant's total capacity by around 40% by 2025. More than 50% of output will be allocated to

those products. Volume production of copper-reduced and copper-free products has already started at our plants in China. Including investments already made, we plan to invest roughly ¥20 billion in increasing production capacity for those products at our sites in Japan, the US and China.

The type of brake products we need to develop for 2025 and beyond will depend on technological trends, but there is already a clear shift towards smaller, more lightweight and more environmentally friendly products that also ensure a high level of safety. We believe that capturing market share in copper-compatible products will also help give us a strong position in the development of next-generation products.

**Q4 What does the automobile brakes business bring to the Nisshinbo Group, and what ESG themes are you focusing on at the management level?**

In the mobility field, a key area for the Nisshinbo Group, Nisshinbo Brake's credibility with automakers and Tier 1 automotive parts suppliers is translating into new business opportunities for the Group. Nisshinbo is also implementing a project to reinforce the Group's production technologies by adopting steps taken by the Tatebayashi Plant to make production processes more efficient using IoT and AI technologies.

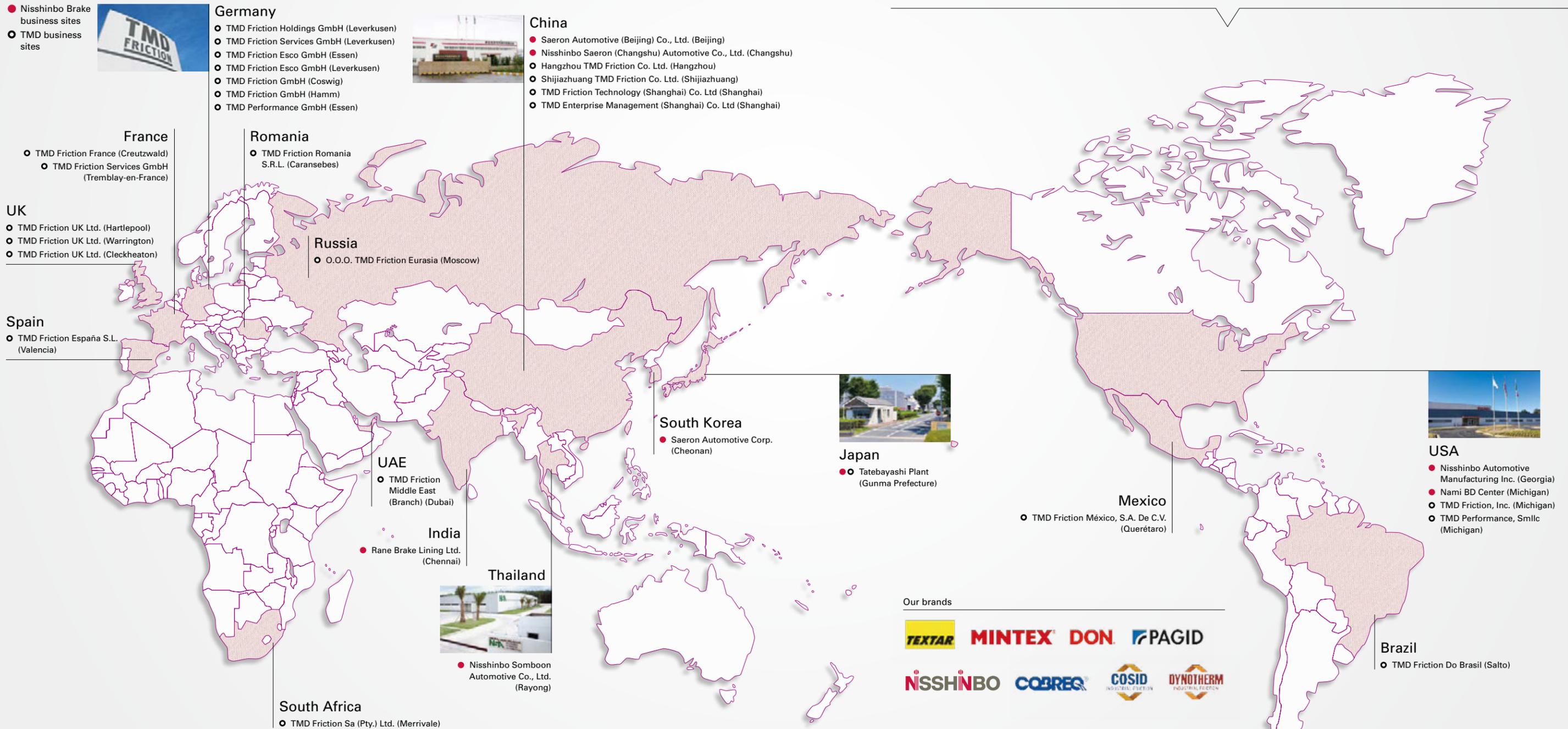
In ESG, we continue to work on reducing industrial waste and other emissions to the bare minimum at our manufacturing sites. We are also implementing reforms to work practices. We believe that empowering women and younger employees holds the key to future growth in the automobile brakes business. We are making constant improvements to the way we do business, such as giving younger employees more responsibility, aiming to create an organization that attracts and retains the best people.

## Developing Our Business Worldwide

Nisshinbo Brake Inc., a world-leader in brake friction materials development, started moving into overseas markets from the late 1990s to meet the needs of global automakers. The company's area of operations increased dramatically in 2012 with the acquisition of the TMD Friction Group. As the world's top maker of friction materials by market share, Nisshinbo Brake's strategy is to supply products worldwide by addressing the unique needs of each market and customer.

### Nisshinbo Brake / TMD Friction Group

**41** business sites across **17** countries worldwide (including Japan)



Our brands





# Precision Instruments

## Nisshinbo Mechatronics Inc.

Utilizing various areas of expertise accumulated over more than 70 years, this segment is focused on precision metal parts processing for the automotive sector and plastic products for the home appliance and automotive sectors. The segment also makes customized production equipment to meet the specific needs of customers. We are working closely with Nanbu Plastics Co., Ltd., which became a subsidiary in 2015, to develop these businesses globally, centered on Asia.

**P.39** Key Products

**P.40** Business Results and Strategy

**P.41** President's Comment — Nisshinbo Mechatronics Inc.

## Key Products

### EBS Valve Blocks

Nisshinbo Mechatronics Inc. manufactures EBS valve blocks for electronic stability control (ESC) systems at a plant in China operated by subsidiary Nisshinbo-Continental Precision Machining (Yangzhou) Co., Ltd. ESC systems use information on driving conditions gathered from sensors to control vehicle stability and braking. Nisshinbo draws on its long track record of expertise to meet client needs for valve blocks, which require advanced machining technology and have to meet high standards for quality and cost.



Automotive EBS valve block

### Automotive Plastic Parts

Using its molding technology for revolving parts, Nisshinbo Mechatronics has supplied automotive fans for car air conditioners and radiators for many years. However, with the acquisition of Nanbu Plastics Co., Ltd. in 2015, Nisshinbo Mechatronics is using the subsidiary's strengths in automotive wire harness connectors and plastic headlight components to expand its reach in the automotive field. Nisshinbo Mechatronics and Nanbu Plastics are now developing their business worldwide by combining their respective technologies to generate synergies, while also leveraging their ability to offer integrated support to clients, from product planning and development through to assembly.



Automotive headlight components

### High Value-added Plastics

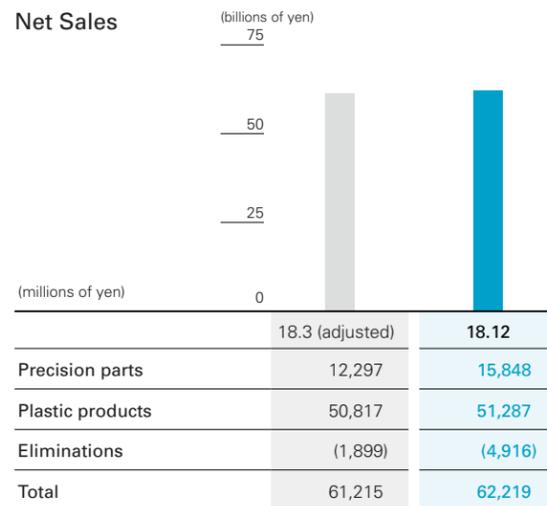
Nisshinbo Mechatronics manufactures Eco Cross fans used in residential air conditioners. The patent-protected fans are lighter and more energy-efficient than existing equivalent fans. By combining its proven expertise in revolving technologies with state-of-the-art molding technologies, Nisshinbo Mechatronics has created a cost-competitive fan that also saves energy and resources. Eco Cross is highly regarded by Japanese air conditioner makers, which are expanding their operations worldwide. We are currently increasing production to address projected growth in demand, mainly in China and Southeast Asia.



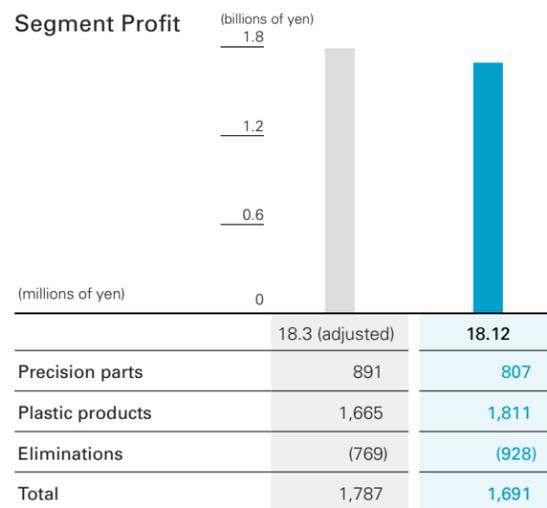
Fans for residential and commercial air conditioners

# Business Results and Strategy

## Net Sales



## Segment Profit



Note: Figures for the previous fiscal year have been adjusted to facilitate comparison with figures for the fiscal period ended December 2018, which is a transitional period due to a change in the Group's fiscal year-end from March 31 to December 31.

### Summary of financial results for the fiscal period ended December 2018

In the fiscal period ended December 2018, the precision instruments business reported net sales of ¥62,219 million, up 1.6% year on year on an adjusted basis, and segment profit of ¥1,691 million, down 5.4% on an adjusted basis.

In precision parts processing, sales increased year on year, supported by business expansion at a subsidiary in China that supplies precision parts to the automotive sector. However, higher depreciation expenses related to an increase in capital expenditure led to a drop in profits. Sales growth fell short of forecasts amid lower car sales in China, which were affected by trade friction between the US and China and other factors.

Sales and profits increased year on year in plastic products, mainly reflecting strong sales of automotive parts at Nanbu Plastics Co., Ltd. and higher sales at subsidiaries in China and India. Volume production at our third plant in Thailand started in October 2018, helping to lift productivity for cross-flow fans. We also aim to use the plant to create synergies with Nanbu Plastics Co., Ltd. in the production of vehicle hood ornaments.

### Business strategies for the fiscal year ending December 2019

In the precision instruments business, we are closely watching the car market in China, where sales are on a downward trend amid trade friction between the US and China. Nisshinbo-Continental Precision Machining (Yangzhou) Co., Ltd. is reducing inventories due to a projected decline in orders from customers. However, the company will continue to invest in its business while monitoring customer demand and market trends. It plans to start volume production of next-generation products, which is likely to support rising output over the longer term. To fund that investment, we increased capital in the company in the fiscal period ended December 2018 and in the fiscal year ending December 2019. In Japan, we plan to maintain profitability by installing a production line monitoring system and taking other steps to lift productivity. In addition, Nisshinbo Precision Instrument & Machinery Hiroshima Corp. has started volume production of products for a new supply order with a major automaker.

In plastic products, we plan to expand our business network worldwide, using sites in Japan as mother factories to train personnel, develop technologies and build production systems. Our subsidiary in India is now growing steadily and we plan to continue injecting capital and investing in facilities.

Nanbu Plastics Co., Ltd. will leverage synergies with other companies in the Group, such as working with Nisshinbo Mechatronics (Thailand) Ltd. in vehicle hood ornament manufacturing and transferring production of thick-walled headlamp lenses to Nisshinbo Mechatronics (Shanghai) Co., Ltd.

## President's Comment — Nisshinbo Mechatronics Inc.

The precision instruments business will build the necessary business base to enhance Group management and global management. With respect to Group management, we aim to create an integrated framework for product development, sales, production technology and quality assurance to support manufacturing reforms that utilize IoT and AI technologies. With respect to global management, we will reinforce risk management in areas such as safety, the environment, labor, quality and tax affairs, and upgrade governance systems. Harnessing our strong portfolio of technologies, high levels of quality and cost-competitiveness, we will take on challenges in new business fields and strive to dynamically and rapidly supply optimal products to customers.



**Toshihiro Masuda**  
President  
Nisshinbo Mechatronics Inc.

## Main Locations

Key Companies	Main Locations and Key Subsidiaries	Location	Main Products and Services
Nisshinbo Mechatronics Inc.	Miai Machinery Plant	Okazaki, Aichi Prefecture	Plastic products, automotive precision parts
	Hamakita Plant	Hamamatsu, Shizuoka Prefecture	Automotive precision parts
	Nisshinbo Precision Instrument & Machinery Hiroshima Corp.	Higashihiroshima, Hiroshima Prefecture	Automotive precision parts
	Nisshinbo-Continental Precision Machining (Yangzhou) Co., Ltd.	China	Automotive precision parts
	Nisshinbo Mechatronics (Shanghai) Co., Ltd.	China	Plastic products
	Nisshinbo Mechatronics (Thailand) Ltd.	Thailand	Plastic products
	Nisshinbo Mechatronics India Private Limited	India	Plastic products
Nanbu Plastics Co., Ltd.		Shizuoka Prefecture, etc.	Plastic products



# Chemicals

## Nisshinbo Chemical Inc.

Drawing on a broad base of expertise and intellectual property in the chemical field, this segment is working to develop products that help protect the environment and make life more comfortable. Our environment- and energy-related products include bipolar plates for fuel cells and Carbodilite, a high-performance plastic material that increases the durability of biodegradable plastics and waterborne resins, which have minimal environmental impact. We are investing management resources in these promising growth areas as a matter of priority.

**P.43** Key Products

**P.44** Business Results and Strategy

**P.45** President's Comment — Nisshinbo Chemical Inc.

## Key Products

### Carbodilite

Carbodilite is the collective name for a range of polymer and polycarbodiimide-based products developed in-house by Nisshinbo Chemical Inc. Carbodilite is a highly effective modifier and cross-linking agent blended with base materials for paints, plastics and other products. Countries worldwide are tightening rules governing volatile organic compounds (VOC) and other regulations to reduce CO<sub>2</sub> emissions and restrict use of certain chemical substances. Due to its highly safe characteristics, that trend is spurring demand for Carbodilite in Japan and overseas as an alternative to existing highly toxic cross-linking agents, and as a key modifier for water-based paints and coatings with lower drying temperatures. Meanwhile, there is growing concern worldwide about single-use plastic products, which have led to issues such as marine micro-plastic pollution, waste plastic disposal and depletion of oil resources. Carbodilite is used as a modifier for biodegradable plastic, which is seen as a solution to those issues.



Carbodilite

### Bio-carriers for Wastewater Treatment

AQUAPOROUSGEL (APG) is a bio-carrier for microorganisms that improves the effectiveness of microorganisms in systems used to treat wastewater from factories and other facilities. APG is a high-performance bio-carrier that settles rapidly into wastewater, while its sponge-form provides a large surface area for bacteria to attach to and colonize. APG is highly regarded in Japan, where it is used by leading water purification companies. It is also helping to improve water quality at public sewage treatment facilities in China and countries in Southeast Asia.



Bio-carriers: APG

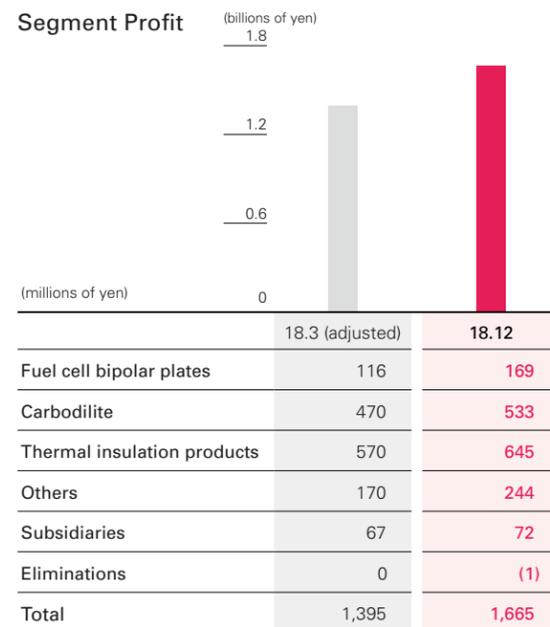
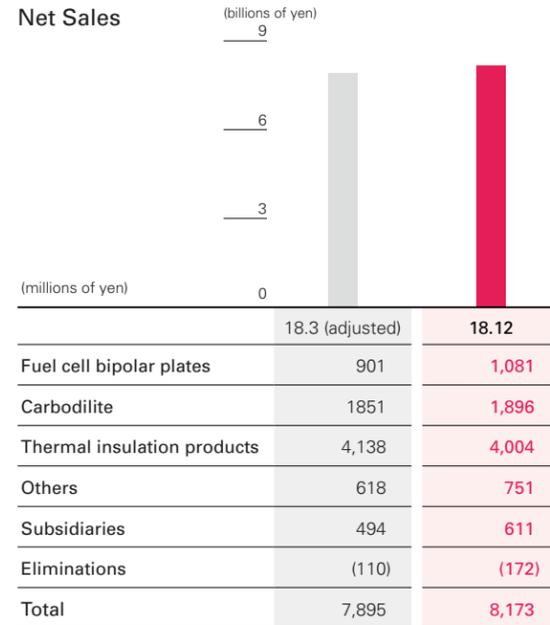
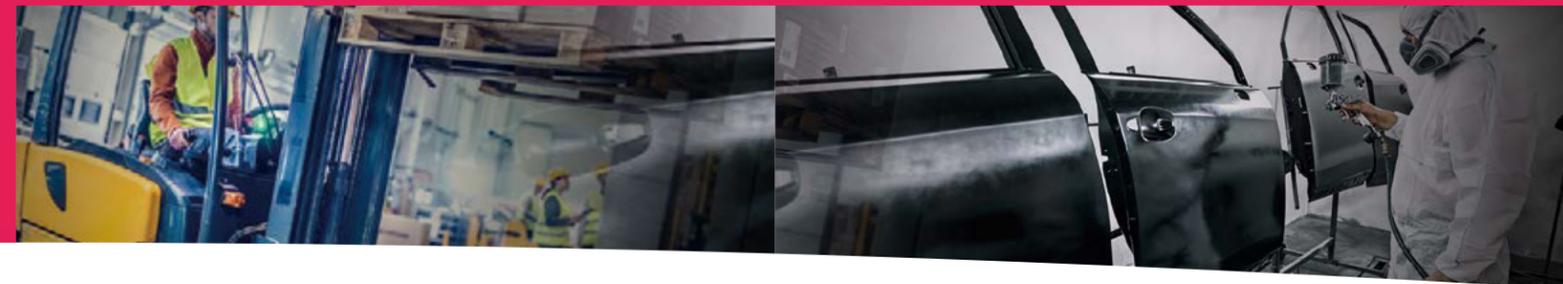
### Glass-like Carbon

Demand for glass-like carbon used in manufacturing tools is growing on the back of several trends, such as increased demand for high-performance semiconductors spurred by the spread of IoT and AI, and growing use of OLED screens for smartphones and other applications. Our unique glass-like carbon coating has the high heat-resistance of graphite, as well as low electrical resistance that reduces dust emissions and ensures impermeability to gases and liquids. Those special properties mean glass-like carbon is used for many different-shaped products in a wide range of target markets. We expect glass-like carbon to be used in a growing range of applications, such as for the development of tools for molding neodymium magnets and curved glass screens, which are likely to be key products in smart societies.



