

## NSK Vision 2026

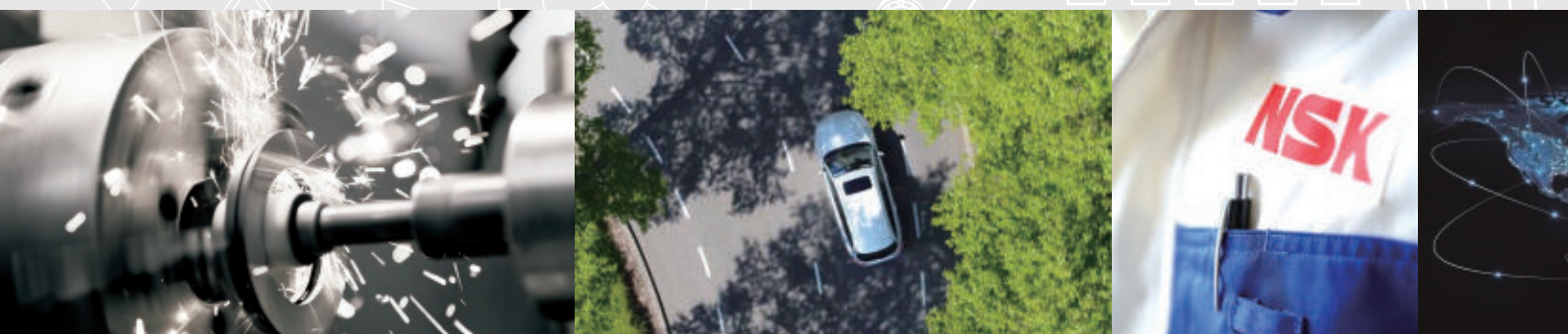
# SETTING THE FUTURE IN MOTION

We bring motion to life,  
to enrich lifestyles,  
and to build a brighter future.

Dedicated to uncovering society's needs,  
we set ideas in motion,  
to deliver solutions beyond imagination.  
We're NSK.

And, we're setting the future in motion.

The NSK Vision 2026: Setting the Future in Motion is an expression of our commitment to uncovering the needs of society and leading the world in bringing motion to life. As we set the future in motion, we aim to be a company that continually creates and provides value.



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## NSK Report 2018 Editorial Policy



The NSK Report 2018 is designed to provide all stakeholders with a deeper understanding of the Company's creation of value over the medium to long term by providing a comprehensive picture of our business, our value creation story, strategies and outcomes related to the creation of corporate value, and our underlying strengths in supporting corporate value.

This Report provides a concise summary of all information deemed important in the Group's efforts to create corporate value. For more detailed information about the NSK Group's products, business activities and financials, we ask that you refer to the Company's website. Detailed information about NSK's approach and initiatives in corporate social responsibility (CSR) can be found in the CSR section of our website and in our CSR Report. In putting together this Report, we referred to the International Integrated Reporting Framework of the International Integrated Reporting Council (IIRC) as well as the Guidance for Collaborative Value Creation formulated by Japan's Ministry of Economy, Trade and Industry.

### Disclaimer

Statements made in this integrated report with respect to plans, strategies and future performance that are not historical facts are forward-looking statements. NSK cautions that several factors could cause actual results to differ materially from those discussed in forward-looking statements.

This document is an English translation of NSK Report 2018 dated September 20th, 2018, that was originally prepared in the Japanese language, and it is provided for convenience purposes only. Therefore, this document does not include any event that has occurred, or has been found to have occurred, on or after September 20th, 2018. NSK makes no representation or warranty that this document is a complete or accurate translation of the original Japanese text, and it is not intended to be relied upon. In the event that there is a discrepancy between the Japanese and English versions, the Japanese version shall prevail. This document is not intended and should not be construed as an inducement to purchase or sell stock in NSK.



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### Highly Evaluated by Outside Agencies (SRI/ESG)

Over and above their financial aspects, companies that merit high evaluations for their environmental and social contributions are being recognized for their promise of long-term sustainable growth. These companies are also attracting interest from a socially responsible investment (SRI) perspective while forging an increasingly important presence among a wide range of institutional investors. Acknowledged for its integrity, NSK has been included in the following internationally recognized SRI/ESG indices as of September 2018.

 <p>MEMBER OF <b>Dow Jones Sustainability Indices</b> In Collaboration with RobecoSAM</p> <p><a href="http://www.sustainability-indices.com/">http://www.sustainability-indices.com/</a></p>	 <p><b>FTSE4Good</b></p> <p><a href="http://www.ftse.com/products/indices/FTSE4Good">http://www.ftse.com/products/indices/FTSE4Good</a></p>	 <p><b>FTSE Blossom Japan</b></p> <p><a href="http://www.ftse.com/products/indices/blossom-japan">http://www.ftse.com/products/indices/blossom-japan</a></p>	
 <p>MEMBER OF THE <b>ETHIBEL</b> INDEX</p> <p><a href="http://forumethibel.org/content/ethibel_sustainability_index.html">http://forumethibel.org/content/ethibel_sustainability_index.html</a></p>	 <p><b>EURONEXT vigeo-eiris</b> WORLD 120</p> <p><a href="http://www.vigeo-eiris.com/">http://www.vigeo-eiris.com/</a></p>	 <p>Corporate Responsibility Prime RATED BY <b>ISS-oekom</b></p> <p><a href="http://www.oekom-research.com/index_en.php?content=methodik">http://www.oekom-research.com/index_en.php?content=methodik</a></p>	 <p><b>Morningstar SRI</b></p> <p><a href="http://www.morningstar.co.jp/sri/about.htm">http://www.morningstar.co.jp/sri/about.htm</a></p>

# NSK's History of Creating Value

Since NSK's start as Japan's first bearing maker in 1916, we've challenged ourselves to develop innovative technologies for over 100 years. Over time, we've produced new value in many areas.

NSK's mission statement guides us to "contribute to a safer, smoother society," "help protect the global environment," and "work across national boundaries." Put simply, we aim to support society through our work. As such, we've played a role in developing various industries and have grown as a corporation.

As industries have matured in Japan and across the world, bearing applications have also grown and changed. For example, military uses accounted for most bearing needs before and during World War II. After the war, social development in Japan was supported by domestic demand for machinery and equipment. With this change, bearings were needed everywhere. Fabric spinning machines supported Japan's post-war economy. Meanwhile, rolling stock and steel aided in Japan's economic recovery. Home appliances and automobiles drove high economic growth, while Japan's manufacturing strength advanced thanks to machine tools and semiconductor production equipment. We began to play a role in these and other industries, and we continue to expand our businesses today. Now, we offer a wide product lineup including linear motion products, mechatronics, and steering and automatic transmission components based on our refined bearing technologies.

## 1915

### Japan's First-Ever Bearings

**First in Japan to mass produce bearings needed for industrial development**

Just before NSK Ltd. was founded in 1916, prototype angular contact ball bearings were completed by NSK's predecessor Nippon Seiko Limited Partnership Company in 1915. These were the very first bearings to be produced in Japan. Bearings are said to be a key machinery component alongside screws and gears. Now, rotating machinery components could be supported by a Japan-made bearing prototype for the first time. The subsequent launch of NSK in 1916 led to the mass production of bearings.



## 1958

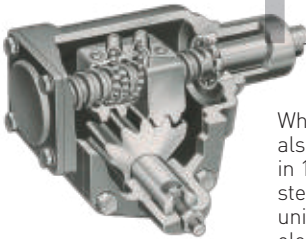
### Ball Screw Steering Gears

## 1959

### Ball Screws for Machine Tools

**Helping make automobiles safer and machine tools more sophisticated**

While rolling motion in machines was realized through rolling bearings, commercial applications also grew. NSK developed ball screw steering gears in 1958 and ball screws for machine tools in 1959, marking an expansion of our non-bearing product lines and businesses. By starting the steering gear business, we could expand into steering components such as steering columns, universal joints, and R&P gears. In turn, these advancements have led to a dramatic expansion of electric power steering (EPS) in recent years. Through these efforts, we help make automobiles safer. In addition, products such as ball screws and linear guides help with precise positioning. XY tables and MONOCARRIER™ units that combine a ball screw and linear guide have become sophisticated, high-value solutions. All of these precision machinery components are crucial for machine tools, also known as the mother machines for manufacturing industries, and semiconductor/LCD manufacturing equipment.



## 1963

### Bearings in the 0 Series Shinkansen (Bullet Train)

**Expanding overseas high-speed rail via essential technology**

Rolling stock bearings were the first to enter full-scale production at NSK after World War II. They were needed for the axles, main motors, and transmissions for the then-named Japanese National Railways and private regional railways. The world-renowned Japanese Shinkansen (bullet train) commenced operations on October 1, 1964, just before the Tokyo Olympics. A year earlier in 1963, the Shinkansen set a speed record of 256 km/h, with NSK lending its support to the project from the development stage. For more than 50 years since the rollout of the initial 0 Series, NSK bearings have been used in all Shinkansen models and have helped maintain safe and comfortable rail travel. We have honed our technologies via the Shinkansen to be faster, more compact, lighter, and more durable. Based on our track record, we have expanded businesses to include high-speed railways in China and South Korea, as well as the TGV in France.



Photo provided by Central Japan Railway Company

**Fiscal 1960**  
**¥10 billion**

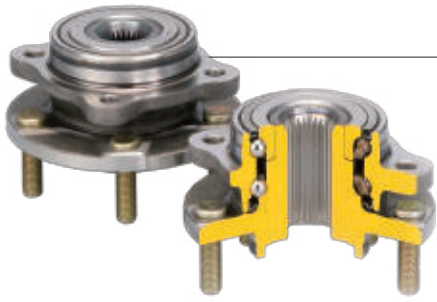
### Net Sales for NSK Over Time



# 1987

## HUB III Development

Using units to make vehicles lighter and improve workability



The shift to units has progressed dramatically thanks to the rapid spread of front-wheel-drive vehicles since the start of the 1980s. Units help make vehicles more compact, lighter, and easier to assemble. HUB III (third-generation hub unit bearings) units are equipped with dual flanges that can be mounted to brake rotors, wheels, and the vehicle chassis itself. These kind of units initially took hold in the U.S., so NSK first developed and commercialized HUB III for American customers. With success, we later expanded this business to Japanese and European automobiles. NSK then improved HUB III with high-performance seals, low-torque bearings, lower vibration during braking, lighter weight, and sophisticated ABS sensors. In addition, we established overseas production facilities to tackle our global expansion. We currently supply products to major global automakers from 10 factories in nine countries.

# 1999

## Large Wind Turbine Bearings

Using analysis technology and material engineering to increase wind turbine output, turbine size, and offshore applications

NSK's purchase of U.K. bearing maker UPI in 1990 gave us a foothold in the conservative European market. Since then, NSK has put great value on European industrial machinery manufacturers who have extended their businesses on a global scale. We're worked to strengthen ties with these manufacturers with the aim of sales expansion. Many big players in wind turbines were based in Europe where wind power was spreading as an effective form of renewable energy. However, durability was an issue amid the trend toward higher output, larger machines, and offshore facilities. Seizing this opportunity, we used our highly rated advanced analysis technologies to launch into this market. We solved the durability issue by proposing optimal combinations of higher durability materials with different types of extra large bearings. Through our efforts, we gained the trust of the European wind turbine market and expanded this business worldwide.



# 1999

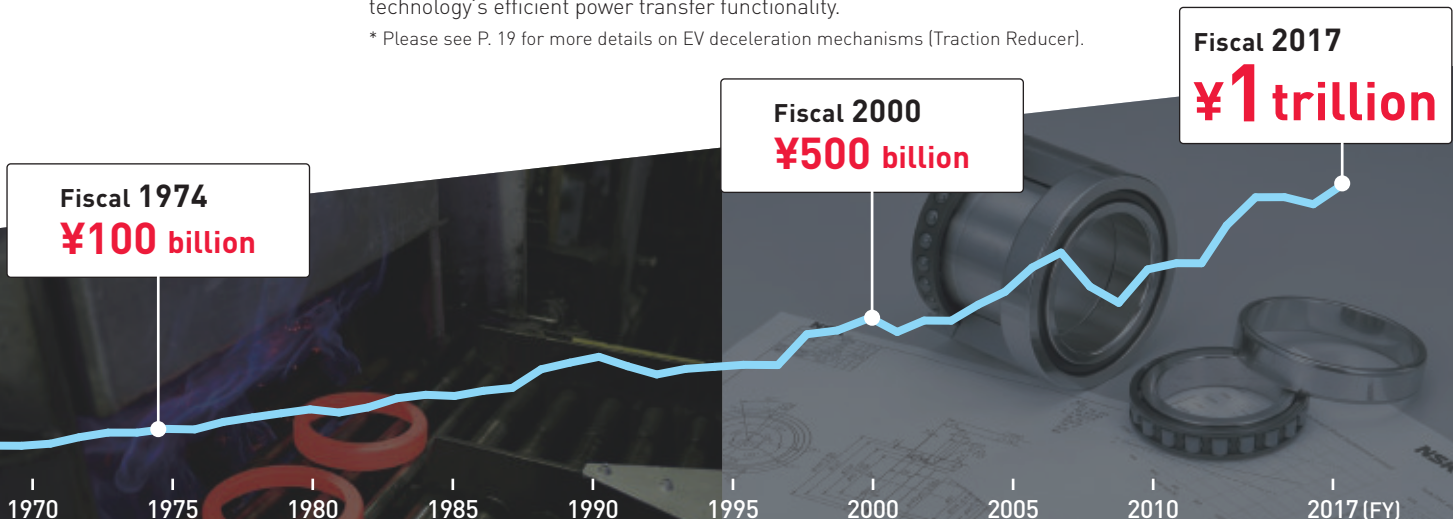
## Half-Toroidal CVTs

Overcoming two decades of difficulties to achieve high-efficiency CVTs



Continuously variable transmissions (CVTs) and step ATs are just two of several types of automobile automatic transmissions. In particular, step ATs have driven NSK's growth in the Automotive Business. We started developing half-toroidal CVTs in 1978. By overcoming many difficulties over 20 years, we became the first and only manufacturer in the world to produce these items in 1999. A key technical hurdle was how to efficiently control power transmission between the power rollers and disks in these CVTs. To solve this, we used products that leveraged the science of tribology, which forms the technological basis for bearings. Commercializing CVTs involved joint development with customers focused on vehicle installation. At the same time, we worked to solve many development issues together with business partners including traction oil makers and steel suppliers. Although the mass production of vehicles using NSK CVTs has finished, lately the technology has gained attention again. Many customers are focusing on EV (electric vehicle) deceleration mechanisms\* based on this technology's efficient power transfer functionality.

\* Please see P. 19 for more details on EV deceleration mechanisms (Traction Reducer).



## To Our Stakeholders

# Contributing to Society While Growing as a Company— NSK Will Set the Future in Motion by Creating New Value Beyond the World's Expectations

President and Chief Executive Officer



### Review of FY2017 and Outlook for FY2018—the Final Year of NSK's Fifth Mid-Term Management Plan

## Record Performance in FY2017

In fiscal 2017 (the year ended March 31, 2018), NSK reached ¥1 trillion in sales for the first time in our history, while also marking record profits of ¥97.9 billion in operating income. Demand in the Industrial Machinery Business recovered markedly, contributing to a significant boost in sales volume. Demand from the machine tool sector—which began a gradual recovery in the third quarter of fiscal 2016—underwent a rapid surge, primarily due to investment in machines used to manufacture smartphones and related components. We also saw an increase in sales to the automotive industry and the general machinery sector. Furthermore, in addition to increased investment in semiconductor production equipment, demand for durable goods and home appliances also remained strong, resulting in a surge in demand for NSK's

precision bearings, ball screws, linear guides, and other precision products. In NSK's Automotive Business, although global vehicle production in fiscal 2017 was flat from the previous year, sales of needle bearings and components used in automatic transmissions (ATs) grew significantly. Consumer demand for a comfortable driving experience has grown in China and other developing countries, leading to an increase in the AT adoption rate. Meanwhile, the move to multistep AT technology in developing countries has also contributed to higher demand. At the same time, sales of NSK's electric power steering (EPS) products, which had previously served as a growth driver for the Company, declined due to vehicle model changes.

## Toward the Final Year of Our Fifth Mid-Term Management Plan

Fiscal 2018 marks the final year of our current Fifth Mid-Term Management Plan. Under the banner of *Operational Excellence*, we are striving to build robust frontline capabilities and strengthen our manufacturing, sales, technology, and administrative functions in order to further boost the competitiveness of our core business and maintain a firm focus on our goal of achieving ¥100 billion in operating income and a 10% operating income margin.

At the same time we are also striving to *Innovate and Challenge* by developing new technologies and products, as well as smart

factories. Although these efforts are gradually beginning to produce results, we will further accelerate initiatives in these areas. Utilizing the innovation centers we have established in the US and Germany, we are working to stay at the forefront of technological trends in the US and Europe while searching for M&A opportunities.

To give an outline of our specific initiatives in each business, in light of the robust demand environment in the industrial machinery market we are working to strengthen our personnel base, optimize our global production capacity, and maximize our output. We are



also working to absorb rising personnel and material costs and further enhance our profitability by restoring our pricing levels, which had declined during the preceding period of low demand. We will continue to improve our productivity and push forward with global procurement initiatives. In light of mid- to long-term demand trends, we will also move to expand our production capacity as quickly as possible. Through these and other measures, we will further strengthen our supply framework while developing technical response capabilities to win the trust of our customers, including the introduction of automatic inspection systems and digital technology to meet quality requirements in an increasingly sophisticated market.

In the Automotive Business, global vehicle production is forecast to increase by around 3% during the current fiscal year. However, in growth areas such as AT-related products we will need

to further bolster our supply framework. We will also work to quickly secure mass production orders for our lower assist type EPS products. To achieve this, we are accelerating our development efforts to create models ready for installation in actual vehicles. Meanwhile, we commenced mass production of our first large-scale order of ball screws for electric brake boosters\*—a product for which we anticipate demand growth in the future. In light of the technological trend toward electric braking systems, we proposed a solution to our customers in the form of a ball screw type product integrated into a unit together with bearings. By utilizing our time-tested comprehensive mass production and quality control systems spanning design to manufacturing, we will develop this product line into a next-generation core product for NSK—one that delivers both outstanding technological performance and strong profitability.



\*Ball screws for electric brake boosters (P. 17, P. 18)

## Creating Value Together With Our Stakeholders

### Aiming for Sustainable Value Co-Creation

NSK's business is founded on a trust relationship with a range of stakeholders. Together with each of our stakeholders we aim to generate a range of value, ultimately contributing to the realization of a sustainable society.

Although many changes have been predicted to occur in the world around us, the speed and impact of these developments has been even greater than initially anticipated. Amidst this wave of dynamic technological innovation, the requirements of our

## To Our Stakeholders

customers—one of our key stakeholders—are shifting. NSK must respond by delivering performance and applications that fulfill these needs. In doing so, we must move more quickly than ever. Rather than simply waiting for the lead from our customers, we will strive to anticipate the unmet needs of end users—the consumers who actually use the durable goods and the operators who actually use the machines containing NSK products. With an open imagination and a firm focus on our future society, we will seize the initiative to deliver innovative technological and business proposals to our customers. Going forward, NSK aims to generate value for both customers and end users by contributing to the environment and the realization of a safer, smoother society. In the Automotive Business, we aim to seize new opportunities in what is being dubbed a “once-in-a-century” technological evolution,\* including electric vehicles (EVs), electrification, autonomous driving, and by-wire systems. Meanwhile, in the Industrial Machinery business we will work to respond to customer needs for stable operation and component life prediction, which will be required as IoT technology advances.

To achieve this, we need a transformation in the mindsets of our employees. I always stress to employees the importance of stepping outside the company and experiencing the world firsthand. There is a limit to the knowledge and information one can obtain within the confines of the company. Only by stepping out into the real world can you truly sense the breakneck speed of change and evolution taking place. It soon becomes evident that we at NSK will need to use our imagination and creativity to kick it into high gear. Whether test driving an electric car, trying out a high-end appliance, or going to an open cut coal or metal ore mine and observing the systems by which the minerals are transported, it is always important to identify the current reality firsthand and imagine the range of unmet needs that might exist.

At the corporate level it is also critical that we speed up our decision-making processes in order to keep up with the pace of change in the world around us. I have stressed to employees that we must review and optimize our internal systems, the way we structure and run our meetings, and the reports and other documents we produce. We should not fear change, and if necessary should even be prepared to do away with long-standing ways of working. As part of our initiatives toward NSK Vision 2026 (Setting the Future in Motion),\* our workplaces around the world are holding workshops. During this exercise, our aim is for participants to review their current ways of doing things, discuss their ideal future, and then set to work on making this a reality.

We have also kicked off new health and wellness initiatives.\* As a company, we aim to support employees working to improve their health, such as by quitting smoking or striving to maintain a healthy weight.

While we have always valued dialogue between our management and employees, we are working to create even more opportunities for open discussion. By further enhancing two-way communication with employees, we aim to manage the company in a way that resonates with all who work there.

The companies that provide us with materials, components, and machines are not simply suppliers but valued business partners who play an important role in our final products. NSK’s business, including our quality, performance, and delivery standards, would not be possible without their support. It is therefore important that we establish a relationship where our business partners are able to offer us constructive feedback and suggestions, rather than NSK giving a one-sided explanation of our procurement policy or simply stating our performance requirements. For example, it may be that revising the drawings or specifications we request could make it easier for our business

partners to provide these items while maintaining product performance and quality. These types of initiatives will ultimately help improve the products and services we deliver to customers.

The distributors and sales outlets that serve as the contact point between NSK and a diverse range of end users and the market are also our important business partners. Sales outlets communicate the needs of and problems experienced by end users. We use this information to develop products and services that can help solve these problems, which are once again delivered to end users via sales outlets. We realize that each distributor and sales outlet is unique, with different regions and fields of specialty. At NSK we aim to build a brand that is relied on and trusted in the maintenance/repair and





commercial market, while in turn respecting the strengths and competitiveness of each distributor and sales partner.

At NSK, we believe that future generations are also important stakeholders. Accordingly, we hold several children's science events at the Japan Science Foundation's Science Museum as well as our own sites.\* While there is particular interest in IT and AI among the young generation of today, the devices these technologies are applied in require mechanical elements to move. NSK shows children the physical mechanisms that support movement in high-tech devices, helping spark their interest in science and technology. We feel that these opportunities play a positive role in education and plan to continue holding such events in the future. We also established the NSK Scholarship Foundation\* as part of events to commemorate our 100th anniversary, and last year began extending support to both Japanese and overseas students studying outside their home countries. With the number of Japanese students studying overseas on the decline, the presence and influence of Japanese experts at overseas educational institutions is rapidly diminishing. If this trend continues, Japan's voice on the international stage will inevitably weaken. With the aim of ensuring Japan remains a trusted member of the Asian community, we established the NSK Scholarship Foundation in order to develop

young leaders capable of supporting this role. The Foundation proactively promotes exchanges between Japan and overseas nations, extending support to Japanese students studying overseas as well as international students studying in Japan.

We are also working to increase opportunities for dialogue with our shareholders and investors. In addition to our regular results-based IR initiatives, we also held a total of 35 ESG-focused dialogues during fiscal 2017. While we also provided detailed presentations on our "E" (Environment) and "S" (Society) policies and initiatives based on pre-submitted questions, there was particularly strong interest from and engagement with investors in relation to our "G" (Corporate Governance) initiatives. On several occasions we held constructive dialogue on topics such as the operation and effectiveness of our Board of Directors, our succession planning at the management level, and the independence of NSK's outside directors. At our 2018 Ordinary General Meeting of Shareholders, our shareholders also voted to increase the number of outside directors on NSK's Board to five out of 12 total members, including the Company's first female outside director.



- \*Seizing new opportunities in "once-in-a-century" technological evolution (PP. 16-19)
- \*NSK Vision 2026: Setting the Future in Motion (PP. 20-21)
- \*Health and wellness initiatives (P. 53)
- \*Children's science events held at Science Museum and NSK sites (P. 49)
- \*NSK Scholarship Foundation (P. 49)

## Building a Sustainable Society

# The UN Sustainable Development Goals (SDGs) and NSK's Role

With irregular weather events and natural disasters becoming an increasingly frequent occurrence around the world, it is important that we obtain a firm understanding of the impact climate change will have on NSK's business. The NSK Mission Statement avows that NSK will contribute to a safer, smoother society and protect the global environment through its innovative technology integrating Motion & Control™, as well as work across national boundaries to improve relationships between people throughout the world. Although the 17 sustainable development goals established by the United Nations are not directly linked to NSK's business activities, several are deeply related to our operations and are areas in which we can contribute proactively.

Thus far, we have worked to raise awareness of the SDGs among our employees\* via a range of tools. In the next stage, we will link these goals to our business and discuss the specific steps NSK can take to contribute to their achievement. In doing so, we will clarify the actions we at NSK must take. We will present our goals and how their achievement will be measured in our next Mid-Term Management Plan, which will start in fiscal 2019.

The foundation of our efforts will remain our core products and

services—namely their ability to reduce the burden on the environment. Bearings reduce friction, while EPS products help improve fuel efficiency. Reducing friction and improving control is NSK's field of expertise. Accordingly, we will work to minimize environmental impact through our core business as well as to communicate these efforts. We will also disclose key performance indicators (KPIs) that help the general public understand how our efforts are contributing to environmental preservation.

As an example related to SDG 12: *Responsible Consumption and Production*, one contribution NSK can make is to improve the efficiency of its material balance.\* For instance, one possible measure in the materials and production stage could involve improving yield by replacing the conventional cutting method with cold forging technology. We plan to introduce a range of environmentally-friendly technology such as this. We can also raise productivity, improve the material balance, and improve energy efficiency by upgrading or overhauling older production machinery. For example, utilizing induction hardening technology during the heat treatment process can reduce the overall amount of energy used. One other initiative we are taking on the production side is the



- \*Raising employee awareness of the UN SDGs (P. 47)
- \*Material balance (P. 50)

## To Our Stakeholders

development of smart factories in both our automotive and industrial businesses. We have already established concept model lines, and will continue working to develop next-generation manufacturing systems which save space, reduce energy consumption, and are highly automated. Our future facilities will not

only be more efficient and less labor-intensive, but will also reduce environmental load while ensuring a clean, noise-free workplace environment for our employees. These concepts have been realized in our second Korea plant,\* which opened last year.



\*Second Korea plant (PP. 44-45)

### Toward Further Growth

## Tasks for NSK's Business

Regarding the current tasks facing NSK's business, in the short term we must compensate for the decline in profitability in the steering business by bolstering profits in the industrial business and other areas of the automotive business. In the steering business, our policy of intentionally concentrating resources on column type EPS products for successful delivering on orders we have secured is a factor that have led to a delay in the development of lower assist type EPS products and a recent sales decline as a result. Going forward, we will focus on accelerating development of rack type EPS products utilizing NSK's ball screw technology, EPS control technology that can help deliver safe, comfortable driving, and steer-by-wire systems in order to restore the business to growth as swiftly as possible.

Although the Industrial Machinery Business is largely influenced by the broader economic environment, we are recently seeing the emergence of a dynamic supply and demand structure that differs from our past experiences and assumptions, as well as changes in the economic cycle. Smart technology is being incorporated in automobiles, home appliances, industrial machinery, infrastructure, and other applications, while technological innovations are taking place in the fields of IoT, AI, and robotics. These trends are beginning to generate large-scale demand for new electronic devices and functional components. We will aim to achieve sustainable growth by looking at which fields

will grow in line with this demand and identifying the areas where NSK can expand its sales through its differentiated technology.

Meanwhile, it is essential that we develop a mid- to long-term strategic approach which allows us to link the dramatic evolution in automotive technology to growth in our business. Some investors remain concerned that the shift toward electric vehicles will significantly reduce the number of bearings required, and it is certainly true that the number of bearings incorporated in a pure EV with no internal combustion engine may decline. However, there are some areas in which bearing specifications and applications will become even more sophisticated. I believe that NSK will be able to attain a dominant position in this field in terms of value and quality by utilizing the technological prowess we have developed over the years. Furthermore, outside the field of bearings we are working to develop new products that incorporate NSK's element technology. Specific examples include Parallel Link type Active Suspension\*, which we exhibited at the 2017 Tokyo Motor Show, as well as the Wheel Hub Motor Fit\*, the Traction Reducer\*—a compact, lightweight speed reducer for use in high-revolution EV drive motors—and the Force Feedback Actuator\* designed for use with steer-by-wire systems. Going forward, we aim to release products that incorporate NSK's proprietary technology, such as the above, or composite products. We hope our investors will share our enthusiasm for the potential such products hold.



\*Overview of each product (PP. 18-19)

## Investing in the Future

Going forward, we will continue to prioritize investment in our sustainable growth when utilizing our cash flow. Specifically, we will invest in the development of new technologies that allow us to deliver new products through combination with NSK's four core technologies, manufacturing technologies such as precision grinding, and other elemental technologies. We will also invest in upgrading and overhauling our manufacturing machinery, securing sound supply capabilities in growth fields, and strengthening our production capabilities by switching to more efficient manufacturing methods and installing new machinery based on our smart factory concept. To fund this investment, we will maintain a firm focus on

profitability, namely our goal of securing a double-digit operating income margin. If we can secure double-digit profitability, I believe we will also be able to maintain the returns we provide to investors above a certain floor.

Although we have indicated the possibility of M&A activity as a method to supplement our future growth, this had not yet come to fruition. Rather than simply waiting for chances to fall into our lap, we need to take a more proactive approach and search out new opportunities. We will actively pursue any opportunities for synergy in our current business domain or related fields, such as a relevant and complementary technology or territory.

## Toward Greater Diversity and Inclusion

The world around us is rapidly changing. We are increasingly finding that our conventional mindset and ways of working do not produce the same results as in the past. This trend is only going to accelerate further in the future. In such an age, homogeneous organizations with members of a single mindset and background who rely on past examples in their decision-making will be unable to keep pace with changes in society. It is critical that we consider the future in a flexible and agile manner and from a variety of perspectives—this is why diversity among the people who make up our teams and larger organization is so important. In order to change and adapt the way we do things, it is important that team members from a variety of backgrounds—including gender, age, and nationality—gather to offer their perspective. Diversity and inclusion\* is the source of competitiveness that will power NSK's future. Although I am well aware that diversity is more than just gender, one of our plants in China where 40% of employees and managers—including the plant manager—are women has significantly outperformed all other plants in the country in terms of quality and safety performance. In addition to combating noise and oil mist to create a safer and more pleasant workplace environment, the plant has refurbished a meeting room into a gym where employees can work out to maintain their health. While a higher ratio of female employees does not necessarily lead to higher performance in all situations, I believe that incorporating a variety of perspectives can help drive new reforms and lead to positive outcomes. Providing a workplace environment where women can work to their full potential is a key management issue for NSK, particularly in Japan where we are employing a range of measures, including greater career support for female employees and expanding the areas of the business where women play an active role.

NSK is also promoting diversity in other areas, including working to globalize our headquarters in Japan, introducing programs that give employees more flexibility to provide care for aging family members, and responding to LGBT\* issues. Furthermore, it is important to build a workplace environment that is not only diverse but also

multi-cultural—where each and every employee can function at their full capacity.

We are also promoting diversity in the form of globalization in our training programs.\* Since 2011 we have operated the NSK Global Management College on an annual basis. In this program, talented young leaders from each region are selected to take part in global management training to prepare them as candidates for future global management roles. Over a six month period, participants visit four or five NSK sites around the world, where they experience firsthand the issues facing the business in each region as they work in teams to devise and propose solutions. This interaction between employees spanning different regions and job types—which would not be possible through the regular performance of their duties—provides participants with a valuable opportunity to experience a variety of viewpoints and ideas as well as to expand their personal global network. Our hope is that these participants will continue to interact and collaborate following the program's conclusion, bringing the NSK Group together as one and helping to solve key problems.