Processed glass-like carbon products

# Business Results and Strategy



Note: Figures for the previous fiscal year have been adjusted to facilitate comparison with figures for the fiscal period ended December 2018, which is a transitional period due to a change in the Group's fiscal year-end from March 31 to December 31.

## Summary of financial results for the fiscal period ended December 2018

In the fiscal period ended December 2018, the chemicals business reported net sales of ¥8,173 million, up 3.5% year on year on an adjusted basis, and segment profit of ¥1,665 million, up 19.3% on an adjusted basis.

In thermal insulation products, the completion of a large project supplying rigid processed insulation products (refrigeration materials for LNG carriers) and weak sales of urethane base solution led to a decline in sales. However, an increase in the sales ratio for high value-added products lifted profits year on year.

In functional chemicals, sales and profits increased year on year, supported by higher sales of the powdered form of modifier Carbodilite. Amid greater efforts to tackle atmospheric pollution and marine plastic pollution, as well as a growing shift to much safer chemical substances, the functional chemicals business is seeing strong sales of Carbodilite as a biodegradable plastic modifier and as a waterborne cross-linking agent, particularly for automotive coatings and heavy-duty anti-corrosion coatings. In the fiscal period ended December 2018, the business also stepped up efforts to develop and launch new applications, such as highly safe packaging film for food products.

In fuel cell bipolar plates, higher sales of products for fixed fuel cells overseas supported growth in sales and profits. The business also registered an increase in orders for prototype products for fuel cell buses, trucks and other commercial vehicles overseas.

In glass-like carbon products, sales increased on the back of firm conditions in the semiconductor market.

In microorganism bio-carriers for wastewater treatment, orders are growing strongly in China, which faces serious environmental issues. Demand in China is being supported by rapid growth in the number of distributed wastewater treatment facilities.

## Business strategies for the fiscal year ending December 2019

In thermal insulation products, we are seeing a rapid shift in demand to foaming agents with a global warming potential\*1 of 1. In response, we are switching to non-fluorocarbon products\*2 and working to rapidly develop and launch compatible flame-resistant and non-flammable products. We also aim to increase sales of high value-added products based on proprietary technologies, such as insulation base solution for civil engineering applications and railroad ballast materials. In

## President's Comment — Nisshinbo Chemical Inc.

The chemicals business handles a wide range of environmentally friendly products and technologies. To become the kind of global business partner that our customers need, we will work to expand our operations and generate strong growth and profits.

We will invest heavily in high-performance resin material Carbodilite and fuel cell bipolar plates, two promising growth products, and further expand our business worldwide. Going forward, we will continue to develop innovative new technologies and shift our focus to high-performance, high value-added products to provide next-generation chemical products that society needs.



**Akihiro Kamei**  
President  
Nisshinbo Chemical Inc.

refrigeration materials for LNG applications, we are targeting orders for LNG-powered ships and LNG bunker supply vessels\*3, which are likely to gain greater attention due to tighter regulations on sulfur oxide (SOx) emissions from ships, due to come into force in 2020.

In recent years, demand for safe materials with low environmental impact has been increasing steadily in Japan and overseas. Against that backdrop, we plan to promote Carbodilite's safety credentials and develop more Carbodilite products and applications to drive strong growth and achieve high levels of profitability. To generate strong growth, we plan to start up a new overseas manufacturing site in a few years time, while also exploring business alliances and M&A deals.

In fuel cell bipolar plates, we are fielding a growing number of inquiries about fixed fuel cell applications from potential customers in the global market. We aim to tap into that interest to push the adoption of our bipolar plates in more fuel cells. In automotive applications, we are winning orders for prototype bipolar plates for fuel cell buses, trucks and other commercial vehicles, and we are using that experience to

develop volume-production technology that can be used when the market for fuel cell vehicles takes off.

In microorganism bio-carriers for wastewater treatment, we will strengthen ties with local manufacturers in China to address rising demand in the Chinese market. We aim to increase sales by using those partnerships to build a local network of manufacturing and sales sites. We will also explore business opportunities in Southeast Asia, where the market is likely to take off.

The glass-like carbon products business faces tough market conditions due to slowing growth in the semiconductor and OLED panel markets and trade friction between the US and China. However, we plan to continue rolling out innovative new products, such as components for semiconductor production equipment launched in the fiscal period ended December 2018.

\*1 A measure of how much heat a greenhouse gas traps in the atmosphere relative to carbon dioxide, expressed as a numerical value

\*2 Urethane foam that uses hydrofluoroolefins (HFOs) or water as the blowing agent

\*3 Ships that supply LNG fuel to LNG carriers at sea

## Main Locations

Key Companies	Main Locations and Key Subsidiaries	Location	Main Products and Services
Nisshinbo Chemical Inc.	Toke Plant	Chiba, Chiba Prefecture	R&D Center (Carbodilite)
	Asahi Plant	Asahi, Chiba Prefecture	Urethane products, fine carbon products
	Tokushima Plant	Tokushima, Tokushima Prefecture	Carbodilite
	Chiba Plant	Chiba, Chiba Prefecture	Carbon bipolar plates for fuel cells



# Textiles

## Nisshinbo Textile Inc.

Since its founding in 1907 as Nisshin Cotton Spinning Co., Ltd., Nisshinbo has led the Japanese textile industry with its state-of-the-art technologies and high quality. Nisshinbo subsequently expanded its business globally in the fields of spinning, weaving, processing and sewing, and today possesses some of the world's most advanced technologies in product development and production. Nisshinbo is currently working to increase global sales of the APOLLOCOT brand by mobilizing its sophisticated textile processing technologies.

### Summary of financial results for the fiscal period ended December 2018

In the fiscal period ended December 2018, the textiles business reported net sales of ¥43,660 million, down 2.2% year on year on an adjusted basis, and segment profit of ¥1,250 million, down 31.3% on an adjusted basis.

In the domestic market, sales of uniform fabric and non-woven fabric for cosmetics goods increased year on year. TOKYO SHIRTS CO., LTD. also reported firm sales of shirts. However, sales and profits both declined year on year, reflecting weak export sales of spandex for legwear and disappointing sales of sports apparel at Nisshin Toa Iwao, Inc.

Overseas, sales of products made by subsidiaries in Indonesia and China for supply to third countries and regions increased to more than ¥3.0 billion. Our Brazilian subsidiary reported higher

sales of unprocessed yarn, but sales declined in yen terms due to unfavorable exchange rates. Profits at the subsidiary were also hit hard by high prices for raw cotton. As a result, overseas sales increased but profits declined year on year.

### Business strategies for the fiscal year ending December 2019

In the domestic market, we see the risk of a short-term decline in demand for apparel after the upcoming hike to consumption tax. We also forecast falling demand over the longer term due to Japan's shrinking population. However, the market for wrinkle-free shirts is likely to remain largely

### President's Comment — Nisshinbo Textile Inc.

The textiles business has tightened and deepened its focus on strategic business areas after several changes of direction. With our focus now firmly on shirts, textiles and materials development, we aim to generate growth as a dynamic business with a healthy sense of urgency. Our unshakeable strengths in manufacturing — built through the T-KAIZEN program — will underpin our efforts. Drawing on Group management and global management, we will work to create new markets overseas and strengthen our presence in the domestic market. We will also relentlessly develop and launch new products to continue supporting today's super smart society and environmental energy society, while also building a highly profitable operating structure.



**Kaoru Murata**  
President  
Nisshinbo Textile Inc.

stable, as drastic changes in business fashion are unlikely. In the uniform and non-woven fabric fields, we anticipate higher sales of work uniforms for the 2020 Tokyo Olympics. We also see prospects for higher nursing care-related demand, spurred by Japan's super-aging population. The outlook is very uncertain in the overseas market, but the global population continues to rise and we see more business opportunities ahead.

Against that market backdrop, we aim to continue growing sales of wrinkle-free shirt fabric in the shirt business, particularly our APOLLOCOT brand. TOKYO SHIRTS CO., LTD. will work to improve profitability by improving sales guidance and strengthening measures to increase the ratio of shirts sold at non-discount prices. At the same time, the company plans to set up a new online sales portal to address the shrinking market for shirts and reinforce the business by integrating the management of inventories and customer data. The goal is to double the ratio of online sales by 2020.

In Indonesia, we will continue to pursue our goal of global cost-competitiveness and global quality through our company-wide improvement program called T-KAIZEN, aiming to grow sales by expanding product supply to third countries and regions.

In Brazil, we are currently drawing up plans to replace some aging spinning machines with new highly efficient equipment in 2020. We plan to continue investing in facilities and equipment at our Brazilian operations to improve competitiveness, while also monitoring trends in the foreign exchange market and the raw cotton market.

In the textiles business, we will continue to target orders for custom-made uniforms and increase sales of uniforms for the service sector. In medical wear, we will focus on developing new products that are compatible with industrial laundry processes.

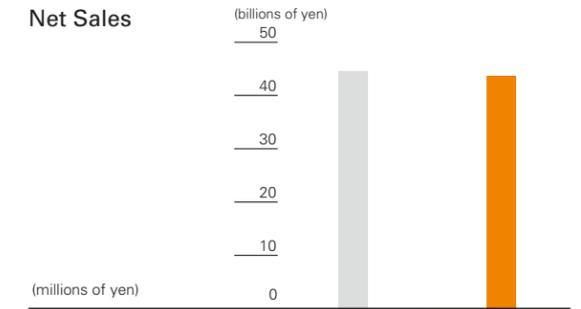
In product development, we are working with Japan Radio Co., Ltd. and New Japan Radio Co., Ltd. to develop smart textiles. In December 2018, we signed a comprehensive joint development agreement with Nara Medical University to develop a waist band that can predict the onset of labor pains by transmitting the baby's heartbeat to medical equipment. We plan to look into the feasibility of using the belt as an infant health protection device as part of a suite of monitoring services.

We also continue to conduct research and development into anhydrous dyes, formalin-free processing and non-starch textile manufacturing, which all have the potential to significantly reduce environmental impact in the natural textile manufacturing sector.

### Main Locations

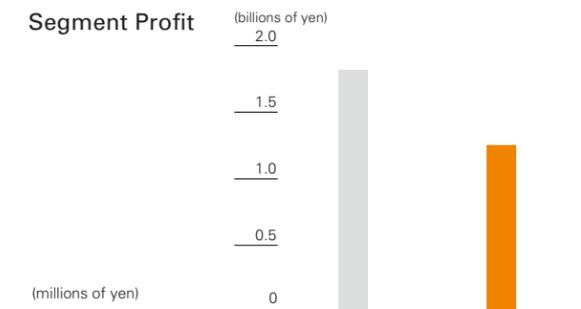
Key Companies	Main Locations and Key Subsidiaries	Location	Main Products and Services
Nisshinbo Textile Inc.	Fujieda Plant	Fujieda, Shizuoka Prefecture	Developed materials
	Tokushima Plant, Yoshinogawa Plant	Tokushima Prefecture	Developed materials, denim products
	PT. Nikawa Textile Industry	Indonesia	Textile spinning and weaving
	PT. Nisshinbo Indonesia	Indonesia	Textile weaving and dyeing
	Nisshinbo Do Brasil Industria Textil Ltda.	Brazil	Textile spinning
	Nisshinbo (Shanghai) Co., Ltd.	China	Textile products
	TOKYO SHIRTS CO., LTD., Naigai Shirts Co., Ltd.	Tokyo, etc.	Dress shirts

### Net Sales



(millions of yen)	2018 (adjusted)	2019
Nisshinbo Textile	14,371	14,982
Japanese Subsidiaries	21,840	20,856
Brazil	5,400	5,146
Indonesia	13,653	14,401
China	2,438	2,587
Eliminations	(13,056)	(14,313)
<b>Total</b>	<b>44,646</b>	<b>43,660</b>

### Segment Profit



(millions of yen)	2018 (adjusted)	2019
Nisshinbo Textile	231	174
Japanese Subsidiaries	899	663
Brazil	555	233
Indonesia	322	373
China	39	78
Eliminations	(227)	(271)
<b>Total</b>	<b>1,819</b>	<b>1,250</b>

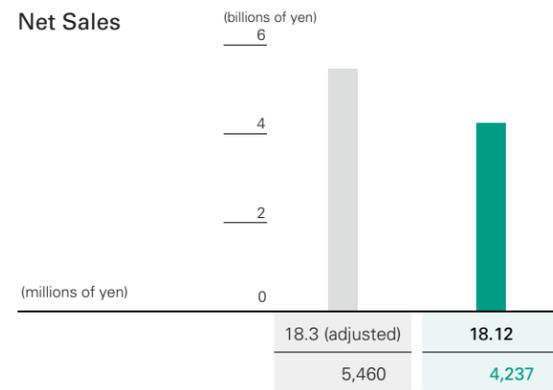
Note: Figures for the previous fiscal year have been adjusted to facilitate comparison with figures for the fiscal period ended December 2018, which is a transitional period due to a change in the Group's fiscal year-end from March 31 to December 31.



# Real Estate

## Nisshinbo Holdings Inc.

Nisshinbo's real estate business redevelops properties that have become vacant as a result of business changes at Group companies. Income from those activities is used to fund the Group's growth strategy, such as launching new businesses and expanding global operations. Income is generated from two main sources — property leasing and the sale of housing lots. Nisshinbo has actively developed the housing lot sales business since 2009, when the Group moved to a holding and operating company structure. The Group's domestic real estate portfolio includes many land and property sites with excellent locations, generating strong earnings for the real estate business.

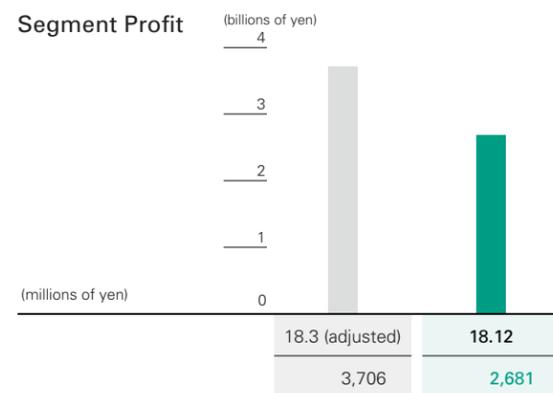


### Summary of financial results for the fiscal period ended December 2018

In the fiscal period ended December 2018, the real estate business reported net sales of ¥4,237 million, down 22.4% year on year on an adjusted basis, and segment profit of ¥2,681 million, down 27.7% on an adjusted basis.

In the property leasing business, leasing operations were firm for land, office buildings, commercial facilities and other properties, but rental income declined due to the sale of a large commercial facility in 2017, pushing down profits.

In the housing lot sales business, sales and profits both declined following the completion of housing lot sales at sites in Kawagoe (Saitama) and Okazaki (Aichi).



### Business strategies for the fiscal year ending December 2019

The real estate business will continue to fulfill its role as a source of funds to help Nisshinbo attain its management targets by effectively utilizing the real estate assets of the whole Group. We plan to continue generating stable earnings by focusing on the following projects.

Plans for the redevelopment of the north section of the former Japan Radio Co., Ltd. site in Mitaka (Tokyo) include the sale of around 680 condominium units in 2020 and 2021. Sales have been strong since marketing activities started in 2018, with all 140 units in the first phase being sold immediately.

We are also redeveloping the former Miiai Plant site (Aichi). We plan to sell around 360 detached homes and land for commercial, medical and welfare facilities between 2019 and 2024.

Note: Figures for the previous fiscal year have been adjusted to facilitate comparison with figures for the fiscal period ended December 2018, which is a transitional period due to a change in the Group's fiscal year-end from March 31 to December 31.

# Research and Development in the Nisshinbo Group

— Helping to make the hydrogen society a reality —

As an *Environment and Energy Company* group, Nisshinbo has positioned eco-friendly products and services as the value it can provide to society, in line with its Corporate Philosophy, "Change and Challenge! For the creation of the future of Earth and People." Supporting uptake of fuel cells powered by hydrogen is one area that fits that philosophy. Hydrogen fuel cells are the ultimate clean source of energy, emitting no CO<sub>2</sub> emissions during use.

### The Road to the Hydrogen Society

Currently, fuel cells are mainly used as fixed power sources for household and commercial facilities, but progress is being made in R&D and real-world applications to extend their use into vehicles and other areas of the mobility field. Stricter fuel efficiency standards worldwide are spurring growth in the market for eco-friendly cars such as hybrid vehicles, electric vehicles (EVs) and fuel cell vehicles (FCVs). The characteristics of EVs and FCVs mean they are likely to be used for different applications.

FCVs currently face obstacles to uptake, such as cost and the lack of refueling infrastructure, but refueling is quick and the vehicles are lightweight and have large fuel capacities. That makes fuel cells ideal for commercial vehicles, as they tend to be used for long hours and over long distances. Users are also able to select specific refueling stations for their fleet. Those factors are already spurring strong uptake of fuel cell forklifts, which are used in large numbers by major logistics firms, as well as fuel cell trucks and long-distance buses. Electric trains powered by fuel cells can be used on rail lines with no overhead power cables. Hydrogen fuel cells are also a promising power source for drones, which are being used in a growing number of applications. Lightweight, high-capacity fuel cells may help extend drone flight time and increase payloads.

Against that backdrop, automakers and fuel cell manufacturers are actively building refueling infrastructure worldwide. The Japanese government, which has approved a plan to reduce CO<sub>2</sub> emissions to zero, announced a New Strategic Roadmap for Hydrogen and Fuel Cells in March 2019. The roadmap includes an action plan to expand refueling infrastructure and create a low-cost hydrogen distribution network.

### The Nisshinbo Group's Hydrogen-related Products

#### Bipolar Plates for Fuel Cells

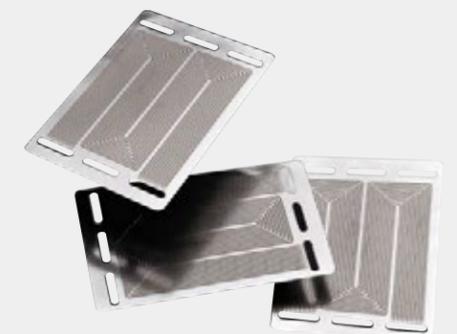
Carbon bipolar plates manufactured by the Nisshinbo Group are used in the Ene-Farm system and other fixed PEFCs\*<sup>1</sup> for residential and commercial use. To improve productivity, we are accelerating the automation of production lines for bipolar plates used in residential applications, where Nisshinbo already has a high market share, and for other increasingly popular fixed fuel cell applications.

Our carbon bipolar plates are lighter than metal versions currently used in FCVs, but they are also easier to mold into the required flow channel shapes and are more resistant to corrosion. We aim to harness those characteristics to improve the performance and durability of fuel cells to support full-scale uptake of FCVs.

Nisshinbo has also invested in Canadian fuel cell maker Ballard Power Systems Inc. and is working with the firm on joint research projects. Our carbon bipolar plates have been adopted by Ballard for a fuel cell stack used in forklifts\*<sup>2</sup> and we are now aiming for early adoption in fuel cells for buses and trucks.

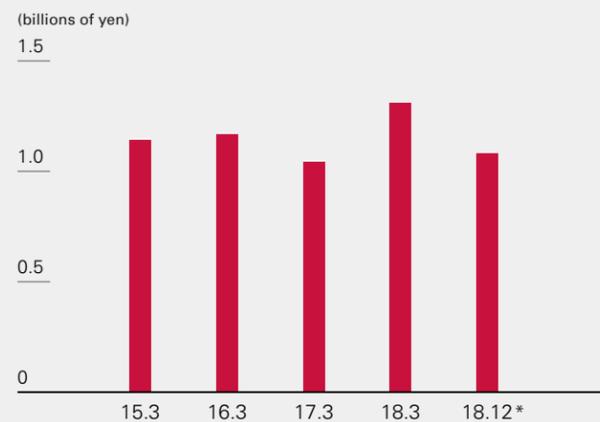
\*<sup>1</sup> Polymer electrolyte fuel cells: Significantly lower operating temperatures than solid oxide fuel cells (SOFCs) mean PEFCs are likely to become the main type of fuel cell.

\*<sup>2</sup> Fuel cell forklifts are gaining ground, especially in North America, as their small areas of operation make it easy to install refueling infrastructure.



Fuel cell bipolar plates

**Carbon Bipolar Plate Sales**



\* Nine months of results due to change in fiscal year-end

**Carbon Alloy Catalysts**

Nisshinbo is taking a completely new approach to catalysts for PEFCs by developing carbon alloy catalysts. Existing catalysts use platinum, a scarce resource. By switching to carbon-based catalysts, we can significantly reduce costs and ensure stable supplies. Our carbon alloy catalysts were adopted by Ballard in 2017 for its portable fuel cell, marking the first-ever use of a non-platinum catalyst. Ballard's portable fuel is attracting interest for outdoor and emergency backup supply applications.

We are currently working to improve the performance of our carbon alloy catalysts, aiming for adoption in forklift fuel cells in around 2022 and for the full-scale uptake phase of FCVs.



Fuel cell stack

**Ultrasonic Gas Sensors**

Ultrasonic gas sensors measure differences in the specific gravity of hydrogen, helium and other atmospheric gases. The sensors have been developed by combining technologies from across the Nisshinbo Group – ultrasound technologies developed by Ueda Japan Radio Co., Ltd. for the medical field, and signal processing technologies created by Japan Radio Co., Ltd. for radar and wireless communication products. Unlike existing products, our sensors do not require heaters or rare metal catalysts, helping to extend their usable lives. Response time is also fast and they can detect gas over a wide area. We started trial sales of a portable helium gas sensor in 2019.

Compared with large, heavy and expensive existing products, our new sensors are small, light and battery powered, meaning they can be used easily whenever and wherever they are needed. We are now moving into hydrogen gas sensors, with trial sales of a portable hydrogen gas sensor scheduled to start at the end of 2019. We are also working on sensors for use in FCVs as part of our efforts to make the hydrogen society a reality.



MoLeTELL®  
Portable gas leak detector

**Nisshinbo's R&D Strategy**

**Promoting Groupwide collaborative research and development activities**

**Leveraging Our Group R&D System**

The goal of the Nisshinbo Group's long-term R&D strategy is to provide value for the super smart society by focusing on providing solutions in four areas — hydrogen, mobility, medical & healthcare and public infrastructure. To achieve that goal, we conduct Groupwide collaborative research and development activities, supported by our Group R&D system. Representatives from each business field – wireless and communications, micro devices, brakes and chemicals – meet regularly to drive innovation by bringing together the Group's businesses.

We are currently working on around 30 cross-business R&D projects. Helium gas sensors, one of the research projects, are closest to commercialization. We started trial sales in the fiscal period ended December 2018 and we plan to launch them officially in 2019. Our sensors, which are designed to detect gas leaks in factories and other environments, are lighter, more compact and significantly cheaper than existing sensors, and can also operate in humid conditions. They are the first portable helium gas sensors on the market. We expect those features to support growth in the number of installed sensors and applications, potentially driving growth in the broader gas sensor market. Our sensors also have the potential to be used as hydrogen gas sensors in future fuel cell vehicles (FCVs).

**Basic Policy for 2019**

One of the business development division's priority measures in 2019 is to create and cultivate new businesses and expand its core competences. Currently, representatives from across the Group meet once every two months at a New Business Group Meeting to discuss new business opportunities. Senior and mid-level managers from each of the Group's core subsidiaries attend the meeting to constructively share information on each business development theme. In addition, we conduct business feasibility studies to assess the prospects of key themes and we are fostering a more entrepreneurial



Yasuo Imashiro  
Managing Officer  
General Manager  
Business Development  
Division

mindset among our researchers. We are also reinforcing intellectual property (IP) management, such as using e-learning programs and other tools to educate employees about the importance of IP.

**Fuel Cell Development**

Fuel cells are different to batteries, as they generate power using hydrogen fuel and they are likely to gain popularity as a promising alternative source of energy. In the automotive field, electric vehicles (EV) with lithium-ion batteries are currently gaining ground in the market. However, the Japanese government is targeting fuel cell vehicle (FCV) uptake by 2030, and the industry is working to resolve issues that stand in the way of that goal, such as building a network of hydrogen refueling stations.

The Nisshinbo Group is focusing on the development of carbon bipolar plates for fuel cells and carbon alloy catalysts as a replacement for fuel cell platinum catalysts. We are now working on developing thicker, more durable bipolar plates to support widespread use in automotive applications. Meanwhile, we are deepening collaboration with Ballard Power Systems, Inc., a leading fuel cell manufacturer in Canada. Our bipolar plates have already been selected for the company's fuel cells used in forklifts and we are now working to drive sales so that our carbon alloy catalysts are also adopted for forklifts.

# Implementing Environmental Management

The Nisshinbo Group is aiming to increase corporate value as a more united corporate group by realizing its Corporate Philosophy — “Change and Challenge! For the creation of the future of Earth and People.” As an *Environment and Energy Company* group, we will continue to offer new products and systems that help protect the environment, save energy and create alternative sources of energy, while also providing solutions that address some of the greatest issues faced by humanity today, such as environmental destruction and natural disasters caused by climate change, to make life safer and more secure for people everywhere.

## Medium-term Environmental Targets: Key Themes and Results

Key themes	Step up activities to maintain biodiversity	Water usage per unit of sales (new category)	Promote Life Cycle Assessments (LCAs)	Increase the sales ratio for products that contribute to a sustainable society	Reduce energy consumption per unit of sales	Reduce greenhouse gas emissions per unit of sales	Reduce the volume of PRTR substance emissions per unit of sales	Improve the recycling rate
<b>Targets for the fiscal year ended December 2018</b>	Deploy model businesses that put priority on conserving the ecosystem	—	Ratio of total sales: <b>40% or more</b>	Ratio of total sales: <b>40% or more</b>	Reduction of <b>5%</b> or more compared with fiscal year ended March 2015	Reduction of <b>5%</b> or more compared with fiscal year ended March 2015	Reduction of <b>10%</b> or more compared with fiscal year ended March 2015	<b>90%</b> or more
<b>Fiscal period ended December 2018 (adjusted*)</b>	Currently being implemented at <b>nine</b> business sites	—	Ratio of total sales: <b>26%</b>	Ratio of total sales: <b>48%</b>	Energy usage reduced by <b>5%</b> compared with fiscal year ended March 2015	Emissions of greenhouse gases reduced by <b>4%</b> compared with fiscal year ended March 2015	Emissions of PRTR substances reduced by <b>36%</b> compared with fiscal year ended March 2015	<b>77%</b>
<b>Performance</b>	✓ Number of business sites decreased by one due to the sale of the Toyota plant of Nisshinbo Brake Inc.	—	X Target not achieved as the papers business was trending ahead of its targets, but the business was sold.	✓	✓	X Target not achieved due to overseas expansion in the precision instruments business and large orders for insulation materials for LNG carriers in the chemicals business.	✓	X Target not achieved as the Company was unable to identify highly reliable recycling contractors overseas.
<b>Targets for the fiscal year ending December 2021</b>	More than <b>five</b> business sites overseas	Reduction of <b>3%</b> or more compared with fiscal year ended March 2018	Ratio of total sales: <b>50%</b> or more	Ratio of total sales: <b>55%</b> or more	Reduction of <b>10%</b> or more compared with fiscal year ended March 2015	Reduction of <b>10%</b> or more compared with fiscal year ended March 2015	Reduction of <b>10%</b> or more compared with fiscal year ended March 2018	Recycling rate <b>90%</b> or more

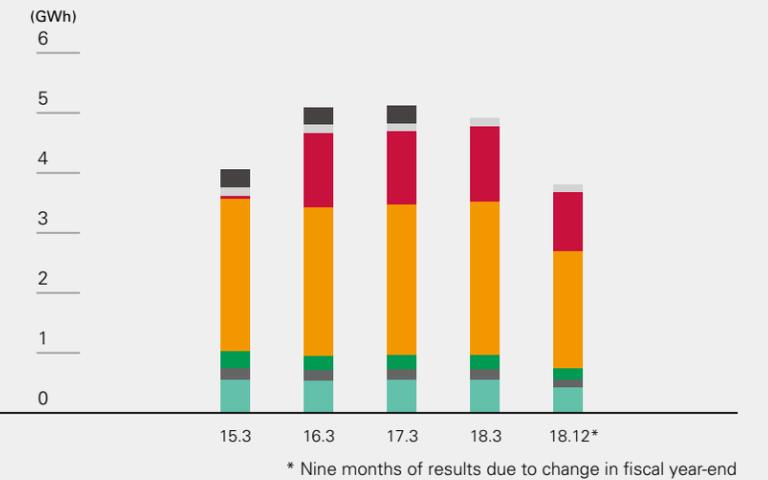
\* For reference purposes, performance versus benchmarks has been adjusted to reflect a 12-month fiscal period.

For more details, please visit the Nisshinbo Group's CSR website.  
<https://www.nisshinbo.co.jp/english/csr/>

## Solar power generation in the Nisshinbo Group

We are actively installing solar power generation systems at business sites that require large amounts of energy, such as facilities that use thermal processing. In the fiscal period ended December 2018, installation work was mainly carried out at domestic sites, resulting in total solar power generation of 3.8GWh.

Business sites and subsidiaries with solar power systems:  
 ■ Miei Machinery ■ Chiba ■ Tatebayashi ■ Tokushima  
 ■ Nisshinbo Precision Instrument & Machinery Hiroshima  
 ■ Nagano Japan Radio ■ Other sites



## Long-term Environmental Targets (fiscal year ending December 2025)

- Increase the ratio of products that contribute to a sustainable society to 65% or more of total sales**
- Reduce greenhouse gas emissions per unit of sales by 15% or more compared with fiscal year ended March 2015**
- Improve the recycling ratio to 95% or more**

# Cultivating Diverse Human Resources

Based on the belief that people are vital to the success of companies, the Nisshinbo Group puts considerable effort into training personnel. In addition to our systemized training scheme and program to develop future leaders, we offer a wide range of opportunities for employees to transform themselves and take on new challenges, while also empowering every person to maximize their potential, whatever their background and ability.

## Training System and Future Leader Development

Human resources training starts as soon as new graduates enter the Nisshinbo Group. Our general training program is separated into streams that will eventually lead to promotion to mid-level manager, section head and division head positions. Employees also take courses for specific skills and learn about safety, human rights and the environment. In our specialist training program, they acquire knowledge in areas specific to each business and job function, such as technology, accounting and intellectual property. These training units and courses combine to form a systemized training scheme. We also run a special program for employees earmarked to become senior managers. The program is designed to foster approaches, knowledge and behavior for their future senior manager roles before they are promoted. In addition, as part of efforts to cultivate future leaders, we run workshops for young managers on how to improve businesses, and workshops for young employees to discuss future business strategy.

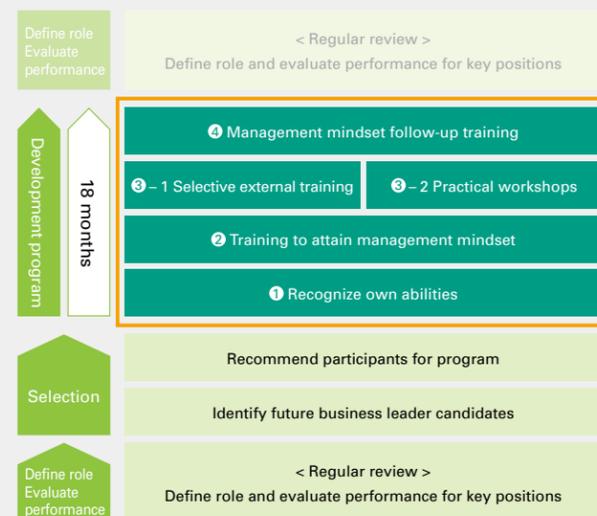
## New Personnel System

In the fiscal year ending December 2019, we introduced a new personnel system for all employees at Nisshinbo Group companies. The new system puts more emphasis on the job type and role of each employee to make human resources more responsive to developments inside and outside the Group, such as changes in business structure and increasingly diverse ways of working. A new job grade system has reduced the number of grades from 17 to seven, making it easier for talented individuals to advance more rapidly, while a new performance evaluation system that measures a wider range of metrics is helping to strengthen our organization.

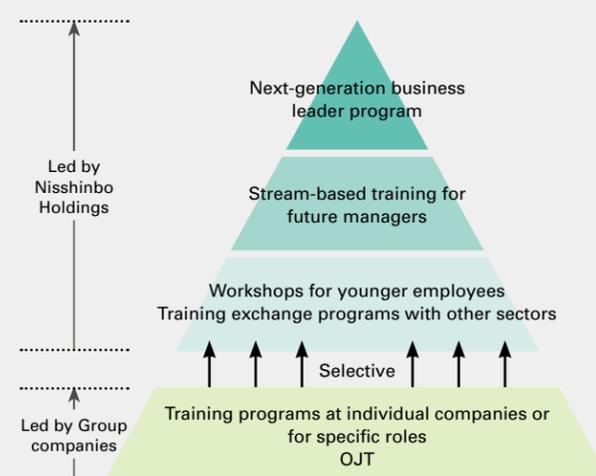
### New Performance Evaluation System



## Systematic Process for Cultivating the Next Generation of Business Leaders — Overview



## Systematic Process for Cultivating the Next Generation of Business Leaders — Training Framework



## Employee Surveys

We surveyed our employees in May 2018 to gain a more accurate picture of the Nisshinbo Group’s organizational culture and climate to help us develop future initiatives. We also launched an Employee Survey Promotion Team to share information and ideas about solving issues raised by the survey with each Group company. The team has identified issues that need to be tackled and has started implementing responses.

## Work Style Reforms

The Nisshinbo Group aims to create a working environment where employees with diverse values and abilities can reach their full potential.

In April 2018, we formulated and disclosed our Work Style Reform Action Plan, which is based on three themes — rectifying long working hours, encouraging employees to use annual paid holidays, and promoting flexible working. We are pushing ahead with several initiatives, including the opening of a new satellite office in June 2018.

Nisshinbo Holdings has formulated a general business operator action plan based on the Act on Advancement of Measures to Support Raising Next-Generation Children\*. Under the plan, we aim to create a workplace where employees can fulfill their potential and maintain their careers while balancing work and life commitments. To achieve that goal, the plan includes a number of targets for paternity leave for male employees and diverse work practices. Similar measures are being implemented by 12 Group companies in Japan.

\* A law enacted on April 1, 2005 to create healthy and supportive environments for having and raising children.

## Empowering Women

At the moment, our priority issue is empowering women. We hold a range of training courses and lectures for every level of employee across the Group, including joint seminars for managers and their female staff to raise awareness about this issue. In December 2014, we announced a voluntary action plan to promote women to executive and management positions. In line with the plan, Group companies have developed general business operator action plans based on the Act on Promotion of Women’s Participation and Advancement in the Workplace. Under their plans, Group companies have set specific targets for the number of female managers and new recruits as part of efforts to support women in the workplace. We also hold annual meetings for personnel tasked with promoting diversity at each Group company. The meetings are used to report on steps being taken and share views on initiatives such as female recruitment and participation in external seminars.

### Action Plan

	Targets for 2020
Number of female managers	Triple number compared with December 2014
Female graduate recruit ratios	Office position stream 40%, specialist position stream 20%

## Support for Older Workers

The Nisshinbo Group launched a new training program in October 2018 to help older employees prepare for life and work after they reach the mandatory retirement age. During the program, they learn how to prepare financial plans, look after their health and continue their careers if they choose to, so they can live life to the fullest as they approach retirement. In 2019 we also started offering career seminars run by instructors from inside the Nisshinbo Group.

## New Japan Radio’s “social office”

In June 2017, New Japan Radio Co., Ltd. established a specialist department for employees with disabilities. Led by a full-time manager, the “social office” is mainly staffed by people who have mental disability certificates. The office handles requests from internal departments for straight-forward routine jobs with comfortable turnaround times, such as fabrication work, data input, document preparation and prototype assembly and disassembly. Staff have regular meetings with the manager to ensure there are no concerns in the workplace, helping to improve staff retention.

# Safety

Guided by the principle that “Safety is the Basis for Everything,” the Nisshinbo Group places the highest priority on safety in all its activities to deliver high-quality products to customers.

## Thorough Risk Assessment

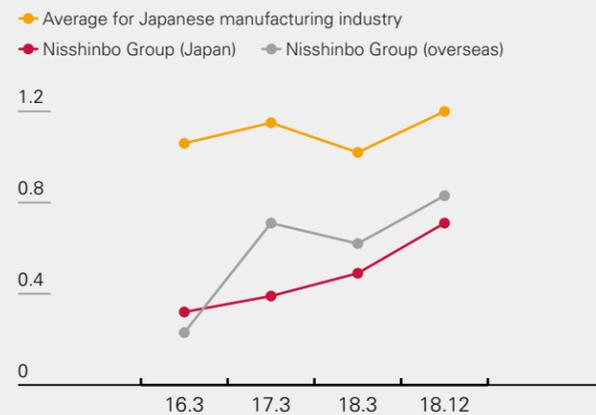
To ensure zero major workplace accidents on an ongoing basis, the Nisshinbo Group has developed a number of priority policies: consistently implement detailed risk assessments, verify workplace rules such as operation standards for safety equipment and inspection anomaly procedures and rules for equipment shutdowns, and increase opportunities to identify unsafe work practices.

Nisshinbo is also working to raise employee awareness about safety issues. Each business site provides safety training for new employees and employees transferring from other sites. In addition to that training, we run courses to raise skill levels and small group activities on topics such as hazard awareness and near miss reporting. We also conduct risk assessments related to facilities, work processes and chemical substances in accordance with annual plans and progressively implement preventative safety measures in order of priority.