\*Diversity and inclusion, LGBT (P. 52)

\*In-house training and development programs (P. 53)

## Uniting the NSK Group in One Direction

NSK's Integrated Report is now in its third year of publication, and we are honored to have received acclaim for our past two reports from a wide range of stakeholders. Last fiscal year we held employee briefings on the Integrated Report, taking the opportunity to build a common understanding of the NSK's value creation and the importance of a shared direction. Although this initiative is still in its early stages, we hope to proactively broaden the scope and engage in communication with our employees outside Japan. In order to build a common understanding it is important that the vision and approach of management, as well as our overall direction and external expectations are clearly communicated and discussed.

I therefore believe that utilizing NSK's Integrated Report in this manner has had a significant effect on building a shared awareness and promoting better communication within the Company.

As the business environment becomes increasingly complex, the responsibilities of and expectations placed on companies are becoming more diverse. In order for NSK to contribute to sustainable global growth together with our stakeholders, we must continue to be a company that is needed by society. NSK will strive to continue growing as a company while contributing to society by generating value that not only meets the needs of the times but constantly exceeds expectations.

## Mission Statement

NSK contributes to a safer, smoother society and helps protect the global environment through its innovative technology integrating Motion & Control™. As a truly international enterprise, we are working across national boundaries to improve relationships between people throughout the world.

### Management Principles

- 1 To provide our customers with innovative and responsive solutions through our world leading technologies.
- 2 To provide challenges and opportunities to our employees, utilizing their skills and encouraging their creativity and individuality.
- 3 To identify the needs of the present and future, and to meet these needs by being flexible, agile, and dynamic.
- 4 To contribute to the communities in which we operate.
- 5 To manage our business from an international perspective and to develop a strong presence throughout the world.

Mission Statement

Management Principles / Action Guidelines

NSK Vision 2026

### Action Guidelines

**Beyond Limits,  
Beyond Today**

Beyond Frontiers  
Beyond Individuals  
Beyond Imagination  
Beyond Perceptions  
Challenging the Future

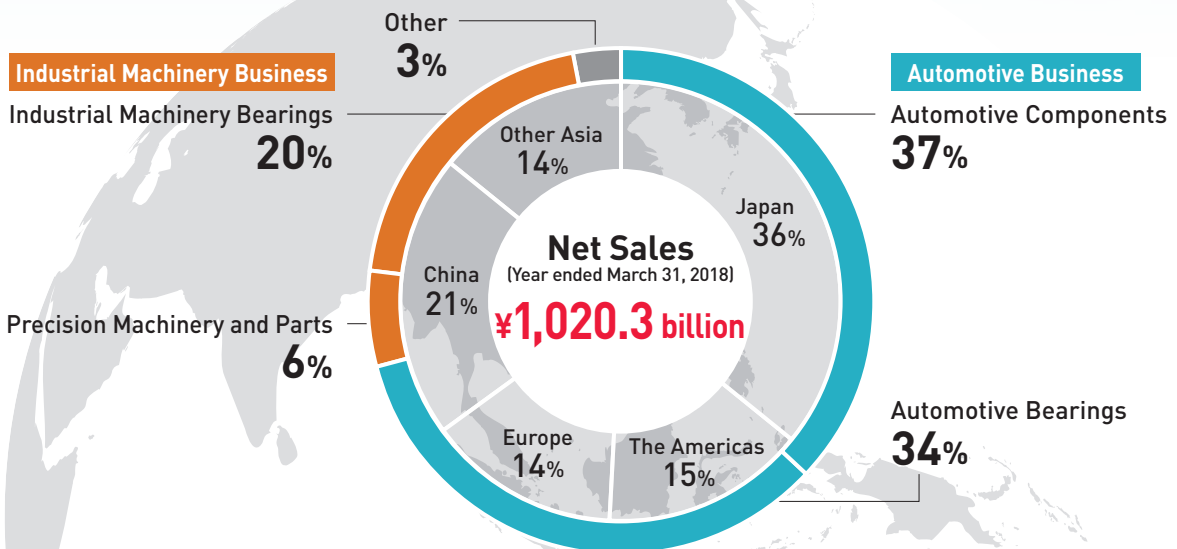
## SETTING THE FUTURE IN MOTION

We bring motion to life,  
to enrich lifestyles,  
and to build a brighter future.

Dedicated to uncovering society's needs,  
we set ideas in motion,  
to deliver solutions beyond imagination.

We're NSK.  
And, we're setting the future in motion.

### NSK's Business



### Bearing Net Sales

(including for industrial and automotive use)

Share in Japan

**No.1**

Global Share

**No.3**

Refer to the Review of Operations (PP. 30-37) for details.

## Corporate Value Creation Model

In its mission statement, NSK declares its aims of realizing the well-being and safety of society, and contributing to the protection of the global environment through its Motion & Control™ technology. NSK considers safety, quality and compliance as its top priorities and creates new value that contributes to society through its operations, spanning development to design, production, sales and aftermarket services.

# NSK Mission Statement

## NSK Vision 2026

### Diverse Capital and Inputs

**Manufacturing Capital**

- Raw materials: Steel, greases and oils, externally procured components
- Global production sites, manufacturing facilities
- Process set-ups, process controls

**Intellectual Capital**

- 100 years of accumulated know-how
- Four core technologies
- Knowledge/expertise in specialist fields
- R&D centers
- R&D framework linked to external organizations

**Human Capital**

- Highly qualified engineers, skilled workforce, globally minded talent, sales personnel who maintain close relationships with customers
- Corporate governance structure (Three Committees system, global compliance framework)

**Financial Capital**

- Capital, interest-bearing debt, cash reserves

**Social/Relationship Capital**

- Relationships of trust with external parties (users, suppliers, local communities)
- Globally recognized and trusted NSK brand

**Natural Capital**

- Minerals (iron ore, coal, etc.), water, energy

Production sites (Plants)  
Japan: **20**  
Overseas: **44**

R&D centers  
At **15** locations  
in **10** countries

Ratio of new employees with science backgrounds (annual average over the past five years)  
**74.8%**

Number of employees worldwide  
**31,861**

Employee development expenditure per person (non-consolidated)  
Approx. **¥76,000**

Total equity  
**¥561.0 billion**

Interest-bearing debt  
**¥250.9 billion**

Cash and cash equivalents  
**¥131.3 billion**

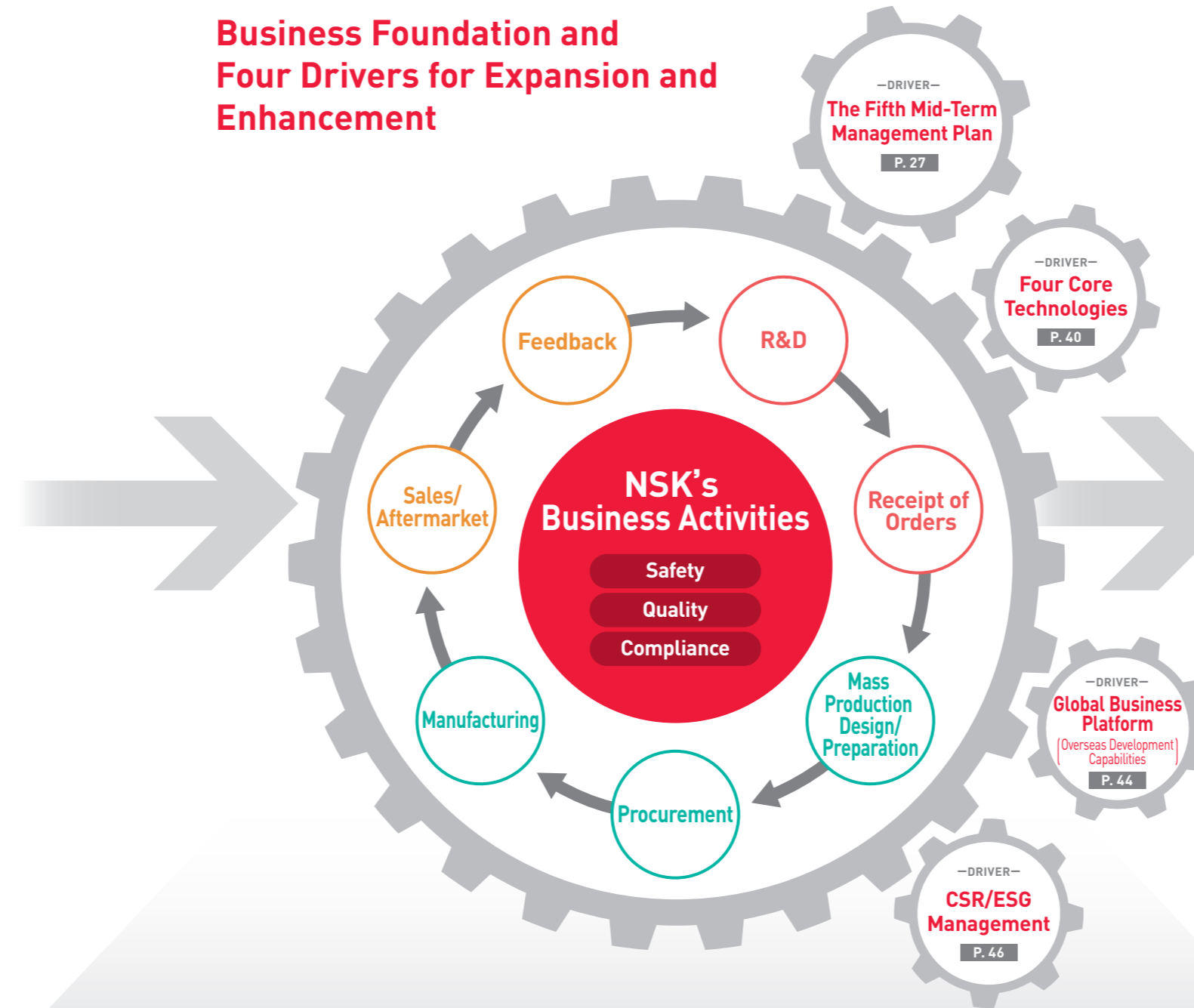
Number of customer inquiries to NSK salespeople  
**6,604 cases/year**

Energy input (per year)  
**17,088 TJ**

(As of March 31, 2018)

### NSK's Value Creation Process (Business Model)

#### Business Foundation and Four Drivers for Expansion and Enhancement



### Output and Outcomes

**Products/Services**

- Industrial Machinery Bearings
- Precision Machinery and Parts
- Automotive Bearings
- Automotive Components
- Maintenance & Repair, Aftermarket Services

**Financial Outcomes from Provision of Added Value**

- Cash generation
- Improvement in ROE
- Improvement in share price/market capitalization
- Internal reserves for investment in growth
- Maintenance of stable ratings

**Impact on Society/Environment**

- Reduction of investment resource/energy usage through improved production processes
- Promotion of human resource diversity
- Improvement of compliance awareness
- Compliance with varying regulations in each country (e.g., avoiding use of conflict minerals, UK Modern Slavery Act)

(Output as burden on the environment)

- Greenhouse gases (GHG), industrial waste, water discharge

Share of bearings market  
**Ranked 3rd in the world**

Number of EPS mounted on vehicles (cumulative total)  
Approx. **84 million**

Number of patents held  
**6,987 patents/year**  
(6,430 patents in the previous fiscal year)

Cash flow from operating activities  
**¥83.7 billion**

Dividends/Payout ratio  
**¥21.2 billion/30.5%**

Lost-worktime injury rate\* (global)  
**0.59 (0.68 in the previous fiscal year)**  
\*For more information on lost-worktime injury rate, please see P. 49.

Diversity (Global)  
**Proportion of female employees 17.6%**  
(17.6% in the previous fiscal year)

Japan Management College  
Total number of graduates over all 17 college terms: **323**

Global Management College  
Total number of graduates over all 7 college terms: **86**

Number of regions:  
Graduates from **20** countries

\*For more information about the Japan Management College and the Global Management College, please see P. 9 and 53.

Number of employees who have attained a TOEIC score of 730 or higher  
**536 (507 in the previous fiscal year)**

Development of environmentally friendly products  
**224 products (cumulative total)**

GHG emissions per production unit  
**14.5% decrease (Japan)**  
(-10.4% in the previous fiscal year)

**26.1% decrease (excluding Japan)**  
(-29.6% in the previous fiscal year)  
\*Rates of percentage increase and decrease are presented compared with the base date of the year ended March 31, 2012 (0%).

**Value Created**

- Environmental contribution (making products lighter, more compact, and with longer service lives)
- Contribution to an advanced technological society
- Realization of a more prosperous society
- Growth of a wide range of industries
- Advancement of mobility societies
- Improvement of shareholder value

**Realization of a Sustainable Society**

#### External Factors Affecting Corporate Value Creation

**Foreign Exchange Rate Fluctuations**  
Exchange rate fluctuations affect revenue as the ratio of net sales outside Japan to total net sales is 65%, and the overseas production ratio is 55%.

**Resource Price Fluctuations**  
Changes in the prices for resources, such as the steel and rare earths minerals that are raw materials for NSK products, affect revenue.

**Economies/Economic Trends**  
Economic trends in each country and market affect related demand. For example, the number of new vehicles sold by finished vehicle manufacturers affects Automotive Business revenue.

**Capital Expenditures**  
Capital expenditure cycles affect the sales of bearings and precision products that are affected by demand in a wide range of industrial sectors.

**Climate change and large-scale disasters**  
The introduction of regulations and policies related to climate change and shifting needs in products due to the implementation of environment-related initiatives can have an effect on NSK's business on a mid- to long-term basis. Earnings can also be affected, including indirectly, in line with recovery efforts following large-scale disasters such as earthquakes, heavy rains, and floods.

**Competitive Environment**  
Although barriers to entry into the equipment industry are high, changes in the competitive environment for Japanese and global manufacturers of bearings, precision products and automotive components may affect revenues.

**Changes in Technological Innovation and Industry Structure**  
The impact that automotive technological innovation and IoT has on the structure of industry will have direct and indirect effects on NSK's business.

Short term

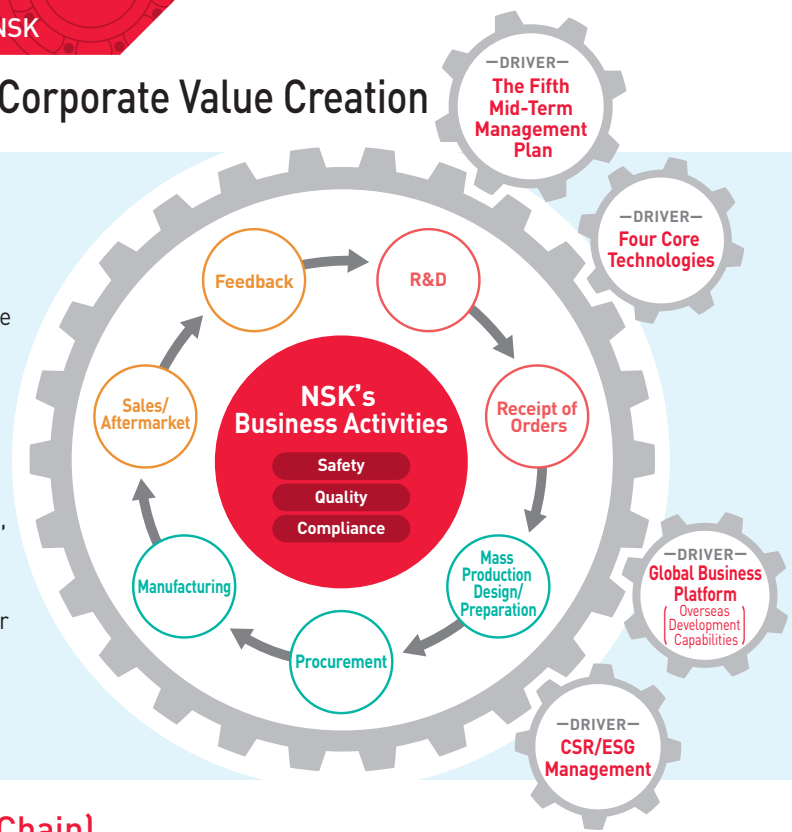
Long term

# NSK's Business Activities and Corporate Value Creation

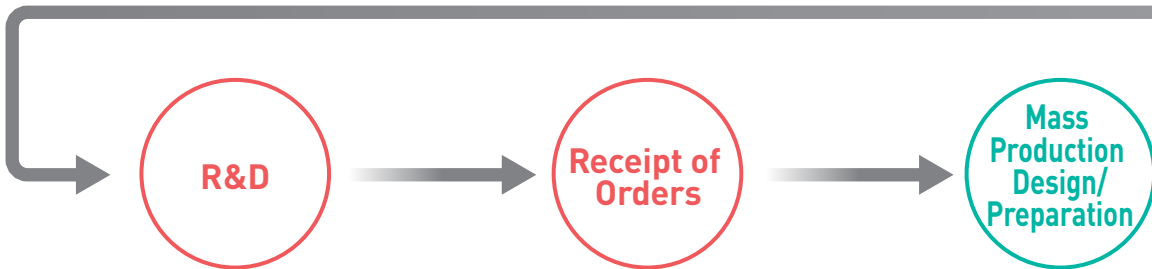
## NSK's Business Activities

NSK engages in BtoB operations, with its major customers including automakers and machinery manufacturers. NSK has two business segments, the Industrial Machinery Business and the Automotive Business, which reflect the industries in which the Company's customers operate. The Industrial Machinery Business Division Headquarters and the Automotive Business Division Headquarters oversee these businesses on a global level.

Each business division headquarters maintains its own production, sales and technology units that take responsibility for the entire business value chain, from marketing activities for order receipt to product design, manufacturing, sales, delivery, payment collection and aftermarket services. As shown in the chart on the right, NSK's value chain creates value for its customers through business activities that are focused on safety, quality and compliance, and encompass research and development, manufacturing, sales and feedback to provide lasting value for the Company's customers.



## NSK's Business Model (Value Chain)



Our four core technologies are tribology, materials, numerical simulation and mechatronics (see P. 40). In the field of R&D, NSK engages in broad and cross-sectional research and development that is not restricted by business segments, in addition to fundamental research, advanced development, application development and production technologies. NSK's R&D activities lead to the creation of new products, technologies and businesses.

The independent sales divisions of the Industrial Machinery Business and the Automotive Business coordinate with other internal departments to win new orders. The timing of orders received, lead times and other aspects of order-taking activities depend on the customer's business, products and components used. For global products, the sales divisions coordinate with the relevant sites in other countries.

Mass production design entails the design of large-lot products delivered to customers. Mass production includes both newly designed products and standardized products that do not require new designs. Mass production preparation involves the setting up of processes and production equipment at mass production plants once specifications have been finalized. In many cases, customer approval is required for product specifications, equipment and processes.

	R&D	Receipt of Orders	Mass Production Design/Preparation
<b>Key inputs</b>	<ul style="list-style-type: none"> <li>• Technical staff (human capital)</li> <li>• Accumulated technologies, R&amp;D centers (intellectual capital)</li> <li>• R&amp;D structure with external parties (social/relationship capital)</li> <li>• Financial foundation for funding R&amp;D (financial capital), etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Experience and track record in QCDDSM (manufacturing, intellectual and human capital)</li> <li>• Strong relationships of trust with customers (social/relationship capital)</li> <li>• Sales capabilities (human capital)</li> <li>• NSK brand recognition (social/relationship capital), etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Mass production equipment preparation, capital investment (manufacturing capital)</li> <li>• Design engineers (human capital)</li> <li>• Accumulation of a wide variety of technologies (intellectual capital)</li> <li>• Technology centers, R&amp;D sites (intellectual capital)</li> <li>• NIT (intellectual and human capital), etc.</li> </ul>
<b>Our strengths in the creation of value</b>	<ul style="list-style-type: none"> <li>• NSK's strengths are in its ability to solve complex technological problems based on our four core technologies, the breadth of talented technical staff and accumulated technologies gained through deep knowledge and experience.</li> <li>• Based on our tight-knit relationships with customers, we can quickly grasp their product- and technology-related needs and guide development to meet those needs.</li> <li>• NSK leverages the collaboration and joint development with our customers, suppliers and external research institutions in its product development (e.g., steel materials, grease, motors, electronic control units [ECUs]).</li> <li>• NSK has a global network of technology centers.</li> <li>• NSK has systematic education programs and educational institutions, including the NSK Institute of Technology (NIT), for the training and strengthening of its technical staff.</li> </ul>	<ul style="list-style-type: none"> <li>• NSK has internal systems that support tight-knit communications between customers and the Company's engineering and sales staff.</li> <li>• NSK's global development and supply capabilities also help to win a variety of orders (e.g., orders for newly developed, improved and existing/standard products).</li> <li>• In the Automotive Business, Global Account Managers (GAMs) and Key Account Managers (KAMs) work together on project requirements.</li> <li>• NSK focuses on high-quality, environmentally friendly products that are trusted by customers.</li> </ul>	<ul style="list-style-type: none"> <li>• Design quality is a key factor in manufacturing quality. Accordingly, accurately understanding the specifications required by customers and reflecting them in product design leads to improvements in product development, design proposals and project management.</li> <li>• NSK develops its own, specialized production equipment, which leads to lower costs for mass-produced products.</li> <li>• Having a framework in place to manage the entire process, from order receipt to the mass production launch, NSK works to improve profitability through timely and cost-conscious preparations, from product design to mass production.</li> </ul>



Manufacturing capital



Intellectual capital



Human capital



Financial capital



Social/  
Relationship capital



Natural capital

## Shared Features of the Industrial Machinery Business and the Automotive Business

- ▶ NSK's products are components that enhance the performance of the customer's machinery in which they are incorporated. The product specifications and functional requirements of our customers have an impact on NSK's products and business activities.
- ▶ QCDDSM: Quality, Cost, Delivery, Development, Service and Management play an important role in securing NSK's competitive advantage.
- ▶ Demand conditions in the industries of our customers affect NSK's net sales and profits.
- ▶ The ability to develop business on a global scale affects NSK's competitiveness and growth potential.
- ▶ The ability to propose technological solutions is key to acquiring new projects.
- ▶ In principle, products are manufactured once orders are received, rather than in anticipation of orders.



The equipment, materials, parts and production materials required to manufacture mass-produced products are procured from manufacturers and suppliers. NSK's basic procurement policy involves procurement at each production site and procurement at the head office, which determines procurement policies on a company-wide level. Collaboration with suppliers and stable procurement are essential.



- Know-how of each production site (manufacturing, intellectual capital)
- Joint development suppliers (intellectual, social/relationship capital)
- Coordination/collaboration with each supplier (social/relationship capital), etc.

- Favorable and strong relationships with suppliers that enable the stable procurement of raw materials and components, enhanced cost competitiveness and high quality.
- NSK jointly develops materials, parts and grease with suppliers to improve the quality of its products.
- Overseas, NSK is working to reduce costs by improving the local procurement ratio while advancing into markets jointly with existing suppliers or assisting them in their efforts to make inroads independently.
- In equipment procurement, NSK develops its own equipment and has a system for procurement within the Group.
- From the standpoint of CSR procurement, NSK monitors supplier performance based on stringent criteria in its supplier CSR guidelines for human rights, the environment, compliance, and BCP, and suggests improvements to these suppliers as needed. NSK puts into practice green procurement, avoids the use of conflict minerals and ensures compliance with the UK Modern Slavery Act.

The manufacture of products takes place at the NSK Group's manufacturing plants. A wide range of business collaboration, including in manufacturing, quality assurance, manufacturing engineering/equipment management, production control, plant accounting and general affairs work, is necessary to ensure stringent management concerning quality, cost and delivery (QCD). Both the Industrial Machinery Business and the Automotive Business maintain their own manufacturing plants.



- Production plants and facilities (manufacturing capital)
- Various production technologies, accumulated know-how (intellectual capital)
- Production technical skills (human capital)
- Suppliers and local communities (social/relationship capital)
- Steel used as a raw material, components, oil, electric power and water (natural capital, manufacturing capital), etc.

- Operating 20 plants in Japan and 44 plants overseas, NSK possesses a production system able to meet global demand in a timely manner.
- As mother plants, some of the plants both in Japan and overseas have established support systems, such as for launching overseas plants and addressing measures for various tasks.
- Small-group activities (QC circles) are conducted at each plant on an ongoing basis to improve workplace processes. More overseas plants are being operated under the supervision of local staff.
- The NSK Manufacturing Education and Training Center provides hands-on training to engineers from plants around the world with the aim of passing down technical skills and improving technical capabilities.

Sales activities span the delivery of manufactured products to customers and distributors, inspection and acceptance of the delivered products, and final recording of the sale. Aftermarket services entail the maintenance and repair of equipment and machinery for customers and end users. Feedback from customers is reflected in production plan reviews, inventory management, product improvements and the development of new products.



- Human resources to undertake production, sales and inventory (PSI) management (human capital)
- Customers, distributors and sales outlets in aftermarket services (social/relationship capital)
- Production-related survey and analytical data (intellectual capital), etc.

- NSK aims to maintain appropriate levels of inventory and undertakes strict inventory controls with advanced PSI management.
- The bedrock of the aftermarket business is NSK's strong relationship with distributors and sales outlets as well as its extensive network.
- NSK has advanced analysis capabilities and accumulated technologies from access to a wide range of data fields, such as for defects and damage at customers and end users.
- In addition to responding to repair and maintenance demand not only for its own products but also for other companies' products, NSK leverages its advanced network to respond quickly to occasional demand outside of routine maintenance.
- Feedback is used to improve products and propose solutions with new technologies.

# Feature SETTING THE FUTURE IN MOTION

When NSK celebrated its 100th anniversary in 2016, we created “NSK Vision 2026” to guide our efforts over the next 10 years.

As a part of this vision, “Setting the Future in Motion” embodies our goal of going beyond merely meeting customer needs. Instead, we take a wide view. We aim to be a company that proactively creates and proposes new value based on end-user needs. To that end, all of us should possess flexible thinking and aim to take on new challenges.

Amidst great changes in markets and society, we strive to fulfill our responsibilities and contribute to society through our businesses and products. Through our efforts, we hope to become a vital presence in the world.

In our first feature, we’ll introduce NSK’s ongoing efforts to create and provide value for automobiles during this once-in-a-century period of dramatic technological innovation. After, we will spotlight the Global Team working to cement “NSK Vision 2026” within the Group and tie it to our real-world activities.

## Feature 1 NSK Value Creation for Technological Innovation in Automobiles —Change as a Chance to Soar

The transformation of automobiles is progressing at a speed and scope beyond expectations.

NSK is drawing fully on cultivated “running,” “turning,” and “stopping” technologies to propose a “Future in Motion.” Through these, we aim to advance “mobility societies” and sustain growth.

Broad trends toward Connected (C), Autonomous (A), Shared (S), and Electric (E) (CASE) operation are gaining speed. Technologies related to these changes are thought to be heading down two paths.

In the first, technology trends have constantly evolved over time. In automobiles until now, “mobility,” “possession,” and “experience” have been valued. Changes to improve automobile performance and value occur through the improvement of existing technologies based on the continuous evolution of basic mechanisms.

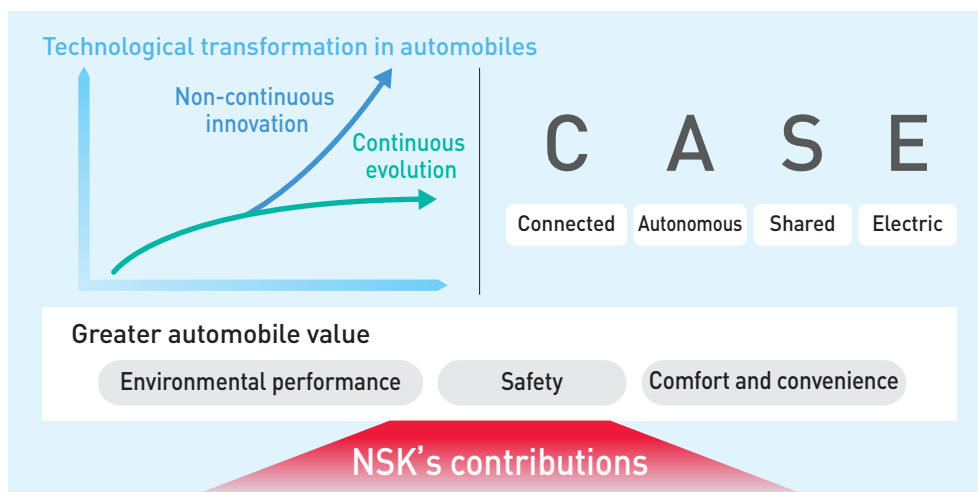
The other path is of non-continuous technological innovation. New technologies such as electric vehicles (EVs), new materials, and autonomous driving are creating dramatic structural changes. Automobiles can now be controlled through signals and over networks. Within these connected

areas, there is a broad spread of value generated by enormous amounts of driving data. Then, there are the changing ways in which automobiles are being used. Rather than being owned, they are shared through joint use or ride sharing. These and other unprecedented and non-continuous changes are moving forward.

Such broad changes are greatly impacting society and relevant industries. In terms of automotives, we are seeing a demand for ever-higher value with environmental performance, safety, comfort, and convenience in mind.

NSK sees these changes as a great opportunity. As we improve existing products, we are also equipping products to automobiles for the first time. Through new and upcoming technologies, we will continue to make contributions as a mechanical parts manufacturer.

### Increasing Value Through Technological Innovation in Automobiles







## Growing Automotive Businesses by Continuous Technological Advancement

As innovation in automobiles proceeds, the technological requirements for basic mechanisms also rise. The important parts of automobiles will continue to evolve. NSK will be there as we constantly strive to expand through our component technologies.

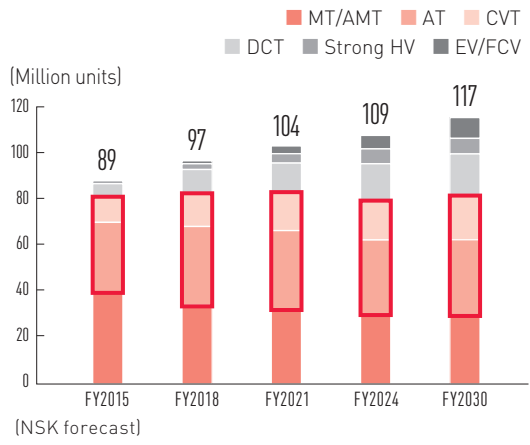
### 1 Expansion of Automatic Transmission (AT) Business

Automatic transmissions (ATs) control automobile acceleration and deceleration by automatically switching gears. As environmental regulations become stricter, customers need ATs that are more compact and light, have more efficient friction control, and have better multistep AT fuel efficiency and comfort. Currently, three factors are increasing the need for ATs. By developing high-performance products to meet customer needs, NSK has an ongoing annual growth rate of 10% from bearing products, in particular needle bearings, and AT-related components.