## Occupational Injuries

In the fiscal period ended December 2018, there were no instances of major workplace accidents (accidents with level 7 or higher injuries). The frequency of injuries with lost work at the Group’s domestic business sites was 0.71, which is lower than the average for the Japanese manufacturing sector, but worse than the 0.49 level achieved in 2017. At business sites with a particularly high number of injuries, we are

Frequency of Injuries with Lost Work\*

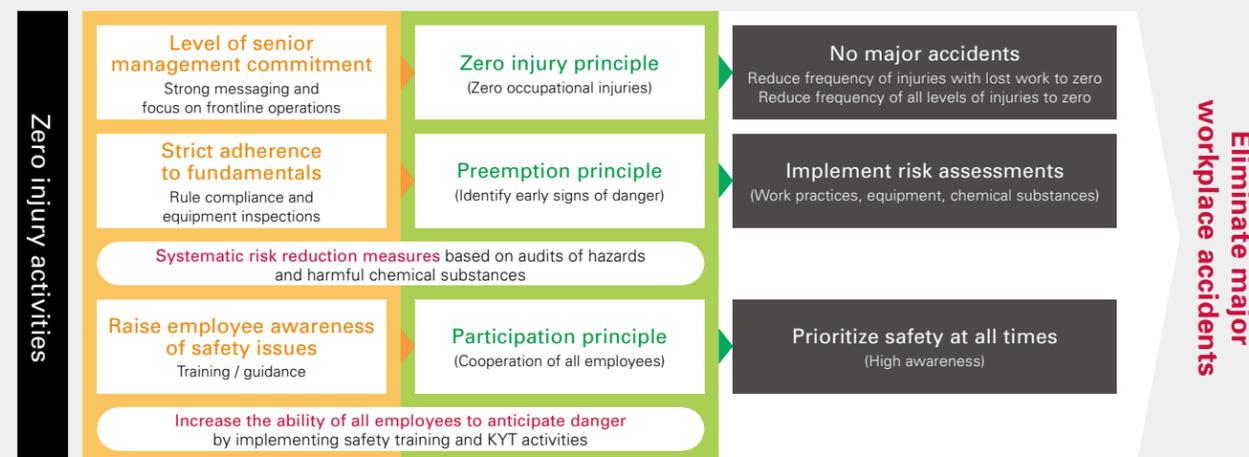


\* Frequency of injuries with lost work = number of employees injured with lost work ÷ aggregate number of working hours x 1 million

providing ongoing targeted guidance as part of efforts to raise safety management standards across the Group.

## Safety and Health Audits

The Nisshinbo Group conducts regular occupational safety and health audits of its manufacturing sites. A monitoring team composed of the Health & Safety Group from Nisshinbo Holdings Inc., labor unions, safety and health management staff representing each business, and safety and health officers of other business sites, checks the state of safety



and health management at the targeted business sites. In the fiscal period ended December 2018, we conducted safety and health audits at 31 manufacturing sites in Japan and one manufacturing site overseas. We also verified health and safety conditions and carried out safety checks at four overseas manufacturing sites.

We compile the results of all audits and checks in a comprehensive audit report, which is used to analyze potential risks and communicate good practices to the whole Group as part of workplace health and safety activities in subsequent fiscal years.

# Health

We have formulated the Nisshinbo Group Health Management Policy to clearly define our health management initiatives. We will promote various health measures from now on in line with this policy.

## Nisshinbo Group Health Management Policy

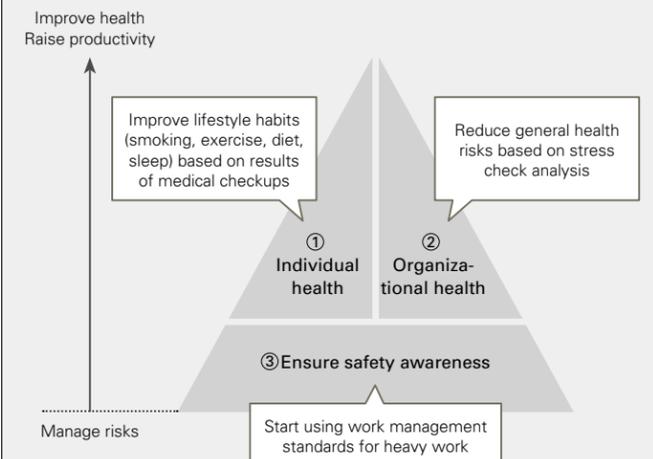
Nisshinbo Group, through the establishment of an environment where each individual member can play an active role by promoting employee health and sound workplace, aims to be a corporate group which is indispensable, at any time, for our society.

## Promoting Groupwide Health Management

To drive health management efforts across the Group, we established the Group Health Management Department Meeting in the fiscal period ended December 2018. The meeting is attended by health management department leaders from each Group company and is tasked with coordinating the Group’s activities.

Specifically, the meeting is focusing on three key areas. (1) Personal health: improve lifestyle habits based on data from medical checkups conducted by health insurance societies; (2) organizational health: reduce general health risks by implementing workplace improvement activities based on stress check analysis; and (3) safety awareness: ensure all employees are fully aware of their safety obligations amid the increasingly diverse nature of the Group’s businesses and work practices and more frequent personnel transfers related to business restructuring and organizational reforms.

## Framework for Health Management Initiatives



## New Japan Radio Selected as White 500 Company for Third Straight Year

New Japan Radio Co., Ltd. started implementing employee health management from April 2016, aiming to become a Healthy Company. The company’s initiatives, such as hands-on fitness seminars, visceral fat measurement and steps to reduce passive smoking, have been recognized by the Ministry of Economy, Trade and Industry (METI) and Nippon Kenko Kaigi, which have certified New Japan Radio as a White 500 company with outstanding health management for three consecutive years since 2017.

# Management Framework

- 59 Corporate Governance
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- 66 Risk Management
- 68 Compliance



Directors and Audit Supervisory Board Members of Nisshinbo Holdings, Inc. Please see page 64-65 for more details.

Nisshinbo believes it needs to increase corporate value over the medium and long term as an *Environment and Energy Company* group by operating its various businesses based on global business management and cash flow management. To achieve this, we are improving the quality of corporate governance and other aspects of our organizational culture. In parallel, we are striving to deliver quantitative growth in earnings and shareholder value, focusing on ROE to improve profitability and placing importance on the share price in management decisions.

By making rapid and bold decisions based on risk-taking in line with our management principles, we are working to enhance management efficiency while ensuring transparency, improve accountability, act ethically and build a stronger corporate governance structure founded on our Corporate Philosophy.

**Corporate Governance Policy**

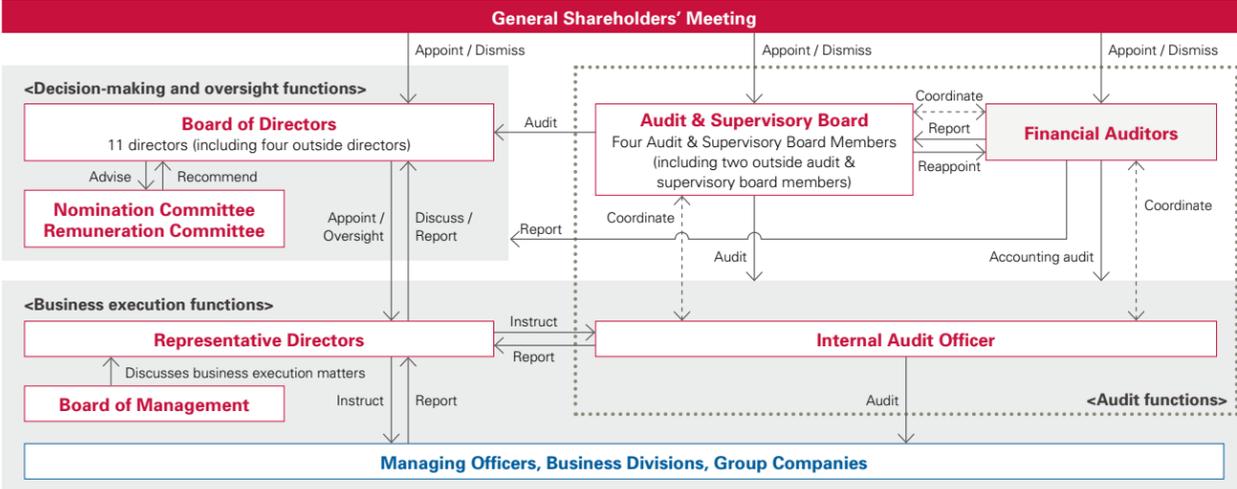
We have formulated the Nisshinbo Corporate Governance Policy, which clearly states our basic thinking on corporate governance and related initiatives. By steadily implementing the principles of the policy and revising and improving its content as needed, we aim to improve the effectiveness of governance and create a framework for rapid and bold decision-making that contributes to sustained growth and increased corporate value over the medium and long term (policy formulated February 2016, revised July 2017 and January 2019).

**Corporate Governance Structure**

Nisshinbo has separated decision-making and oversight from business execution and adopted a managing officer system to reinforce those functions. By transferring responsibility for business execution to managing officers and strengthening oversight by the Board of Directors, we are improving management efficiency and transparency and creating an effective governance structure that will support the Group’s sustained growth and enhance corporate value over the medium and long term.

Nisshinbo has established an Audit & Supervisory Board. The members of the Audit & Supervisory Board monitor the execution of duties by directors in accordance with audit policy and plans determined by the board.

**Corporate Governance Structure**



**Representative Directors**

Representative directors are appointed by resolutions of the Board of Directors. As of March 28, 2019, the chairman and president were the Company’s two representative directors.

**Directors**

As of March 28, 2019, the Company had 11 directors, including four outside directors. The Board of Directors is responsible for making decisions on important management matters and for monitoring the execution of duties by directors. Directors are appointed for one-year terms in order to clarify management responsibility each fiscal year.

**Managing Officers**

Nisshinbo has adopted a managing officer system to speed up decision-making for business execution and clarify operational responsibilities. As of March 28, 2019, the Company had 15 managing officers, including the president and five with dual roles as directors. Managing officers are also appointed for one-year terms.

Nisshinbo has appointed several outside directors and outside audit & supervisory members. These outside appointments also sit on the Company's voluntarily established Nomination Committee and Remuneration Committee.

We have adopted this structure as we believe it ensures operations are conducted in an appropriate manner. Under this structure, outside directors draw on their depth of experience and expertise to monitor business management from an objective and independent standpoint, while outside members and internally appointed standing members of the Audit & Supervisory Board work closely with the Internal Audit Office.

### Responsibilities of the Board

Directors and the Board of Directors recognize that they have a fiduciary duty to shareholders and thus strive to appropriately reflect shareholders' intentions within the board. By overseeing the preparation and management of internal control and risk management systems, directors and the board help to monitor business execution and decision-making. At the same time, the Company fearlessly confronts risk and works to achieve governance that is focused on quick and bold decision-making. In this manner, the Company aims to achieve greater accountability to stakeholders, increased profitability, and higher returns for shareholders.

In light of the above, the Board of Directors deliberates and decides on important management matters at board meetings, such as the formulation of management strategies and plans, changes to the business portfolio group structure, and the implementation of M&As. These management matters are determined based on the criteria for agenda items stipulated under the Companies Act of Japan, other statutory and regulatory requirements, and various internal rules that govern the Board of Directors and the delegation of authority. Further, in its deliberations and decisions, the board keeps the following matters in mind.

- **Alignment with corporate philosophy and management policy**
- **Compliance with laws and regulations and corporate ethics**
- **Increasing medium- to long-term corporate value**
- **Securing the trust of various stakeholders including shareholders, customers, employees, business partners, and local communities**

To promote the globalization of each Nisshinbo company along the lines of environment and energy, the Board of Directors selects management talent as candidates for directors who possess outstanding management experience, have the necessary firm commitment and ability to realize the Company's Corporate Philosophy and increase corporate value, and who enhance the composition of the board through greater diversity in areas such as gender and nationality. As of March 28, 2019, the Board of Directors is composed of 11 directors, of which four are independent outside directors (including one woman). The maximum number of directors is set at 14 in the Company's Articles of Incorporation.

With respect to independent outside directors, the Board of Directors shall obtain the consent of the person in question and appoint them after carefully determining their eligibility as an independent director, taking into consideration the external requirements set forth in the Companies Act and the independence standards set by securities exchanges. To ensure that outside directors and outside Audit & Supervisory Board members are able to properly fulfill their roles and responsibilities, when nominating a candidate, the Company shall understand the status of officers who concurrently serve in other listed companies or companies and organizations that correspond to such, and verify that it will not interfere in their attendance of the Company's Board of Directors meetings, Audit & Supervisory Board meetings, or their work.

### Independent Outside Directors at Nisshinbo Holdings Inc.

Name	Reasons for appointment	Concurrent positions of outside directors	Committees
<b>Noboru Matsuda</b>	Mr. Matsuda has experience as a public prosecutor and lawyer and has specialist legal knowledge. Drawing on his highly specialist expertise, long track record and judgment, Mr. Matsuda provides oversight of management activities at the Nisshinbo Group.	Hakuhodo DY Holdings Inc. Mitsubishi UFJ NICOS Co., Ltd. Yomiuri Giants Co., Ltd.	Nomination Remuneration
<b>Yoshinori Shimizu</b>	Mr. Shimizu has specialist knowledge, mainly in the fields of finance and monetary affairs, in his role as a university professor. Drawing on his highly specialist expertise, long track record and judgment, Mr. Shimizu provides oversight of management activities at the Nisshinbo Group.	Tokyo Century Corporation	Nomination Remuneration
<b>Shinobu Fujino</b>	Ms. Fujino has specialist knowledge and experience, mainly in the field of personnel development, in her role as a career counselor. Drawing on her extensive expertise and experience and her perspective as a woman, Ms. Fujino provides oversight of management activities at the Nisshinbo Group and contributes to the promotion of diversity management.		Nomination Remuneration
<b>Keiji Taga</b>	Mr. Taga has a long track record in corporate management as the director of a government-affiliated financial institution and the president of a business corporation. Drawing on his extensive management experience and achievements and his high level of expertise, Mr. Taga provides oversight of management activities at the Nisshinbo Group.	SEIKO PMC CORPORATION	Nomination Remuneration

### Selection and Dismissal of Directors and Senior Managers

To increase transparency and objectivity in processes for selecting and dismissing directors, Nisshinbo has established

a Nomination Committee as an advisory body for the Board of Directors. The committee comprises two directors and four outside directors.

### Role of Nomination Committee

	Appoint	Dismiss
<b>Top management positions</b>	The Board of Directors selects directors for top management positions from candidates proposed by the committee, which puts forward individuals with the necessary outstanding attributes, aptitude and achievements to fulfill the role.	In cases where directors, including top managers, are deemed no longer qualified for their role due to reasons such as the lack of necessary qualities and aptitude for management, the committee recommends dismissal of the director to the Board of Directors, supported by reasons for the recommendation. Based on the committee's recommendation, the Board of Directors decides whether to dismiss the director or submits a proposal seeking approval for the dismissal of the director to the General Shareholders' Meeting.
<b>Directors</b>	The Board of Directors selects directors from candidates proposed by the committee, which puts forward individuals with a strong track record in corporate management and the necessary commitment and ability to realize Nisshinbo's Corporate Philosophy and increase corporate value.	
<b>Managing officers</b>	The Board of Directors selects managing officers from candidates proposed by the committee, which identifies and proposes outstanding individuals from among the Group's business subsidiary leaders and management grade-employees who have the necessary specialist skills and management capabilities, backed by a firm commitment and resolve.	In cases where managing officers are deemed no longer qualified for their role due to reasons such as the lack of necessary qualities and aptitude for management, the committee recommends dismissal of the managing officer to the Board of Directors, supported by reasons for the recommendation. Based on the committee's recommendation, the Board of Directors decides whether to dismiss the managing officer.
<b>Succession planning</b>	The president develops succession plans for top managers and other directors (excluding outside directors) and managing officers and cultivates candidates to take over their roles. Details of those plans and progress with succession planning are shared with and discussed by the Nomination Committee, which includes outside directors, and adjusted and improved as necessary. The Board of Directors monitors progress with succession planning based on necessary reports received from the committee.	

### Remuneration for Directors and Senior Managers

To increase transparency and objectivity in processes for determining remuneration, Nisshinbo has established a Remuneration Committee as an advisory body for the Board of Directors. The committee comprises two directors and four outside directors.

Remuneration for directors is set within maximum limits approved by the General Shareholders' Meeting and comprises basic remuneration (monthly payments), bonuses and stock-based remuneration (restricted stock compensation plan). However, outside directors receive only basic remuneration (monthly payments) and retirement benefits are not paid to directors. Remuneration for managing officers is based on the same policies and procedures.

To attract outstanding management talent and ensure appropriate conditions for directors and senior managers, the Remuneration Committee formulates remuneration tables for each role based on pay levels at peer companies, ratios for performance-linked remuneration and the Company's relative position in the industry. The tables are tested and revised as necessary.

**Basic remuneration:** Determined through discussions by the Remuneration Committee based on remuneration tables for each role and taking into account the Company's earnings and the role, responsibilities and contribution of each individual.

### Remuneration for Directors and Auditors (Fiscal period ended December 2018)

Classification	Total remuneration (Millions of yen)	Remuneration breakdown (Millions of yen)				Total number of payees
		Basic remuneration	Stock options	Restricted stock compensation plan	Bonus	
Directors (Excluding outside directors)	158	109	4	8	35	6
Audit and Supervisory Board members (Excluding outside audit and supervisory board members)	25	25	—	—	—	2
Outside directors and outside Audit and Supervisory Board members	39	39	—	—	—	6

Notes: 1. Total maximum compensation

Directors: No greater than ¥400 million per year (Employee salaries of individuals simultaneously appointed as employee and director are not included in payments to directors. Directors are also eligible to receive compensation through a restricted stock compensation plan, up to a maximum value of ¥40 million per year).

Audit & Supervisory Board members: No greater than ¥70 million per year

2. The Company had 11 directors and four Audit & Supervisory Board members as of March 28, 2019.

**Bonuses:** Paid to directors, except outside directors, as an incentive linked to fiscal year earnings performance. The base bonus amount is determined by the Remuneration Committee each year. A proportion of that amount is paid to each individual commensurate with their role, in line with the performance of businesses in their respective areas of responsibility against targets for sales, pre-tax profits, operating cash flow and other indicators.

**Stock-based remuneration:** Paid to directors, except outside directors, in the form of restricted stock allocations to provide greater incentive to directors to increase the Company's share price and corporate value by aligning their interests more closely with shareholders with respect to the risk and reward of share price fluctuations. Stock-based remuneration for each role is set within maximum limits for amounts and shares determined by the General Shareholders' Meeting.

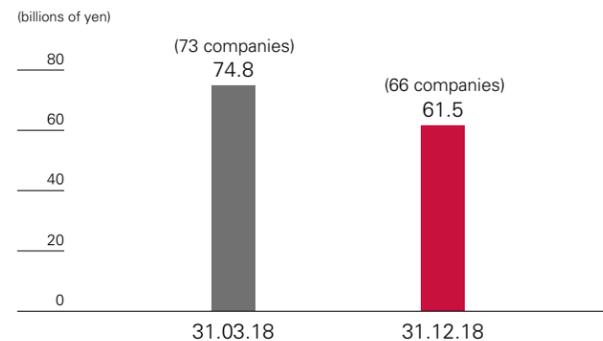
**Protecting the Rights and Ensuring the Equal Treatment of Shareholders**

The Company shall ensure that the exercise of minority shareholder rights is not impeded and will take appropriate measures to fully protect shareholder rights. The Company will implement various measures related to communication with shareholders and investors and ensure the appropriate operation of the General Shareholders' Meeting.

The Company has set out a policy for cross-shareholdings. In line with that policy, it regularly assesses the purpose and economic rationale for cross-shareholdings based on capital costs and other indicators. The results of the assessments are reported to the Board of Directors, which discusses the merits of continuing to hold the shares or selling them. If the Company receives approaches from companies about selling its holdings of their shares, it will respect their wishes and not hinder the sale of shares, while also putting forward its views.

The Company regularly assesses its holdings of shares in business partners to ascertain the size and scope of the holdings and to evaluate the economic rationale for holding the shares. Shares with diminished strategic value are sold incrementally and

**Changes in Cross-Shareholdings**



systematically. In addition, the exercise of voting rights related to cross-shareholdings shall be performed after deciding in each individual case the purpose of the holdings from the standpoint of increasing the corporate value of the Company and the relevant business partner. In the event of resolutions with the potential for a large impact on corporate value, such as the appointment or dismissal of directors or the introduction or extension of takeover defense measures, the Company will conduct a particularly rigorous assessment of the rationale and necessity for holding the shares.