**Background of NSK's AT Business Expansion**

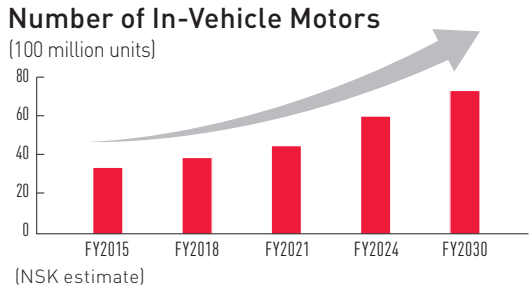
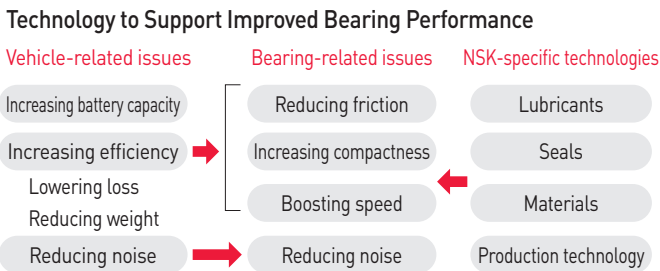
1. Expansion of automatic transmissions used in emerging markets
2. Progress in shift to multistep AT (multistep AT = seven or more speeds)
3. More new business won from the largest customers

**Transmission Market Forecast (By Type)**



### 2 NSK Bearing Technology Supporting EVs and Electrification

To allow vehicles to travel longer distances, EVs need to be more efficient and lighter. EVs are also required to be quieter by reducing the noise of mechanical parts. Bearings face similar pressures for more compact products with less friction, higher speeds, and less noise. Also, as more vehicle functions become electric, in-vehicle motors will increase dramatically. NSK will leverage its cultivated base technologies and inherent strengths and aim for ever-higher bearing performance in these new fields.



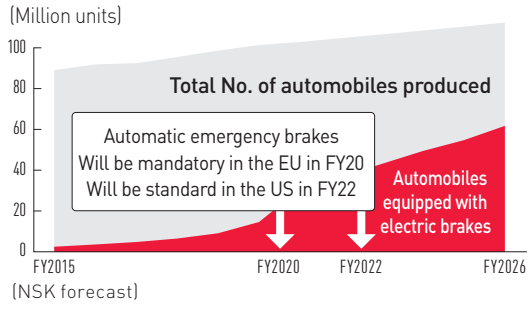
### 3 Major Deal: Mass Production of Ball Screws for Electric Brake Boosters Begins

To improve safety, automatic emergency braking systems are increasingly becoming mandatory in vehicles. Brake boosters (brake pedal amplifiers) are becoming electrified, and demand is increasing. Forecasts call for 50%–60% of vehicles produced worldwide to be equipped with electric brake boosters by the mid-2020s.

Ball screw brake boosters are recognized for their outstanding responsiveness and control. NSK received orders for 4.5 million ball screws and started mass production for some of these in 2018. While building a global production structure, we will work to strengthen sales in this area.

\* Please see P. 18 for details.

**Demand Forecast for Electric Brakes**





Feature 1

# NSK Value Creation for Technological Innovation in Automobiles

—Change as a Chance to Soar

## Taking “Running,” “Turning,” and “Stopping” to the Next Era

NSK has been working in a number of R&D fields while imagining a future where autonomous and electric vehicles are common.

Based on our Four Core Technologies, we have honed an array of knowledge. We will use our expertise to improve stability, comfort, and more in our proposals for next-generation automobiles.

### Wheel Hub Motor Fit

- Compact in-wheel motor for EV drive systems
- Flexible drive force distribution with four-wheel independent drive
- Two built-in motors and a compact built-in transmission

#### ▶ Customer Needs and New Technology

There are a variety of EV drive systems; some have multiple motors and differing deceleration mechanisms exist. In-wheel motors have their drive motors inside the wheels. Four-wheel independent drives will offer flexible drive power distribution and increased energy transmission efficiency. These drives will also allow for better steering performance, more cabin space, and other merits.

#### ▶ Product Characteristics

The “Wheel Hub Motor Fit” is a drive system equipped to the wheel itself. This is just one more example of how we constantly evolve and improve with practical applications in mind. With a more compact motor embedded inside the wheel, this NSK technology features a proprietary two-motor system. These motors can be controlled in tandem to change speeds through a mini internal transmission mechanism. In addition to enabling bursts of power and driving speed, drive power can be controlled per wheel for high-dimensional performance that improves stability and collision avoidance. Due to its small size, this technology can be equipped in a variety of vehicles. We are making steady progress toward a practical application.



### Ball Screws for Electric Brake Boosters

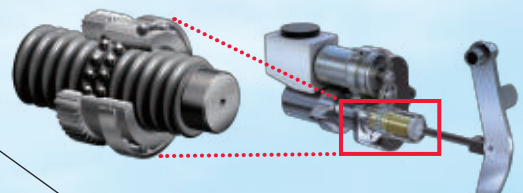
- Contributing to the spread of automatic brake systems
- Solution to electrify brake boosters
- Excellent responsiveness and control gained through highly efficient ball screws

#### ▶ Customer Needs and New Technology

Automatic brake systems not only help reduce accidents, but they are also essential in autonomous vehicles. Now, installation rates are going up, and they are getting more popular. Moreover, as more and more vehicles become hybrid or electric, brake boosters are moving away from traditional vacuum boosters to electric types. Responsiveness is crucial in these fused electric brake boosters.

#### ▶ Product Characteristics

There are a number of kinds of electric brake boosters, but ball screws are the most promising for high-level regenerative brake systems and emergency auto braking. Ball screws are highly efficient at converting rotational motion to linear motion. This means they can convert motor pressure to braking pressure and respond with precise control. These features make them vital for high performance in electric brake boosters and for braking systems overall. Brakes are a mechanism for “stopping” in automobiles, but brake electrification has also made independent control of the tires simpler. This system enables high attitudinal control by allowing the braking force on each wheel to vary. We continue to develop these key ball screws to support improved brake systems.



### Parallel Link type Active Suspension

- Ideal attitudinal control in automobiles
- Easy adjustments for wheel angles, track, and wheel base\*
- Can be applied to steering systems for steer-by-wire functionality



#### ▶ Customer Needs and New Technology

Attitudinal control has a direct impact on performance and comfort while riding in an automobile. If the wheel angle, track, and wheel base\* can be easily adjusted, driving performance can be improved. The positioning of autonomous vehicles can also be controlled, ideally for greater passenger comfort. Moreover, we also expect this technology to be applied to steering systems such as steer-by-wire.

\*Track (distance between the left and right tires), wheel base (distance between the front and rear wheels)

#### ▶ Product Characteristics

Parallel Link type Active Suspension combines NSK’s world-class ball screw technology with a motor to realize optimal control of the wheel angle. Of course, the system offers the standard left-right turning a driver needs at intersections, but it can also adjust the wheels to have a negative camber angle for greater stability at high speeds, such as on highway curves. In addition, the actuators can be repositioned so the vehicle track and wheel base can be adjusted. For example, the shorter the distance between the front and rear wheels, the tighter a vehicle can turn, which also makes it easier to parallel park. Further, Parallel Link type Active Suspension achieves a high degree of running stability by reducing vibrations while driving. It also offers excellent attitudinal control by serving a much wider range of motion through all four wheels.



## Steer-By-Wire

(Force feedback actuator, road wheel actuator)

- Proposal for road surface reaction feedback actuator in addition to steering mechanism
- Clear signal transmission between two actuators (control system redundancy)
- Electric tilt and telescopic configuration to store the steering wheel

### ▶ Customer Needs and New Technology

In the future, steering devices and brake mechanisms will likely be controlled by electric signals. On the plus side, steer-by-wire devices take up less space in the engine area. However, we must work to give steering systems a natural sensation of speed and road surface conditions. In addition, more complicated autonomous vehicles will require steering wheel storage and retrieval functions.

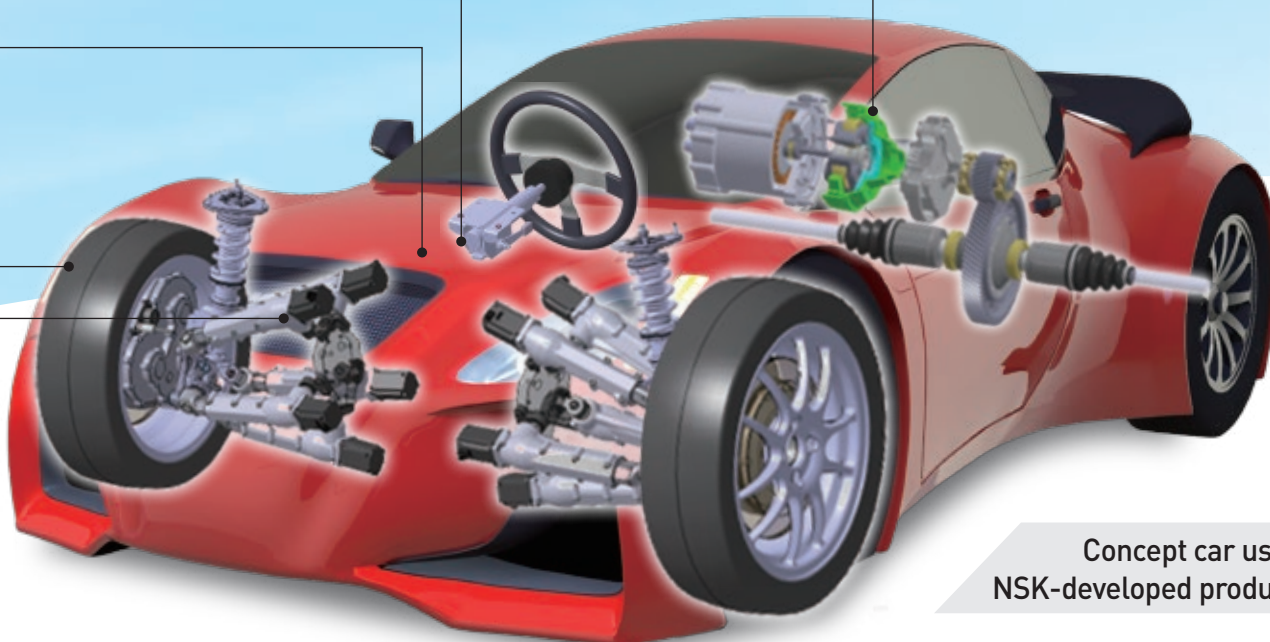
### ▶ Product Characteristics

NSK started with a ball screw steering gear and branched out into a variety of steering components, including steering columns, intermediate shafts, and joint parts. Recently, we have seen electric power steering (EPS) contribute to advanced "turning" in automobiles. Force feedback actuators and road wheel actuators for steer-by-wire systems now incorporate our cultivated steering technologies. As mentioned, we are working on steer-by-wire systems that feel natural when steering. We are also making clear and steady signal transmission control systems that guarantee functions during a failure. Finally, we are also working on electric tilt and telescopic functions to allow the steering wheel to be stored, retrieved, and adjusted.

Force feedback actuator



Road wheel actuator



## Traction Reducer

- Compact, lightweight, ultra-high-speed revolution EV drive unit with optimized deceleration mechanism
- Quiet operation with traction drive mechanism
- Applied technology for mass production of actual half-toroidal CVT systems

### ▶ Customer Needs and New Technology

EV drive motors need to be compact and light to improve power consumption and have enough output. If the motor must support a high number of revolutions per second, improving energy transmission efficiency in integrated deceleration mechanisms is even more important. Moreover, motor-driven vehicles need to be even quieter when running.

### ▶ Product Characteristics

As electric vehicles become more common, the balance between cost and cruising distance must be addressed. NSK is moving ahead with a Traction Reducer. Instead of using gears, this reducer uses a special oil that becomes solid only for a moment when compressed. The "rolling" that results allows for more efficient power transmission. This reducer is also extremely quiet, regardless of revolution speed or torque. By combining this breakthrough traction decelerator with a high-speed motor, overall electric vehicle drive systems can be even more compact and light. The smooth transfer of power gained through Traction Reducer also reduces power consumption.



Concept car using  
NSK-developed products



# Feature 2 NSK's Vision 2026 Initiatives

## —Efforts to Set the Future in Motion Underway Around the World

**NSK is working to communicate Vision 2026 to all Group employees around the world and give shape to its goal of Setting the Future in Motion.**

In 2016, NSK celebrated the 100th anniversary of its foundation. To commemorate this occasion, the 100th Anniversary Committee and its working level task force the Centennial Projects Team were established in order to plan and implement a range of initiatives and events. The main task of this organization was to develop and promote a new vision for the Company, culminating in NSK Vision 2026: Setting the Future in Motion. The task of promoting the Vision was subsequently passed on to a dedicated organization, the Vision 2026 Office, which was established in April 2017 as part of the Company's CSR Division Headquarters. In order to deepen understanding of the NSK Corporate Philosophy and NSK Vision 2026, and to translate the Vision into real action, we have appointed regional leaders who are responsible for coordinating a range of global initiatives. Each leader also works

with team members in their region to develop and implement original Vision promotion initiatives best suited to their local cultures and organizational structure. Twice a year all regional leaders gather together for the Global Vision 2026 Committee, where they provide updates on progress in their region, discuss key issues, and consider how to share effective initiatives between regions.

Communicating the true essence of NSK Vision 2026 to more than 30,000 Group employees around the world, aligning the organization in the same direction, and producing concrete results is no easy feat. Despite the size of the task at hand, the realization of NSK Vision 2026 is essential for NSK to generate sustainable value and continue contributing to society. Our quest to set the future in motion will continue!

### Global Vision 2026 Committee

In March 2018, the third Global Vision 2026 Committee was held in Tokyo. The leaders of Vision initiatives in the Americas, Europe, ASEAN and Oceania, China, Korea, India, and Japan gathered to share the progress of initiatives and discuss the way forward. Each leader introduced the unique programs in their region for promoting Vision 2026, as well as difficulties and hurdles they faced in doing so. The Committee will continue to meet on a half-yearly basis, and we are considering rotating the meeting location between regions in the future. Each leader is working together closely to support NSK Vision 2026 across our global sites. In this report we introduce some of the unique initiatives taking place around the world.

### NSK Americas

#### Train-the-Trainer Toolkit

A specially-designed toolkit managers (trainers) can use to facilitate Vision workshops with their teams.



#### Online Idea Center

One Americas business unit is trialing a program where employees can submit their ideas for improving NSK via a designated intranet site. Outstanding ideas are given support from management.

### NSK ASEAN

Sites across the region have held workshops, with one site in Thailand taking the initiative to hold a two-day forum to discuss their future goals.





## Roadmap for Vision Realization



Period	Phase
I FY2015   FY2018	Understanding – Understand Vision
	Ownership — Positive attitude toward Vision
	Concretization – Initiatives starting to take shape
	Action — Plans starting to be put in action
	Experience — Experience positive change firsthand

### SETTING THE FUTURE IN MOTION

We bring motion to life,  
to enrich lifestyles,  
and to build a brighter future.  
Dedicated to uncovering society's needs,  
we set ideas in motion,  
to deliver solutions beyond imagination.  
We're NSK.  
And, we're setting the future in motion.

II FY2019–	Establish as Culture — Behavior and ideas are firmly established
III FY2022–	Refinement — Higher level initiatives put in action
IV FY2025–	Achievement – Vision realized
FY2027–	Next Challenge

## Common Global Vision Initiatives

### ■ NSK Starter Book

An easy-to-read handbook outlining NSK's history, DNA, and Corporate Philosophy. Translated into 20 languages and distributed to employees across the world.



### ■ Vision Image Movie

Designed to inspire and communicate the spirit of NSK's Vision in visual form (Japanese, English, and Chinese versions created)



### ■ Vision Workshops

Provide opportunities to listen to management's outlook, discuss what an ideal NSK will look like in 10 years, and plan next actions.



## NSK India

NSK India captured the creative mindset required to achieve Vision 2026 by holding outdoor workshops in the traditional *gurukul* style.



### Vision Puzzle

Vision puzzles illustrating NSK's role in society were donated to local schools. Also used as a recruiting and orientation tool.



## NSK Japan

### “Sense of Motion” Future Forum

An annual forum which serves as a platform for creators and innovators at the forefronts of their respective fields to network and share their insights with the general public.



Talk event featuring innovation leaders. (Nov. 2017, Tokyo Aoyama)

### Idea Dojo Project

An open-ended program where employees are free to submit innovative ideas in any field. Promising ideas are supported through to realization.



“The World's Best Kitchen Knife” concept utilized NSK's materials and heat treatment technology to achieve world-class cutting performance.

# Financial and Non-Financial Highlights

## Eleven-Year Summary

NSK Ltd. and Consolidated Subsidiaries

JP-GAAP up to and including the fiscal year ended March 31, 2015, IFRS from the fiscal year ended March 31, 2016, onward.

Years ended March 31			2008	2009	2010	2011	
<b>Financial Data</b>	Net sales		772,036	647,593	587,572	710,431	
	[By segment]*1	Industrial Machinery Business	307,243	267,021	201,963	259,095	
		Automotive Business	435,705	352,453	366,463	424,157	
		Others / Adjustments	29,087	28,118	19,145	27,178	
		[By region]	Japan	388,929	323,375	289,540	354,542
		[Based on customer location]	The Americas	107,321	78,754	70,609	85,466
		Europe	133,853	111,866	98,504	102,176	
		Asia (excluding Japan)	141,933	133,596	128,918	168,246	
		China	—	—	—	82,587	
		Other Asia	—	—	—	85,658	
		Operating income	69,343	22,106	11,305	43,524	
		Ordinary income	64,854	16,964	7,598	38,572	
		Net income attributable to owners of the parent	42,613	4,561	4,765	26,110	
		Capital expenditures	53,905	44,138	21,818	41,294	
		Depreciation and amortisation	38,380	39,729	37,149	34,943	
		R&D expenditures	10,240	10,691	8,794	10,515	
		Cash flows from operating activities (A)	69,236	11,785	51,108	64,973	
	Cash flows from investing activities (B)	(23,187)	(46,422)	(29,355)	(33,348)		
	Free cash flows (A) + (B)	46,049	(34,637)	21,753	31,625		
	Dividends paid	10,277	7,574	4,327	5,950		
	Acquisition of treasury shares	—	—	—	—		
	Equity attributable to owners of the parent (shareholders' equity)	267,914	233,395	247,941	257,012		
	Total assets	828,580	744,229	789,624	788,626		
	Interest-bearing debt	264,413	323,165	304,937	274,585		
<b>Non-Financial Data</b>	Number of employees worldwide (persons)		25,069	24,050	24,633	26,334	
	Number of overseas employees (persons)		14,374	12,895	13,204	15,039	
	Number of employees: non-consolidated (persons)		4,888	5,274	5,932	6,306	
	Proportion of female employees (Japan) (%)		5.5	5.5	6.6	6.5	
	Total waste (1,000 t)*2		10.0	8.5	8.7	17.6	
	Greenhouse gas emissions (1,000 t-CO <sub>2</sub> equivalent)*2		45.1	38.4	37.8	86.5	
	Number of environmentally friendly products (cumulative)		96	110	124	140	
<b>Per Share Data (Yen)</b>	Earnings (Net income)		78.84	8.44	8.82	48.30	
	Equity attributable to owners of the parent (shareholders' equity)		495.61	431.74	458.65	475.45	
	Cash dividends*3		19.0	14.0	8.0	11.0	
<b>Financial Indices</b>	Operating income margin (%)		9.0	3.4	1.9	6.1	
	Return on average shareholders' equity (ROE) (%)		16.1	1.8	2.0	10.3	
	Return on average assets (ROA) (%)		5.2	0.6	0.6	3.3	
	Ratio of net worth to total capital (%)		32.3	31.4	31.4	32.6	
	Net D/E ratio (times)		0.56	0.85	0.73	0.60	
	Dividend payout ratio (%)		24.1	165.9	90.7	22.8	
	Total return ratio (%)*4		24.1	165.9	90.7	22.8	
	Period-end share price (yen)		755	377	738	717	
	Price earnings ratio (PER) (times)		9.6	44.7	83.7	14.8	
	Price book-value ratio (PBR) (times)		1.5	0.9	1.6	1.5	
Dividend yield (%)		2.5	3.7	1.1	1.5		
<b>Exchange Rate Data</b>	US\$1		114.55	100.74	92.83	85.63	
	€1		162.22	144.47	130.89	112.92	

\*1 In accordance with segment changes in the business domains (part of operations transferred from Industrial Machinery Business to Automotive Business).

\*2 Total waste and greenhouse gas emissions data up to the fiscal year ended March 31, 2010, encompass Japan only. Data from the fiscal year ended

\*3 The breakdown of the ¥38.0 per share dividend paid in the fiscal year ended March 31, 2017, is a normal dividend of ¥28.0 per share and a ¥10.0 per

\*4 Total return ratio = (Dividends paid + Acquisition of treasury shares) ÷ Net income attributable to owners of the parent.

Millions of yen (Financial data)

	2012	2013	2014	2015	2016	2017	2018
	733,192	732,842	871,742	974,885	975,319	949,170	<b>1,020,338</b>
	255,835	216,142	242,969	276,361	243,395	226,924	<b>266,249</b>
	444,585	490,545	590,545	656,998	705,511	696,271	<b>723,564</b>
	32,772	26,154	38,226	41,525	26,411	25,974	<b>30,524</b>
	363,754	333,348	329,136	328,837	318,434	330,512	<b>372,134</b>
	86,267	103,352	134,483	164,821	183,652	165,177	<b>155,498</b>
	107,958	102,667	124,590	133,752	131,830	121,920	<b>137,856</b>
	175,213	193,473	283,532	347,475	341,403	331,559	<b>354,849</b>
	89,068	91,442	167,239	210,237	204,361	201,185	<b>212,097</b>
	86,143	102,030	116,293	137,238	137,042	130,373	<b>142,752</b>
	44,417	32,361	68,049	97,327	89,534	65,341	<b>97,875</b>
	42,004	30,310	66,785	91,002	—	—	<b>—</b>
	28,514	15,739	31,167	61,962	65,719	45,560	<b>69,312</b>
	54,619	48,025	45,448	49,197	54,996	58,602	<b>68,788</b>
	35,807	34,598	35,079	38,568	43,048	43,354	<b>46,785</b>
	10,373	10,432	9,919	10,660	11,155	13,858	<b>17,059</b>
	57,158	53,797	70,342	67,709	108,622	67,936	<b>83,746</b>
	(56,090)	(45,262)	(42,402)	(46,335)	(45,212)	(54,243)	<b>(53,001)</b>
	1,068	8,534	27,940	21,374	63,410	13,692	<b>30,744</b>
	6,491	5,943	8,650	15,161	18,425	20,174	<b>21,245</b>
	—	—	—	—	—	14,999	<b>—</b>
	280,312	319,286	359,201	456,046	454,661	461,350	<b>537,175</b>
	845,073	882,547	1,000,932	1,129,164	1,032,374	1,043,955	<b>1,092,310</b>
	296,750	305,102	315,532	326,400	278,152	267,399	<b>250,908</b>
	27,444	28,487	30,454	31,088	31,587	31,501	<b>31,861</b>
	16,181	17,267	19,231	20,052	20,296	20,210	<b>20,254</b>
	6,203	6,398	6,310	6,294	6,278	7,585	<b>7,726</b>
	6.7	6.5	6.6	6.9	7.0	10.7	<b>10.5</b>
	18.0	18.2	19.2	20.1	20.6	21.1	<b>22.4</b>
	87.7	87.1	93.9	96.8	99.1	99.1	<b>99.7</b>
	157	173	190	202	211	219	<b>224</b>
	52.75	29.14	57.70	114.56	121.38	86.08	<b>131.16</b>
	518.56	591.36	664.74	842.69	839.56	873.11	<b>1,016.30</b>
	12.0	11.0	16.0	28.0	34.0	38.0	<b>40.0</b>
	6.1	4.4	7.8	10.0	9.2	6.9	<b>9.6</b>
	10.6	5.2	9.2	15.3	14.3	9.9	<b>13.9</b>
	3.5	1.8	3.3	5.8	6.1	4.4	<b>6.5</b>
	33.2	36.2	35.9	40.4	44.0	44.2	<b>49.2</b>
	0.58	0.51	0.41	0.31	0.23	0.28	<b>0.22</b>
	22.7	37.7	27.7	24.4	28.0	44.1	<b>30.5</b>
	22.7	37.7	27.7	24.4	28.0	77.2	<b>30.5</b>
	637	715	1,062	1,758	1,030	1,592	<b>1,426</b>
	12.1	24.5	18.4	15.3	8.5	18.5	<b>10.9</b>
	1.2	1.2	1.6	2.1	1.2	1.8	<b>1.4</b>
	1.9	1.5	1.5	1.6	3.3	2.4	<b>2.8</b>
	79.02	83.10	100.24	109.93	120.14	108.42	<b>110.86</b>
	109.40	107.14	134.37	138.77	132.58	118.84	<b>129.70</b>

data from the fiscal year ended March 31, 2016 onward, are presented under the new categories.

March 31, 2011, are presented on a global basis.

share dividend to commemorate the 100th anniversary of the Company's founding.

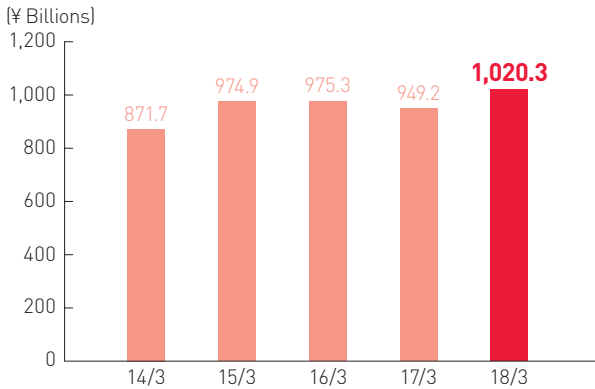
# Financial and Non-Financial Highlights

## Trends in Major Indices

\*JP-GAAP up to and including the fiscal year ended March 31, 2015, IFRS from the fiscal year ended March 31, 2016, onward.

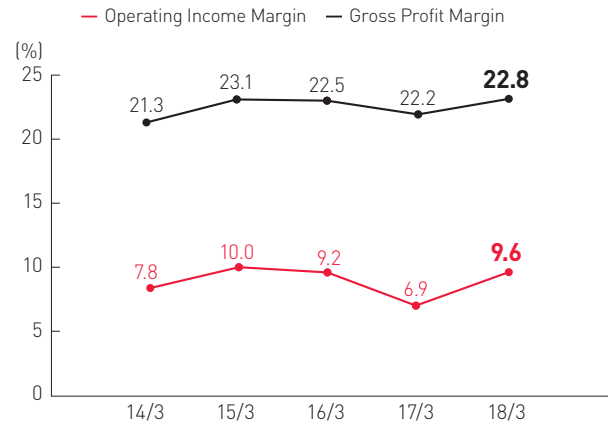
The comments under the charts apply to the actual results for the fiscal year ended March 2018.

### Net Sales



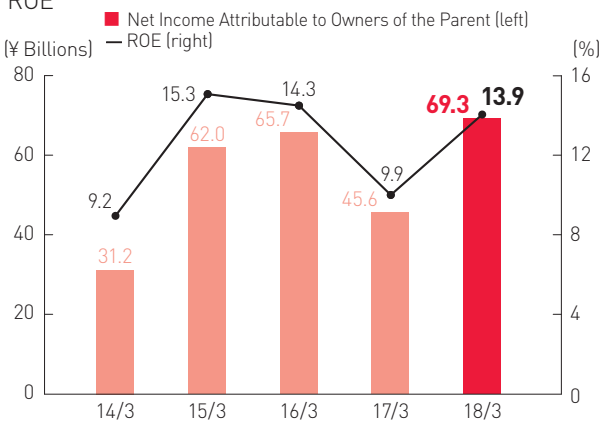
Sales at NSK topped ¥1 trillion for the first time thanks to strong demand from machine tools, semiconductors and electric sectors in the Industrial Machinery Business and volume increase in the powertrain business in Japan within the Automotive Business.

### Operating Income Margin / Gross Profit Margin



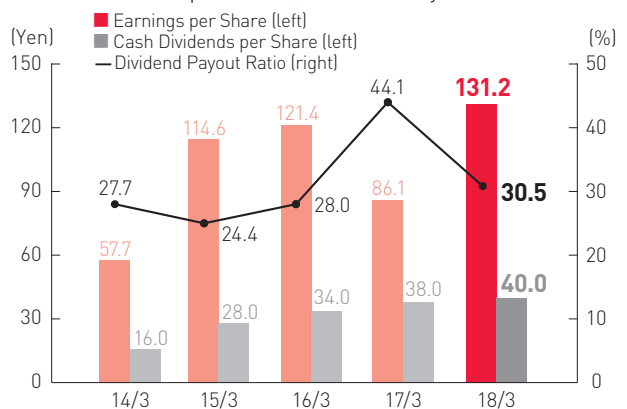
NSK's operating income margin improved from 6.9% in FY17/3 to 9.6% in FY18/3 (up 2.7 percentage points) due to strong demand contributing to enhanced volume, the positive effects from measures to improve productivity and a reduction in other operating expenses.

### Net Income Attributable to Owners of the Parent / ROE



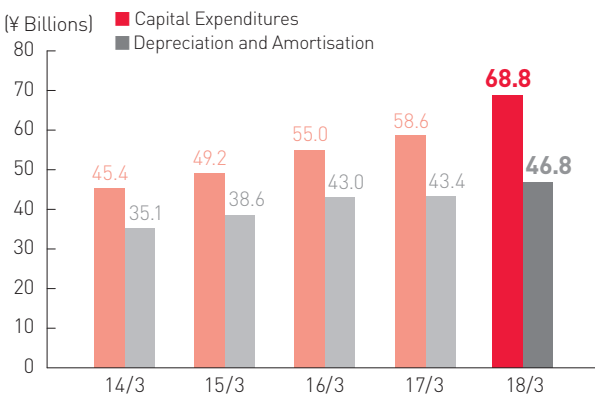
Amid an improvement in net income, ROE improved sharply to 13.9%, topping the 10% target in the Company's Fifth Mid-Term Management Plan.

### Earnings per Share / Cash Dividends per Share, Dividend Payout Ratio



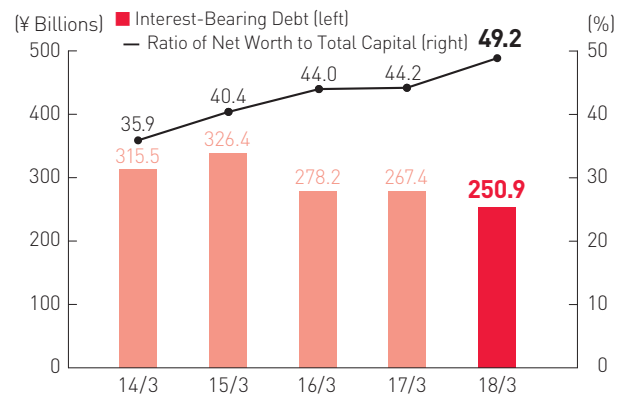
As profits moved higher, earnings per share rose 52% year on year to ¥131.2, resulting in the cash dividend per share rising ¥2 year on year to ¥40.

### Capital Expenditures / Depreciation and Amortisation



NSK invested to improve productivity and expansion of production capacity in the Automotive Bearings Business and the Industrial Machinery Business, in response to global demand growth. As a result, capital expenditures in FY18/3 totaled ¥68.8 billion, an increase of ¥10.2 billion from the previous year.

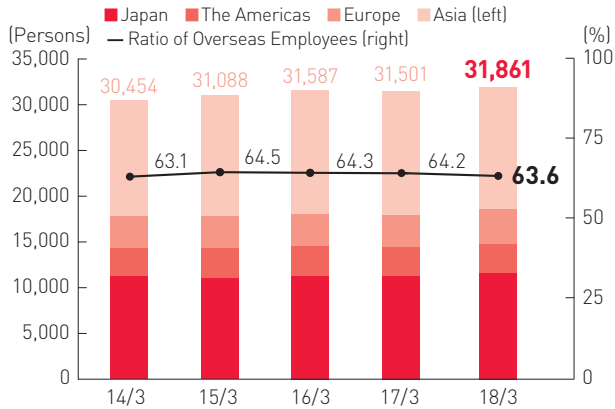
### Interest-Bearing Debt / Ratio of Net Worth to Total Capital



The Company continued to reduce interest-bearing debt in FY18/3. NSK increased the ratio of net worth to total capital to 49.2%, allowing stable and continuous shareholder returns while also ensuring financial stability.

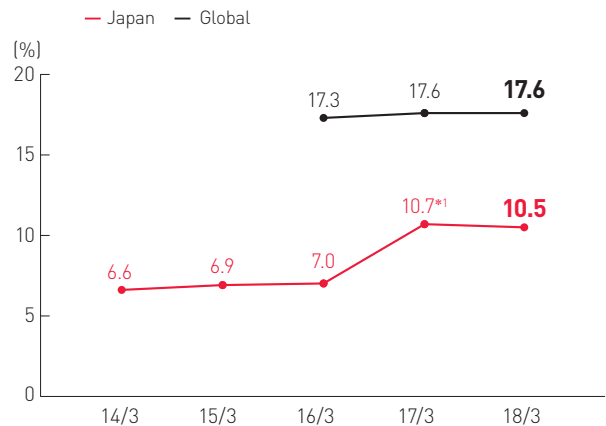


### Number of Employees Worldwide / Ratio of Overseas Employees



The Company increased the number of full-time Group workers by 360 from the end of FY17/3 to 31,861 at the end of FY18/3 thanks to efforts to optimize employment to meet demand and enhancing the number of technical workers.

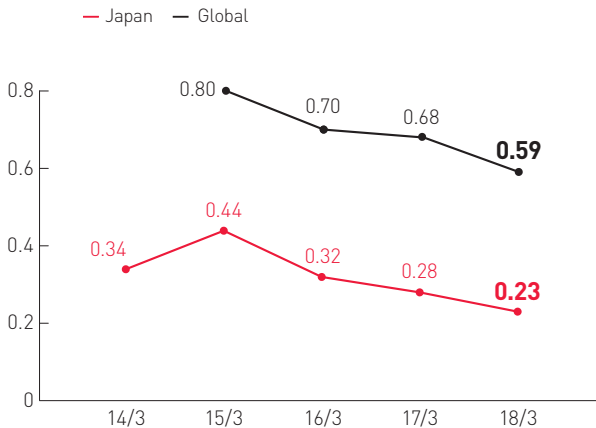
### Ratio of Female Employees



NSK is striving to expand work options and provide career advancement programs for female employees. The ratio of female workers at NSK was 10.5% in Japan and 17.6% on a global basis. For more information, please see Promoting the Advancement of Women in the Workplace on P. 52.

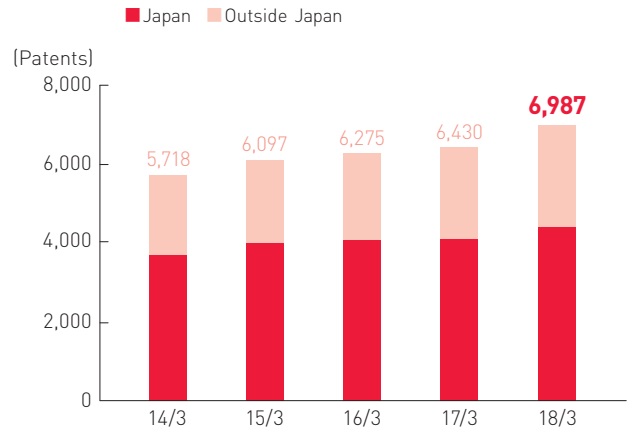
\*1 Data include the subsidiary acquired in 2016.

### Lost-Worktime Injury Rate



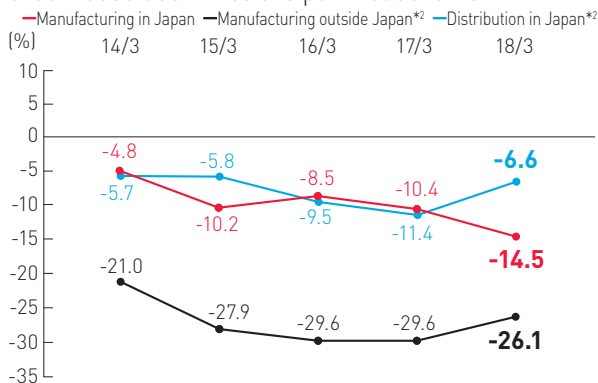
Thanks to strengthened workplace safety initiatives, the lost-time injury rate is on a declining trend both in Japan and globally. For additional information on NSK's safety management efforts, please see P. 49.

### Number of Patents Held



Toward realizing the goals (Innovation & Challenge, Setting the Future in Motion) in the Fifth Mid-Term Management Plan, NSK is strengthening technical development. Showing a year-on-year increase, patent possession grew to 6,987 patents in FY18/3.

### Greenhouse Gas Emissions per Production Unit\*1

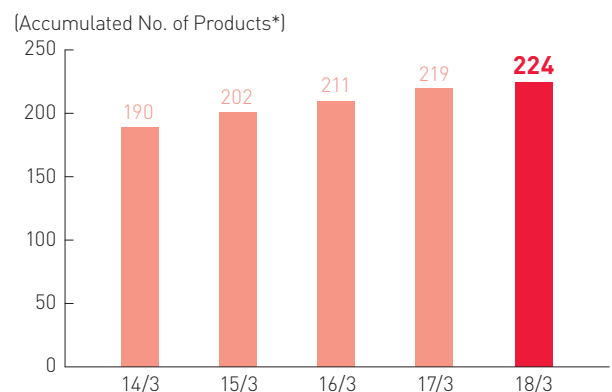


Thanks to ongoing improvements in productivity and the introduction of energy-efficient machinery, greenhouse gas emissions related to production dropped 14.5% in Japan and 26.1% outside of Japan. Distribution-related greenhouse gas emissions in Japan declined by 6.6%. For additional information, please see Environmental Management on P. 50.

\*1. Rates of percentage increase and decrease are presented compared with the base date of the year ended March 31, 2012 (0%).

\*2. We have made retroactive revisions based on a revision to the method used in the calculation of greenhouse gas emissions per production unit.

### Number of Environmentally Friendly Products Developed



NSK developed five new products in FY18/3, bringing the total number of environmentally friendly products to 224. For more details, please see Developing Environmentally Friendly Products on P. 51.

\*Cumulative data from the year ended March 31, 2003.

# Looking Back on Past Mid-Term Management Plans

Here we take a retrospective look at the past 10 years of mid-term management plans, from the second to the fourth. (Note: Mid-Term Management Plan is abbreviated as MTP)

	The Second MTP Year to March 31, 2007–Year to March 31, 2009	The Third MTP Year to March 31, 2010–Year to March 31, 2013	The Fourth MTP Year to March 31, 2014–Year to March 31, 2016
<b>Vision Positioning</b>	<p><b>To become No. 1 in total quality</b></p> <p><b>Establish foundation for NEXT10 (where NSK should be at 100th anniversary of establishment in 2016)</b></p> <ul style="list-style-type: none"> <li>• Transition to growth strategy</li> <li>• Improvement of profitability</li> </ul>	<p><b>Responding to paradigm shifts</b></p> <p><b>Reorganizing business foundation toward net sales of ¥1 trillion</b></p> <ul style="list-style-type: none"> <li>• Period to establish and consolidate corporate fundamentals appropriate for a company with net sales of ¥1 trillion</li> <li>• Continue measures to become No. 1 in total quality</li> </ul>	<p><b>Establishing corporate fundamentals appropriate for a company with net sales of ¥1 trillion</b></p> <ul style="list-style-type: none"> <li>• Establish corporate fundamentals appropriate for a company with net sales of ¥1 trillion in 2016, the 100th anniversary of NSK's foundation</li> <li>• Implement measures to achieve mid-term targets</li> <li>• Continue to implement basic strategies (focus on profitability, growth in emerging countries, global management)</li> </ul>
<b>Outline of the MTP</b>	<p><b>Common Group Strategies</b></p> <ol style="list-style-type: none"> <li>① Strengthen manufacturing capability</li> <li>② Strengthen product development capability</li> <li>③ Strengthen overseas profitability</li> <li>④ Strengthen global management capability</li> </ol> <p><b>Positioning of Each Business</b></p> <p>Industrial machinery bearings: Profit growth driver</p> <p>Automotive products: Stable profit foundation</p> <p>Precision machinery and parts: Steady contribution to total profits</p> <p><b>Foundation to Underpin Measures</b></p> <p>Global <i>hitozukuri</i> (human resource development) supporting growth</p> <p>Production innovation through thorough <i>monozukuri</i> awareness</p> <p>Rebuilding of global IT systems</p>	<p><b>Our Three Core Management Strategies</b></p> <ol style="list-style-type: none"> <li>① Enhancement of business-based management (sales &amp; marketing, production and technological divisions brought under business headquarters management)</li> <li>② Growth strategies</li> <li>③ Profitability improvement</li> </ol> <p><b>Specific Measures</b></p> <p><b>A. Enhancement of business-based management</b> Autonomous management by integrated business management and the clarification of divisional responsibilities</p> <p><b>B. Growth strategies</b></p> <ol style="list-style-type: none"> <li>① Increase presence in emerging markets</li> <li>② Expand environmental, infrastructure and resource businesses</li> <li>③ Respond to technological innovation</li> </ol> <p><b>C. Profitability improvement</b></p> <ol style="list-style-type: none"> <li>① Proactive sales strategy (strengthen proposal-based sales capabilities)</li> <li>② Reorganize global production sites</li> <li>③ Accelerate new product development</li> </ol>	<p><b>Business Strategies</b></p> <p><b>Growth with focus on profitability</b></p> <ol style="list-style-type: none"> <li>① Growth in emerging countries</li> <li>② Enhancement of customer and sector strategies</li> <li>③ Production and technological innovation capabilities</li> <li>④ Strategic alliances</li> </ol> <p><b>Corporate Foundation</b></p> <p><b>Develop management capability to handle ¥1 trillion in sales volume</b></p> <ol style="list-style-type: none"> <li>① Enhancement of corporate governance and compliance</li> <li>② Reform of business structure</li> <li>③ Advancement of global management</li> </ol> <p><b>Basics of MTP (Priority Issues)</b></p> <p>Safety, quality and compliance</p>
<b>Looking Back</b>	<p>Until the second year of the Second MTP (the year ended March 2008), the Company steadily expanded its business due to factors that included favorable global economic conditions and the added impetus provided by high demand for infrastructure and resource-related business in emerging markets, as well as the weak yen. As a result, the Company achieved record-high sales, as well as operating and ordinary income, for four consecutive fiscal years.</p> <p>However, Lehman Brothers filed for bankruptcy in the autumn of the third and final fiscal year, fiscal 2008, and the environments of all businesses and markets suffered significant deterioration due to the global economic crisis. As emergency revenue measures, the Company thus made adjustments to its production levels and reduced fixed costs, but business performance in the final year of the Second MTP (the year ended March 2009) fell short of targets.</p>	<p>Amid the severe business conditions that followed the collapse of Lehman Brothers, the Company responded to the paradigm shift typified by the keywords "emerging markets" and "technological innovation," worked on reorganizing its business structure toward net sales of ¥1 trillion and achieved some measure of success.</p> <p>Nevertheless, the upheaval in the business environment, including a sharp appreciation of the yen and fluctuations in global demand, continued to intensify, and the numerical targets of the final year of the Third MTP (the year ended March 2013) were not achieved.</p> <p>Furthermore, having been found guilty of violating the Antimonopoly Law in a 2013 case involving a bearing product cartel, the Company received a cease-and-desist order and was ordered to pay financial penalties. As a priority and urgent task, the Company undertook measures to strengthen its compliance system toward the early restoration of trust and to prevent any reoccurrence.</p>	<p>Against a backdrop of improvements in the profitability of the Automotive Business and assisted by an underlying weakness in yen exchange rates, the Company achieved all its numerical targets, including those for net sales and profit, a year ahead of schedule in the second year of the Fourth MTP. The Company also improved on the targets in the MTP's final fiscal year. Significant growth was recorded in the Chinese business and in the EPS business in particular.</p> <p>With regard to profitability, the Company achieved an operating income margin of 10.0% in the fiscal year ended March 2015 and maintained a high level of 9.7% in the final fiscal year. In contrast, net sales and profitability in the Industrial Machinery Business were on a declining trend, buffeted by the slowdown in global economic growth, including the deceleration in China.</p>
<b>Achievements</b>	<ul style="list-style-type: none"> <li>• Strengthened the industrial machinery bearings business (improved roller bearing supply capacity, expanded aftermarket sales networks)</li> <li>• Expanded the global business and improved revenues in the automotive products business</li> <li>• Improved overseas profitability, primarily in Europe and Asia</li> <li>• Expanded business structures in China and India</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthened its business foundation in China (established a production system for a full product lineup, built an autonomous management system within China)</li> <li>• Exceeded the MTP target for global expansion of the EPS business</li> <li>• Enhanced profitability following the reorganization of the Precision Machinery and Parts Business</li> <li>• Advanced local production and local procurement</li> </ul>	<ul style="list-style-type: none"> <li>• Achieved all the MTP numerical targets</li> <li>• Improved profitability on a consolidated basis</li> <li>• Expanded business in China, increased EPS sales</li> <li>• Made progress with the global management structure</li> <li>• Strengthened and enhanced compliance</li> </ul>
<b>Issues and Shortcomings</b>	<ul style="list-style-type: none"> <li>• Rapid responses to changes in the demand environment (reflect on effects of the Lehman Brothers collapse, particularly in Japan)</li> <li>• Quality improvements in the Precision Machinery and Parts Business are incomplete</li> <li>• Even though measures to boost earnings have been carried out, including partial plant shutdowns in the U.S. business, further improvement in profitability is needed</li> </ul>	<ul style="list-style-type: none"> <li>• Declines in profitability levels due to the extremely high value of the yen and inadequate responses to changes in the business environment, including extreme fluctuations in demand</li> <li>• Decrease in the Industrial Machinery Business sales ratio</li> <li>• Strengthening of the compliance system to restore trust and prevent any reoccurrence following the cartel incident</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to build foundation as a company with ¥1 trillion in net sales</li> <li>• Establish profitability not greatly affected by business cycles or fluctuations in the amounts of raw materials or exchange rates</li> <li>• Promote new products and development in new areas</li> </ul>

# Outline of the Fifth Mid-Term Management Plan

## The Fifth MTP

[Year to March 31, 2017-Year to March 31, 2019]

Under the banner of NSK Vision 2026: Setting the Future in Motion, the NSK Group formulated its new Fifth MTP, which covers the three-year period from the fiscal year ended March 2017 to the fiscal year ending March 2019.

Positioning the Fifth MTP period as the first three years for embarking on a new chapter in the evolution toward the next 100 years, the Company will advance initiatives supported by two main policy pillars: operational excellence as well as innovate and challenge. With these two policies, NSK targets the three management tasks of "achieving sustainable growth," "reconstructing its profit base" and "expanding into new growth fields."

### NSK Vision 2026 Setting the Future in Motion

### Embark on New Chapter in Evolution Towards Next 100 Years

Operational Excellence

**Sustainable Growth**  
Deliver new value to society  
Work together with stakeholders

**Reconstructing the Profit Base**  
Increase and stabilize profitability  
*Monozukuri, quality, personnel*

**Expand into New Growth Fields**  
Growth in core businesses  
New products, new fields

Innovate and Challenge

Industrial Machinery, Automotive

Safety, Quality, Compliance

Vision Positioning / Outline of the MTP

#### Strategies by Business

##### Industrial Machinery Business

Respond to Changes in the Business Environment and Expand Target Fields

##### Operational Excellence

- Reinforce response capabilities and profitability
- Enhance product development capabilities

##### Innovate and Challenge

- Concentrate resources on focus sectors
- Create new added value and demand

For Progress regarding the Fifth MTP, please see P. 32.

##### Automotive Business

Reinforce Profit Base and Establish Platform for Future Growth

##### Operational Excellence

- Expand drivetrain business, achieve growth with accompanying profitability
- Expand customer portfolio for EPS

##### Innovate and Challenge

- Respond to the technology evolution (high efficiency, electrification, autonomous driving)
- Develop lower-assist EPS

For Progress regarding the Fifth MTP, please see P. 36.

#### Numerical Targets

	FY2018 (Initial plan)
Net sales	¥1 trillion
Operating income	¥100 billion
Net income (attributable to owners of the parent)	¥70 billion
Operating income margin	10.0%
ROE	10.0% or more
Net D/E ratio	0.3 times
Exchange rate	US\$ = ¥105 Euro = ¥120 1RMB = ¥16.7
	FY2016 – FY2018 Initial plan
Capital expenditures (including intangible assets)	¥180 billion
Depreciation and amortisation	¥130 billion
R&D expenses (on a statutory basis)	¥40 billion

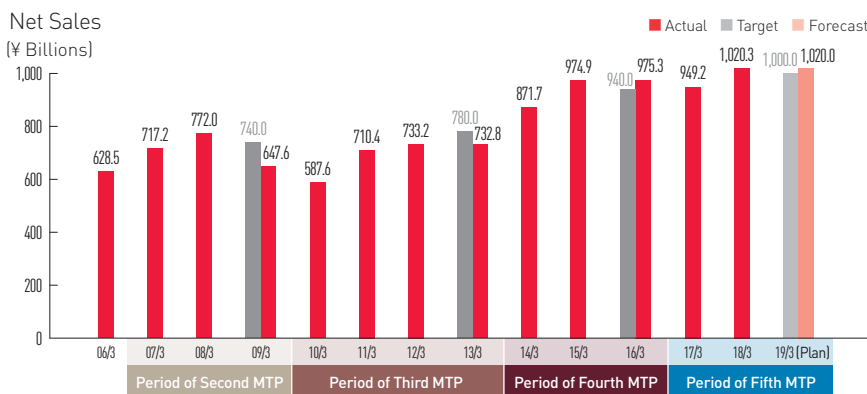
For Progress regarding the Fifth MTP, please see PP. 28 -29.

Moving into the final year of the MTP

In the year ended March 31, 2018, the second year of the Fifth MTP, the global economy remained strong in every region. Amid favorable demand, the Company focused on maximizing output and achieved its final year sales target of ¥1 trillion one year ahead of plan, while simultaneously setting new highs for operating income and net income. For the fiscal year ending March 31, 2019, we believe it important to maintain focus on changes in the operating environment due to trade friction and geopolitical risks, though the operating environment at present remains favorable. In the fiscal year ending March 31, 2019, the last year of the Fifth MTP, we remain focused on progress in meeting priority targets and will continue to work to assure operating income of ¥100 billion and an operating income margin in double digits.

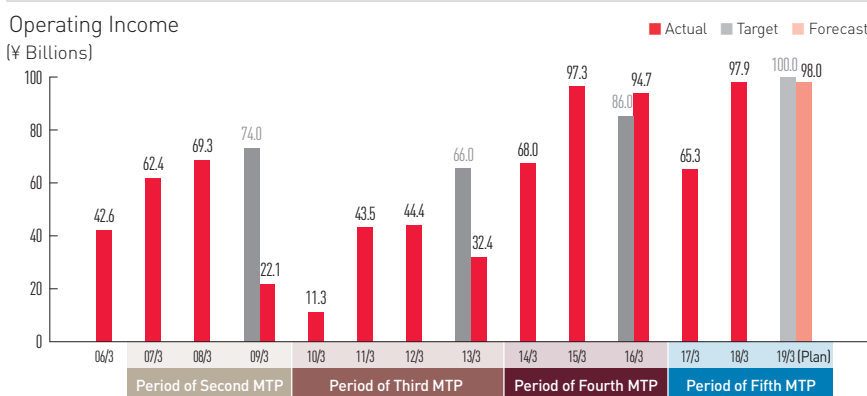
# Progress of Mid-Term Management Plan

Business Trends (JP-GAAP up to and including the Fourth MTP, IFRS from the Fifth MTP onward)



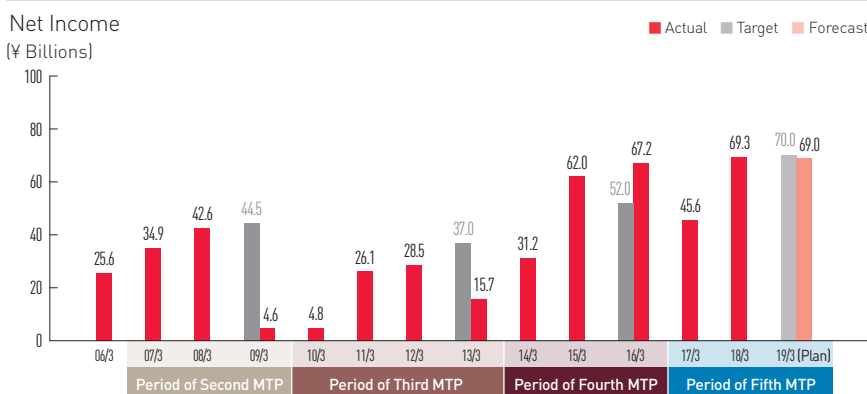
The Second and Third Mid-Term Management Plans (hereinafter MTP) did not meet their final-year numerical targets due to the impact from the collapse of Lehman Brothers in 2008 and the subsequent global financial crisis, and sharp yen appreciation and demand shifts, respectively. On the other hand, the Fourth MTP met its targets, with sales exceeding ¥900 billion, topping levels seen in the past.

NSK achieved the net sales target of ¥1 trillion in its Fifth MTP in the second year of the plan (FY18/3). The Company forecasts sales in the FY19/3 of ¥1.02 trillion.



As with sales, the company did not meet its operating income targets in the final year of the Second and Third MTPs but exceeded the final-year operating income target in the Fourth Plan.

NSK shifted its accounting standard to IFRS from the Fifth MTP. Operating income in FY17/3 decreased substantially from the previous fiscal year as one-time costs are recorded in operating income at IFRS. However, the Company booked a record ¥97.9 billion in operating income in FY18/3. NSK forecasts operating income in FY19/3 of ¥98.0 billion, which is just short of the MTP target of ¥100.0 billion, though we are making every effort to reach that target.



NSK was able to maintain positive net income during FY09/3-FY10/3, when the global financial crisis was at its height.

Past trends show net income remaining at a strong level since the Fourth MTP.

NSK booked net income of ¥69.3 billion in FY18/3, which alongside net sales and operating income set a record high for the Company. We will continue our efforts to maximize profit.

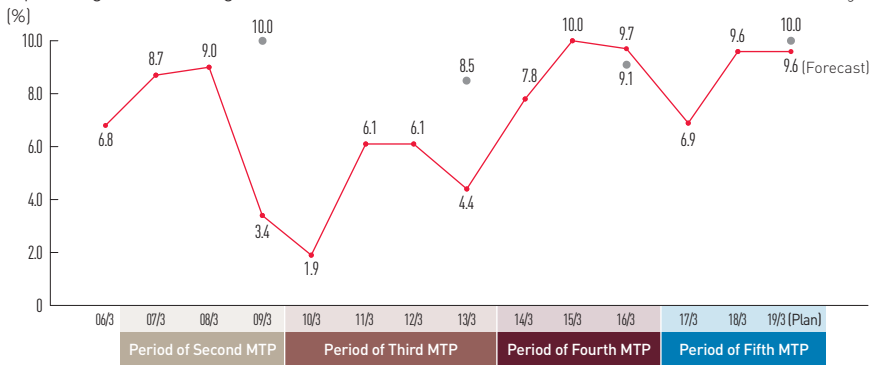
## The Fifth Mid-Term Management Plan Capital Expenditures/R&D Expenditures

	Fourth MTP (Actual)	Fifth MTP (Initial Plan)	Fifth MTP (Revised Forecast)
Capital Expenditures (including intangible assets)	¥149.0 billion	¥180.0 billion	¥212.4 billion
Depreciation and Amortisation	¥115.3 billion	¥130.0 billion	¥140.1 billion
R&D Expenditures (on statutory basis)	¥31.7 billion	¥40.0 billion	¥48.9 billion

We have lifted our total capital expenditures forecast for the Fifth MTP by ¥32.4 billion to ¥212.4 billion, factoring in not only capex to improve productivity but also enhanced capex in automotive powertrains, where demand continues to expand, and in industrial machinery, where demand is more robust than expected.

We have also lifted our forecast for R&D expenditures by ¥8.9 billion to ¥48.9 billion in line with the need to develop new technologies and products contributing to sustainable growth moving forward.

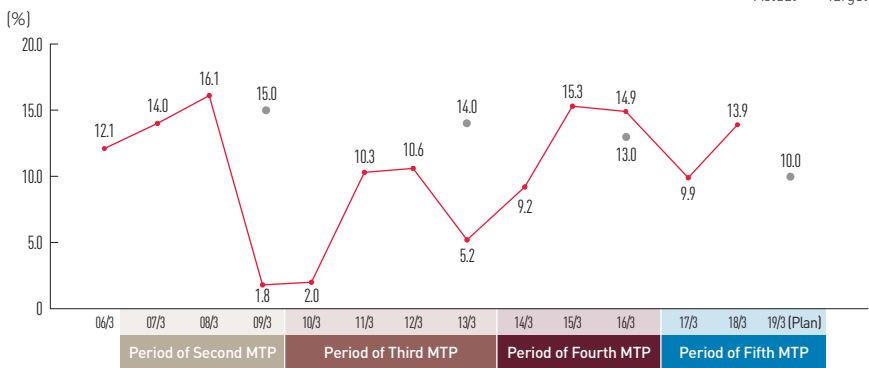
### Operating Income Margin



NSK is working on achieving its double-digit operating income margin target. Over the past 10 years or so, the Company's operating income margin has risen steadily thanks to improvement of profitability in the Automotive Business, as well as expansion of business in China and other Asian countries.

NSK estimates an operating income margin of 9.6% compared with 10%, which was the original target for FY19/3, the final year of the Fifth MTP. In line with operating income, we continue to target an operating income margin in double digits.

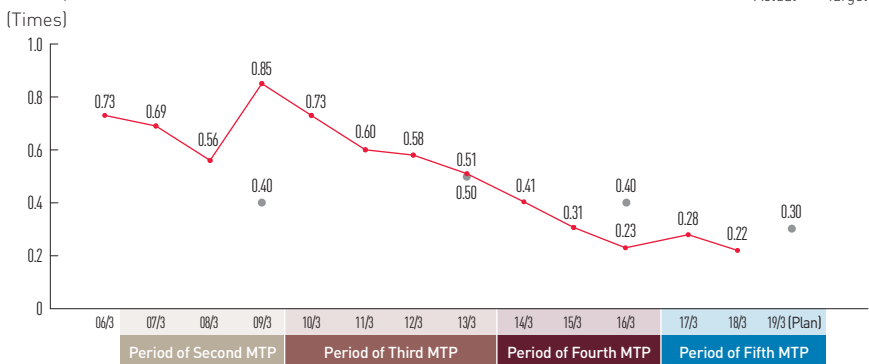
### ROE



NSK views ROE as an important management target. As shown with operating income and the operating income margin, ROE dipped to the low single digits in FY09/3-FY10/3 due to the impact from the global financial crisis and in FY13/3 due to weak demand and the impact from sharp yen appreciation.

However, ROE in other years exceeded capital costs and trended between 9% and 16%. Building on a firm financial position, we continue to balance capital allocation, including investment for growth, with shareholder returns and remain maintaining ROE at 10% or higher.

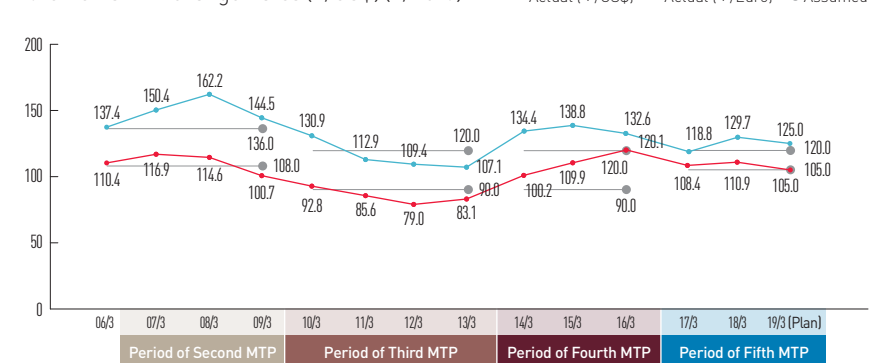
### Net D/E Ratio



We believe sustainable growth at NSK requires a stable financial base. While the Company's net D/E ratio has reached 0.7x-0.8x in the past, it has improved and declined steadily since the Third MTP, during which the collapse of Lehman Brothers and the global financial crisis occurred.

As a result of strengthening capital through profits (cash) and reducing interest-bearing debt, the latest net D/E ratio has reduced 0.22x, less than 0.3x the Fifth MTP numerical target.

### Movements in Exchange Rates (¥/US\$) (¥/Euro)



Historical trends of the major currencies U.S. dollar and euro are shown in the graph to the left.

Earnings at Japanese companies are often affected by yen appreciation and depreciation, but NSK has been working to free itself from the impact of forex fluctuations by promoting localized procurement and production in areas of demand.

Regarding exports of products from Japan, the exchange rate sensitivity of one yen fluctuation to our annual operating income is about ¥450 million for U.S. dollar and ¥200 million for euro.

## Review of Operations

# Industrial Machinery Business

### Business Overview

The Industrial Machinery Business is involved in operations related to two product categories, namely industrial machinery bearings and precision machinery and parts. The industrial machinery bearings business comprises three subsegments: general machinery, which manufactures bearings for applications in a wide range of industries such as machine tools, steel plant facilities, railcars, construction machinery, chemical plants, industrial pumps and wind turbines; electrical and IT equipment, which includes home appliances, office equipment, hard disk drives (HDDs) and general-purpose motors; and the aftermarket business, which provides maintenance and repair services. Industrial machinery bearings come in a range of sizes, from bearings with an outer diameter of approximately 2 mm that are incorporated into ultra-small motors to bearings with an outer diameter of more than 2 m that are utilized in wind turbines. The typical household contains around 100 bearings, which are used in general

appliances such as vacuum cleaners and washing machines.

Meanwhile, the precision machinery and parts business supplies linear motion parts including ball screws and NSK Linear Guides™ that play an important role in linear motion and mechatronic products such as XY Tables and MEGATORQUE MOTOR™ that employ ultra-high precision positioning and controlling technologies. In this way, the Company supports a wide range of fields, including machine tools, injection molding machines, industrial robots, semiconductor and LCD production equipment, conveying machines and medical devices.

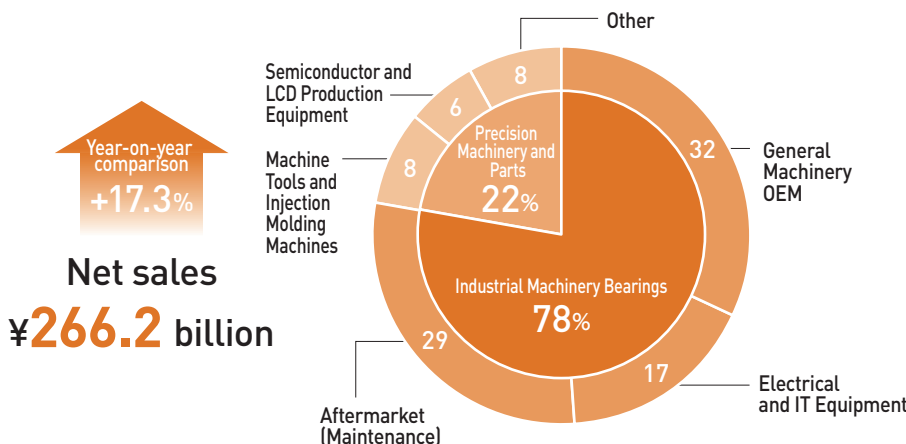
Leveraging the synergistic effect of bearings and precision machinery, NSK is also developing new proposals that will contribute to the greater performance of industrial equipment, as well as sophisticated solutions based on CMS (Condition Monitoring System) for greater machinery and equipment reliability and for preventive maintenance.