Nisshinbo has not adopted takeover defense measures. In the event that the Company decides to implement a capital policy that could harm the interests of shareholders, the Company will provide a clear explanation to shareholders about the necessity and rationale for the policy and follow the necessary procedures.

**Appropriate Cooperation with Stakeholders Other than Shareholders**

As values shared by all officers and employees that serve as the basis for corporate governance initiatives, the Company has established the Nisshinbo Group Corporate Philosophy. The Company has also established the Business Conduct Guidelines of the Nisshinbo Group to define standards of behavior expected of each Group employee. Directors and managing officers take the initiative to provide this guidance by themselves and constantly educate employees on compliance with these guidelines and widely disseminate them.

**Ensuring Appropriate Information Disclosure and Transparency**

The Company carries out active corporate communication by appropriately combining statutory disclosures with voluntary information. When disclosing information, the Company takes into account the convenience and accessibility of the information for the user, including high-value-added non-financial information. In addition, the Company shall disseminate information in English such as by preparing English-language annual integrated reports.

To increase the transparency and objectivity of selection, dismissal and remuneration processes for directors, Audit & Supervisory Board members and managing officers, the Company has established a Remuneration Committee and a Nomination Committee with outside directors as members to act as independent advisory bodies for the Board of Directors.

**Dialogue with Shareholders**

The IR Director, who oversees policies and measures related to communication with shareholders and investors, accurately and fairly disseminates information outside the Company and proactively conducts IR activities. The IR Director also strives to enhance the General Shareholders' Meeting, where senior management can interact directly with shareholders, and the results briefings and briefings to overseas investors. In addition, the Company plans and conducts individual meetings with domestic and overseas investors throughout the year.

If deemed necessary, the IR Director and other directors and managing officers take part in responding to applications for interviews from shareholders and investors.

The status of IR activities including measures and policies about communication with shareholders and investors is routinely reported to the Board of Directors where it is reviewed.

**Measures to Improve the Effectiveness of the Board of Directors**

Each year, the Company surveys all board members about the effectiveness of the Board of Directors. The results of the survey are collated, analyzed and compared with the results of the previous year's survey to evaluate the board's effectiveness. The results are also used to discuss and develop measures aimed at improving effectiveness. A summary of the survey is disclosed publicly.

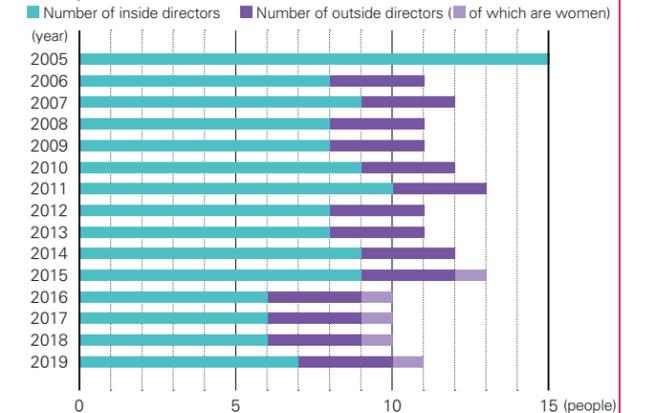
To maximize the effectiveness of the Board of Directors, the Company is taking a number of steps to ensure outside directors can participate appropriately in board meeting discussions by putting forward their opinions. In the case of highly specialist topics, outside directors are briefed beforehand to deepen their understanding. Key statements made during meetings are recorded in the minutes, allowing for appropriate feedback.

When necessary, board members are also given the opportunity to visit business sites and attend business briefings. In addition to board meetings, regular meetings are held between outside directors, Audit & Supervisory Board members and the president. Board members are also required to attend twice-yearly Management Policy Meetings with business managers and candidates for management posts, in order to deepen their understanding of the Group's business activities.

**Corporate Governance Reforms**

2006	Introduced outside director system and managing officer system, reduced term of office for directors from two years to one
2015	Increased number of outside directors from three to four Abolished takeover defense measures
2016	Reduced number of board members from 13 to 10 (including four outside directors) Corporate Governance Policy formulated Established Remuneration Committee and Nomination Committee (both discretionary bodies), started evaluating effectiveness of Board of Directors
2017	Abolished internal advisor and consultant system
2018	Introduced restricted stock compensation system

**Composition of the Board of Directors**



**Survey of Directors and Audit & Supervisory Board Members**

Each year, the Company surveys all directors and all audit & supervisory board members about the effectiveness of the Board of Directors (this year's survey was conducted in January). Responses to the survey are collated and reported to the board. The survey is used to assess the effectiveness of the Board of Directors and to discuss improvements by helping the board understand the current situation, identify and analyze any issues and compare responses with those in the previous year's survey.

The results of the survey indicate that the 10 directors (as of the time of the survey), including four outside directors, have dynamic discussions during board meetings, drawing on their extensive management experience and achievements and specialist knowledge. Responses also indicate that there has been a quantitative and qualitative improvement in documents

and explanations supporting each agenda item, leading to an improvement in the quality and efficiency of board discussions. The survey also identified two key areas that require improvement to further increase the effectiveness of the Board of Directors:

- To increase corporate value and improve earnings capabilities, the board should allocate more time to discussions focusing on broader management issues such as the Group's management strategy.
- To ensure steady execution of business strategy, the board should receive more detailed and timely reports on business execution from each line manager and feedback from monitoring activities.

# Board of Directors, Audit & Supervisory Board Members and Managing Officers

(As of March 28, 2019)

## Board of Directors



Director,\*1  
Chairman

**Masaya Kawata**



Director,\*1  
President

**Masahiro Murakami**



Director,  
Senior Executive Managing Officer

**Kenji Ara**

President, Japan Radio Co., Ltd.



Director,  
Executive Managing Officer

**Ryo Ogura**

Chairman, New Japan Radio Co., Ltd.



Director,  
Executive Managing Officer

**Takayoshi Okugawa**

Chief of Business Support Center



Director,  
Executive Managing Officer

**Kazunori Baba**

Chief of Corporate Strategy Center



Director,  
Managing Officer

**Yasuji Ishii**

President, Nisshinbo Brake Inc.



Director\*2

**Noboru Matsuda**

Lawyer



Director\*2

**Yoshinori Shimizu**

Professor Emeritus at  
Hitotsubashi University



Director\*2

**Shinobu Fujino**

Career Counselor



Director\*2

**Keiji Taga**

\*1 Representative director

\*2 Outside director

## Audit & Supervisory Board Members



**Toshihiro Kijima**



**Takumi Ohmoto**



**Atsushi Yamashita\***

Lawyer



**Mitsunori Watanabe\***

Director and Managing  
Executive Officer,  
Shikoku Chemicals Corporation

\* Outside Audit & Supervisory Board member

## Managing Officers

President

**Masahiro Murakami\***

Senior Executive  
Managing Officer

**Kenji Ara\***

Executive Managing Officers

**Ryo Ogura\***

**Takayoshi Okugawa\***

**Kazunori Baba\***

Managing Officer

**Yasuji Ishii\***

\* Concurrent board member



Executive Managing Officer

**Koji Nishihara**

Senior Manager of  
Automotive Business  
Strategy Department



Executive Managing Officer

**Akihiro Ishizaka**

Senior Manager of  
Corporate Strategy  
Department and  
Corporate Governance  
Department



Executive Managing Officer

**Makoto Sugiyama**

Senior Manager of CSR  
Department, Diversity  
Development Department,  
Human Resources and  
Administration Service  
Department and  
Overseas Administration  
Service Department



Managing Officer

**Toshihiro Masuda**

President,  
Nisshinbo Mechatronics Inc.



Managing Officer

**Shuji Tsukatani**

Senior Manager of Finance,  
Accounting and IT Service  
Department



Managing Officer

**Akihiro Kamei**

President,  
Nisshinbo Chemical Inc.



Managing Officer

**Yasuo Imashiro**

General Manager,  
Business Development  
Division



Managing Officer

**Kazuo Saito**

Managing Director,  
Nisshinbo Singapore Pte. Ltd.



Managing Officer

**Kaoru Murata**

President,  
Nisshinbo Textile Inc.

# Risk Management

In order to fulfill its corporate social responsibility by contributing to society through ongoing business activities, the Nisshinbo Group has established systems to ensure stable operations by mitigating a range of risks that could have a serious impact on the smooth operation of its business.

## Crisis Management System

We have established the Nisshinbo Group Crisis Management Regulations to ensure a rapid response in the event of an earthquake, fire or other emergency. Furthermore, to prepare for a large-scale earthquake or other emergency from the perspective of business continuity, we conduct an annual drill that involves gathering information needed to confirm the safety of employees and restore operations as soon as possible after a disaster. We have developed and introduced a safety confirmation and emergency contact system to rapidly and accurately confirm employee safety.

## Disaster Prevention System

The Company and key business sites in the Nisshinbo Group have formed self-defense fire brigades, which conduct regular inspections of fire-fighting equipment and other facilities and run water discharge checks and other drills. Moreover, for more than 50 years, Nisshinbo has conducted annual disaster prevention inspections to strengthen its ability to respond immediately after a disaster occurs and build a first response system. We are also in the process of

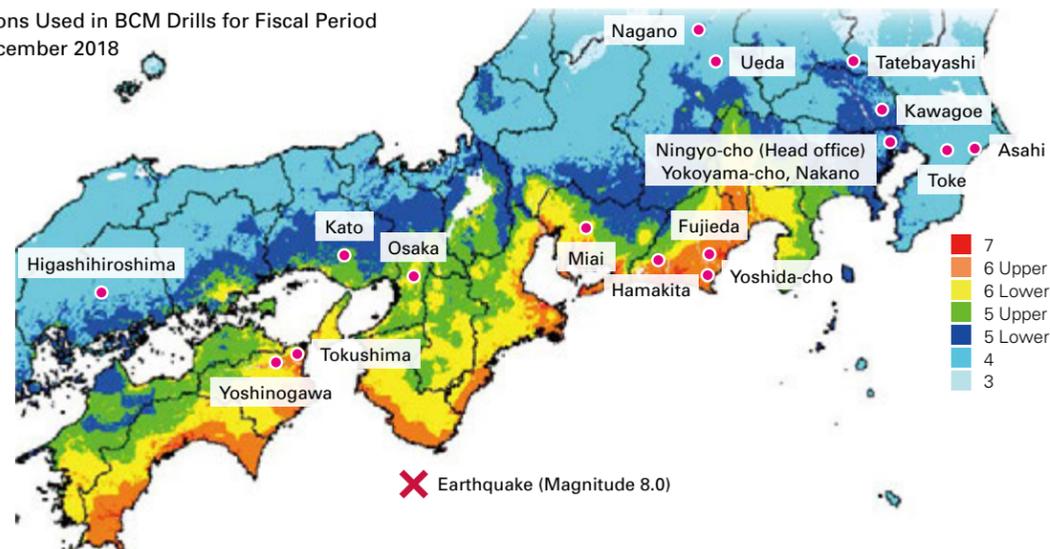
deploying business continuity management (BCM) throughout the entire Group that organically links to our first response system and business continuity plan (BCP).

## BCM Training

Every year, head office conducts a BCM drill based on the scenario of a major disaster. The goal of the drill is to gather all the necessary information to decide whether to activate the BCP within 72 hours. The key elements of the drill in the fiscal period ended December 2018 were as follows:

- **Safety confirmation and emergency contact system drill:** All of the Group's approximately 12,000 domestic employees participated in the drill.
- **Emergency reporting drill:** The 13 emergency contacts at each Group company reported the situation at their sites to the Group Crisis Response Team. The method of reporting emergencies (emails sent to a designated address) was carefully rechecked.
- **Group Crisis Response Team drill:** A Nisshinbo Holdings Emergency Headquarters led by the president, was set up at Nisshinbo's head office building and used to conduct practical training drills.

Assumptions Used in BCM Drills for Fiscal Period Ended December 2018



## Initiatives to Protect Personal Information

The Nisshinbo Group recognizes that one of its key corporate social responsibilities is to ensure important information related to all its stakeholders is protected and managed appropriately. In order to fulfill this responsibility, the Company handles personal information in accordance with its internal privacy policy. In addition, internal audits are conducted in line with Company regulations to ensure systems are working properly, and steps are taken to prevent data leaks and realize ongoing improvements.

In addition, to raise awareness about the importance of protecting personal information among all our employees, we provide training when employees join the Group or on promotion, and run training programs at individual business sites in line with annual plans. Also, with the start of Japan's new national identity system in January 2016, we formulated new regulations governing the handling of personally identifiable information and responded to changes to the EU's system for protecting personnel information, which came into effect in May 2018.

## Initiatives to Ensure Information Security

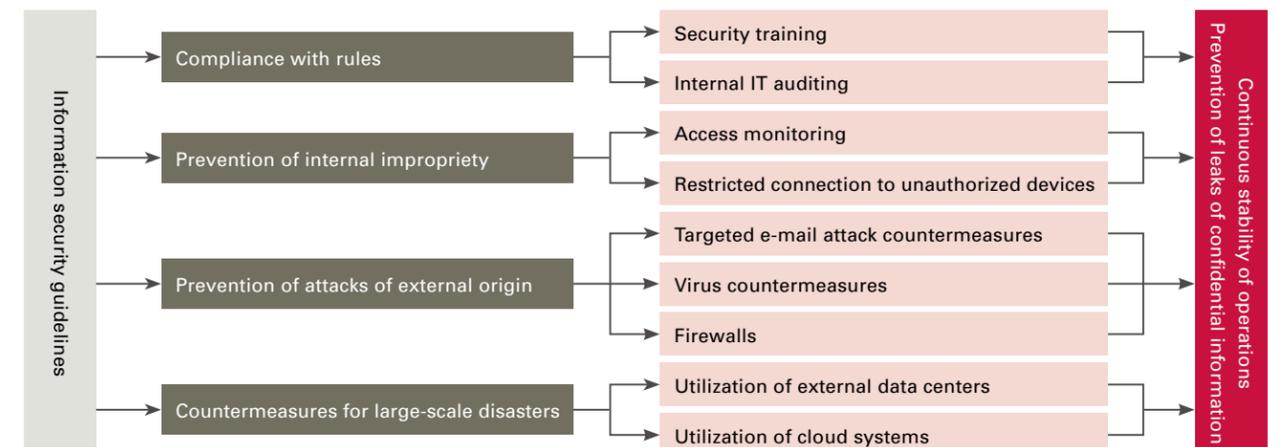
The Nisshinbo Group is constantly reinforcing information security measures to prevent leaks of confidential information, including customers' personal information.

To prevent computer virus attacks, we monitor e-mails through a targeted e-mail attack prevention system and use anti-virus software and security patch programs widely on our IT equipment. We also employ information security management systems to monitor access to important data and limit access to information networks from unauthorized IT equipment. Through these measures, we work to prevent leaks of information from internal fraud and prevent external threats.

We have established Guidelines for Information Security as rules for Group companies to follow. To ensure compliance with these rules, we regularly conduct IT internal audits on our subsidiaries both in Japan and other countries, and work continuously to improve their status.

We have prepared training materials that include rules for information system users, and we periodically conduct group-wide training to raise awareness of our information security measures among all users in the Group.

From the standpoint of business continuity in the event of a large-scale disaster, we are in the process of migrating the business servers located in our in-house server room to external data centers.



## Compliance

Based on Public Entity and Consistent Integrity – the fundamental spirit of Nisshinbo’s Corporate Philosophy, – the Group’s mission is to act with fairness and integrity to contribute to society through its business activities. To achieve our mission, we have formulated Business Conduct Guidelines in order to win trust from the public through fair and honest business activities.

### Corporate Ethics Committee and Corporate Ethics Reporting System

Nisshinbo has established a Corporate Ethics Committee to handle all compliance matters across the Group.

Nisshinbo has also established a Corporate Ethics Reporting System to rapidly identify and prevent any reoccurrence of suspected or actual legal violations. Group employees and external parties can submit reports to the system. Group employees can report their concerns internally to the Corporate Ethics Committee or directly to an outside corporate attorney. All information provided by whistleblowers is treated in the strictest of confidence and every effort is made to protect whistleblowers from unfair treatment. The Corporate Ethics Committee takes appropriate steps to deal with issues raised by reports.

### Compliance Education

In order to ensure fair and honest business practices, the Nisshinbo Group conducts compliance training for different employee levels and work sites and provides training to employees prior to overseas assignments.

From the fiscal year ended March 2017, we added annual compliance training for all manager-grade employees in the Group to our list of KPIs in order to raise awareness about compliance. We also created a compliance training manual for managers in both Japanese and English to be used in training sessions across the Group.

In addition, compliance training is provided at each subsidiary in accordance with conditions in each country, region and industry.

### Initiatives to Prevent Corruption

In recent years, countries worldwide have been reinforcing regulatory systems and stepping up efforts to prevent and expose bribery and corruption. Nisshinbo is working to prevent any such illegal activity, in line with rules in the Nisshinbo Group Business Conduct Guidelines. In the fiscal year ended March 2016, we published a Corruption Prevention Guidebook with information about related laws and regulations overseas, as well as in Japan. The guidebook is provided to all Group companies, including subsidiaries

overseas. In addition to information about Article 18 of Japan’s Unfair Competition Prevention Act (prohibition of provision of illicit profit, etc., to foreign public officials, etc.), the guidebook provides information about international treaties and laws designed to prevent corruption, such as the United Nations Convention Against Corruption (UNCAC), OECD treaties on preventing corruption of overseas public officials in international transactions, the US Foreign Corrupt Practices Act (FCPA) and its related guidelines, and the UK Bribery Act. Nisshinbo updates the guidebook as necessary and uses it as part of its corruption prevention measures in the Group.

### Ensuring Business Confidentiality

Nisshinbo signs non-disclosure agreements with suppliers to prevent any leak of confidential information such as intellectual property, technologies and expertise disclosed to them during the product design and development stage.

We also conduct annual internal audits to check whether the Group’s trade secrets are being managed appropriately.

### CSR Procurement Basic Policy

Nisshinbo has formulated the Nisshinbo Group CSR Procurement Basic Policy, clarifying its stance on seven specific areas: legal compliance, fair trade, information security, environmental protection, human rights, health and safety, and quality assurance.

1. To strictly observe all legal obligations and social norms
2. To always pursue business in a sound and fair manner
3. To properly manage all information
4. To give due consideration to protection of the environment
5. To respect all basic human rights
6. To strive for a secure and healthy living and working environment
7. To aim to ensure the quality and safety of all products and services

We are working to extend our CSR initiatives across the entire supply chain by asking suppliers to adhere to our principles in those seven areas.

## Financials

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# The Nisshinbo Group's Financial Strategy

The role of senior management is to develop and execute growth strategies, but as part of that process, they also have to be prepared to put the brake on some plans in a constructive way. Investing aggressively while taking a disciplined approach to spending will support healthy growth.

## Issues to Be Addressed

Improving business profitability is a pressing issue for Nisshinbo.

That is especially true in core businesses – wireless and communications, micro devices and automobile brakes. All our businesses have product lines that are exposed to changes in market conditions, but we have to raise the marginal profit ratio to ensure a certain level of profitability even if sales decline. Cost reduction is a perennial issue for manufacturers and we have no plans to step back in that respect.

Corporate departments can help to improve profitability by adjusting key performance indicators (KPIs). We have been using a Groupwide ROE target to measure earnings performance for some time, but capital markets now want more benchmarks than just sales, operating margin and return on assets (ROA). Investors want to see KPIs that give a more accurate picture of frontline business performance, so we are looking at introducing return on invested capital (ROIC) as a new benchmark, which is directly related to improvements in capital efficiency.

Adding ROIC to our list of KPIs would give a clearer picture of how our investments contribute to profits. But using a shared benchmark for investment to assess performance across our diverse business segments would mark a major change for Nisshinbo. However, we expect the change to have various benefits, such as improving the investment PDCA cycle, increasing the accuracy of business plans and helping management to rapidly develop measures to tackle poor investment efficiency.

I believe the subsequent improvement in profitability can help us achieve our ¥25 billion operating income target as early as possible. Assuming after-tax profit for ¥17.5 billion, based on an effective tax rate of 30%, and dividends of just over ¥5 billion (dividend payout ratio of 30%), operating income of ¥25 billion would allow us to achieve ROE of around 6%. We aim to reach that initial level in the next two-to-three years, giving us a springboard to achieve our 2025 ROE target of 12%.



## Growth Strategy

We keep a close eye on Nisshinbo's weighted average cost of capital (WACC) when reviewing growth strategy. At the moment, we assume WACC of around 6%, so we therefore need to achieve ROIC of at least 6%.

But we need to be aware that each Nisshinbo business is at a different point in the growth cycle. We use the all-encompassing term "growth strategy," but required rates of return on investments are different depending on where businesses are in that cycle. Mature businesses still have potential for organic growth, while recently acquired or merged companies and new businesses are expected to generate high rates of non-organic growth. Obviously, with underperforming businesses, we need to look closely at their future viability.

M&A activity has an important role to play in business portfolio reorganization, but when considering targets, we need to stay true to Public Entity, the fundamental spirit

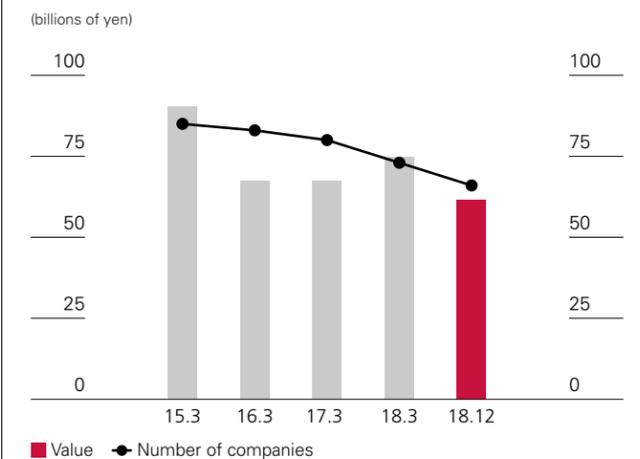
of our Corporate Philosophy, and our strategy of becoming an *Environment and Energy Company* group. To avoid implementing M&A deals simply as means to an end, Nisshinbo does not have a specialist M&A team. When needed, we form temporary project teams made up of personnel from various departments. If we need to find pieces to complete our growth strategy picture, we reach out to contacts in the business community to ensure opportunities are not missed.

## Streamlining Assets

Streamlining assets is crucial to improving ROE. We need to liquidate poor-performing assets to secure funds for reinvestment. One example is our real estate business, which is using idle land resulting from business portfolio restructuring and the globalization of our operations to generate funds for the Group. We are also cutting back cross-shareholdings as part of our commitment to Japan's Corporate Governance Code. We have entered the final stretch of asset streamlining, but the process should still continue to generate funds for the Group for two or three more years. We need to use that opportunity to continue reforming our business portfolio.

Conservative use of debt is key to ensuring a healthy financial position. We know there are clear cases when using leverage is the best approach, but we have to keep profit levels in mind when taking on debt. Nisshinbo's liabilities currently stand at around ¥170 billion, while EBITDA is roughly ¥33 billion, giving a debt-to-EBITDA ratio of around 5x, which does not look too high or low. However, our program of continued heavy investment has led to a large increase in depreciation and amortization. Excluding those items, the debt-to-EBIT ratio is much higher at roughly 20x. That reflects the fact that investments are yet to feed through to profits, and we are well aware that the next two to three years will be a crucial period for generating returns. In the meantime, we will continue to streamline assets and carefully balance investments and debt.

## Cross-shareholdings



# Eleven-Year Summary

(millions of yen)

	2009.03	2010.03	2011.03	2012.03	2013.03	2014.03	2015.03	2016.03	2017.03	2018.03	2018.12
<b>Operating Results</b>											
Net Sales	¥286,167	¥242,409	¥325,555	¥379,340	¥450,693	¥494,350	¥523,758	¥533,989	¥527,274	¥512,048	¥416,221
Electronics	60,549	51,699	112,820	169,907	175,308	187,743	209,116	205,368	190,852	193,621	144,204
Automobile Brakes	49,230	41,046	46,119	47,450	118,849	148,699	161,887	165,037	146,062	154,205	135,008
Precision Instruments	35,602	24,908	32,020	25,191	24,520	28,655	28,608	29,525	60,687	64,918	62,219
Chemicals	8,059	6,309	7,284	8,258	8,150	8,810	8,138	8,285	9,483	11,285	8,173
Textiles	64,392	53,222	57,400	60,964	54,736	54,630	51,073	60,127	55,842	54,640	43,660
Papers	34,214	31,536	30,326	30,220	30,524	31,686	31,280	32,585	32,648	—	—
Real Estate	6,011	6,298	12,437	9,082	15,367	10,567	9,246	8,358	8,084	8,406	4,237
Other Businesses	28,110	27,391	27,149	28,268	23,239	23,560	24,410	24,704	23,616	24,973	18,720
Operating Income (Loss)	408	3,570	19,843	4,170	13,394	13,175	13,744	12,617	4,890	15,086	(2,506)
Net Income (Loss) Attributable to Owners of Nisshinbo Holdings Inc.	(1,286)	1,896	11,185	9,416	6,418	9,012	13,694	10,776	3,575	26,352	(7,183)
<b>Financial Position</b>											
Equity	¥193,698	¥193,639	¥211,557	¥213,751	¥242,623	¥276,865	¥306,938	¥284,472	¥275,753	¥290,434	¥264,849
Total Assets	366,858	358,110	479,852	534,584	551,933	611,311	678,486	651,793	646,288	651,959	622,381
Capital Expenditures	16,872	13,027	12,800	15,705	20,123	19,896	36,909	22,862	30,505	30,103	27,199
Depreciation and Amortization	18,025	12,960	13,158	14,550	18,969	21,486	23,111	22,571	22,264	22,183	19,816
<b>Cash Flows</b>											
Net Cash Provided by Operating Activities	¥11,939	¥27,538	¥16,529	¥12,974	¥34,095	¥26,075	¥37,120	¥39,566	¥26,768	¥32,415	¥15,495
Net Cash Provided by (Used in) Investing Activities	(14,393)	(9,949)	11,591	(57,861)	(10,973)	(19,862)	(21,271)	(22,793)	(31,429)	(1,798)	(20,723)
Net Cash Provided by (Used in) Financing Activities	11,940	(30,347)	703	16,835	(24,073)	(2,321)	(6,238)	(9,044)	3,595	(34,785)	11,936
											(yen)
<b>Per Share</b>											
Net Income (Loss) Attributable to Owners of Nisshinbo Holdings Inc.	¥(7.08)	¥10.38	¥63.32	¥53.83	¥36.74	¥51.60	¥80.33	¥67.93	¥22.52	¥160.59	¥(43.26)
Shareholders' Equity	985.19	1,034.04	1,036.80	1,063.19	1,198.67	1,369.78	1,634.07	1,472.26	1,444.94	1,659.29	1,457.26
Cash Dividends	15.00	15.00	15.00	15.00	15.00	15.00	15.00	30.00	30.00	30.00	30.00
											(%)
<b>Key Ratios</b>											
Shareholders' Equity Ratio	49.0	51.1	38.0	34.7	37.9	39.1	38.2	35.9	35.5	41.2	40.1
Return on Assets (ROA)	(0.3)	0.5	2.7	1.9	1.2	1.5	2.1	1.6	0.6	4.1	(1.1)
Return on Equity (ROE)	(0.6)	1.0	6.1	5.1	3.2	4.0	5.5	4.4	1.5	10.6	(2.8)
Payout Ratio	—	144.5	23.7	27.9	40.8	29.1	18.7	44.2	133.2	18.7	—
<b>ESG Indicators</b>											
Number of Employees	12,726	12,488	18,292	22,304	22,083	22,052	21,387	23,055	23,256	23,104	22,850
Number of Patents Approved	—	—	1,986	1,986	2,293	2,448	2,424	2,441	2,402	2,400	2,682
Greenhouse Gas Emissions per Unit of Sales (t-CO <sub>2</sub> /million yen)	—	—	—	—	—	1.372	1.330	1.267	1.311	1.279	1.320

Notes: 1. In the fiscal year ended March 2017, Iwao & Co., Ltd. was merged with Nisshin Toa Inc., both of which are consolidated subsidiaries. The apparel textile operations of Iwao & Co., Ltd. included in the other businesses segment were reclassified under the textiles business segment as a result. Figures from the fiscal year ended March 2013 have been adjusted to reflect this change.  
2. The Group's elastomer operations were transferred from the chemicals business to the textiles business in the fiscal year ended March 2016. Figures from the fiscal year ended March 2015 have been adjusted to reflect this change.  
3. The Company changed its fiscal year-end from March 31 to December 31, effective from the fiscal period ended December 31, 2018.

# Management's Discussion and Analysis

## Highlights

- Due to the change in fiscal year-end, figures for the previous fiscal year have been adjusted to facilitate comparison with figures for the fiscal period under review.
- Despite lower sales in the automobile brakes business due to the sale of the foundation brakes business, consolidated net sales increased year on year, mainly reflecting the acquisition of Ricoh Electronic Devices Co., Ltd., which became a consolidated subsidiary.
- The Group reported an operating loss, largely due to lower sales of TMD aftermarket products in the automobile brakes business.

## Operating Results

The fiscal period ended December 31, 2018 is a transitional period due to a change in fiscal year-end. The period covers nine months of results (April 1, 2018 to December 31, 2018) for the Company and consolidated subsidiaries that had March fiscal year-ends, 10 months of results (March 1, 2018 to December 31, 2018) for consolidated subsidiaries that had February fiscal year-ends, and 12 months of results (January 1, 2018 to December 31, 2018) for consolidated subsidiaries with December fiscal year-ends, which coincides with the new consolidated fiscal year-end. For reference purposes, figures for the previous fiscal year have been adjusted to facilitate comparison with figures for the fiscal period under review (referred to as "adjusted basis").

In March 2018, the Company acquired 80% of outstanding shares in Ricoh Electronic Devices Co., Ltd., making it a consolidated subsidiary. The company, which is focused on analog power management integrated circuits (PMICs), will help the Nisshinbo Group accelerate the expansion of its semiconductor and electronic devices businesses, particularly in the promising automotive and IoT fields. The company's operating results (Statement of Profit or Loss) and goodwill amortization are reflected in the Group's consolidated

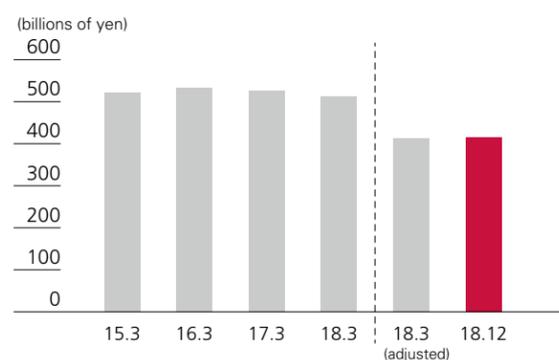
statements from the fiscal period ended December 31, 2018.

In the fiscal period ended December 31, 2018, the Nisshinbo Group reported net sales of ¥416,221 million (US\$3,784 million), up ¥2,885 million (0.7%) year on year on an adjusted basis. Growth in net sales was mainly supported by the consolidation of Ricoh Electronic Devices Co., Ltd. in the electronics business, which offset lower sales in the automobile brakes business due to the sale of the foundation brakes business and other factors.

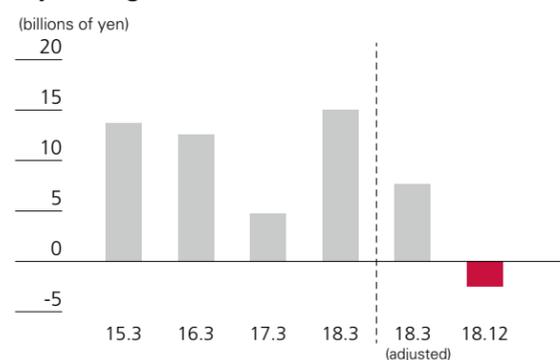
The Company reported an operating loss of ¥2,506 million (US\$23 million), a deterioration of ¥10,302 million on an adjusted basis. The deterioration in profitability largely reflected weaker sales of TMD aftermarket products in the automobile brakes business.

In addition, the Company reported net loss attributable to owners of Nisshinbo Holdings Inc. of ¥7,183 million (US\$65 million), a deterioration of ¥27,719 million year on year on an adjusted basis. That reflected the decline in operating income, as well as the absence of gains on the sale of shares of subsidiaries and associates due to the transfer of the papers business and gains on the sale of property, plant and equipment in the real estate business, which were booked in the previous fiscal year.

### Net Sales



### Operating Income / Loss



Japan Radio Co., Ltd., which is part of the electronics business, tends to book a large proportion of sales and profits in January, February and March, because it supplies equipment to central government and local government agencies. As a result, the period April through December accounts for a relatively low weighting of net sales and profits in the Nisshinbo Group's results.

## Medium-term Management Strategy

As the Group becomes more diversified, Nisshinbo is aiming to increase corporate value by uniting its various businesses under its Corporate Philosophy, "Change and Challenge! For the creation of the future of Earth and People." Nisshinbo will also work to enhance Group management and global management.

Based on the view that the quality of a company is the sum of its people, the Group will also continue to adapt its business to the changing demands of modern life and society, while also increasing the focus on "experiences" and "services," as well as "things."

The Nisshinbo Group has been shifting its strategic focus to the environmental and energy fields, guided by the themes of protecting the global environment and creating a sustainable society. As an *Environment and Energy Company* group, we will continue to propose new products and systems that help protect the environment, save energy and create alternative sources of energy, while also providing solutions that address some of the biggest issues faced by humanity today, such as environmental destruction and natural disasters caused by climate change, to make life safer and more secure for people everywhere.

Based on that thinking, we will enhance and expand our presence in the mainstay mobility field and supply products and services in the infrastructure & safety field and the life & healthcare field to contribute to the creation of future societies.

In the mobility field, we are expanding our business by promoting Groupwide collaboration that combines our wireless communication technologies with technologies in electronic devices, mechatronics and chemicals.

In automotive products, we are establishing our position in the global market by pioneering the development and sale of copper-free friction materials and pushing ahead with the development of components and materials for fuel cell vehicles, such as carbon bipolar plates and alternatives to platinum catalysts. The Group is also supplying devices and stepping up the development of sensors for autonomous vehicles and working to develop communications networks that link vehicles and traffic infrastructure.

In addition, we are developing radar, sensors and other devices needed for autonomous ship operation, satellite communication, and aircraft and drone control systems, as well as using the data gathered from the products developed by the Group to support safe and energy-efficient operations.

The Nisshinbo Group is targeting ROE of 12% in 2025.

In the fiscal year ending December 31, 2019, we will continue to channel management resources into the mobility field and execute our growth strategy.

Effective from the fiscal year ending December 31, 2019, we have separated the electronics business into two distinct business fields – wireless and communications, and micro devices. This will allow us to clearly define the challenges facing our business in each area and accelerate our growth strategy. In the automobile brakes business, we plan to expand our business by upgrading the production framework for copper-free friction materials, demand for which is projected to expand worldwide. We will also rapidly turn around operations at TMD to address the deteriorating earnings situation. In the precision instruments business, we aim to grow the business by steadily integrating the operations of Nanbu Plastics Co., Ltd.

## Segment Results

	Net Sales (millions of yen)		Segment Profit (Loss) (millions of yen)	
Electronics	144,204	up 14.2%	(4,905)	deterioration of ¥1,282 million
Automobile Brakes	135,008	down 9.4%	(814)	deterioration of ¥7,036 million
Precision Instruments	62,219	up 1.6%	1,691	down 5.4%
Chemicals	8,173	up 3.5%	1,665	up 19.3%
Textiles	43,660	down 2.2%	1,250	down 31.3%
Real Estate	4,237	down 22.4%	2,681	down 27.7%
Other Businesses	18,720	down 0.2%	(4,074)	deterioration of ¥563 million

Note: Changes in net sales and segment profit (loss) are adjusted year-on-year figures; please refer to pages 17 to 48 for details on performance in individual segments.

## Dividend

The full-year dividend for the fiscal year ended December 2018 is ¥30 (US\$0.27) per share, the same amount as for the previous fiscal year.

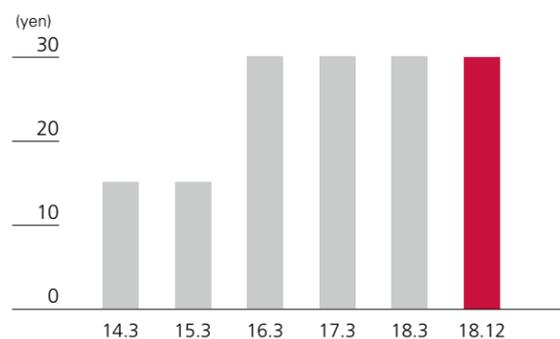
By focusing on ROE, Nisshinbo is aiming to deliver sustained increases in shareholder value through the distribution of profits and other means. We also intend to accelerate investment in areas that drive growth, such as R&D, capital expenditures and M&A, aiming to secure even greater support and trust from the public, markets and stakeholders as an *Environment and Energy Company* group.

In principle, we intend to pay an interim dividend and a year-end dividend, targeting stable and consistent dividends based on a consolidated payout ratio target of around 30%.

Also, when the Group holds sufficient internal reserves to fund growth strategies, we plan to actively

return profits to shareholders through share buy-backs and other means after considering factors such as financial stability.

### Cash Dividends



## Financial Position

Total assets at the end of the fiscal period under review stood at ¥622,381 million (US\$5,658 million), a decline of ¥29,578 million from the end of the previous fiscal year (March 2018). That mainly reflected decreases of ¥6,567 million for time deposits, ¥29,119 million for receivables and ¥14,512 million for investment securities, and increases of ¥5,956 million for cash and cash equivalents, ¥13,622 million for inventories and ¥3,404 million for investments in and advances to unconsolidated subsidiaries and affiliates.

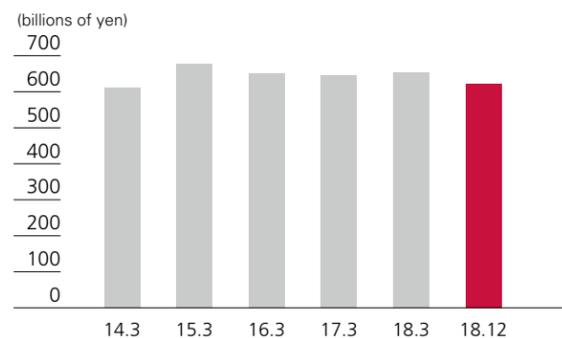
Total liabilities at the end of the fiscal period were ¥357,532 million (US\$3,250 million), a decline of ¥3,993 million from the end of the previous fiscal year. The main changes in liabilities were decreases of ¥10,821 million for

payables, ¥3,185 million for accrued expenses, ¥5,659 million for long-term debt and ¥8,422 million for deferred tax liabilities, and increases of ¥19,078 million for short-term bank loans and ¥6,440 million for other current liabilities.