### Specific Features of Industrial Machinery Business

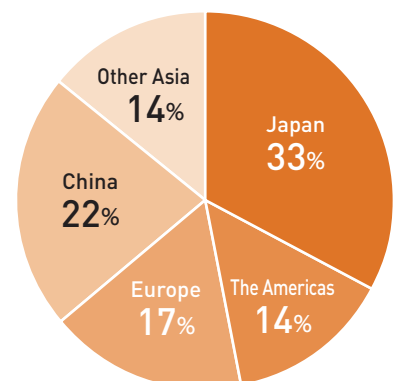
Refer to P. 15 for information on the shared features of the Industrial Machinery Business and the Automotive Business.

<b>Customers</b>	<ul style="list-style-type: none"> <li>• Machinery manufacturers in Japan and overseas (excluding automotive), distributors and sales outlets</li> <li>• Large number of customers, wide range of products</li> </ul>
<b>Features of Customers and NSK Businesses</b>	<ul style="list-style-type: none"> <li>• Products for use in general machinery are produced in small lots and many varieties, whereas products for electrical and IT equipment are mass produced (large volumes of standardized products).</li> <li>• Products for use in general machinery and the aftermarket include large products with relatively long lead times.</li> <li>• The aftermarket mainly consists of demand from end users of general machinery for maintenance and repair of facilities and equipment. It also includes sales of standardized products through distributors. In partnership with distributors, it is important to avoid lost opportunities by maintaining appropriate inventory levels to ensure immediate delivery.</li> </ul>
<b>NSK's Competitive Advantages</b>	<ul style="list-style-type: none"> <li>• Extensive product lineup as a comprehensive manufacturer</li> <li>• Technological capabilities based on our four core technologies</li> <li>• Accumulated expertise in customer needs and technology for a wide range of industries and applications</li> <li>• Manufacturing, supply and technical support capabilities delivered via a global network</li> </ul>

Sales Breakdown by Product (Year ended March 31, 2018)

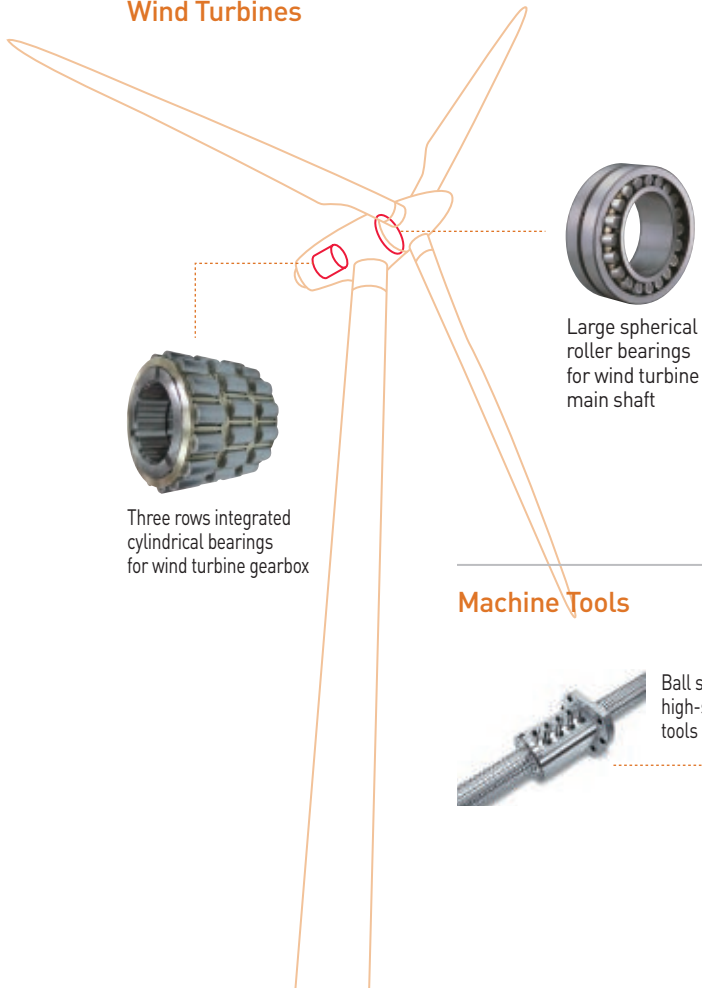


Sales Breakdown by Region (Year ended March 31, 2018)



## NSK Products: Playing a Key Role in an Array of Industries

### Wind Turbines

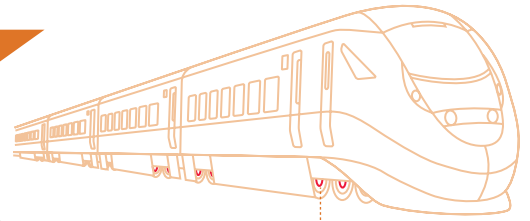


Three rows integrated cylindrical bearings for wind turbine gearbox



Large spherical roller bearings for wind turbine main shaft

### Railways

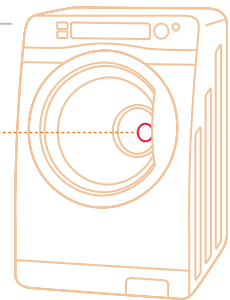


Double-row cylindrical roller bearing with oil bath lubrication for railway axle

### Home Appliances



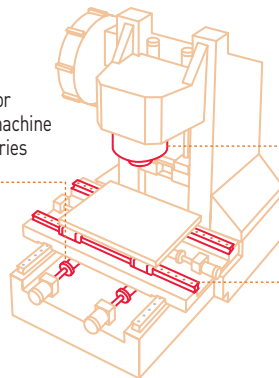
Long life ball bearings



### Machine Tools



Ball screws for high-speed machine tools HMS Series



High-speed Integrated Motor Spindle for Machining Centers



NSK Linear Guides™ Roller Guide RA Series

### Mining and Construction



NSKHPS™ Spherical roller bearings



### Steel



Long-life, optimized cylindrical roller bearings for continuous casting machines



### Industrial Motors



New ceramic coated insulating bearings for industrial motors



### Semiconductor Production Equipment



NSK Linear Guides™ NH Series, NS Series



### Pumps and Compressors



NSKHPS™ High load capacity angular contact ball bearings



### Robots



Highly functional thin-section angular contact ball bearings



## Review of Operations

# Industrial Machinery Business

### The Fifth Mid-Term Management Plan: Initiative Status and Initiatives for the Final Fiscal Year

The key initiatives being taken under the Fifth Mid-Term Management Plan in the Industrial Machinery Business are 1) rebuilding competitiveness and improving profitability through the strengthening of product appeal, 2) expanding NSK's presence and share in focus sectors for which growth is anticipated over the medium to long term and 3) creating new added value and demand that captures evolving technological needs.

#### Key Initiatives

#### Respond to Changes in the Business Environment and Expand Target Fields

##### Operational Excellence

- Reinforce response capabilities and profitability
- Enhance product development capabilities

##### Innovate and Challenge

- Concentrate resources on focus sectors
- Create new added value and demand

#### Measures Geared toward Key Initiatives

##### ① Response to Changes in the Business Environment

To rework its competitive edge and improve profitability, the Company will review quality and costs, work to shorten lead times and strengthen product appeal.

##### ② Measures for Focus Sectors

Having cited the infrastructure field, including wind turbines and railcars; capital goods, including machine tools; and the rapidly growing fields of robotics and medicine as its focus sectors, the Company will provide solutions. The Company will also strengthen the management of its sales channels in the aftermarket field.

##### ③ Creation of New Added Value and Demand

In addition to engaging in the technological development and the establishment of a business model for a condition monitoring system (CMS), NSK will focus on developing new products by harnessing the synergies created by combining bearing and linear motion technology.

### Initiative Status

During the second half of the fiscal year ended March 31, 2017, the first year of the Mid-Term Management Plan, demand recovered at a faster rate than the limited degree of recovery expected at the time the Plan was formulated. During the fiscal year ended March 31, 2018, the second year of the Plan, demand remained strong in many sectors, including machine tools, semiconductors, home appliances, industrial motors, servo motors and robot-related sectors. Under these business conditions, production was extremely active for major products, including precision bearings, ball screws and other various types of products. To firmly link the outcome of this strong demand to earnings, NSK is advancing initiatives designed to maximize output.

#### Operational Excellence

NSK is undertaking initiatives to enhance the competitiveness of the sectors and products that comprise the core of its business. To address the strong demand for these, the Company has been reinforcing human resources, advancing production at optimal locations around the world and expanding facility capacity. In addition, by focusing on high-value-added products and high-margin sectors, NSK is working to improve its portfolio and enhance profitability.

Planned as a small-lot plant that is highly resistant to fluctuations in demand, in September 2017 NSK completed construction of a new building at the Fujisawa (Kiriara) plant in Japan and initiated operations of a smart factory model line. Along with introducing the latest robot-based production systems, advancing automation and enhancing production capacity, NSK has been working to establish a system that can flexibly address fluctuations in demand.

#### Innovate and Challenge

NSK has been working to grow businesses that deliver product defect diagnosis services via CMS (Condition Monitoring System), thereby contributing to stable operations, enhanced productivity and the transition to smart factories.

Moreover, the Company is advancing initiatives to develop new products that harness the synergy created by bearings and linear motion technology, including seismic mitigation actuator units for buildings and other structures and for high-speed railways.

The evolution of IoT, AI and other technologies holds the potential to change the structure, mechanisms and way in which industrial machinery are used. Along with predicting the direction in which the world will head next, NSK also is searching out business opportunities in new fields.

### Initiatives for the Final Year and the Next Mid-Term Management Plan

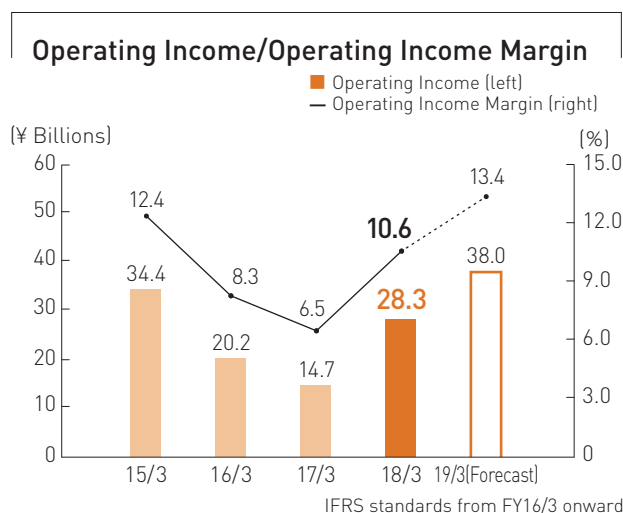
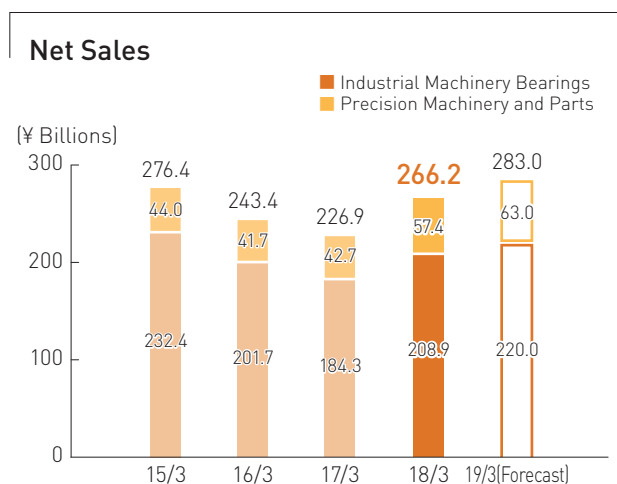
The Industrial Machinery Business's performance tends to be affected by movements in demand that result from changes in business conditions, in light of which NSK is working to strengthen its ability to respond to changes in market conditions and thereby evolve its business structure into one that is resilient to fluctuations in demand. Based on plans for facility capacity that assume a certain degree of fluctuation in demand, the Company is working to create a business structure that can absorb this fluctuation to the greatest degree possible.

Moreover, IoT, AI, robotics and other technological innovations are starting to create significant demand for semiconductors, electronic devices and machinery parts, while at the same time leading to the emergence of changes in the demand structure and economic cycles unlike those of the past. To expand its presence on the market over the medium to long term, NSK will focus on these growth sectors and expand businesses that add to earnings.



## A Look Back at the Business Conditions for the Year ended March 31, 2018, and the Forecast for the Year ending March 31, 2019

Targeting the highest level of performance in history during the year ending March 31, 2019, following on the recovery in demand during the year ended March 31, 2018



Coinciding with solid demand, the year ended March 31, 2018, saw higher volumes and widespread growth in both net sales and operating income. Looking at the results by region, Japan saw higher profits, primarily in the sales for machine tools and electrical sectors, whereas the Americas saw an increase in sales for the semiconductor production equipment and general machinery sectors. Meanwhile, Europe also saw higher earnings, primarily from sales for the machine tools and aftermarket sectors. China saw solid growth in sales for the electrical and aftermarket sectors, whereas other Asian countries continued to see a recovery in demand centered on semiconductor production equipment sector, which led to higher earnings.

As a result, net sales totaled ¥266.2 billion (a year-on-year increase of 17.3%), operating income totaled ¥28.3 billion (up 93.3%) and the operating income margin reached 10.6%.

The year ending March 31, 2019, is also expected to see a continuation of strong demand. As such, NSK is working to streamline and enhance the supply system, expand output and maximize sales. Performance for the full period is anticipated to achieve net sales of ¥283.0 billion (a year-on-year increase of 6.3%), operating income of ¥38.0 billion (a year-on-year increase of 34.1%) and an operating income margin of 13.4%.

## Business Risks and Opportunities, Future Policies

### 1 Economic Fluctuation Risks

The Industrial Machinery Business maintains a presence in a wide array of sectors, but business performance tends to be affected by cyclical fluctuations in the overall economic environment. In addition, the precision machinery and parts sector has high sales weightings in semiconductor production equipment and machine tools, so is affected by fluctuations in demand from these sectors. While these are unavoidable risks for NSK, the Company places emphasis on formulating accurate estimates of demand, building a production structure and systems that can properly address changes in demand, and bolstering its cost competitiveness. Moreover, NSK is taking steps to alleviate the impact of demand declines in fields it is highly dependent on by increasing sales weightings in the general machinery and aftermarket fields, demand for both of which is broad. In the aftermarket sector, for which high profitability is expected, NSK aims to increase its presence, implement sales channel policies with enhanced quality and advance initiatives to strengthen its MRO (maintenance) business. The Company is also focusing on entering the growing CMS (Condition Monitoring System) market.

### 2 Globalization and Tough Competitive Environment

Rapid changes in the market environment, such as an increasingly tough competitive environment and the global expansion of our customers, can be said to present risks. In particular, there is the possibility that the intensifying rivalry in emerging markets with local manufacturers and those from developed countries will affect the NSK Group's business performance. Despite this situation, NSK will aim to maintain and expand its global market share and ensure high profitability by setting itself apart from the competition through the delivery of value based on its ability to propose products, technologies and solutions that are enabled specifically by its years of accumulated market results in the high-quality bearing sector.

## Review of Operations

# Automotive Business

### Business Overview

Comprised of the two categories of automotive bearings and automotive components, the Automotive Business delivers various products that support the three critical elements of automobiles, namely running, turning and stopping.

Automobiles utilize many different types of NSK bearings, including hub unit bearings and needle roller bearings. As automobiles have evolved, automotive bearings have come to demand a greater level of performance, including less friction loss, smaller size, lighter weight, higher speed and less noise. Through more sophisticated automotive bearings, including bearing grease and seals that leverage its core technologies of tribology, materials and numerical simulation, NSK continues to develop products that contribute to the evolution of automobiles.

Meanwhile, in the automotive component field, NSK delivers a

wide range of core functional components, including electric power steering (EPS), automatic transmission (AT) products, as well as ball screws for electric brake boosters. In addition to the primary column-type EPS, the Company is promoting the development of a rack-type EPS to expand its product lineup. AT products are seeing greater demand against the backdrop of improved automobile fuel efficiency and comfort, whereas ball screws are seeing greater demand against the backdrop of improved safety.

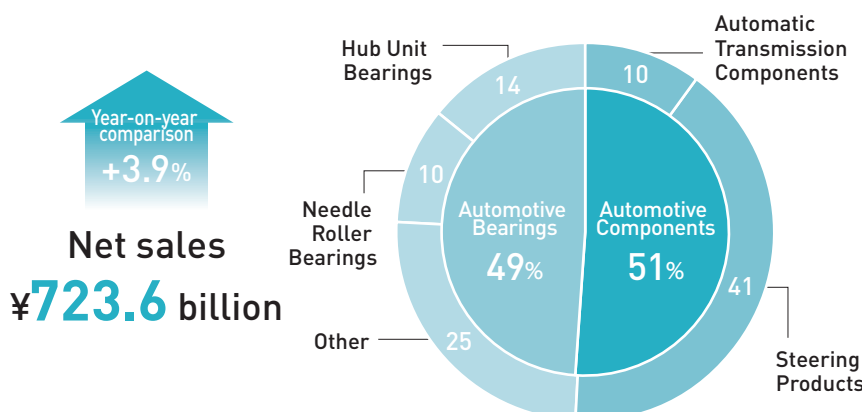
Structural changes in automobiles from a technical standpoint, such as power source diversification and the evolution of vehicle dynamics controls geared toward autonomous driving, are currently accelerating. By building on the elemental technologies the Company has accumulated thus far and by developing new technologies, NSK will contribute to technical innovation for automobiles.

### Specific Features of Automotive Business

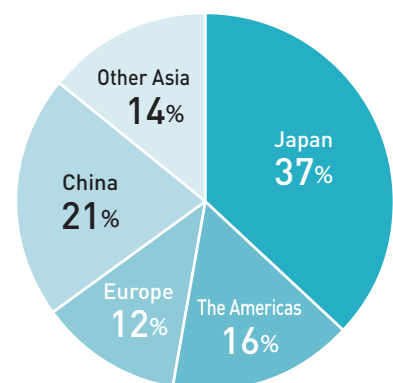
Refer to page P. 15 for information on the shared features of the Industrial Machinery Business and the Automotive Business.

<b>Customers</b>	<ul style="list-style-type: none"> <li>● Automakers in Japan and overseas</li> <li>● Auto component manufacturers in Japan and overseas</li> </ul>
<b>Features of Customers and NSK Businesses</b>	<ul style="list-style-type: none"> <li>● In principle, opportunities to win new orders arise when automakers introduce new vehicle models or undertake a full model change. According to the schedule of each customer's new vehicle project, NSK cooperates on development after being nominated as a development supplier. Development suppliers are generally also responsible for supplying mass-produced products, and prepare mass production in accordance with the launch schedule for the new vehicle.</li> <li>● The delivery volume required for a single project has been on the rise as customers employ common platforms and planned production volumes grow.</li> <li>● NSK's net sales are affected by the sales volumes of the car models on the market. In principle, deliveries are based on the just-in-time system, so inventories are light. However, customers often require that manufacturing take place near the regions of demand, meaning that the local production ratio is relatively high.</li> </ul>
<b>NSK's Competitive Advantages</b>	<ul style="list-style-type: none"> <li>● Diverse business relationships/customer base among automakers and first-tier auto parts makers</li> <li>● Global supply capabilities</li> <li>● Developmental capabilities/technological response capabilities for advances in automobile functions</li> <li>● Global management systems to focus on meeting the needs of non-Japanese customers</li> </ul>

Sales Breakdown by Product (Year ended March 31, 2018)



Sales Breakdown by Region (Year ended March 31, 2018)





## NSK Products: Supporting Automobile Running, Turning and Stopping

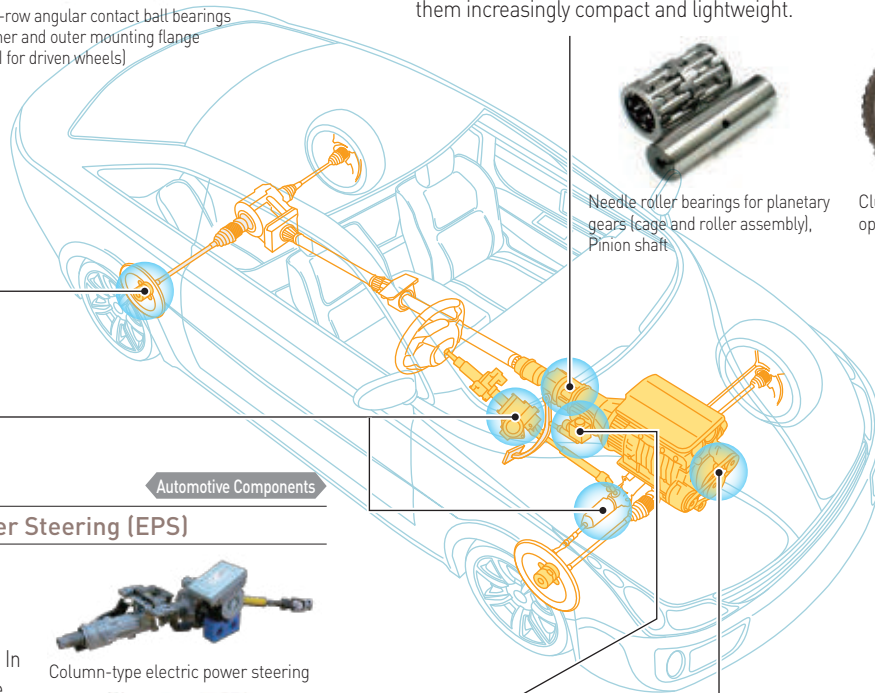
Automotive Bearings

### Running Hub Unit Bearings

Hub unit bearings are fundamental components that support the chassis while facilitating the rotation of the wheels. They are exposed to rainwater, mud, snow and other elements, and under such extreme environments realize excellent durability and smooth rotation.



Double-row angular contact ball bearings with inner and outer mounting flange (HUB III for driven wheels)



Automotive Bearings Automotive Components

### Running Transmission Products

In efficiently conveying engine power to the tires, critical to the transmissions that need to operate smoothly and with flexibility are the products of NSK. We engage in four core technologies, namely tribology, materials, numerical simulation and mechatronics, and offer products that enhance the efficiency of transmissions, making them increasingly compact and lightweight.



Needle roller bearings for planetary gears (cage and roller assembly), Pinion shaft



Clutch assembly optimized high efficiency

Automotive Components

### Turning Electric Power Steering (EPS)

With the recent trend in advanced driving assistance and autonomous driving, electric power steering systems are increasingly important. In addition to the primary column-type EPS, the Company is making progress on the development of a rack-type EPS that puts to use NSK's technological excellence. This is contributing to a broad product lineup and driving that is safe and comfortable.



Column-type electric power steering



Rack-type electric power steering

Automotive Bearings

### Running Bearings for Power Source/Electric Components

Against a backdrop of the demand for greater environmental performance as a social issue, there is an ongoing shift toward the electrification of automotive components and a growing demand for bearings to perform in new positions. NSK is seeking growth by leveraging its strengths in the electrical components field where an ever-more sophisticated level of technology is required.



Bearings for alternators



Bearings for in-vehicle motors

Automotive Components

### Stopping Ball Screws for Electric Brakes

Along with the trend of making it mandatory to equip vehicles with automatic emergency braking, there is an increasing shift toward electrification at the point of brake booster function. The ball screw is a promising type among several types of electric brake boosters. NSK, putting to use its global No. 1 share of ball screw technology, will continue to contribute to raising the level of safety in the brake field.



Ball screws for electric brakes

Automotive Bearings Automotive Components

### Running Products for Hybrid Systems

Against the backdrop of stricter environmental regulations in countries throughout the world, the demand for improved automobile fuel efficiency and power saving performance has led to the expanded introduction of new energy vehicles (electric vehicles, hybrid vehicles, plug-in hybrid vehicles).

NSK provides advanced bearings and a newly developed pawl-type one-way clutch as the power transmission system for hybrid vehicles.



Next generation of Creep-Free™ bearings for hybrid and electric vehicles



Pawl-type one-way clutch

# Review of Operations

## Automotive Business

### The Fifth Mid-Term Management Plan: Initiative Status and Initiatives for the Final Fiscal Year

To address the rapid advancements of innovation in automotive technology, at the start of the Fifth Mid-Term Management Plan NSK reorganized its Automotive Business structure from an organization based on its products into the following two-division HQ system: the Automotive Powertrain Division Headquarters, which oversees business related to the electrification of components and improving power transmission efficiency, and the Steering & Actuator Division Headquarters, which oversees business in fields related to vehicle dynamics control. The Powertrain Business is working to expand business in fields related to automatic transmission, for which demand is increasing, and is working to capture new demand that is arising from the spread of component electrification. Meanwhile, the Steering & Actuator Business is working to expand the EPS customer base, enhance the product lineup and develop new core products for the future.

#### Key Initiatives

##### Reinforce Profit Base and Establish Platform for Future Growth

###### Operational Excellence

- Expand drivetrain business, achieve growth with accompanying profitability
- Expand customer portfolio for EPS

###### Innovate and Challenge

- Respond to technology evolution (high efficiency, electrification, autonomous driving)
- Develop lower-assist EPS

#### Measures Geared toward Key Initiatives

##### ① Powertrain Business

The Company will bring about the further evolution of its elemental technologies for bearings and automatic transmission (AT) products. With regard to the latter, the Company is anticipating sales expansion boosted by multistep AT and an increase in business from customers that handle unit products. Against the backdrop of the spread of electrical components for automobiles, the Company is also aiming for growth by developing new products in the field, such as electrical chargers and in-vehicle motors.

##### ② Steering and Actuator Business

The Company has positioned the period of the Fifth Mid-Term Management Plan as the time for sowing the seeds for the next generation of growth. Aiming to expand the customer base of its mainstay column-type EPS, the Company will link this to growth over the duration of the next mid-term management plan by further developing its rack-type EPS. The Company will also utilize the mechatronics technologies accumulated in its EPS business to advance the development of new core products, such as actuators for electric brakes.

#### Initiative Status

The AT Business has been expanding against the backdrop of a higher ratio of automatic transmission equipped vehicles and the shift to multistep transmissions. In response to the continuation of strong demand for the future, NSK constructed a needle roller bearing plant in South Korea and an AT component plant in Mexico, which went into operation in 2017. Specifically, these plants were built to enhance production capacity and ensure stable supply. In heading toward the next stage of growth, the EPS Business has been working to expand the customer base for column-type EPS while at the same time advancing the development of rack-type EPS. As one of its new core products, NSK kicked off mass-production for new projects related to electric brake booster ball screws in 2018.

##### Operational Excellence

To further enhance efficiency, the performance required by AT-related products has become more sophisticated. Moreover, the progress of component electrification has led to the emergence of the need for high-performance bearings designed for new in-vehicle motor applications. By developing new products that harness the unique technological capabilities of NSK, the Company is working to capture expanding demand and link this to growth that adds to earnings. Moreover, in terms of EPS, NSK has been improving quality design and efficiency by standardizing the development process and enhancing productivity through the automation of plants based on the use of robots. NSK also is working to enhance cost competitiveness and product appeal, capture new orders, develop new customers and establish a foundation for renewed growth.

##### Innovate and Challenge

One of NSK's moves on the organizational front has been to establish the Automotive Technology Development Center, which has taken charge of advanced developments and product design, to more quickly and precisely address the rapid developments in automotive technology. Similarly, the Company is moving beyond the conventional frameworks that exist for each product and application to develop products that envision the entire vehicle.

While increasing the number of orders for electric brake booster ball screws, mentioned earlier, NSK also has received orders for hub unit bearings that leverage low-friction technologies for a new electric vehicle mass production model. In addition, the Company is progressing with the development of new technologies and products that anticipate the shift to electric vehicles (EVs) and the development of autonomous driving. In this light, NSK exhibited the Traction Reducer, Wheel Hub Motor Fit and Parallel Link type Active Suspension among other items, at motor shows as a way of making proposals for a new era of automobiles.

#### Initiatives for the Final Year and the Next Mid-Term Management Plan

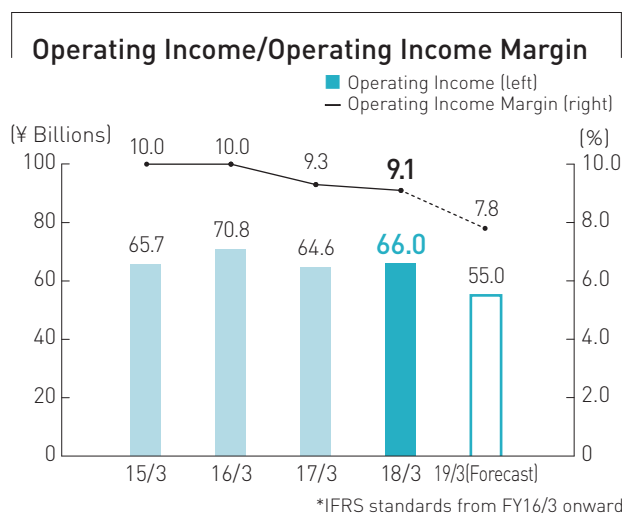
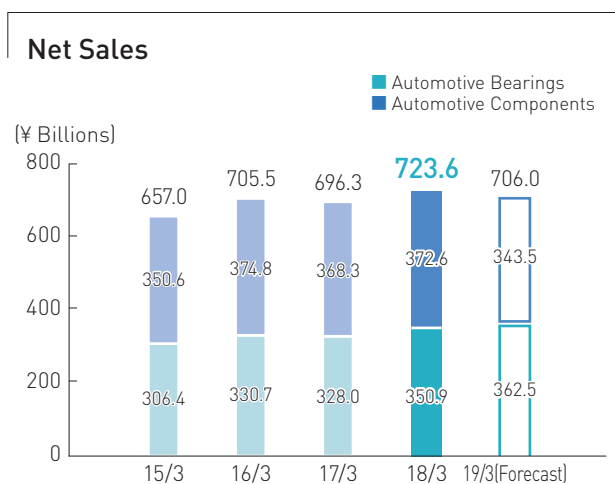
The global automotive market is expected to grow approximately 3% year on year. In this light, NSK will promote continued growth in the Automotive Business, with a focus on the powertrain business and enhance profitability through greater productivity and lower fixed costs. As a means of addressing growing demand, the new facility under construction (scheduled for completion in the fall of 2018) at the Haruna plant in Gunma Prefecture, Japan will serve as a base for the needle roller bearing manufacturing division, as well as a base for the development divisions for press processing technology and needle roller bearing manufacturing technology. In bringing together several design development and manufacturing engineering departments, NSK is driving greater efficiency and shortening development cycles, developing new products that capture a new set of needs on the automotive market and advancing manufacturing innovation.

NSK is also accelerating development of applications for rack-type EPS to capture orders at an early stage. The Company is working to further expand orders for electric brake booster ball screws in response to the outlook for greater demand stemming from global trends, such as the movement to make automobile emergency braking systems mandatory and to equip these as standard items on all vehicles.

As ongoing initiatives for technological development in anticipation of the next Mid-Term Management Plan and beyond, NSK is aiming to expand business by contributing to the shift to electric vehicles, autonomous driving and other new automotive technologies.

## A Look Back at the Business Conditions for the Year Ended March 31, 2018, and the Forecast for the Year Ending March 31, 2019

Pursuing net sales that exceed the mid-term targets during the year ending March 31, 2019, following on the record high net sales achieved during the year ended March 31, 2018



Although the global automotive market remained at the same level as the previous year during the year ended March 31, 2018, as a result of the positive trend in the powertrain business in Japan, the Automotive Business recorded its highest levels of net sales to date. Despite higher material prices and such leading to cost increases, efforts to enhance productivity and reduce expenses enabled NSK to maintain an operating income margin in 9-percent-plus range.