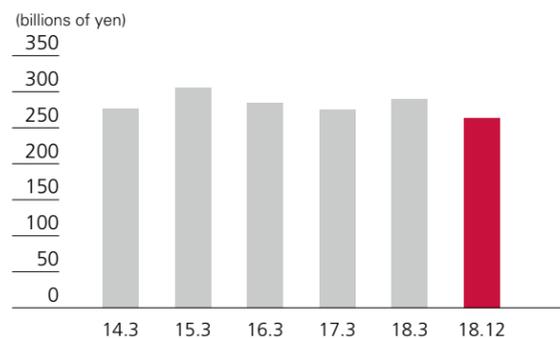
Equity at the end of the fiscal period totaled ¥264,849 million (US\$2,408 million), a decline of ¥25,585 million from the end of the previous fiscal year. That primarily reflected decreases of ¥6,323 million for capital surplus, ¥11,641 million for retained earnings, ¥8,972 million for net unrealized gain on available-for-sale securities and ¥6,440 million for noncontrolling interests, and an increase of ¥13,575 million due to decline in treasury stock.

As a result of the above, the shareholders' equity ratio declined 1.1 percentage points to 40.1%.

### Total Assets



### Equity



## Cash Flows

### Cash Flows from Operating Activities

Cash provided by operating activities totaled ¥15,495 million (US\$141 million), mainly reflecting cash provided of ¥19,816 million from depreciation and amortization and ¥26,421 million from decrease in receivables, against cash used of ¥8,983 million for income taxes—paid, ¥15,466 million for increase in inventories and ¥7,992 million for decrease in payables.

### Cash Flows from Investing Activities

Cash used in investing activities totaled ¥20,723 million (US\$188 million), primarily reflecting cash provided of ¥6,273 million from decrease in time deposits, against cash used of ¥26,992 million for the purchase of property, plant and equipment.

### Cash Flows from Financing Activities

Cash provided by financing activities totaled ¥11,936 million (US\$109 million), mainly reflecting cash provided of ¥3,249 million from proceeds from long-term debt and ¥20,159 million from increase in short-term bank loans—net, against cash used of ¥5,998 million for repayment of long-term debt and ¥4,999 million for cash dividends paid.

As a result of the above, cash and cash equivalents at the end of the fiscal period totaled ¥42,434 million (US\$386 million), an increase of ¥5,956 million from the end of the previous fiscal year.

## Production Results

Production results in each segment for the fiscal period under review were as follows:

Industry Segment	Amount (millions of yen)
Electronics	145,073
Automobile Brakes	107,764
Precision Instruments	58,195
Chemicals	5,085
Textiles	31,389
Other Businesses	387
Total	347,893

Notes: 1. Amounts are calculated based on manufacturing costs.

2. The real estate business does not engage in manufacturing, and therefore the above table does not include any amounts from this segment.

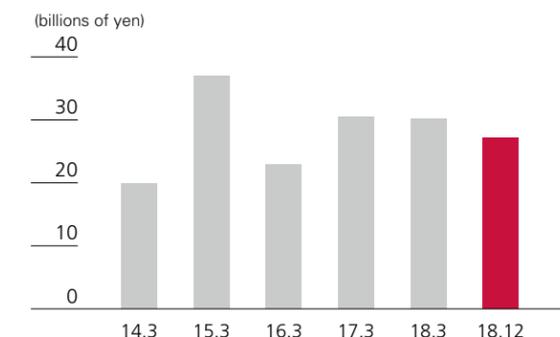
## Capital Expenditures

The Nisshinbo Group channels its capital expenditures into priority product fields that offer the potential for long-term growth and into upgrading manufacturing equipment to raise product quality. It also invests in environmental initiatives such as the reduction of greenhouse gases and in manufacturing facilities to address rising demand in China, Southeast Asia and other emerging markets. As a result, in the fiscal period ended December 2018, capital expenditures totaled ¥27,199 million (US\$247 million).

In the electronics business, the Group invested ¥2,327 million in Japan Radio Co., Ltd., mainly for backbone IT systems, and ¥3,250 million in New Japan Radio Co., Ltd., primarily in electronic device manufacturing and research and development facilities. In the automobile brake business, the Group invested ¥6,189 million, mainly in friction material manufacturing facilities at TMD Friction Esco GmbH, a TMD consolidated subsidiary, and ¥1,357 million at Nisshinbo Automotive Manufacturing Inc., primarily in manufacturing

facilities for friction materials that are compatible with regulations on copper content. In the precision instruments business, the Group invested ¥3,836 million in precision parts processing facilities at Nisshinbo-Continental Precision Machining (Yangzhou) Co., Ltd. and ¥1,875 million in plastic molded parts processing facilities at Nanbu Plastics Co., Ltd.

### Capital Expenditures



## Selection of Accounting Standards

The Nisshinbo Group currently uses Japanese accounting standards. However, given that the Company's basic management policy is to develop its business globally, overseas operations are likely to account for a growing share of consolidated earnings. From that perspective, we are

## Risk Information

Forward-looking statements in this report are based on information available to the Nisshinbo Group as of December 31, 2018.

### Risks Associated with New Businesses

The Nisshinbo Group is actively developing new businesses such as carbon catalysts in order to expand sales and profits. However, uncertainties are inherent in new businesses and the development of appealing new products and the formation of new markets may not proceed as anticipated. This could delay or prevent the recovery of prior investments.

### Risk of Fluctuation in the Value of Investment Securities

Investment securities held by Nisshinbo are marked to market in accordance with accounting standards for financial products, and the Company implements impairment accounting based on even stricter internal standards for a portion of these securities. Based on current accounting standards and standards for asset impairment, there is a limited possibility that impairment losses will have an impact on net income, as the acquisition cost of the investment securities was low. However, comprehensive income may fluctuate significantly owing to changes in market value. Also, the Company plans to limit increases in interest-bearing liabilities by selling investment securities to procure capital needed for mergers and acquisitions, overseas business development, and capital investment, but misalignment of the timing between sale and investment may give rise to unforeseen circumstances.

### Risks Associated with Product Quality

The majority of the Nisshinbo Group manufactures products in accordance with international quality control standards, but there is no guarantee that quality-related problems will not occur in the future. The Company has product liability insurance, but the occurrence of a large liability could have an adverse impact on the Group's financial results.

considering voluntarily adopting International Financial Reporting Standards (IFRS), a common set of global accounting standards. However, no final decision has been made on timing and other factors related to voluntary adoption of IFRS at this stage.

### Risks Associated with Market Shifts Relating to Product Sales Prices and Raw Material Procurement

Some of the Nisshinbo Group's products can be significantly affected by fluctuations in market prices owing to market developments and competition with other companies. Sales prices for textile products and raw materials procured by the Group such as cotton, steel and other materials are particularly susceptible to these market trends. Technological innovation related to semiconductors and other devices, price competition and fluctuations in demand at New Japan Radio Group and Ricoh Electronic Devices Co., Ltd. may have an impact on the Group's financial results.

### Risks Associated with Changes in Customer Business Performance

The customers of the Nisshinbo Group's automobile brakes business are automobile manufacturers that conduct business globally. The cancellation of contracts or requests to sharply reduce prices owing to changes in the business results of such client companies are factors outside the control of Nisshinbo, and consequently may have an impact on the Group's financial results.

The Japan Radio Group has a relatively high ratio of business with central and local governments, so sales tend to be concentrated in March. In addition, trends in central and local government spending plans and capital expenditures in the telecommunications sector may affect the Group's financial results.

### Risks Associated with the Supply Chain

The Group may face difficulties in securing necessary components owing to changes in the economic environment. For example, rapid developments in specific parts supply regions and product fields may affect supply capacity at parts companies and lead to delivery delays. This in turn could impact the Group's shipment plans or lead to deterioration in margins owing to sharp increases in the price of components.

### Risks Associated with Fluctuations in Exchange Rates

Fluctuations in foreign exchange rates can have an impact on the yen value of the Nisshinbo Group's revenues, expenses, receivables and payables arising from business transactions that are denominated in foreign currencies and on foreign currency translation adjustments in the financial statements related to overseas consolidated subsidiaries, which prepare their statements in foreign currencies. While the Group takes steps to mitigate the risk of exchange rate fluctuations, not all this risk can be avoided. Fluctuations in exchange rates may therefore affect the Group's financial results, with periods of yen appreciation putting pressure on profits.

### Risks Associated with Unforeseen Revisions to Laws and Regulations

Products supplied by the Japan Radio Group are subject to a range of laws and regulations governing areas such as national security. These laws include export restrictions, import regulations and environmental and recycling laws. The Japan Radio Group has established clear internal regulations regarding compliance with these laws. However, unforeseen revisions to laws and regulations may limit the Group's business activities and lead to an increase in costs.

### Risks Associated with Overseas Business Development

The Nisshinbo Group owns many production bases overseas. Risks inherent to this international presence include unforeseen changes in laws and regulations, unfavorable political or economic factors and social turmoil.

### Risks Associated with Financial Covenants Related to Capital Procurement

The Nisshinbo Group has secured funding from multiple financial institutions. The Company and some consolidated subsidiaries have entered into commitment line contracts and term loan contracts. These companies are bound by certain financial covenants.

### Risks Associated with Disasters and Accidents

The Nisshinbo Group takes steps to manage risk related to disasters and accidents. However, a large earthquake or other major disaster or a sudden accident such as a fire may cause significant damage to the Group's manufacturing facilities, leading to the suspension of production activities that causes shipment delays. The Group may also incur considerable costs to restore damaged buildings or facilities.

In addition, the outbreak and spread of a new infectious disease may have an impact on the Group's operations.

# Consolidated Balance Sheet

December 31, 2018

ASSETS	Millions of Yen		Thousands of U.S. Dollars (Note)
	Dec. 2018	Mar. 2018	Dec. 2018
<b>CURRENT ASSETS:</b>			
Cash and cash equivalents	¥42,434	¥36,478	\$385,764
Time deposits	1	6,568	9
Receivables:			
Trade notes	21,084	24,043	191,673
Trade accounts	99,673	127,211	906,118
Unconsolidated subsidiaries and affiliates	1,225	1,010	11,136
Other	5,364	4,568	48,764
Allowance for doubtful receivables	(417)	(784)	(3,791)
Inventories	118,991	105,369	1,081,736
Other current assets	9,732	6,633	88,473
<b>Total current assets</b>	<b>298,087</b>	<b>311,096</b>	<b>2,709,882</b>
<b>PROPERTY, PLANT AND EQUIPMENT:</b>			
Land	36,891	37,812	335,372
Buildings and structures	169,882	170,516	1,544,382
Machinery, equipment and tools	343,945	349,754	3,126,773
Construction in progress	9,909	12,649	90,082
Total	560,627	570,731	5,096,609
Accumulated depreciation	(375,938)	(384,713)	(3,417,618)
<b>Net property, plant and equipment</b>	<b>184,689</b>	<b>186,018</b>	<b>1,678,991</b>
<b>INVESTMENTS AND OTHER ASSETS:</b>			
Investment securities	71,350	85,862	648,636
Investments in and advances to unconsolidated subsidiaries and affiliates	35,262	31,858	320,564
Deferred tax assets	6,160	9,241	56,000
Goodwill	7,131	8,945	64,827
Other	19,702	18,939	179,109
<b>Total investments and other assets</b>	<b>139,605</b>	<b>154,845</b>	<b>1,269,136</b>
<b>TOTAL</b>	<b>¥622,381</b>	<b>¥651,959</b>	<b>\$5,658,009</b>

Note: The translations of Japanese yen amounts into U.S. dollar (\$) amounts are included solely for the convenience of readers outside Japan and have been made at the rate of ¥110 to \$1, the approximate rate of exchange at December 31, 2018.

LIABILITIES AND EQUITY	Millions of Yen		Thousands of U.S. Dollars (Note)
	Dec. 2018	Mar. 2018	Dec. 2018
<b>CURRENT LIABILITIES:</b>			
Short-term bank loans	¥65,391	¥46,313	\$594,464
Commercial paper	30,000	30,000	272,727
Current portion of long-term debt	8,560	8,245	77,818
Payables:			
Trade notes	24,129	22,187	219,355
Trade accounts	40,145	49,748	364,955
Unconsolidated subsidiaries and affiliates	273	14	2,482
Other	12,751	16,170	115,918
Accrued expenses	14,877	18,062	135,245
Accrued income taxes	3,088	5,777	28,073
Other current liabilities	18,875	12,435	171,590
<b>Total current liabilities</b>	<b>218,089</b>	<b>208,951</b>	<b>1,982,627</b>
<b>LONG-TERM LIABILITIES:</b>			
Long-term debt	59,346	65,005	539,509
Liability for retirement benefits	50,292	48,055	457,200
Deferred tax liabilities	16,825	25,247	152,955
Other long-term liabilities	12,980	14,267	118,000
<b>Total long-term liabilities</b>	<b>139,443</b>	<b>152,574</b>	<b>1,267,664</b>
<b>Total liabilities</b>	<b>357,532</b>	<b>361,525</b>	<b>3,250,291</b>
<b>EQUITY:</b>			
<b>Shareholders' equity:</b>			
Common stock—authorized, 371,755,000 shares; issued, 178,834,769 shares on December 31, 2018 and 178,798,939 shares on March 31, 2018	27,610	27,588	251,000
Capital surplus	20,396	26,719	185,418
Retained earnings	177,545	189,186	1,614,045
Treasury stock—at cost, 7,542,144 shares on December 31, 2018 and 16,818,957 shares on March 31, 2018	(11,035)	(24,610)	(100,318)
<b>Total shareholders' equity</b>	<b>214,516</b>	<b>218,883</b>	<b>1,950,145</b>
Accumulated other comprehensive income:			
Net unrealized gain on available-for-sale securities	33,992	42,964	309,018
Deferred loss on derivatives under hedge accounting	(98)	(19)	(891)
Foreign currency translation adjustments	5,274	10,361	47,946
Post-retirement liability adjustments	(4,067)	(3,418)	(36,973)
<b>Total</b>	<b>35,101</b>	<b>49,888</b>	<b>319,100</b>
Stock acquisition rights	161	152	1,464
<b>Total equity</b>	<b>249,778</b>	<b>268,923</b>	<b>2,270,709</b>
Noncontrolling interests	15,071	21,511	137,009
<b>Total equity</b>	<b>264,849</b>	<b>290,434</b>	<b>2,407,718</b>
<b>TOTAL</b>	<b>¥622,381</b>	<b>¥651,959</b>	<b>\$5,658,009</b>



## Consolidated Statement of Changes in Equity

Nine-Month Period Ended December 31, 2018

	Millions of Yen											
	Common Stock	Capital Surplus	Retained Earnings	Treasury Stock	Total Shareholders' Equity	Net Unrealized (Loss) Gain on Available-for-Sale Securities	Deferred (Loss) Gain on Derivatives under Hedge Accounting	Foreign Currency Translation Adjustments	Post-Retirement Liability Adjustments	Stock Acquisition Rights	Noncontrolling Interests	Total Equity
BALANCE, APRIL 1, 2017	¥27,588	¥17,587	¥167,598	¥(23,090)	¥189,683	¥37,310	¥3	¥7,715	¥(5,276)	¥163	¥46,155	¥275,753
Cash dividends, ¥30.00 per share	—	—	(4,764)	—	(4,764)	—	—	—	—	—	—	(4,764)
Net income attributable to owners of Nisshinbo Holdings Inc.	—	—	26,352	—	26,352	—	—	—	—	—	—	26,352
Change in scope of consolidation— transactions with noncontrolling interests	—	0	—	—	0	—	—	—	—	—	—	0
Purchase of treasury stock	—	—	—	(20,011)	(20,011)	—	—	—	—	—	—	(20,011)
Disposal of treasury stock	—	(18)	—	194	176	—	—	—	—	—	—	176
Changes by share exchanges	—	9,150	—	18,297	27,447	—	—	—	—	—	—	27,447
Net change in the year	—	—	—	—	—	5,654	(22)	2,646	1,858	(11)	(24,644)	(14,519)
BALANCE, MARCH 31, 2018 (APRIL 1, 2018, as previously reported)	¥27,588	¥26,719	¥189,186	¥(24,610)	¥218,883	¥42,964	¥(19)	¥10,361	¥(3,418)	¥152	¥21,511	¥290,434
Cumulative effects of changes in accounting policies	—	—	365	—	365	—	—	—	—	—	—	365
BALANCE, APRIL 1, 2018 (as restated)	¥27,588	¥26,719	¥189,551	¥(24,610)	¥219,248	¥42,964	¥(19)	¥10,361	¥(3,418)	¥152	¥21,511	¥290,799
Cash dividends, ¥30.00 per share	—	—	(4,999)	—	(4,999)	—	—	—	—	—	—	(4,999)
Net loss attributable to owners of Nisshinbo Holdings Inc.	—	—	(7,183)	—	(7,183)	—	—	—	—	—	—	(7,183)
Purchase of treasury stock	—	—	—	(5)	(5)	—	—	—	—	—	—	(5)
Disposal of treasury stock	—	(11)	—	40	29	—	—	—	—	—	—	29
Changes by share exchanges	—	(6,334)	—	13,540	7,206	—	—	—	—	—	—	7,206
Issuance of new shares	22	22	—	—	44	—	—	—	—	—	—	44
Change of scope of equity method	—	—	176	—	176	—	—	—	—	—	—	176
Net change in the nine-month period	—	—	—	—	—	(8,972)	(79)	(5,087)	(649)	9	(6,440)	(21,218)
<b>BALANCE, DECEMBER 31, 2018</b>	<b>¥27,610</b>	<b>¥20,396</b>	<b>¥177,545</b>	<b>¥(11,035)</b>	<b>¥214,516</b>	<b>¥33,992</b>	<b>¥(98)</b>	<b>¥5,274</b>	<b>¥(4,067)</b>	<b>¥161</b>	<b>¥15,071</b>	<b>¥264,849</b>

	Thousands of U.S. Dollars (Note)											
	Common Stock	Capital Surplus	Retained Earnings	Treasury Stock	Total Shareholders' Equity	Net Unrealized (Loss) Gain on Available-for-Sale Securities	Deferred Loss on Derivatives under Hedge Accounting	Foreign Currency Translation Adjustments	Post-Retirement Liability Adjustments	Stock Acquisition Rights	Noncontrolling Interests	Total Equity
BALANCE, MARCH 31, 2018 (APRIL 1, 2018, as previously reported)	\$250,800	\$242,900	\$1,719,873	\$(223,727)	\$1,989,846	\$390,582	\$(173)	\$94,191	\$(31,073)	\$1,382	\$195,554	\$2,640,309
Cumulative effects of changes in accounting policies	—	—	3,318	—	3,318	—	—	—	—	—	—	3,318
BALANCE, APRIL 1, 2018 (as restated)	\$250,800	\$242,900	\$1,723,191	\$(223,727)	\$1,993,164	\$390,582	\$(173)	\$94,191	\$(31,073)	\$1,382	\$195,554	\$2,643,627
Cash dividends, \$0.27 per share	—	—	(45,446)	—	(45,446)	—	—	—	—	—	—	(45,446)
Net loss attributable to owners of Nisshinbo Holdings Inc.	—	—	(65,300)	—	(65,300)	—	—	—	—	—	—	(65,300)
Purchase of treasury stock	—	—	—	(46)	(46)	—	—	—	—	—	—	(46)
Disposal of treasury stock	—	(100)	—	364	264	—	—	—	—	—	—	264
Changes by share exchanges	—	(57,582)	—	123,091	65,509	—	—	—	—	—	—	65,509
Issuance of new shares	200	200	—	—	400	—	—	—	—	—	—	400
Change of scope of equity method	—	—	1,600	—	1,600	—	—	—	—	—	—	1,600
Net change in the nine-month period	—	—	—	—	—	(81,564)	(718)	(46,245)	(5,900)	82	(58,545)	(192,890)
<b>BALANCE, DECEMBER 31, 2018</b>	<b>\$251,000</b>	<b>\$185,418</b>	<b>\$1,614,045</b>	<b>\$(100,318)</b>	<b>\$1,950,145</b>	<b>\$309,018</b>	<b>\$(891)</b>	<b>\$47,946</b>	<b>\$(36,973)</b>	<b>\$1,464</b>	<b>\$137,009</b>	<b>\$2,407,718</b>