Looking at regions outside of Japan, the Americas saw lower earnings as a result of a slowdown in the U.S. automotive market. Meanwhile, Europe saw higher earnings in response to solid automobile sales. In China, the increase in sales was slight, partially due to a change in product mix. Meanwhile sales in other Asian countries rose, primarily in India.

As a result, net sales in the Automotive Business totaled ¥723.6 billion (a year-on-year increase of 3.9%), operating income totaled ¥66.0 billion (a year-on-year increase of 2.1%) and the operating income margin reached 9.1%.

During the year ending March 31, 2019, NSK expects to see net sales of ¥706.0 billion (a year-on-year decrease of 2.4%), operating income of ¥55.0 billion (a year-on-year decrease of 16.6%) and an operating income margin of 7.8%. Despite an outlook for sales decline in EPS as a result of model changes and increased R&D and other expenses, NSK will continue to work to ensure steady earnings through the powertrain business and undertake productivity enhancing initiatives.

## Business Risks and Opportunities, Future Policies

### 1 Structural Changes in the Automotive Industry

The industrial structure for automobiles has entered an era of upheaval. In terms of power sources, the industry is expected to see diversification away from only gasoline and diesel vehicles of the past, to hybrid, plug-in hybrid, electric and fuel cell vehicles. The technologies related to autonomous driving also continue to evolve, with an outlook for progress in establishing the environment for commercialization. Moreover, links between automobiles and communication devices and networks will create new businesses, while more options will emerge for the way in which automobiles are used. For example, the concept of sharing in place of ownership already has begun to proliferate.

Although these changes in the business structure encompassing automobiles could pose risks for NSK, at the same time they can also be interpreted as an opportunity for business expansion. In response to the comfort, safety and environmental performance demanded in association with the increased sophistication of automotive technologies, NSK is adding to its expertise and wide-ranging technologies accumulated over 100 years of business operations through continued research and development aimed at achieving further growth of the Automotive Business.

### 2 Product Liabilities Arising from Recalls and Other Factors

NSK Group products are utilized in many industrial fields and end products. Particularly for automobiles that require high functionality, in the event of defects that lead to product liability, there is the risk that this could lead to the incurrence of significant costs or a decline in the Company's social responsibility. In recognition of the importance of quality, the NSK Group has established systems designed to ensure high quality and utilizes insurance that allows a certain level of risk coverage. Continuing to redouble its efforts regarding quality and safety in the years to come, the Company's policy is to give these areas sufficient consideration.

# Financial Strategy / Policy on Shareholder Returns

## Financial Position

NSK's financial position for the fiscal year ended March 31, 2018, as well as an evaluation and comments on the position compared with the previous year, are as follows.

Due to increased profit, ROE was 13.9%, reaching a double-digit figure for the first time in two fiscal years; the ratio of net worth to total capital was 49.2%; and the net D/E ratio was 0.22 times, results that enhanced an already sound financial position.

	2017/3	2018/3	Year-on-year comparison	Evaluation and comments
Total assets	1,044.0 billion	1,092.3 billion	+48.4 billion	Expanding business scale
Shareholders' equity (Equity attributable to owners of the parent)	461.4 billion	537.2 billion	+75.8 billion	Expansion due to retention of part of net income as internal reserves and other factors
Cash and cash equivalents	139.6 billion	131.3 billion	-8.3 billion	Decrease due to increases in working capital and capital expenditures, decrease in interest-bearing debt
Interest-bearing debt	267.4 billion	250.9 billion	-16.5 billion	Continued reduction of interest-bearing debt
Ratio of net worth to total capital	44.2%	49.2%	+5.0 percentage points	Due to increase in shareholders' equity
Net D/E ratio	0.28 times	0.22 times	-0.06	Less than the MTP target of 0.3 times
ROE	9.9%	13.9%	+4.0 percentage points	Increase in accordance with increased profit exceeded the MTP target (10% or more)

## A Stable Financial Base

NSK plans to conduct growth investment (¥212.4 billion [revised FCST] over the three-year period of the Fifth Mid-Term Management Plan) to achieve medium- to long-term increases in corporate value and regards the stabilization of its financial base as paramount in the payment of ongoing dividends to shareholders. NSK recognizes that maintaining an A-level credit rating and a net

D/E ratio of around 0.3 times are the minimum base requirements needed to ensure NSK's financial stability.

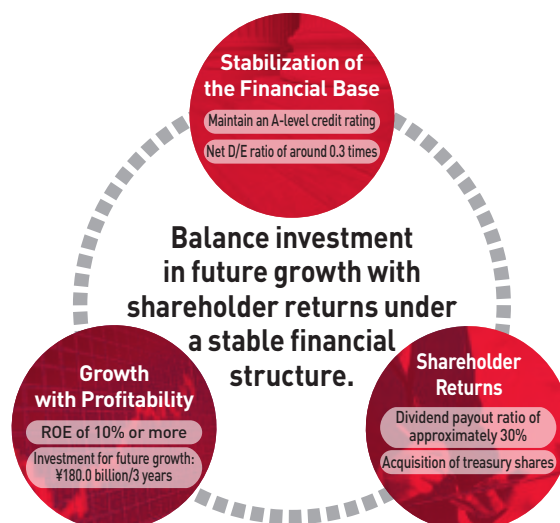
NSK has been able to steadily improve its ability to generate cash flow over the past several years, resulting in a sharp improvement in NSK's financial structure. (Please see the 11-year summary on P. 22.) NSK has received high evaluations from rating agencies, including an upgrade to an A rating from Rating and Investment Information, Inc. (R&I), in August 2014 after being rated at A-, and maintaining an A+ rating from Japan Credit Rating Agency, Ltd. (JCR), since September 2006.

Rating and Investment Information, Inc. (R&I)	Japan Credit Rating Agency, Ltd. (JCR)
A	A+

## Growth with Profitability

Generating cash and continued growth by constantly and actively investing profits and increasing ROE in excess of the investment return (the cost of capital) expected by shareholders can be considered the "mission" of a publicly listed company. We believe achieving a mid-term ROE that exceeds the Company's cost of capital—estimated from past share trends, business characteristics and the current state of the stock market—is a yardstick for capital efficiency, and our Fifth Mid-Term Management Plan targets ROE of at least 10%.

For the fiscal year ended March 2018, the effects of increased volume on the back of strong demand, measures designed to improve earnings, including improvements in productivity, and reductions in other operating expenses resulted in net income increasing 52% compared with the previous fiscal year to ¥69.3 billion. In accordance with the increase in net income, ROE improved to 13.9%, reaching a double-digit figure for the first time in two fiscal years and exceeding the Fifth Mid-Term Management Plan target of 10%. We believe maintaining this target over the medium term could contribute to further improvement in shareholder value.



## Shareholder Returns

Alongside growth investment, the Fifth Mid-Term Management Plan focuses on enhancing returns provided to shareholders, and the current plan is the first to set a numerical dividend payout ratio target—of approximately 30%.

For the fiscal year ended March 2018, NSK was able to bring about an increase in net income. As a result of having taken into consideration its current financial position and such factors as the continuity of dividends, NSK decided to pay a cash dividend of ¥40 per share, an increase of ¥2 on the dividend paid for the previous fiscal year, and the payout ratio came to 30.5%.

In addition to returning profits through dividends, NSK recognizes share buybacks as one of the choices available in its financial and capital policy. In the duration of the Fifth Mid-Term Management Plan, NSK implemented a share buyback amounting to ¥15 billion in May 2016 and newly announced a share buyback of ¥20 billion (upper limit) in August 2018.

Considering its financial position and stock market trends, NSK would like to proceed with an appropriate and flexible financial strategy in the years to come.

## Total Shareholders' Return (TSR)

In addition to ROE exceeding the cost of capital, NSK believes it is important that TSR, including capital gains and dividends, exceeds the cost of capital.

Having reached 17.2% over the past five years and 8.1% over the past 10 years, NSK recognizes that its TSR is commensurate with the cost of capital.

Over the short one- and three-year periods, NSK's stock price performance is relatively lower due to stock price adjustments made from February 2018 onward. When looking at the longer five- and 10-year periods, however, NSK's performance exceeds that of the TOPIX and of the TOPIX machinery sector.

## NSK's Share Price Trends (10-Year Period including Dividends)

### TSR

Investment period	1-Year		3-Year		5-Year		10-Year	
	Cumulative/annual rate	Cumulative	Annual rate	Cumulative	Annual rate	Cumulative	Annual rate	
NSK	-7.9%	-12.5%	-4.4%	121.3%	17.2%	117.0%	8.1%	
TOPIX	15.9%	18.5%	5.8%	83.6%	12.9%	73.9%	5.7%	
TOPIX Machinery	18.3%	25.4%	7.8%	95.3%	14.3%	115.2%	8.0%	

\*TSR (Total Shareholders' Return): Total return on investment including capital gains and dividends

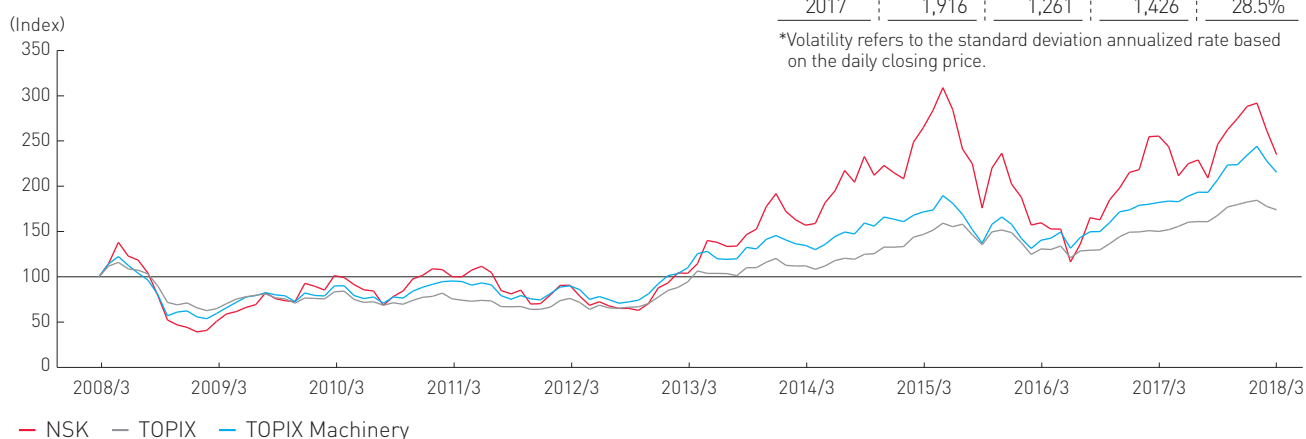
\*Annual rate based on the geometric mean

\*Created by the Company, based on Bloomberg data

### Share Price Fiscal Year Trends (High · Low · Fiscal Year-End · Volatility)

Fiscal Year	High (Yen)	Low (Yen)	Fiscal Year-end (Yen)	Volatility
2008	1,077	282	377	74.3%
2009	750	366	738	47.6%
2010	836	495	717	37.4%
2011	815	458	637	36.7%
2012	758	414	715	36.5%
2013	1,360	646	1,062	45.7%
2014	1,815	1,023	1,758	32.6%
2015	2,120	910	1,030	39.0%
2016	1,739	691	1,592	44.3%
2017	1,916	1,261	1,426	28.5%

\*Volatility refers to the standard deviation annualized rate based on the daily closing price.



\*Share price index trends including dividends (March 31, 2008 = 100)

## NSK Group Tax Policy

As the globalization of business advances, the NSK Group believes that the proper payment of taxes in the countries and regions where it operates is one of the most fundamental and important social responsibilities that it should undertake. With this understanding, the Group has established an NSK Group Tax Policy and is striving to ensure appropriate tax treatment. For more details, please visit the website given below.

<http://www.nsk.com/investors/management/taxpolicy.html>

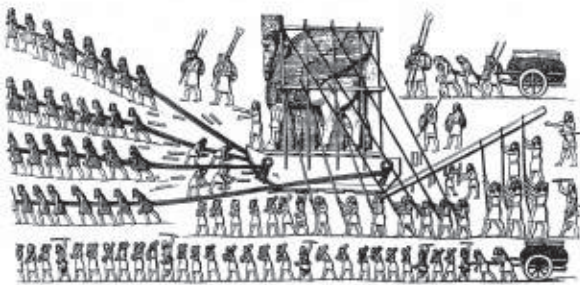
# Core Technologies and Taking Up the Challenge of Creating New Value

## NSK's Four Core Technologies

NSK has relentlessly pursued innovative technologies and focused on improving quality in order to contribute to a safer, smoother society and to protect the global environment, in line with its corporate philosophy. NSK leads the world in the product fields of bearings, automotive components and precision machinery and parts. The foundation that underpins those technologies consists of tribology, materials, numerical simulation and mechatronics, which are NSK's four core technologies. The technologies and products that have been created based on our four core technologies are contributing both to the development of industry across the world and to people's abundant lifestyles. NSK will continue to engage in advanced technological development and provide highly functional, high-quality products that meet market needs in the years to come.

### Tribology

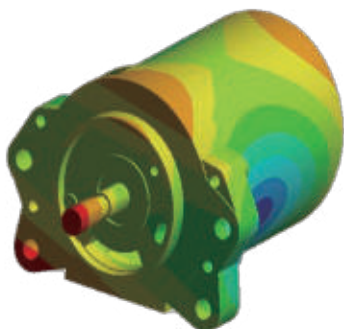
Tribology is a technology that controls the friction and wear of sliding surfaces of materials that are in contact while in relative motion. This is the key technology for bearings that support the rotational or linear motion of machinery. The principle of bearings traces its origin to ancient Assyria, where the method used for transporting gigantic stones with relative ease involved placing logs underneath them. It can thus be said that the technology is based on human wisdom and ingenuity that date back to before the Christian era. Referred to as the jewels of tribology technologies, bearings are used in the rotating parts of various machines. Bearings contribute to reducing friction and friction-induced wear and preventing machine galling caused by frictional heat while contributing to energy-saving, long-serving and more reliable machines.



From a mural unearthed at Nineveh, the capital of ancient Assyria

### Numerical Simulation

Numerical simulation is an essential technology used in the optimal design of bearings and product development. For example, there could be a thousand ways for a parts combination to meet a certain condition. Finding the optimum combination would require the making of 1,000 types of trial products and one million experiments, an enormous amount of time and funds. Computer simulations, backed by NSK's 100 years of data from R&D in bearings, help solve difficult problems like these. Taking advantage of NSK's advanced numerical simulation also enables performance evaluations under which the testing of actual machinery is conducted under extremely difficult conditions.



### Materials

Materials play a key role in enhancing the functionality and durability of bearings subjected to harsh operating environments.

If there are impurities contained in the bearing materials, these will cause the bearing to break. For that reason, a special steel known as bearing steel is used in bearings that is practically free of impurities.

Aiming to develop products with even greater durability and reliability, NSK uses a wide variety of performance assessments and analytical technologies to develop new materials with optimal compositions and new heat treatment processes with optimal conditions. Moreover, the Company engages in technological developments in which new materials, such as ceramics and high polymeric materials, are utilized.



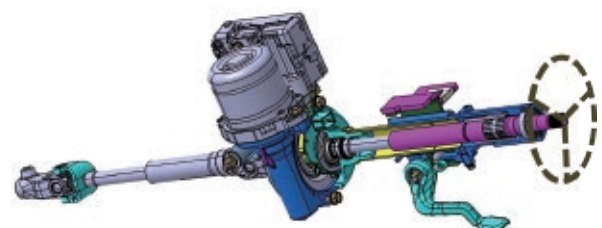
Ceramic ball bearings

### Mechatronics

Mechatronics refers to technologies that combine mechanics and electronics. Placing part of the control of a machine onto electronic circuits and combining them with sensors and actuators achieves complex movements and enables the realization of difficult functions merely by combining machine elements.

Based on technologies in the mechanical field fostered through product development and at production sites, NSK has been honing its proprietary mechatronics technologies in combination with electronics and creating new products that exemplify Motion & Control™. A representative example is electric power steering (EPS).

Modularization-compatible, high-performance EPS





## Interview with NSK's Head of Technology

# Offering new value with final users in mind through the strengths of our core technologies.

Executive Vice President  
Head of Technology Development  
Division Headquarters

**Nobuo Goto**



## Q1

### What are NSK's technical strengths?

"Tribology" is the foundation among NSK's "Four Core Technologies." Tribology is the study of interactions of component surfaces in motion. In bearings, these include the rolling elements and rings that support machine rotation. Tribology technologies improve performance by controlling friction and abrasion. The second core technology is "materials." These include optimization of special steels for high-performance rolling elements and rings, and heat and surface treatments. Material technologies also allow grease and resin to achieve their full potential. The third core technology "numerical simulation" uses computer simulations to reproduce tribology phenomenon. Finally, the fourth core technology "mechatronics" utilizes computer control to leverage the strengths of individual machines for high performance.

Over NSK's 100-plus year history, we've done painstaking scientific research into the first three core technologies and their relation to contact points. These points, present in even large machines, are no bigger than the size of the hole in a Japanese five-yen coin (about 5 mm). To provide the best for our customers, we've delved into tribology and materials, used computers to simulate occurring events, and in turn

narrowed down possible solutions. Applying these high-level approaches to rotating elements and machine components is, in my view, NSK's greatest technological strength. Based on this strength, NSK has applied technologies that increase performance including extending lifespans and lowering torque to products in various fields and has built up a successful market record. Another example is electric power steering (EPS), which assists drivers via mechatronic-based computers and motors. NSK has used "mechatronics" to expand its product lineups beyond pure mechanical components, which I think is another strength.

Recently, production technology has become another important technology and strength of NSK. Even though NSK has four core technologies, production technology must ultimately also be included. As such, we have started to use the phrase "4+1." No business will prosper unless it provides high-quality products with the right costs and prices. This is where production technology comes into play. Through 4+1, NSK's technological skills have received high marks worldwide, and we continue to build on our achievements.

## Q2

### What are NSK's technological issues?

NSK handles components such as bearings and ball screws that control the basic elements and functions of machines. However, we're not satisfied with just providing components that meet customer-required specifications. Rather, we want to provide value through specialized products based on how our components are ultimately used and what end users need.

In automotive components for instance, our approach to product proposals naturally changes based on what makes drivers happy, comfortable, and safe. In industrial machinery as well, gaining an understanding of the configuration of equipment, like injection molding and die casting machines, along with the needs of specific industries will help us to solve social issues.

These include lowering energy consumption and reducing CO<sub>2</sub> emissions, as well as meeting Sustainable Development Goals (SDGs) and Environmental, Social, and Governance (ESG) factors. From an engineering and marketing perspective, this is an important concept for business expansion. Of course, our forward-looking proposals do not always work out or satisfy customers. When our proposals fail to grasp customers' essential needs, we create new proposals based on customer feedback and analyze what we missed. Though we're already taking such actions, we must become more familiar with this approach and strengthen our efforts.

## Q3

### Technological revolutions in areas such as IoT and AI are moving fast. What value can NSK provide to society, the market, and customers during these changes?

The automobile industry is undergoing a dramatic technological revolution. Against this backdrop and within the overarching trend toward CASE (connected, autonomous, shared, electric), I think NSK can fully contribute to autonomous driving and automotive electrification. Of course, issues remain in how to effectively control electricity consumption and get the most out of vehicles. Performance requirements for low friction, compactness, light weight, high speed, and low noise are becoming increasingly hard to reach. Even so, we will contribute to these areas by developing and providing customers with high-value-added bearings. Moreover, we are developing and proposing Traction Reducer to many customers. These high-efficiency speed reducer systems enable ultra-fast rotation in electric-drive units. We contribute to existing machine elements such as automatic-brake ball screws, which help keep people safe during automated driving. We're also engaging in technical development of steer-by-wire next-generation steering systems in which the handle and steering mechanisms are not physically connected. In actuation, which is vital for vehicle operations, we have released the Concept

for Flex Corner Module that integrates driving and steering. I expect that the fields where we can use our technologies and products will continue to expand.

As for industrial machinery, we'll continue to provide value to industrial sectors by developing bearing and ball screw products with greater performance and that contribute to society based on NSK's core technologies. In addition, we aim to create new value through initiatives in emerging fields new to NSK, such as biotechnology and healthcare. Providing essential components alone is not enough to do business in these fields. Instead, NSK seeks out complete solutions. We've made LIGHBOT™ guide robots for the visually impaired and are developing system units in biotech fields where fine operations are required. In addition, we're engaged in joint initiatives with WHILL, Inc.\*, a next-generation personal mobility systems company. Along those lines, in November 2017 NSK invested in SoftWheel Ltd.\*, an Israeli personal mobility wheel maker for such products as wheelchairs and bicycles. Through these actions, NSK has begun to seek out opportunities to provide new value in emerging fields.

\*For more details on WHILL, Inc., and SoftWheel Ltd., please refer to the following press releases:  
WHILL, Inc.: <http://www.nsk.com/company/news/2017/press0404b.html>  
SoftWheel Ltd.: <http://www.nsk.com/company/news/2017/1107a.html>

## Q4 What are your thoughts on the Technology Division's global framework and role sharing, use of external resources, and collaboration?

While NSK has 15 R&D centers worldwide, base technologies and new product development are centralized in Japan. As these have reached the application level, we offer them through customer contact points at our overseas tech centers. We're also taking steps to share tools at development centers in different regions in order to provide the same level of technical service for bearings anytime and anywhere. At the same time, to better utilize global human resources in steering systems, we've established a common skill matrix and are preparing a system for optimally assigning engineers to individual projects. With a core of members based in Japan, personnel familiar with steering technology in five locations (Europe, the United States, China, India, and Thailand) share issues for improving technical services and are forming teams based on the skill matrix and regional needs.

Looking ahead, NSK will proactively adopt technologies it lacks from external sources to develop new products for new businesses and fields. With the "Four Core Technologies" in mind, NSK will choose fields poised to expand rapidly as initial entry points by further enhancing external technologies and addressing weak points. With changes in biotechnology, healthcare, and robots accelerating, we have to take such actions to develop products quickly. To survive in these markets however, NSK must also use its own strengths to create unique products. We will make decisions on technological development accordingly as



we closely examine NSK's strengths and the impact of entering these markets.

In addition, we'll also proactively take advantage of open innovation. For example, putting an idea of computer controls into a concrete shape including product technology requires cooperation from suppliers and business partners based on the scope of the field and speed of progress. By calmly analyzing NSK's strengths and weaknesses along with those of our partners, we can search for compatible partners in Japan and overseas and, in turn, build a framework for effective collaboration.

## Q5 How is technology "Setting the Future in Motion"?

First, I want to again mention our efforts to develop new automotive technologies and products. Our ideas and technologies are steadily taking shape by identifying industry needs, such as electrification and automated driving, and taking the lead in development.

We also established the New Business Development Enhancement Office and New Field Products Development Center in 2016 in order to combine existing NSK technologies to seek new business opportunities. These include target segments where NSK was previously not directly involved in the market, such as biotechnology, healthcare, and robotics.

Also, I think we'll need new base technologies in different areas. These newly required technologies are called the "new core," and we must develop and keep them strictly in-house. We are considering a number of new candidates for NSK "new core" technologies while imagining future trends. Examples include functional materials and software for developing neural networks. With computer control becoming increasingly common, software technology is an extremely important field in my view. In addition to our core business in machine elements, from now I hope for us to further expand into actuator and system products.

# Global Business Foundation

In expanding business globally, NSK maintains the necessary sites, human resources and management structure as an essential foundation, and strives to expand business in each region while promoting global projects through collaboration between regions. While giving exhaustive consideration to being a good corporate citizen in each region, the Company is also endeavoring to further enhance and strengthen its global business foundation.

## Global Sites

### Background to Globalization

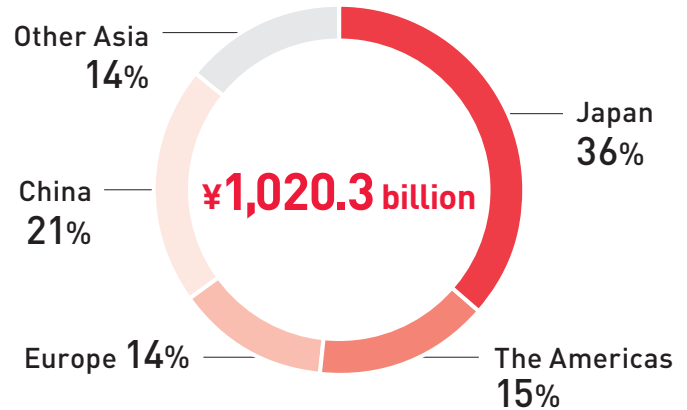
As far as the Japanese manufacturing industry goes, NSK has long been advancing overseas expansion. Having continued its overseas exports that commenced in 1948 and started overseas production in Brazil, the United States and the United Kingdom in the 1970s, the Company has regarded these operations as the basis of its overseas business through their locally manufactured products. In addition to expanding its product lineup in association with the overseas relocations of its Japanese customers, primarily in the electrical sector and automobiles from the 1980s onward, the Company established production sites in China, Indonesia, Thailand, India and elsewhere against a backdrop of emerging market economic development at the start of the 1990s. Thereafter, the Company further increased its global expansion, including business expansion in emerging markets, the globalization of automobile platforms and increased business with non-Japanese overseas customers.

### Current Status of Global Sites

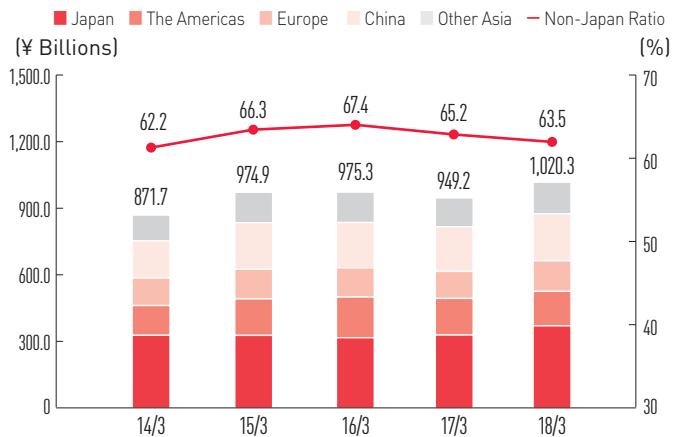
As of March 31, 2018, the Company had a total of 207 production, sales and technology sites in operation in 30 countries and regions under six headquarters in six countries.

In addition to their responsibilities for developing business in each area, the respective sites are performing an important role in global project collaboration, which is currently on the increase. Group companies supply high-quality products in a stable manner by undertaking local production in response to customer demand, while the sales and technology centers in each area work to improve NSK's brand power by offering rapid and detailed responses and services to customers' various needs. Expanding into every area in the world, the network represents one of NSK's essential business foundations.

Sales Breakdown by Region (Based on Customer Location) (Year ended March 31, 2018)



Sales by Region (Based on Customer Location)



## TOPIC Cheonan Plant in South Korea Commences Full-Scale Operations

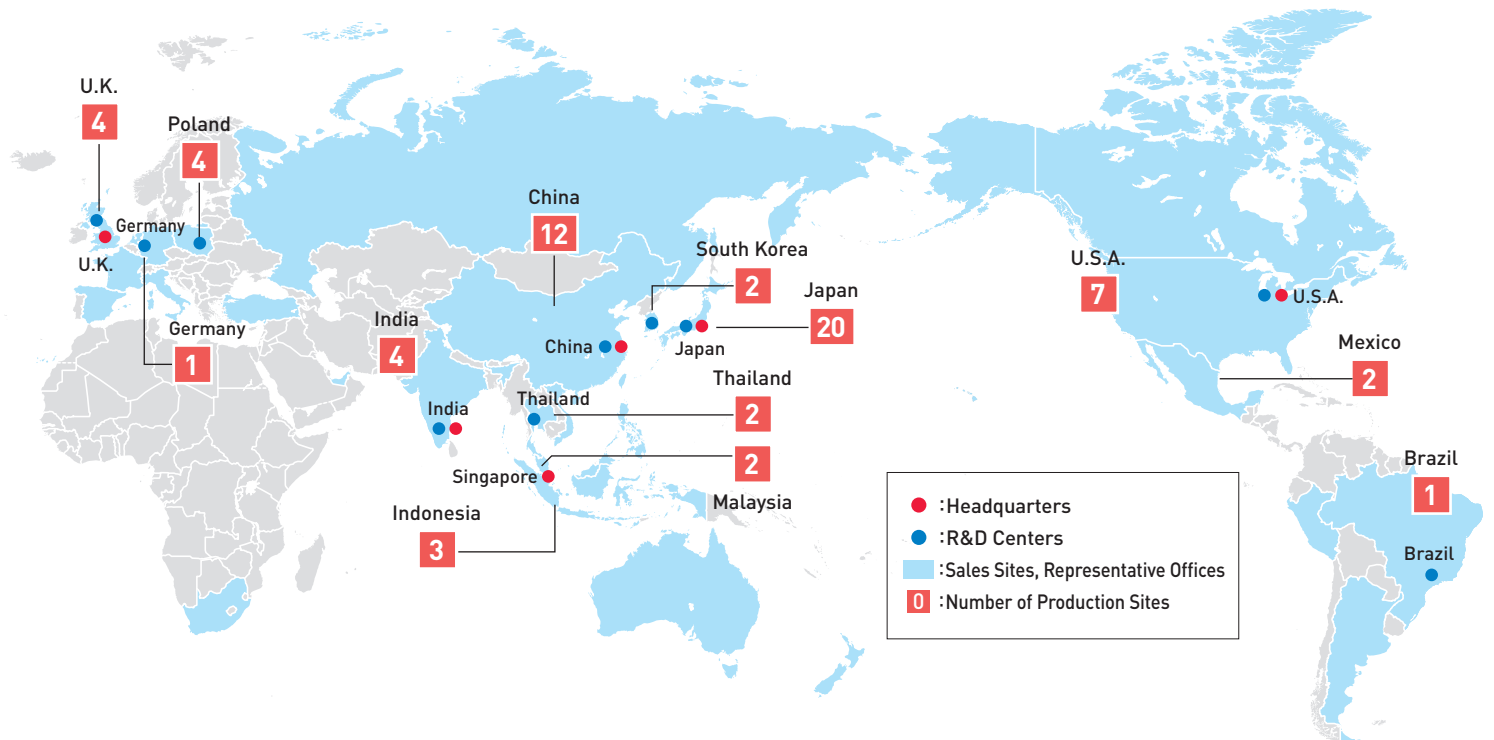
Meeting expanding global demand for automobiles with a state-of-the-art automated facility



Due to the expansion of demand for automatic transmissions (ATs) and the progress being made in the shift to multistep ATs, demand for high-performance AT bearings has increased, and NSK's business is expanding. To further respond to expanding global demand, NSK launched the Cheonan plant, its second production site in South Korea, in April 2017 and has now commenced full-scale operations.

With the Company having installed state-of-the-art automated equipment, the Cheonan plant is achieving cost competitiveness and quality improvements by means of advanced production control and automation. Furthermore, in aiming for a workplace environment of which the employees could feel proud, the Company gave rise to a safe, comfortable, clean and environmentally friendly plant by conducting a series of interviews with employees and incorporating their opinions.

The Company's first plant in South Korea, the Changwon plant, started production 30 years ago. Since then, the Company has promoted improvement activities, such as proprietary production innovation activities, and Changwon has grown into a plant that receives high praise, such as for its cost competitiveness and high quality. Leveraging its accumulated production expertise, the Changwon plant has now reached the stage at which it supports other overseas plants. Drawing on this experience at our Cheonan plant to supply products with which our customers will be delighted, we are aiming for a plant that is even more reliable.