## Consolidated Statement of Cash Flows

Nine-Month Period Ended December 31, 2018

	Millions of Yen		Thousands of U.S. Dollars (Note)
	Dec. 2018	Mar. 2018	Dec. 2018
<b>OPERATING ACTIVITIES:</b>			
(Loss) income before income taxes	¥(3,481)	¥33,487	\$(31,645)
Adjustments to reconcile net income to net cash provided by operating activities:			
Income taxes—paid	(8,983)	(3,196)	(81,664)
Depreciation and amortization	19,816	22,183	180,145
Amortization of goodwill	1,889	1,688	17,173
Equity in earnings of unconsolidated subsidiaries and affiliates	(4,006)	(4,375)	(36,418)
(Reversal of) provision for doubtful receivables	(665)	76	(6,045)
Interest and dividends income	2,535	1,312	23,046
Provision for contingent loss	245	—	2,227
Increase (decrease) in liabilities for retirement benefits	266	(202)	2,418
Loss (gain) on sale of property, plant and equipment, net	287	(5,092)	2,609
Loss on impairment of long-lived assets	2,407	4,522	21,882
Gain on sale of investment securities and investments in and advances to unconsolidated subsidiaries and affiliates, net	(1,615)	(14,396)	(14,682)
Loss on write-down of investment securities and investments in and advances to unconsolidated subsidiaries and affiliates	562	120	5,109
Changes in operating assets and liabilities:			
Decrease (increase) in receivables	26,421	(2,651)	240,191
Increase in inventories	(15,466)	(2,353)	(140,600)
(Decrease) increase in payables	(7,992)	3,692	(72,655)
Other—net	3,275	(2,400)	29,773
Total adjustments	18,976	(1,072)	172,509
Net cash provided by operating activities	15,495	32,415	140,864
<b>INVESTING ACTIVITIES:</b>			
Proceeds from sale of property, plant and equipment	830	8,110	7,546
Proceeds from sale of investment securities and investments in and advances to unconsolidated subsidiaries and affiliates	2,553	6,009	23,209
Purchase of property, plant and equipment	(26,992)	(29,567)	(245,382)
Purchase of investment securities and investments in and advances to unconsolidated subsidiaries and affiliates	(35)	(414)	(318)
Decrease in time deposits—net	6,273	1,929	57,027
Purchase of investments in subsidiaries with changes in consolidation scope	(261)	(6,914)	(2,373)
Proceeds from sales of investments in subsidiaries with changes in consolidation scope	1,544	21,136	14,036
Purchase of investments in capital of subsidiaries	(1,742)	—	(15,836)
Other—net	(2,893)	(2,087)	(26,300)
Net cash used in investing activities	(20,723)	(1,798)	(188,391)
<b>FINANCING ACTIVITIES:</b>			
Proceeds from long-term debt	3,249	1,975	29,536
Repayment of long-term debt	(5,998)	(8,327)	(54,527)
Increase (decrease) in short-term bank loans—net	20,159	(2,647)	183,263
Cash dividends paid	(4,999)	(4,764)	(45,445)
Purchase of treasury stock	(5)	(20,011)	(45)
Decrease in other long-term liabilities	(381)	(693)	(3,464)
Other—net	(89)	(318)	(809)
Net cash provided by (used in) financing activities	11,936	(34,785)	108,509
<b>EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS</b>	<b>(752)</b>	<b>796</b>	<b>(6,836)</b>
<b>NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>	<b>5,956</b>	<b>(3,372)</b>	<b>54,146</b>
<b>CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD</b>	<b>36,478</b>	<b>39,850</b>	<b>331,618</b>
<b>CASH AND CASH EQUIVALENTS, END OF PERIOD</b>	<b>¥42,434</b>	<b>¥36,478</b>	<b>\$385,764</b>

## Segment Information

Nine-Month Period Ended December 31, 2018

Millions of Yen									
Dec. 2018									
	Electronics	Automobile Brakes	Precision Instruments	Chemicals	Textiles	Real Estate	Other Businesses	Eliminations/Corporate	Consolidated
Sales:									
Sales to external customers	¥144,204	¥135,008	¥62,219	¥8,173	¥43,660	¥4,237	¥18,720	¥—	¥416,221
Intersegment sales or transfers	16	7	142	111	15	1,126	1,643	(3,060)	—
Total	¥144,220	¥135,015	¥62,361	¥8,284	¥43,675	¥5,363	¥20,363	¥(3,060)	¥416,221
Segment profit (loss)	¥(4,905)	¥(814)	¥1,691	¥1,665	¥1,250	¥2,681	¥(32)	¥(4,042)	¥(2,506)
Segment assets	¥229,262	¥152,529	¥76,605	¥9,057	¥55,139	¥49,790	¥38,149	¥11,850	¥622,381
Other:									
Depreciation and amortization	¥4,688	¥8,743	¥3,712	¥163	¥1,282	¥929	¥157	¥142	¥19,816
Increase in property, plant and equipment and intangible assets	¥6,361	¥10,768	¥8,197	¥176	¥1,399	¥296	¥127	¥(125)	¥27,199

Millions of Yen									
Mar. 2018									
	Electronics	Automobile Brakes	Precision Instruments	Chemicals	Textiles	Real Estate	Other Businesses	Eliminations/Corporate	Consolidated
Sales:									
Sales to external customers	¥193,621	¥154,205	¥64,918	¥11,285	¥54,640	¥8,406	¥24,973	¥—	¥512,048
Intersegment sales or transfers	12	22	333	146	4	1,473	1,605	(3,595)	—
Total	¥193,633	¥154,227	¥65,251	¥11,431	¥54,644	¥9,879	¥26,578	¥(3,595)	¥512,048
Segment profit	¥3,022	¥6,119	¥1,725	¥2,112	¥1,876	¥5,067	¥46	¥(4,881)	¥15,086
Segment assets	¥229,694	¥171,161	¥74,964	¥9,369	¥54,509	¥49,460	¥34,188	¥30,882	¥654,227
Other:									
Depreciation and amortization	¥5,298	¥10,101	¥3,571	¥220	¥1,340	¥1,249	¥204	¥200	¥22,183
Increase in property, plant and equipment and intangible assets	¥6,185	¥15,340	¥5,574	¥47	¥2,152	¥1,095	¥43	¥(333)	¥30,103

Thousands of U.S. Dollars (Note)									
Dec. 2018									
	Electronics	Automobile Brakes	Precision Instruments	Chemicals	Textiles	Real Estate	Other Businesses	Eliminations/Corporate	Consolidated
Sales:									
Sales to external customers	\$1,310,946	\$1,227,345	\$565,627	\$74,300	\$396,909	\$38,518	\$170,182	\$—	\$3,783,827
Intersegment sales or transfers	145	64	1,291	1,009	136	10,236	14,936	(27,817)	—
Total	\$1,311,091	\$1,227,409	\$566,918	\$75,309	\$397,045	\$48,754	\$185,118	\$(27,817)	\$3,783,827
Segment profit (loss)	\$(44,591)	\$(7,400)	\$15,373	\$15,136	\$11,363	\$24,373	\$(291)	\$(36,745)	\$(22,782)
Segment assets	\$2,084,200	\$1,386,627	\$696,409	\$82,336	\$501,264	\$452,636	\$346,809	\$107,728	\$5,658,009
Other:									
Depreciation and amortization	\$42,618	\$79,482	\$33,745	\$1,482	\$11,655	\$8,445	\$1,427	\$1,291	\$180,145
Increase in property, plant and equipment and intangible assets	\$57,827	\$97,891	\$74,518	\$1,600	\$12,718	\$2,691	\$1,155	\$(1,136)	\$247,264

## History

<b>1907</b>	Established Nisshin Cotton Spinning Co., Ltd.
<b>1958</b>	Established Nippon Kohbunshikan Co., Ltd. (name changed to Nippon Kohbunshi Co., Ltd. in 1986) (acquired by Nisshinbo Mechatronics Inc. in 2010)
<b>1972</b>	Established Nisshinbo Do Brasil Industria Textil LTDA. (Brazil)
<b>1989</b>	Established Kohbunshi (Thailand) Ltd. (Thailand) (name changed to Nisshinbo Mechatronics (Thailand) Ltd. in 2011)
<b>1993</b>	Established Pudong Kohbunshi (Shanghai) Co., Ltd. (China) (name changed to Nisshinbo Mechatronics (Shanghai) Co., Ltd. in 2010)
<b>1995</b>	Established Nisshinbo Urban Development Co., Ltd.
<b>1996</b>	Established Nisshinbo Somboon Automotive Co., Ltd. (Thailand)
<b>1997</b>	Established Nisshinbo Automotive Manufacturing Inc. (USA)
<b>1998</b>	Established P.T. Gistex Nisshinbo Indonesia (Indonesia) (name changed to P.T. Nisshinbo Indonesia in 2010)
<b>1999</b>	Established Saeron Automotive Corporation (South Korea)
<b>2000</b>	Purchased additional shares of P.T. Nikawa Textile Industry (Indonesia)
	Established Continental Teves Co., Ltd. through merger with Continental Teves AG & Co. oHG (name changed to Continental Automotive Co., Ltd. in 2007)
<b>2002</b>	Established Nisshinbo (Shanghai) Co., Ltd. (China)
	Acquired all shares of Iwao & Co., Ltd.
<b>2003</b>	Established Saeron Automotive Beijing Corporation (China)
<b>2004</b>	Established Continental Automotive Corporation (Lian Yun Gang) Co., Ltd. (China)
<b>2005</b>	Acquired additional shares of New Japan Radio Co., Ltd.
<b>2006</b>	Acquired additional shares of Japan Radio Co., Ltd. and Nagano Japan Radio Co., Ltd.
<b>2008</b>	Acquired all shares of Nisshinbo Brake Sales Co., Ltd. (acquired by Nisshinbo Brake Inc. in 2010)
<b>2009</b>	Spun off five businesses — Textiles, Automobile Brakes, Papers, Precision Instruments, and Chemicals — and converted to holding company; corporate name changed to Nisshinbo Holdings Inc.
<b>2010</b>	Established Nisshinbo-Yawei Precision Instruments & Machinery (Jiangsu) Co., Ltd. (China) (formerly Jiangsu Yawei Nisshinbo Precision Instruments & Machinery Co., Ltd.)
	Acquired additional shares of Japan Radio Co., Ltd., making it a consolidated subsidiary
	Nagano Japan Radio Co., Ltd. also became a consolidated subsidiary as a result
<b>2011</b>	Established Nisshinbo Saeron (Changshu) Automotive Co., Ltd. (China)
	Established Nisshinbo Singapore Pte. Ltd. (Singapore)
	Acquired all shares of TMD Friction Group S.A. (Luxembourg)
<b>2012</b>	Established Nisshinbo Business Management (Shanghai) Co., Ltd. (China)
<b>2014</b>	Established Nisshinbo-Continental Precision Machining (Yangzhou) Co., Ltd. (China)
<b>2015</b>	Acquired all outstanding shares of TOKYO SHIRTS CO., LTD.
	Changed Company's sector classification on stock markets from textile products to electrical equipment
	Acquired all outstanding shares of Nanbu Plastics Co., Ltd.
<b>2016</b>	Nagano Japan Radio Co., Ltd. and Ueda Japan Radio Co., Ltd. became wholly consolidated subsidiaries of Japan Radio Co., Ltd.
<b>2017</b>	Sold the papers business
	Japan Radio Co., Ltd. became a wholly owned consolidated subsidiary
<b>2018</b>	Acquired Ricoh Electronic Devices Co., Ltd., making it a consolidated subsidiary
	Sold the foundation brakes business
	Established JRC Mobility Inc.
	New Japan Radio Co., Ltd. became a wholly owned consolidated subsidiary

## Key Companies in the Nisshinbo Group

Company	Location	Main Products and Services
<b>Electronics</b>		
<b>Wireless and Communications</b>		
Japan Radio Co., Ltd.	Japan	Disaster prevention systems, mobile communications equipment
Alphatron Marine Beheer B.V.	The Netherlands	Navigation equipment, wireless communication equipment
<b>Micro Devices</b>		
New Japan Radio Co., Ltd.	Japan	Electronic devices, microwave products
Ricoh Electronic Devices Co., Ltd.	Japan	Electronic devices
<b>Automobile Brakes</b>		
Nisshinbo Brake Inc.	Japan	Automobile brake friction materials
TMD Friction Group S.A.	Europe	Automobile brake friction materials
Saeron Automotive Corporation	South Korea	Automobile brake friction materials
Nisshinbo Automotive Manufacturing Inc.	USA	Automobile brake friction materials
Nisshinbo Somboon Automotive Co., Ltd.	Thailand	Automobile brake friction materials
Nisshinbo Saeron Changshu Automotive Co., Ltd.	China	Automobile brake friction materials
<b>Precision Instruments</b>		
Nisshinbo Mechatronics Inc.	Japan	Plastic products, automotive precision parts
Nanbu Plastics Co., Ltd.	Japan	Plastic products
Nisshinbo Precision Instrument & Machinery Hiroshima Corporation	Japan	Automotive precision parts
Nisshinbo-Continental Precision Machining (Yangzhou) Co., Ltd.	China	Automotive precision parts
Nisshinbo Mechatronics (Thailand) Ltd.	Thailand	Plastic products
Continental Automotive Corporation	Japan	Automotive precision parts
<b>Chemicals</b>		
Nisshinbo Chemical Inc.	Japan	Urethane products, high-performance chemical products
<b>Textiles</b>		
Nisshinbo Textile Inc.	Japan	Shirt fabric, developed materials
NISSHINTOA IWAO INC.	Japan	Textile products
TOKYO SHIRTS CO., LTD.	Japan	Shirts
Nisshinbo Do Brasil Industria Textil Ltda.	Brazil	Textile spinning
PT. Nikawa Textile Industry	Indonesia	Textile spinning and weaving
PT. Nisshinbo Indonesia	Indonesia	Textile weaving and dyeing
<b>Real Estate</b>		
Nisshinbo Urban Development Co., Ltd.	Japan	Real estate operations
<b>Other</b>		
Nisshinbo Singapore Pte. Ltd.	Singapore	Group company support
Nisshinbo Business Management (Shanghai) Co., Ltd.	China	Group company support

## Corporate Data

(As of December 31, 2018)

### Founded

February 5, 1907

### Common Stock

¥27,610 million (US\$251 million)

### Employees

Parent Company	234
Subsidiaries	22,616
Total	22,850

### Head Office

2-31-11, Ningyo-cho, Nihonbashi, Chuo-ku, Tokyo 103-8650, Japan

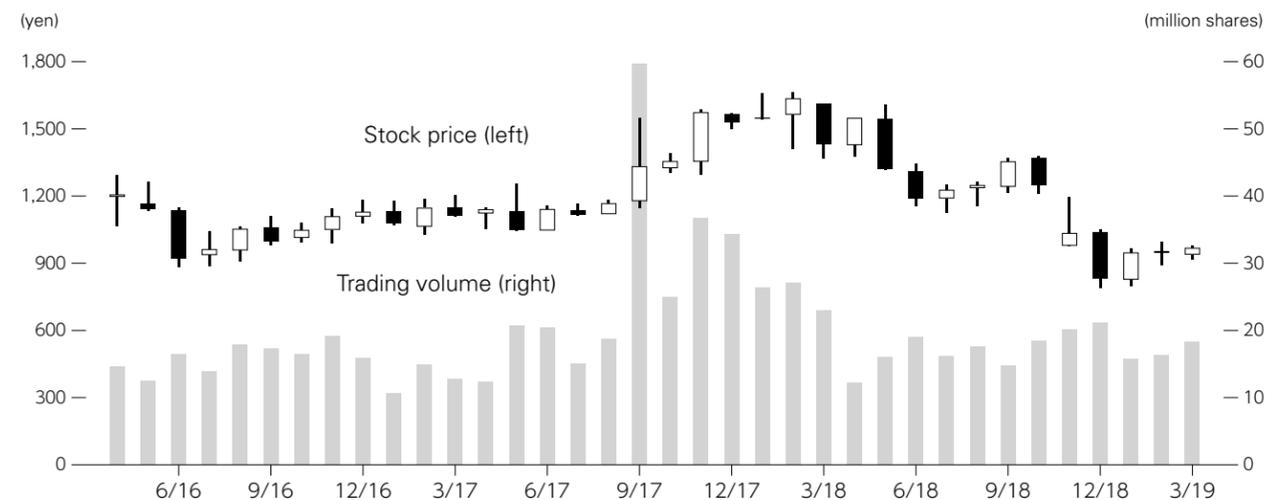
### Shareholders

27,448

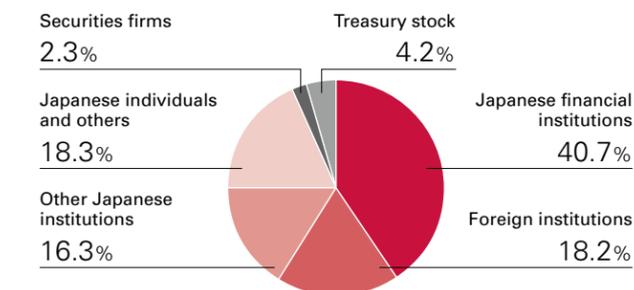
### Basic Stock Information

Sector	Electrical equipment
Stock code	3105
Number of shares per trading unit	100 shares
Business year	January 1 to December 31
Shareholder record date for dividends	December 31 (June 30 for interim dividend)
Total shares authorized	371,755,000 shares
Total shares issued	178,834,769 shares (As of December 31, 2018)
Treasury stock	7,542,144 shares (As of December 31, 2018)
Transfer agent	Mitsubishi UFJ Trust and Banking Corporation 1-4-5, Marunouchi, Chiyoda-ku, Tokyo 100-8212, Japan

### Stock Price and Trading Volume



### Composition of Shareholders



### Major Shareholders

(As of December 31, 2018)

Shareholder name	Number of shares held (thousand shares)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	24,640	14.38
Japan Trustee Services Bank, Ltd. (Trust Account)	11,613	6.78
Fukoku Mutual Life Insurance Company	9,000	5.25
Teijin Ltd.	6,028	3.52
The Master Trust Bank of Japan, Ltd. (Retirement Benefit Account for Teijin)	4,700	2.74
Trust & Custody Services Bank, Ltd. (Securities Investment Trust)	3,314	1.93
Japan Trustee Services Bank, Ltd. (Trust Account 9)	3,139	1.83
Shikoku Chemicals Corporation	2,600	1.52
Mizuho Bank, Ltd.	2,481	1.45
Trust & Custody Services Bank, Ltd. (Investment Trust Acceptance Collateral Port)	2,373	1.39