- : Headquarters
- : R&D Centers
- : Sales Sites, Representative Offices
- 0 : Number of Production Sites

	Headquarters (●)	Production Sites	Sales Sites	Representative Offices	R&D Centers (●)
<b>The Americas</b>					
U.S.A.	1	7	9		1
Canada			3		
Mexico		2	1		
Brazil		1	5		1
Peru			1		
Argentina			1		
<b>6 countries and regions Total</b>	<b>1</b>	<b>10</b>	<b>20</b>		<b>2</b>
<b>Europe/Middle East/Africa</b>					
U.K.	1	4	2		1
Germany		1	2	2	1
France			1		
Italy			1		
Netherlands			1		
Spain			1		
Poland		4	3		1
Russia			1		
Turkey			1		
UAE			1		
South Africa			1		
<b>11 countries and regions Total</b>	<b>1</b>	<b>9</b>	<b>15</b>	<b>2</b>	<b>3</b>

	Headquarters (●)	Production Sites	Sales Sites	Representative Offices	R&D Centers (●)
<b>Asia/Oceania</b>					
Japan	1	20	31		6
Singapore	1		2		
Indonesia		3	2		
Thailand		2	5		1
Malaysia		2	4		
China	1	12	18	1	1
Taiwan			3		
South Korea		2	2		1
Philippines				1	
Vietnam			1	1	
India	1	4	9		1
Australia			4		
New Zealand			1		
<b>13 countries and regions Total</b>	<b>4</b>	<b>45</b>	<b>82</b>	<b>3</b>	<b>10</b>
<b>Global Total</b>	<b>6</b>	<b>64</b>	<b>117</b>	<b>5</b>	<b>15</b>

**207** locations in **30** countries and regions

[As of March 31, 2018]

## Cheonan Plant Features

### 1. High productivity

In the monitoring room, utilizing a state-of-the-art system lets employees grasp the operational status of the entire facility in real time by means of multiple monitors. Realizing advanced integrated control, the system improves productivity and quality. The Company has installed the latest equipment, which has extended automation even into the assembly and other processes where automation was previously difficult. The Cheonan plant also has achieved the streamlining of production lines. Improving safety and work efficiency, the plant will even be compatible with the smart factories of the future.

### 2. Environmentally friendly

Electric power for the factory lighting, office lighting and the air conditioning comes from the solar panels installed on the onsite parking lot, and wind power is used to generate the power for the street lighting.

### 3. A safe and friendly working environment

The high ceiling was strengthened and the ventilation system enhanced. The assembly cleaning machine is also odorless. A workplace that does not smell has been achieved. The difference in the incorporation and transition of workpieces throughout the production process has been kept down to less than 50 mm, making the production shop floor quieter. A comfortable indoor environment that maximizes natural light on windows and walls has been realized.



Facilitating work involving the moving of heavy objects

# CSR/ESG Management

## NSK's Approach: CSR in Corporate Value Creation

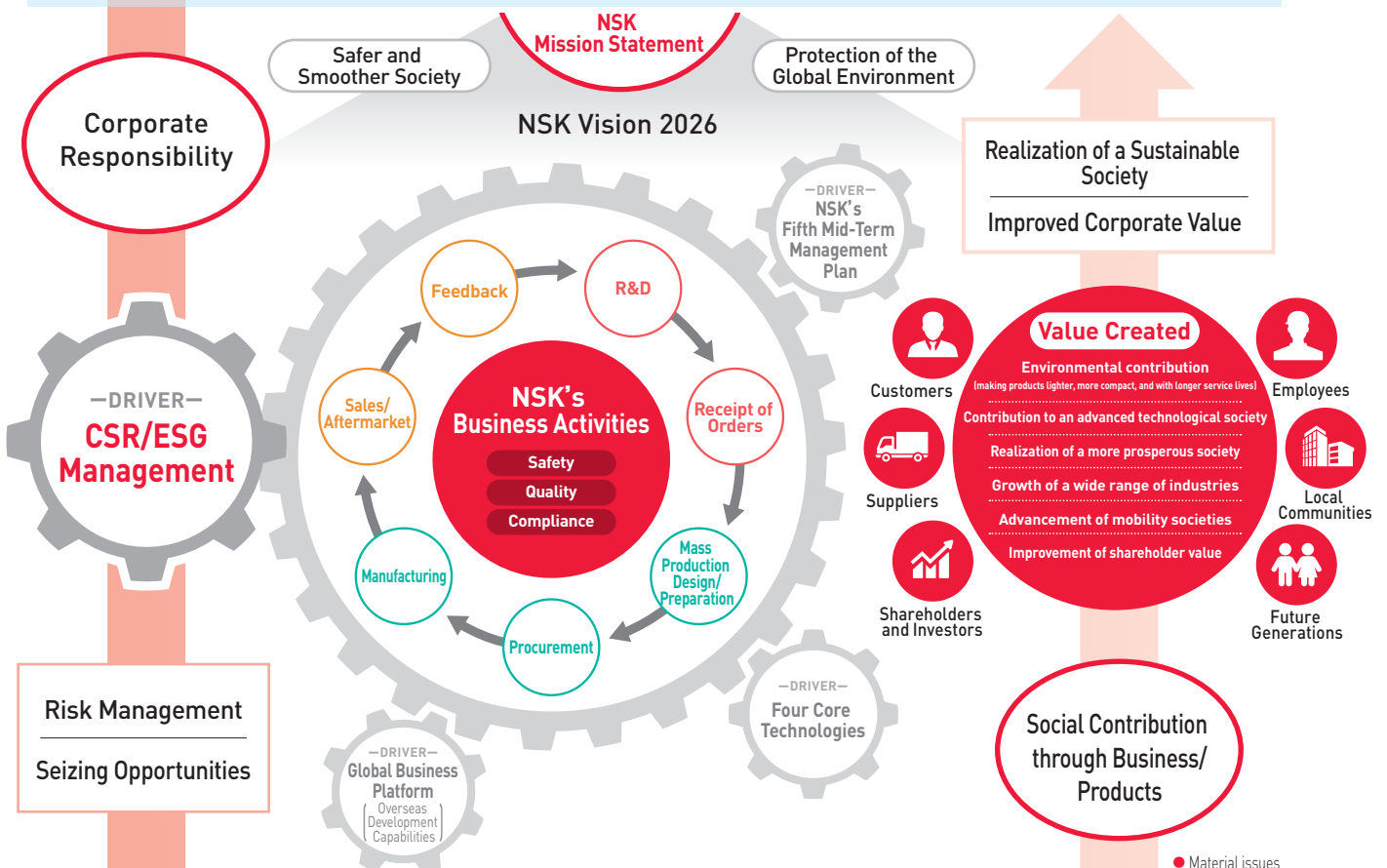
Society is facing a broad range of challenges on the path to greater sustainability and prosperity for all. To engage the potential of our increasingly interlinked global community, the Sustainable Development Goals (SDGs) were adopted by the United Nations in 2015. They serve as a call to action for governments, companies, and citizens to cooperate and work toward overcoming these challenges.

NSK is a proud member of a diverse range of local, regional, and global communities. In our mission statement, we clearly affirm our commitment to creating a "safer, smoother society" and our drive to protect the global environment. CSR/ESG management is accordingly positioned as a key mechanism in the creation of corporate value. At all steps of NSK's business activities, from research and development to distribution and after-sales service, we aim to thoroughly grasp stakeholders' needs and expectations from their perspective and respond through comprehensive action across the business. This feeds into our value creation cycle, thereby improving corporate value through social contribution, sustainable initiatives, and new products, solutions, and services adapted to the needs of today and tomorrow.

### Societal Issues

- Climate Change
- Natural Disaster Response
- Resource Depletion
- Water Shortages
- Ecosystem Conservation
- Hygienic Facility Maintenance
- Water Safety
- Product Safety
- Eradication of Poverty and Hunger
- Preventing/Reducing Inequality
- Preventing Forced Labor and Child Labor
- Quality of Education
- Gender Equality
- Eradication of Conflict/Terrorism
- Population Growth
- Falling Birthrates/Aging Populations

(Amongst other issues)



● Material issues

### Environmental Initiatives (E)

- **Environmental Management** (P. 50)
- Creating Environmentally Friendly Products
- Global Warming Countermeasures
- Measures for Resource Conservation and Recycling
- Reducing the Use of Environmentally Harmful Substances
- Biodiversity Conservation

### Social Initiatives (S)

- Research and Development
- **Quality Management** (P. 48)
- **Safety Management** (P. 49)
- Working with Local Communities (Social Contribution Initiatives)
- **Human Resource Management** (P. 52)
- **Supply Chain Management** (P. 54)

### Governance Initiatives (G)

- **Corporate Governance** (P. 55)
- **Compliance** (P. 59)
- Risk Management

## Initiatives to Promote Understanding of SDGs

To make progress in efforts relating to SDGs, it is important for each and every employee to understand the value that NSK provides/can provide to society as a whole. Of course, it is also necessary for employees to deepen their understanding of the actual goals adopted by the UN. Accordingly, NSK is making the following efforts to encourage and enhance employee understanding.

- Messages from senior management
- Overview of SDGs on company intranet
- SDG posters (at all business sites in Japan)
- SDG topic stickers placed around relevant facilities
- Employee briefings

In addition to continuing to develop these activities, we plan to formulate more specific targets and initiatives as part of our Sixth Mid-Term Management Plan.



SDG poster



SDG sticker

## Needs and Expectations of NSK Stakeholders

NSK's business is dependent upon the trust of a diverse range of stakeholders. We strive to engage in multifaceted collaborative efforts with stakeholders to create corporate, social, and environmental value, and thereby pursue the realization of a sustainable society.



### Customers

NSK's products are used in a wide range of industries, including automotive, rail, and home appliance industries, as well as in steel manufacturing equipment and industrial robots. We consider our customers to include not only the machine manufacturers that purchase our products directly, but also the end users who utilize our products in the various machines produced by direct customers.

Our customers require continuous technological innovation, the development of high-quality, environmentally friendly products and solutions, and stable, consistent supply all over the world.

In addition to deepening our understanding of the needs of machine manufacturers through everyday sales assurance and technological exchanges, we also strive to address the expectations of end users.

Effectively incorporating direct customer and end user perspectives facilitates the development of products and services that provide real value to users and society, from environmental conservation to advanced technologies, to the realization of a safe, prosperous society for all.



### Suppliers

NSK's businesses, which reach all corners of the globe, are underpinned by numerous suppliers around the world. Suppliers that support the competitiveness of our businesses through the provision of superior components and raw materials are important stakeholders. Suppliers ask for close collaboration in quality assurance and technology development and require fair transaction practices.

NSK strives to develop mutually beneficial relationships through frank and open exchange of opinions in daily procurement activities and mutual improvement initiatives. For example, NSK works with suppliers to raise the level of quality assurance, to develop new technologies, to protect the environment, and to ensure that human rights are fully respected. These sincere efforts are essential for environmental conservation and mutual prosperity along the entire global supply chain.



### Shareholders and Investors

As providers of financial capital, shareholders and investors are important stakeholders who play a critical role in supporting NSK's growth and monitoring company management. Our shareholders expect us to realize a positive return on investment through sustainable growth, and also demand ESG management initiatives that emphasize maintaining a harmonious balance between society and the environment.

NSK aims to grasp and meet the expectations of shareholders and investors through sincere efforts to maintain a constructive dialogue and further increase the soundness and transparency of company management.



### Employees

The value created by NSK, including advanced technology and world class products, is driven by a diverse team of employees working all over the world. Our employees are important stakeholders, and we strive to develop vibrant, motivating workplaces to fully enable each employee's potential.

In addition to fostering creativity and individuality, NSK is working to revitalize a constructive labor-management dialogue, employee communications, and exchanges with external stakeholders. Through these efforts, NSK aims to raise the awareness of each employee to promote the creation of open, transparent workplaces that enable employees to set the future in motion and increase corporate value.



### Local Communities

NSK's globally expanding business depends on building harmonious relationships with local communities, and fulfilling our corporate responsibility to contribute to the development of those communities.

NSK aims to grow as a company that is needed, loved, and respected by communities around the world. We strive to respect cultures, customs, and needs by engaging, communicating, and working closely with each community to achieve mutually beneficial development and the protection of local environments.



### Future Generations

Realizing a prosperous society that will last long into the future is indispensable not only for NSK but also for the growth and development of society as a whole. Future generations, which will be responsible for shaping future society, are important NSK stakeholders.

To support the healthy development of future generations, we conduct science classes, offer internships, and provide scholarships as efforts geared toward long term growth. Through these activities, we aim to realize a prosperous society for the future by not only conveying the enjoyment and importance of *monozukuri* to children and students but also by developing future generations of human resources.

# CSR/ESG Management

## Related Key Stakeholders



## Material Issue: Quality Management

### Why Quality Management Matters

In the Company's manufacturing operations, the quality of the products and services we offer greatly affects the Company's credibility, and providing high-quality products and services is linked to increases in corporate value. To meet the needs and expectations of customers and to remain a company trusted by society, NSK classifies quality into four categories: field quality, design quality, manufacturing quality, and supplier quality, and strives to enhance the level of each in cooperation with its suppliers.

### NSK's Approach

NSK aims to become "No. 1 in Total Quality." In other words, the Group is working to achieve the industry's best quality in everything it delivers—not only products and services, but also information. The Group believes that this commitment to quality ensures that its products will satisfy customers all over the world. Toward that end, the Group engages in activities based on the Three Pillars of NSK Quality Assurance.

### Three Pillars of NSK Quality Assurance

- 1. NSK Product Development System (NPDS)**  
In order to quickly transform new orders into reliable, stable production, the NSK Group is promoting initiatives that build quality into each process.
- 2. NSK Quality No. 1 (NQ1) Program**  
The NSK Group is promoting initiatives to realize stable production and ensure zero defects.
- 3. Human Resources Development**  
The Group is promoting human resources development in order to build a stronger foundation for quality creation.

### Quality Assurance Vision 2026

NSK put in place the Quality Assurance Vision 2026 as a part of the Company's efforts to identify specific targets through 2026. As indicated below, this vision also clarifies the ideal state to which the Company aspires. Guided by this vision, NSK is implementing total quality management to achieve a level of "NSK Quality" that engenders trust and contributes to the safety and peace of mind of customers. In specific terms, the Company will endeavor to enhance the quality of its products, work and human resources, which are elements that provide the underlying strength of its business activities, while at the same time incorporating the necessary quality to deliver attractive products that reflect market needs and the requirements of customers.

## NSK Quality

Contribute to Customer Safety, Security, and Confidence

### The Ideal State to which the Company Aspires

- Contribute to society by delivering total quality
- Maintain an approach to quality that customers will evaluate highly
- Ensure all employees think and act based on the quality-first principle according to high-quality ethics

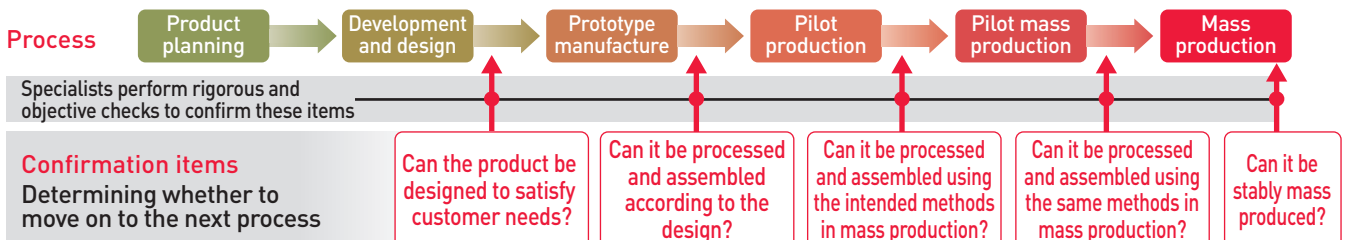
### Action Guidelines

- Put the customer first
- Be honest
- Provide 100% good products and services

### NPDS: Quality Management System

NSK's innovative quality management system, NPDS (NSK Product Development System), is being deployed globally to respond promptly and reliably to new projects and to mass produce products that satisfy customers. At each stage of the process, from product planning to development/design, prototype manufacturing and mass production, we will confirm that any concerns are resolved and build quality. In addition, even after a product has entered mass production, we conduct thorough management to stably maintain high quality.

#### ► Outline of NPDS



### NQ1 Program for Stable Production with Zero Defects

Involving close cooperation between each division, including production, design development, production technology, quality assurance, sales and logistics, NQ1 (NSK Quality No.1) activities are Group-wide and designed to optimize the flow of goods and information throughout the production process, from the procurement of components and materials to delivery to customers.

As part of its NQ1 program, NSK is engaged in improvement activities aiming for the very best quality, with zero defects, called "Dantotsu activities." Each plant decides initiative themes and carries out various improvements targeting zero defects on a test line. Effective initiatives are quickly rolled out horizontally to other lines and manufacturing sites around the world.







# Material Issue: Safety Management

## Why Safety Management Matters

Improving workplace safety not only ensures employees' peace of mind but also leads to harmony with local communities and the reduction of risk in business development. Regarding safety management as one of its most important management issues, NSK is working on safety improvement activities on a global basis under its Mid-term Management Plan, which positions "safety, quality, and compliance" as the foundation of activities that should be strengthened.

## NSK's Approach

To protect the safety and health of each and every employee, NSK undertakes initiatives with the following basic philosophy: "Safety is the first and foremost priority. The Company should establish safe, secure, and comfortable workplaces, no matter the level of output demand."

We believe that safe workplaces can only be achieved by promoting global standards to improve unsafe facilities, by encouraging information sharing, and by fostering a culture where employees feel free to challenge one another on the safety of their actions.

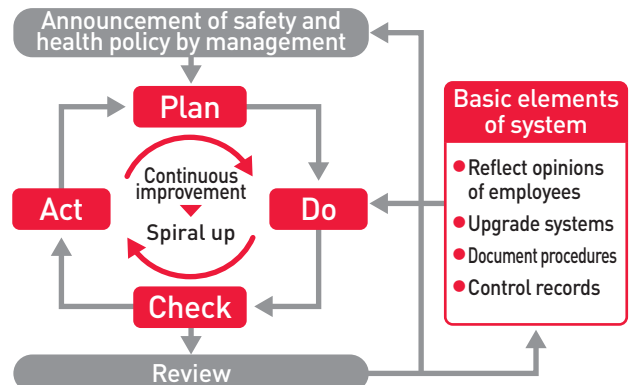
## Occupational Safety and Health Management System

NSK realizes how important it is to be always proactive about safety and health at its workplaces, which support the Company's manufacturing operations, and to provide a work environment that allows all employees to reach their full potential. Based on this conviction, NSK has developed an occupational safety and health management system that complies with OHSAS 18001 and other related regulations, and we strive to foster a "safety first" culture that fully engages all employees at each of our sites.

We share information on any occupational health and safety incidents that do occur on a global basis and always work to prevent a recurrence of similar incidents by taking effective measures.

Following the issue of ISO 45001, the international standard covering occupational health and safety management systems, we are conducting activities globally with the intention of obtaining this certification.

## Occupational Safety and Health Management System



## Lost-Time Injury Frequency Rate

	FY2015	FY2016	FY2017
In Japan	0.32	0.28	0.23
Outside Japan	0.91	0.89	0.79
Global	0.70	0.68	0.59
Japan's Manufacturing Industry (Average)	1.06	1.15	1.02

Lost-time injury frequency rate = Number of persons absent from work due to occupational accidents ÷ Total actual working hours × 1,000,000.  
Defined as occupational accidents involving one or more days of absence from work.

## NSK's Social Contribution Initiatives



To create sustainable societies, it is crucial for companies to actively address social issues and to conduct their business activities with an awareness of local community development.

Having positioned three priority areas for its social contribution initiatives—promotion of science and technology, development of the next generation, and mutual harmony and benefit with communities—NSK undertakes wide-ranging initiatives, such as providing aid to research institutions, providing scholarships, offering students work experience opportunities, holding classes about bearings, and planting trees.

### To Familiarize Children and Students with Science

NSK sees children and students, the torchbearers of the future, as important stakeholders. NSK holds factory tours and science workshops to familiarize children and students with science and spark their interest. In addition, we set up the "Bearing Lab" display booth at the Science Museum (in Kitanomaru Park, Tokyo), where visitors can learn while "seeing, touching and experiencing" friction and bearings.



Science workshop for children



"Bearing Lab" display booth at the Science Museum

### Provide Support Through the NSK Scholarship Foundation

NSK established the NSK Scholarship Foundation in April 2017 for the purpose of supporting the development of the advanced future generations of human resources that will contribute to solving various problems surrounding the world, such as conflict and hunger, measures to combat climate change, and nature conservation. Through the foundation, NSK pays the tuition fees, living expenses and traveling expenses of Japanese students who wish to study at overseas research institutions or graduate schools or to Asian students studying at graduate schools in Japan.



#### Foundation information

- Name: NSK Scholarship Foundation
- Founded by: NSK Ltd.
- Chairman: Norio Otsuka, Senior Advisor, NSK Ltd.
- Location: Nissei Bldg., 1-6-3 Ohsaki, Shinagawa-ku, Tokyo, 141-8560, Japan
- Established: April 11, 2017

#### Business description

- Provision of scholarships to Japanese students for study abroad at research institutions or graduate schools
- Provision of scholarships to students from Asia for study at graduate schools in Japan

In fiscal 2017, NSK Scholarship Foundation selected and provided scholarship support to three Asian students. The foundation will continue to select and support scholarship students from fiscal 2018 onward.

# CSR/ESG Management

## Material Issue: Environmental Management

### Related Key Stakeholders



### Why Environmental Management Matters

The realization of a sustainable society in which economic development and environmental protection coexist is becoming an increasingly pressing issue due to growing concern over the impact of climate change, particularly in light of the recent succession of extreme weather events across the world. Accordingly, there is growing competition to develop new technologies and products that help decrease environmental impact.

### NSK's Approach

NSK adheres to the principle that global environmental protection, as outlined in the Company's mission statement, must be an ever-present concern in all its business activities. Accordingly, the Group states in its Environmental Policy that environmental management forms the basis of its existence and pursuits. While raising the awareness of each and every one of its directors and employees, NSK works to create environmentally friendly products, implement global warming countermeasures, enact measures to promote resource conservation and recycling, and enforce measures to reduce the use of environmentally harmful substances.

### Environmental Management

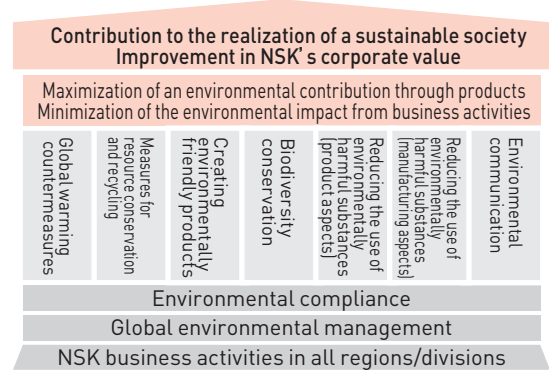
NSK has established a Global Environment Conservation Committee as its highest decision-making body for environmental management. Chaired by a senior vice president and composed of the officers involved, such as from business division headquarters and technology development divisions, the Global Environment Conservation Committee deliberates NSK's environmental action plans and also reviews and revises the progress of initiatives. On the basis of the Committee's decisions, theme-based specialized subcommittees—such as the energy, resource conservation, environmental product, logistics, and green office subcommittees—, NSK's Environmental Division as well as its headquarters in Europe, the Americas and China coordinate their necessary activities, and each department and each business site work together to promote environmental efforts.

Held three times in fiscal 2017, the Global Environment Conservation Committee examined and discussed, for example, the setting of medium- and long-term activity targets as well as activities contributing to the reduction of CO<sub>2</sub> emissions at the customer use stage through its products.

### NSK Environmental Policy

Our commitment to environmental management forms the basis of our existence and our pursuits. We are determined to take independent and assertive action in aiming to establish sustainable societies.

- 1. Prevention of Global Warming**  
To actively support efforts to prevent global warming by developing environmentally friendly manufacturing processes and technologies.
- 2. Reduction of Environmental Impact**  
To establish and continually improve environmental management systems and systems for the management of chemical substances in products; to comply with regulations, to prevent pollution, and to reduce environmental impact.
- 3. Contribution to Societies**  
To be actively involved in the social development of local communities where we operate by promoting our global corporate activities, to create affluent societies that are in harmony with the environment, and to promote the preservation of biodiversity.



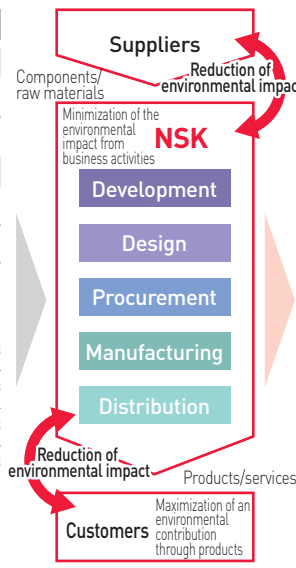
### Input and Output of Global Business Activities (FY2017)

NSK works hard to continually reduce its environmental impact and to use energy and resources in the most effective manner by quantifying the amount of resources used in its business activities and the amount of greenhouse gases, waste and other emissions that it generates.

Steadily making progress with environmental measures, such as energy conservation and resource saving, at each stage of its business activities, from development and design to production and logistics, NSK is also aiming to reduce the environmental burden on society as a whole.

This, the Company does by procuring environmentally friendly components/raw materials and working together with suppliers and customers in advancing the development, manufacture and promotion of environmentally friendly products that allow customers to save energy and conserve resources.

INPUT (Global)	
<b>Materials and parts</b>	
Steel	756 × 10 <sup>3</sup> tons
Oils and greases	21 × 10 <sup>3</sup> tons
<b>Energy</b>	
Energy	17,088TJ
Fuel	2,426TJ
Electricity and heat	14,662TJ
<b>Water supply</b>	
Water	4,713 × 10 <sup>3</sup> m <sup>3</sup>
Groundwater	1,869 × 10 <sup>3</sup> m <sup>3</sup>
General water	2,325 × 10 <sup>3</sup> m <sup>3</sup>
Industrial water	519 × 10 <sup>3</sup> m <sup>3</sup>
<b>Materials and parts (Japan) (Environmentally harmful substances)</b>	
PRTR-designated substances	490 tons



OUTPUT (Global)	
<b>Atmospheric gases</b>	
Greenhouse gases [CO <sub>2</sub> equivalent]*1	997.3 × 10 <sup>3</sup> tons
Fuel combustion (Scope 1*)	143.0 × 10 <sup>3</sup> tons
Electric power/heat use (Scope 2*)	854.3 × 10 <sup>3</sup> tons
(Reference) Indirect emissions (Scope 3*)	2,038.7 × 10 <sup>3</sup> tons
NOx	132 tons
SOx	50 tons
<b>Waste</b>	
Total waste	223.5 × 10 <sup>3</sup> tons
(Japan 105.5 × 10 <sup>3</sup> tons, outside Japan 106.0 × 10 <sup>3</sup> tons)	
Recycled	205.1 × 10 <sup>3</sup> tons
Landfill waste	3.0 × 10 <sup>3</sup> tons
Incinerated waste and water treatment	15.4 × 10 <sup>3</sup> tons
<b>Water quantity</b>	
Wastewater	3,040 × 10 <sup>3</sup> m <sup>3</sup>
Rivers	453 × 10 <sup>3</sup> m <sup>3</sup>
Sewage system	2,587 × 10 <sup>3</sup> m <sup>3</sup>
BOD	1.3 tons
<b>Environmentally harmful substances (Japan)</b>	
Discharge/transfer of PRTR-designated substances	105 tons
VOC	154 tons

\*1 The amount of greenhouse gas emissions is multiplied by each region's global warming potential. In Japan, calculated in conformity with the Ministry of the Environment and the Ministry of Economy, Trade and Industry's Greenhouse Gas Emission Calculation and Reporting Manual. Outside Japan, calculated in conformity with the International Energy Agency's CO<sub>2</sub> Emissions from Fuel Combustion.

\*2 The amount of greenhouse gas emissions for Scope 1 to Scope 3 are calculated based on the GHG Protocol calculation standards. Scope 1 is the amount of emissions from a company's own fuel use; Scope 2 is the amount of emissions from power plants, etc., due to the supply of electric power and heat from outside (consumed by a company); and Scope 3 is the amount of indirect emissions, such as emissions from supplier manufacturing processes for procured components and raw materials.

## Developing Environmentally Friendly Products

The products of the future must perform better than those of today to help reduce the impact that human societies have on the natural environment. To contribute to a safer, smoother society and to help protect the global environment, as spelled out by its corporate philosophy, NSK is working hard to accurately determine the needs of its customers and of broader society, as well as to develop environmentally friendly products and technologies that make the most of the Company's Four Core Technologies (tribology, materials, numerical simulation, and mechatronics). By delivering these products and technologies to all corners of the globe, NSK is aiming to contribute to the increased sophistication of the machinery in which its products are incorporated, the development of environmentally friendly industries as well as aiming for the maximization of an environmental contribution through its products.

### Basic Policy for the Development of Environmentally Friendly Products

The NSK Group minimizes the environmental impact of its products at every stage—from R&D and design, to production, usage, and disposal—by upholding the following standards:

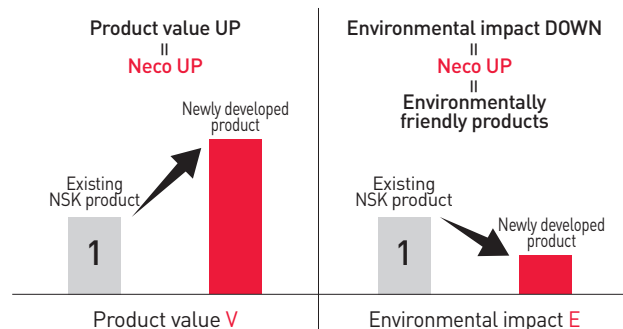
1. Each product should contribute toward the energy and resource conservation of the machine in which it is installed.
2. The amount of energy and resources required during product manufacturing should be minimal.
3. Environmentally harmful substances should not be used in products or manufacturing processes.
4. Products should contribute to the health and safety of end users by having low vibration levels and low noise and dust emissions.

## NSK Eco-Efficiency Indicators (Neco)

NSK conducts assessments of products under development by utilizing NSK eco-efficiency indicators (Neco) as a yardstick for quantitatively assessing the degree of their environmental friendliness. The Neco score is a numerical value obtained by dividing the product value V by the environmental impact E. The product value numerator V represents, in numerical form, the degree of improvement of a product in development were an existing product assessed at 1 with regard to assessment parameters that need to be increased to improve product value, such as service life, performance and accuracy. By comparison to an existing NSK product, the environmental impact denominator E represents assessment parameters, such as product weight, power consumption and friction loss, which must be reduced to decrease the environmental impact.






To use a bearing as an example, the longer its service life when compared to an existing product, the better its ability to withstand high-speed rotation, the lighter and more compact that bearing is, and the lower the friction loss, the higher its Neco value will be, and that bearing will be assessed as an environmentally friendly product. NSK is working to develop new products with a Neco score of 1.2 or higher and had developed 224 environmentally friendly products by fiscal 2017.

$$\text{Neco} = \frac{\text{Product value V (product life, functions)}}{\text{Environmental impact E (resource and energy conservation)}}$$



## Environmentally Friendly Products Developed in Fiscal 2017

In fiscal 2017, NSK developed five new environmentally friendly products that help customers conserve energy and resources.

Products	Technology Developed by NSK	Environmental Benefits for NSK's Customers	Neco
<b>Pawl-type one-way clutches for hybrid vehicles</b> <a href="http://www.nsk.com/company/news/2017/press0605a.html">http://www.nsk.com/company/news/2017/press0605a.html</a>	 Applicable to lubricant-free environment Low friction loss Smaller, lighter	Improved fuel economy Lighter (resource conservation)	2.3
<b>Low-noise thrust needle roller bearings for electric vehicles and hybrid vehicles</b> <a href="http://www.nsk.com/company/news/2017/1206a.html">http://www.nsk.com/company/news/2017/1206a.html</a>	 Low friction loss Weight reduction	Improved energy economy	2.1
<b>Long-life roller bearings for automobile transmissions</b> <a href="http://www.nsk.com/jp/company/news/2018/0221a.html">http://www.nsk.com/jp/company/news/2018/0221a.html</a> (Japanese)	 Longer life	Lighter (resource conservation) Improved fuel economy	1.3
<b>High-performance tapered roller hub unit bearings for pickup trucks, large SUVs, and commercial vehicles</b> <a href="http://www.nsk.com/company/news/2018/0405a.html">http://www.nsk.com/company/news/2018/0405a.html</a>	 Improved reliability Low friction loss	Improved reliability Improved fuel economy	1.3
<b>Low-friction, high-performance seals for deep groove ball bearings</b> <a href="http://www.nsk.com/jp/company/news/2017/1006a.html">http://www.nsk.com/jp/company/news/2017/1006a.html</a> (Japanese)	 Both high performance and low friction loss	Improved reliability Energy savings	1.4

Other related information

For further information on environmental management (policy, framework, targets/achievements, environmental accounting), global warming countermeasures, measures for resource conservation and recycling, reducing the use of environmentally harmful substances, and biodiversity conservation, please refer to our CSR Report (NSK website: <http://www.nsk.com/sustainability/csrReport/index.html>).

# CSR/ESG Management

Related Key Stakeholders



## Material Issue: Human Resource Management

### Why Human Resource Management Matters

At NSK, we see our workforce as a vital asset in the continued success of our business. We know that employees who are fully engaged in their work have the greatest potential for growth, which can ultimately lead to the sustainable growth of the Company as a whole. This is why we are committed to creating a safe and motivating workplace that respects the cultures and practices of countries and regions worldwide, and that embraces diversity in the workforce.

**Making the most of diverse human resources**

- Realization of diversity
- Facilitating a work-life balance

### Making Use of Individuals in a Fair Manner Dynamic Work Environment

**Creating environments where employees can work with vitality**

- Respect of fundamental rights at work
- Creating secure, safe, and comfortable workplace
- Maintenance and improvement of health

**Providing opportunities and workplaces that foster the growth of self-motivated employees**

- Realization of talent management
- Providing workplaces that foster self-development and offer educational opportunities

### NSK's Approach

In our Management Principles, NSK clearly states that our aim is "to provide challenges and opportunities to our employees, channeling their skills and fostering their creativity and individuality." In acknowledgment of the fact that each and every employee is a priceless asset, we have committed ourselves to "maximizing individual talent in a fair and dynamic work environment." This commitment features three key areas of focus: leveraging a diverse workforce, creating a motivating workplace, and creating workplaces and opportunities that foster employee growth. We strive to create and maintain engaging work environments that inspire our employees and enable us to develop the human resources we need to lead NSK in the future.

### Prohibiting Discrimination and Respecting Fundamental Rights at Work

NSK respects the Universal Declaration of Human Rights and promotes activities based on the declaration's ideals. Having clearly stated that our aim is "to provide challenges and opportunities to our employees, channeling their skills and fostering their creativity and individuality" in our Management Principles (see P. 11), we have also defined the "prohibition of unfair discrimination" and "respect for basic fundamental rights at work" in the NSK Code of Corporate Ethics. We prohibit discrimination—on the basis of race, appearance, belief, gender, social status, lineage, ethnicity, nationality, age or disability—as well as harassment, forced labor and child labor, and aim to create workplaces that engage and inspire our diverse workforce. We strive to provide equal opportunity in recruitment, job assignment, evaluations and other aspects of employment.

In addition to making NSK's stance on human rights better known among our employees, we also work to identify acts that run contrary to this stance through internal audits and our internal reporting system, and take immediate action to rectify any improper behavior.

### Creating an Organization that Embraces Diversity

#### Promoting Diversity and Inclusion

It is our conviction that employing people from diverse backgrounds—in gender, age, nationality, culture, lifestyle and values—will foster a work environment full of new perspectives and ways of thinking. We believe that this will in turn strengthen our competitiveness and ability to avoid risks. For this reason, NSK promotes the creation of a diverse and inclusive corporate culture that embraces a wide range of people and the values they hold. Our initiatives in this area include diversity training and LGBT\* seminars for both executives and employees, and directed talks from the president and other members of senior management.

\*LGBT is an acronym for lesbian, gay, bisexual, and transgender.

#### Leveraging Global Talent

In our Management Principles, NSK clearly states that our aim is "to provide challenges and opportunities to our employees, channeling their skills and fostering their creativity and individuality," and "to manage our business from an international perspective and to develop a strong presence throughout the world." This is why NSK places a high priority on developing globally-focused employees in each region and country where we operate. We believe that developing corporate leaders with a global mindset together with local employees that can support their vision will allow us to optimize and increase the efficiency of our business operations. The Company is currently working to create a shared global infrastructure for HR that promotes standardization while leaving room for regional distinctions. This will include a common grading system for ranking executive posts, shared leadership competencies for the organization, and guidelines for global mobility.

### Promoting the Advancement of Women in the Workplace (Japan)

NSK believes that having more women empowered to actively demonstrate their abilities in the workplace will encourage diversity and inclusion and enhance the competitiveness of the Company. To achieve this, we have begun taking efforts to improve our female hiring rate and expand work options for female employees. Our efforts do not stop there, however: as a first step in cultivating diversity in talent and values at the management level, NSK conducts training for female managerial candidates to prepare them with the skills and mindset they will need to excel as leaders.



#### Female Employee Rate and Female Manager Rate

	FY2016	FY2017
Female employees	10.7%	10.5%
Female managers	1.2%	1.6%

Includes employees of NSK Ltd. and major NSK Group companies in Japan

## Support for Working Parents and Caregivers (Japan)

To create a workplace that meets the needs of a diverse workforce and allows each and every one of our employees to thrive, NSK is taking active efforts to provide support for working parents and caregivers. Our programs to support these employees go above and beyond the legal requirements. We not only provide comprehensive support for working parents and caregivers, but are taking efforts to create a work environment where they can realize their full potential.

Many employees are eager to excel in the workplace despite the time constraints of parenthood. This is why we provide flextime for working parents and offer onsite childcare service on working public holidays when regular daycare facilities close down. We also provide support for employees with family members requiring long-term care. We offer seminars that cover the basics of family care as well as the company programs available to them with the aim of reducing the stress associated with long-term care, creating opportunities for employees to discuss their concerns, and ultimately allowing them to continue working as they start providing care for a family member in need.

### ▶ Support Programs to Provide Flexibility for Working Parents and Caregivers\*

	NSK	Japanese law
Parental leave	Through end of April following child's third birthday (first five days are paid)	Up to 2 years (unpaid)
Reduced hours for working parents	Through end of March of child's 6th grade year	Up to 3 years
Caregiver leave	Up to 1 year	Up to 93 days
Reduced hours for working caregivers	Up to 3 years	Up to 3 years
Exemption from half-day limit	Usually limited to 12 half-days per year, employees are exempted when caring for sick family members, providing childcare, or undergoing infertility treatments	
Re-employment registration system	Employees who resign to follow a transferring spouse can register for re-employment at NSK upon their return	

\*Includes employees of NSK Ltd. and major NSK Group companies in Japan

## Work Style Reforms (Japan)

It is our conviction at NSK that having employees who enjoy and are actively engaged in both their work and personal lives will have a beneficial impact on our business. We believe that giving employees more space away from work to cultivate their personal lives will allow them to be more productive and produce higher quality work on the job. For this reason, in addition to making flextime available to employees, NSK is striving to better manage working hours and to encourage employees to take their annual paid leave. We know that in order to create a place for our diverse workforce to thrive, we need to offer more flexibility in terms of both hours and location. We are currently working to expand our IT infrastructure and have begun a trial telecommuting program, allowing select employees to work from home or a satellite office location. In order to boost job satisfaction, NSK also runs seminars and other programs to raise awareness—of both managers and employees—on the need for work style reform.

## Human Resource Development Programs

To develop the talent necessary to support sustainable growth, NSK employs a talent management system to ensure that each employee can realize their full potential. We are also working to promote career advancement and motivation by orchestrating strategic job rotations that serve to stretch the skills and abilities of our employees. Through a variety of educational offerings and training programs that further refine our people's abilities, knowledge and character, NSK provides numerous opportunities and forums for further development.

In addition to targeted training geared for managers and other levels of the organization, each year NSK runs two internal business school courses—the Japan Management College and the Global Management College—which provide accelerated training for future leaders of the organization. Meanwhile, we are also considering ways to offer education at external institutions and courses in liberal arts programs, with an aim to further broaden the mindsets of our employees. We also offer professional education by function, such as the NSK Manufacturing Education and Training Center, established to facilitate the transfer of technical skills required in manufacturing, and the NSK Institute of Technology (NIT), which conducts comprehensive technical training for engineers. In addition, we have been focusing on cultural and language training in order to equip employees with the skills they need to communicate effectively with people from around the world.

In fiscal 2017, we invested approximately ¥76,000 per person in employee development, allowing us to improve the quality of our education and training programs and make them available to more employees.

## Health and Wellness Initiatives

The physical and mental health of NSK employees and their families is an invaluable asset to the Company. We see an investment in health as an investment in corporate value, and as such, NSK is committed to a full range of initiatives to promote employee health and wellness.

In Japan, we are working to spread awareness of the role of corporate health management and are actively encouraging our employees to be more conscious of their health. In fiscal 2017, we put up posters in sites throughout Japan to promote awareness of secondhand smoke and encourage smokers to kick the habit. We also distributed the NSK Health and Wellness Initiative 2018 handbook to employees and executives in Japan. In addition, we shared employee efforts to improve their wellbeing in the company newsletter and on our internal website.

NSK has been recognized externally for its health and wellness initiatives, receiving certification from Japan's Ministry of Economy, Trade and Industry as an Outstanding Health and Productivity Management Organization in the large enterprise category.



Poster to promote awareness of secondhand smoke

# CSR/ESG Management

## Related Key Stakeholders



## Material Issue: Supply Chain Management

### Why Supply Chain Management Matters

NSK is supported by an extensive, global network of suppliers. We strive to build quality, trusting relationships that foster the continued growth and development of all parties. We are highly conscious of the many risks involved in navigating global procurement, from human rights issues to protecting the environment. Every step of the way, from the mining of resources to final assembly, we work to create a sustainable, safe, and clean processes that have a positive impact on society. We strive to mitigate business continuity risks, and quickly resolve any concerns that may arise as we monitor all levels of the supply chain.

### Sustainable and Responsible Procurement

NSK has established a basic policy governing procurement in order to ensure fair procurement practices that also consider the potential impact on society and the environment. We share this policy with all suppliers, and effectively apply it to facilitate and advance socially-responsible, environmentally-friendly procurement.

### Procurement Policy Briefings

NSK holds procurement policy briefings every year to explain its procurement and other policies to major suppliers, and we ask them to reinforce their corporate-social responsibility efforts.

In fiscal 2017, we focused on sustainability, explaining the Sustainable Development Goals (SDGs), ISO 20400, and other related initiatives. We solicit a strong commitment to sustainable procurement, and the timely and accurate disclosure of procurement related information. We also emphasize the importance of human rights, and work closely with suppliers to mitigate human-rights-related risks across the entire supply chain.



### Promoting and Enhancing CSR Activities

NSK distributes *NSK Supplier CSR Guidelines* and *NSK Group Green Procurement Standards* asks suppliers to supply safe products, comply with laws and regulations, protect human rights, safety, and health, and give consideration to preserving the environment. Our basic business contracts contain clauses that pertain to environmental, social, and governance (ESG) conduct and performance.

Furthermore, NSK regularly monitors suppliers through a CSR self-assessment survey every two years on the state of their CSR activities and feeds back a summary of results to all suppliers.

### Initiatives to Enhance Supplier Quality

NSK regularly holds seminars for suppliers on technical and quality assurance topics. We share current issues and engage in initiatives with suppliers to continuously improve quality. NSK also strives to increase the level of quality by having personnel from NSK headquarters, regional headquarters, and plants around the world visit suppliers, audit their processes, and exchange information.

### NSK Group Basic Policy for Procurement

- 1) Economic Rationality  
Conduct transactions that are economically rational.
- 2) Fairness and Impartiality  
Conduct transactions in a fair and impartial manner regardless of region, company size, or whether the counterparty is a new or existing business partner.
- 3) Compliance with Applicable Laws
  - I. Strictly follow the procurement laws and regulations of each country, and maintain awareness of their important societal role.
  - II. Conduct training and education programs to ensure strict observance of procurement laws and regulations.
- 4) Respect for Moral Standards
  - I. Adhere to strict moral standards.
    - Transactions with counterparties and/or potential counterparties shall not be entered into if there are personal interests involved.
    - Transactions with counterparties and/or potential counterparties shall not be entered into for the purpose of personal gain.
    - Companies shall not compel counterparties and/or potential counterparties to make donations, etc.
  - II. When entering into transactions with subcontracting firms, strive to build a strong, cooperative partnership and maintain a stable supply.
- 5) Environmental Preservation, Resource Conservation (Green Procurement)  
Promote environmental protection by procuring environmentally-conscious products from counterparties that make positive efforts toward the preservation of the environment.
- 6) Employee Training and Education  
Provide procurement training and education to employees.

### Strong Awareness of Human Rights in Procurement Activities

NSK has a policy of not using conflict minerals and takes care in its procurement activities to avoid benefitting armed groups that violate human rights. NSK has conducted a conflict mineral survey every year with the cooperation of suppliers of parts and materials used in NSK products. Surveys through 2017 have not identified any case of conflict minerals produced in restricted regions. NSK takes steps to avoid using parts or materials that are suspected to be related to armed conflict.

Additionally, in response to the UK Modern Slavery Act, which was enacted in 2015, NSK revised the *NSK Supplier CSR Guidelines* and the checklists of the CSR self-assessment to better monitor human rights risks throughout the supply chain.

### Building a Disaster Resistant Supply Chain

NSK has implemented a Supplier Safety Confirmation System. The system can be used to quickly confirm the situation at suppliers in the event of a disaster. This enables NSK to proactively work with suppliers to resolve supply chain issues in challenging situations. Drills are conducted regularly to ensure suppliers properly utilize the system. NSK has also asked major suppliers to create their own business continuity plans and verified their progress.

Basic Philosophy

NSK believes it is essential to have systems that ensure transparent, fair and timely decision making to raise our corporate value in a sustainable manner over the long term. To realize this objective, the Company is constructing its corporate governance systems based on the following four guiding principles.

Policy on Creating a Corporate Governance Structure

- 1) To increase the efficiency and agility of management by proactively delegating decision-making authority regarding the execution of operations from the Board of Directors to the Company's executive organizations.
- 2) To establish oversight of the executive organizations by supervisory organizations through the separation of the former and the latter.
- 3) To strengthen supervisory organizations' oversight of the executive organizations through cooperation between the former and the latter.
- 4) To improve the fairness of management by strengthening compliance systems.

Corporate Governance Structure

Current Structure and Operating Status

(1) Structure

NSK has adopted a Company with Three Committees system as its form of corporate organization to better achieve the aforementioned basic philosophy. As the business execution entity, the CEO has the ultimate authority and responsibility for all operational executive functions and makes decisions concerning the execution of business by the executive officers appointed by directors. In line with that guidance, the executive officers execute business based on a division of responsibilities and duties. The Board of Directors determines fundamental management policies that aim to contribute to the sustained mid- and long-term improvement of corporate value, while properly supervising the state of operational executive functions as a supervisory organization.

(2) Composition of the Board of Directors

The Board of Directors comprises internal directors with insight into business and industry and outside directors who provide supervisory functions and advice from an objective standpoint,

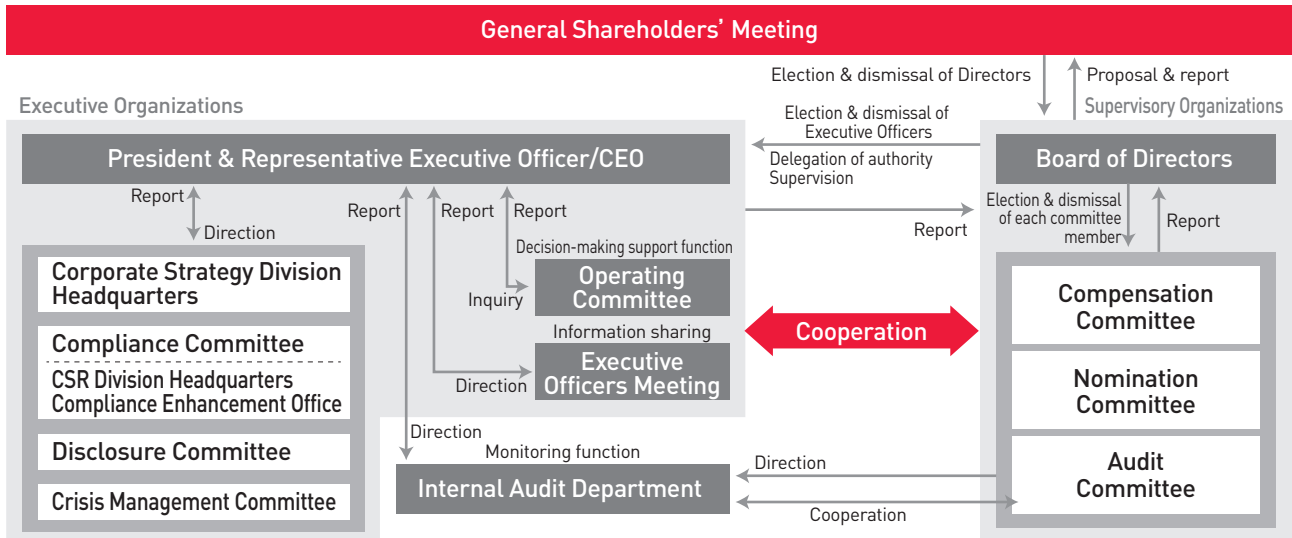
taking the perspective of outside stakeholders. In principle, the ratio of outside to internal directors is at least one to three.

As of August 2018, NSK's Board of Directors consisted of 12 directors, of which five were outside directors (four men, one woman) and seven internal directors (including one non-executive director). This composition enables the Board to make appropriate decisions and implement effective oversight by striking a balance between internal directors' business expertise and outside directors' broad insight.

(3) A Company with Three Committees (Nomination, Audit and Compensation) system

The majority of Nomination, Audit and Compensation committee members, including all three chairs, are outside directors, with the remainder being internal directors. In the fiscal year ended March 31, 2018, the Nomination, Audit and Compensation committees convened meetings six times, 14 times and four times, respectively, fulfilling their critical roles to ensure transparent and sound management decision making.

NSK's Corporate Governance Structure



# CSR/ESG Management

## Corporate Governance

### Outside Directors

#### (1) The Effective Use of Outside Directors

NSK has appointed five outside directors who have beneficial expertise for NSK, excellent personalities and wide knowledge, as well as the ability to fulfill their roles and responsibilities with the aim of contributing to the sustainable growth of the Company and increasing corporate value over the medium to long term. In principle, the ratio of outside to internal directors is at least one to three.

Based on efforts to further enhance the effectiveness and oversight functions of the Board of Directors, outside directors have a wide range of duties that include tight-knit information sharing with executive departments. Accordingly, NSK maintains a sufficient number of outside directors to fulfill these duties.

Meetings consisting of only outside directors are held periodically to facilitate the open exchange of opinions and sharing of knowledge.

#### (2) Independence of Outside Directors

NSK has set specific standards for independence, which are applied when appointing outside directors. By applying these standards, NSK mitigates the risk that a candidate might have a special relationship with the Company's management or its principal shareholders, or a conflict of interest with general shareholders. All outside directors of NSK have fulfilled these standards for independence, the Company has reported all five outside directors as independent directors to the Tokyo Stock Exchange.

The Company's outside directors, who possess a wide range of experience and deep insight in business, management and specialty fields, offer their advice while supervising management from an independent standpoint, thereby enhancing the validity of decision making by the Board of Directors.

### Initiatives Geared toward Further Enhancements

#### (1) Training of Directors and Officers

The Company provides training as necessary to directors and officers when they are appointed on business/financial positions, corporate governance and relevant laws and regulations including Japan's Companies Act. In particular, the Company sends its outside directors on tours of business sites in various regions to deepen their knowledge of matters distinct to the NSK Group.

#### (2) Evaluations of the Board of Directors' Effectiveness

The Company verifies whether the functions of the Board of Directors are being properly fulfilled and, to further strengthen its effectiveness, evaluations of the Board of Directors have been carried out every year since fiscal 2015 through questionnaires and interviews by outside experts in order to maintain objectivity.

As a result, it has been confirmed that these evaluations have invigorated the Board of Directors by improving its operational processes/status mainly involving revising agenda items discussed by the Board, lengthening discussion time and providing prior explanations to the Board. The Company will take steps to improve the effectiveness of the Board of Directors to help further improve corporate value, including enhancing the Board's long-term-oriented and strategic discussions.

### Enhancing and Invigorating Board of Director Discussions

Engaging in lively discussions, NSK's Board of Directors is required to hold meetings that are around three hours long (meetings normally held 10 times a year).

NSK believes that having access to information in advance is essential for invigorating Board of Director discussions. Board meetings are held based on the Board of Directors secretariat and the executive in charge of the Corporate Planning Division providing appropriate information that includes explaining agenda items and distributing documents in advance to both outside and internal directors.

### Internal Control System

NSK works to improve its Groupwide internal control system by clearly stipulating fundamental principles aimed at effectively enabling global Group management and internal control functions.

The Internal Audit Department monitors Groupwide internal control system development and operational status by coordinating with the Audit Committee from a position that is independent from operating divisions.

In fiscal 2016, NSK commissioned an external international auditing agency, The Institute of International Auditors (IIA), to evaluate the quality of NSK's internal audits, which the IIA deemed as "generally conforms" to standards set by the IIA. In fiscal 2017, the Internal Audit Department undertook the development of an internal audit quality assessment structure and published an internal audit quality report for that year. In addition, the Internal Audit Department is conducting audits using data analysis in an effort to improve audit effectiveness. NSK also has worked to strengthen the personnel base at regional headquarters' internal audit offices, which oversee regional entities, in order to establish a global internal auditing foundation and strengthen auditing structures.

In addition, the Internal Audit Department continues to undertake initiatives to address the four key mid-term objectives: 1) enhance compliance, 2) strengthen risk monitoring, 3) increase audit effectiveness and 4) promote the improvement of operational efficiency.

### ► Strengthening NSK's Corporate Governance Structure

(Year to March 31)

2000	<ul style="list-style-type: none"> <li>Adopted an executive officer system and subsequently appointed independent directors to the Company's Board of Directors</li> <li>Established the Voluntary Compensation Committee</li> </ul>
2003	<ul style="list-style-type: none"> <li>Established the Crisis Management Committee</li> </ul>
2004	<ul style="list-style-type: none"> <li>Established the Voluntary Audit Committee</li> </ul>
2005	<ul style="list-style-type: none"> <li>Established the Nominating Committee</li> <li>Adopted a company with committees system</li> <li>Established the Management Monitoring Office (current Internal Audit Department) to undertake auditing functions and monitor the operations of the Company</li> </ul>
2006	<ul style="list-style-type: none"> <li>Established the Information Disclosure Team (current Disclosure Committee)</li> </ul>
2007	<ul style="list-style-type: none"> <li>Became a company with committees pursuant to Japan's Companies Act</li> <li>Established the Internal Control Project Team (later merged into the current Internal Audit Department)</li> </ul>
2011	<ul style="list-style-type: none"> <li>Submitted a notification to the Tokyo Stock Exchange to confirm the independence of all four outside directors</li> <li>Established independence criteria for the Company's outside directors</li> </ul>
2013	<ul style="list-style-type: none"> <li>Established the Compliance Committee</li> </ul>
2016	<ul style="list-style-type: none"> <li>NSK became a Company with Three Committees (Nomination, Audit and Compensation) system based on the revised Companies Act</li> </ul>
2018	<ul style="list-style-type: none"> <li>The three committee chairs were all outside directors</li> </ul>
2019	<ul style="list-style-type: none"> <li>NSK appoints five outside directors (four men, one woman)</li> </ul>



## Directors/Officers' Compensation

### 1. Policy for Directors/Officers' Compensation

The compensation package for NSK's Officers consists of basic compensation, which includes fixed compensation, a performance-based salary that fluctuates and stock compensation, whereas "directors' compensation" and "executive officers' compensation" are separately determined. When a director also serves as an executive officer, the total of each compensation amount shall be paid.

### 2. Decision-Making Process for Directors/Officers' Compensation

#### [Directors' Compensation]

The directors' compensation package consists of basic compensation and stock compensation.

#### (1) Basic compensation

Basic compensation is determined based on whether the director is an outside director or an internal director in addition to the director's role on committees to which the director belongs and the Board of Directors.

#### (2) Stock compensation

To further enhance the commitment of directors to a sustainable increase in corporate value, NSK introduced a stock compensation program using a Board Benefit Trust system. Under the program, NSK grants directors shares of NSK stock at retirement based on a point system whereby points are awarded depending on whether the director is outside or internal and according to the value of the stock. However, NSK will compensate directors with money acquired by converting a certain portion of NSK's shares into cash. For directors who also serve as executive officers, performance shares as directors will not be provided.

#### [Executive Officers' Compensation]

The executive officer compensation package consists of basic compensation, a performance-based salary and stock compensation.

#### (1) Basic compensation

For basic compensation, the amount is determined according to the

title of the executive officer. Moreover, an additional amount will be paid to executive officers with representation rights.

#### (2) Performance-based salary

Using the consolidated sales operating income margin and the consolidated ROE targeted in the Company's mid-term management plan and the operating income margin and cash flow as numerical targets for a single fiscal year and an index to evaluate quality-contributing activity as criteria, the total amount of performance-based salary is calculated. For the compensation amount for the respective executive officers, the title and achievement level in the performance of job duties are evaluated for payment.

#### (3) Stock compensation

To further enhance the commitment of executive officers to a sustainable increase in corporate value, NSK introduced a stock compensation program using a Board Benefit Trust system. Under the program, NSK grants executive officers shares of NSK stock at retirement based on a point system whereby points are awarded depending on the title of the executive officer and according to the value of the stock. However, NSK will compensate executive officers with money acquired by converting a certain portion of NSK's shares into cash.

In addition, in the event a member of a management team of another company such as a subsidiary or an affiliate, etc., assumes an executive officer position, compensation will be determined separately.

### 3. Directors/Officers' Compensation, etc.

The amount of compensation for directors and executive officers between April 1, 2017, and March 31, 2018, was as follows.

#### ■ Compensation Total by Classification of Directors/Officers and Compensation Type and No. of Directors/Officers

Classification	Compensation, etc., Total (¥ Millions)	Basic Compensation		Performance-Based Salary		Stock Compensation		Stock Options	
		No. of Directors/Officers	Amount (¥ Millions)	No. of Directors/Officers	Amount (¥ Millions)	No. of Directors/Officers	Amount (¥ Millions)	No. of Directors/Officers	Amount (¥ Millions)
Directors (internal)	104	9	83	—	—	2	16	5	4
Directors (outside)	63	4	45	—	—	4	14	4	3
Executive Officers	2,486	32	848	30	806	35	796	26	34

Notes: 1. Compensation (excluding stock compensation and retirement benefits) for directors (internal) includes compensation for directors who also serve as executive officers.

2. The amount of performance-based salary is the planned payment amount as of July 2, 2018, based on the results for the year ended March 31, 2018. The amount of performance-based salary as of July 3, 2017, based on the results for the year ended March 31, 2017, was ¥594 million.

3. In the Board Benefit Trust system, the amount of stock compensation is commensurate with the number of points awarded for the fiscal year and booked as costs.

4. At the Compensation Committee meeting held on May 16, 2016, the decision was made to end the stock option programs. The amount of stock options is equivalent to the cost recognized during the fiscal year within compensation related to share subscription rights that were allocated as stock options on August 21, 2015.

5. Figures listed above are rounded down to one million yen.

#### ■ Directors/Officers Receiving a Total of ¥100 Million or More in Consolidated Compensation

Name	Consolidated Compensation, etc., Total (¥ Millions)	Title	Company	Amount for Each Item of Consolidated Compensation, etc.				
				Basic Compensation (¥ Millions)	Performance-Based Salary (¥ Millions)	Stock Compensation (¥ Millions)	Stock Options (¥ Millions)	Retirement Benefit (¥ Millions)
Toshihiro Uchiyama	203	Director	NSK Ltd.	7	—	—	0	—
		Executive Officer	NSK Ltd.	43	64	84	4	—
Saimon Nogami	105	Director	NSK Ltd.	5	—	—	0	—
		Executive Officer	NSK Ltd.	28	34	34	1	—
Shigeyuki Suzuki	104	Director	NSK Ltd.	4	—	—	0	—
		Executive Officer	NSK Ltd.	28	34	34	1	—
Yasuhiro Kamio	104	Director	NSK Ltd.	4	—	—	—	—
		Executive Officer	NSK Ltd.	28	34	34	1	—
Hirotohi Aramaki	102	Director	NSK Ltd.	4	—	—	—	—
		Executive Officer	NSK Ltd.	27	33	34	1	—
Adrian Browne	155	Executive Officer	NSK Ltd.	89	59	5	1	—
Jürgen Ackermann	185	CEO	NSK Europe Ltd.	60	54	6	—	63
Steven Beckman	146	CEO	NSK Americas, Inc.	60	78	5	—	2

# CSR/ESG Management

## Corporate Governance

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### Actions for Japan's Corporate Governance Code

NSK shall adhere to each principle of the Corporate Governance Code.

Based on Japan's revised Corporate Governance Code announced on June 1, 2018, NSK will update and publish the "NSK Corporate Governance Report" through the end of December 2018.

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For details on the NSK Corporate Governance Report (in Japanese only), please refer to the following NSK website.

<http://www.nsk.com/jp/company/governance/index.html>

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### Takeover Defense

NSK introduced response measures to Large-scale Purchases of NSK shares ("Takeover Defenses") at the annual general meeting of shareholders held in June 2008, and subsequently renewed these Takeover Defenses with the approval of shareholders at the annual general meetings of shareholders held in June 2011, June 2014, and June 2017.

NSK is a stock company, the shares of which are traded on capital markets, and the free trading of its stock by all shareholders and investors is permitted. The Company believes that, in the case of a large-scale purchase of NSK shares, the decision whether to accept such a purchase should ultimately be left to the shareholders.

However, taking into account such factors as social and economic changes and recent capital market conditions, there is a possibility that a sudden and unsolicited large-scale purchase of the Company's shares could occur without necessary and sufficient information being disclosed, and without an opportunity to consider the proposal being given to the shareholders and investors of the target company, or without the target company's board of directors being provided with information and time to express its opinion and prepare an alternative proposal. Such large-scale purchases of shares could damage NSK's corporate value and the common interests of its shareholders, such as cases in which the purchaser does not intend to manage the Company reasonably or in good faith.

Therefore, NSK decided to introduce and subsequently renew the Takeover Defenses for the purpose of (i) allowing NSK's shareholders, who will make the final decision, to sufficiently understand the specifics of such a proposal by any person attempting a large-scale purchase of shares and to make an appropriate decision, and (ii) securing and increasing NSK's corporate value or the common interests of the Company's shareholders. Details of the Company's Takeover Defenses are published on our website. Please refer to "Continuation of the Response Measures to Large-scale Purchases of the Company Shares (Takeover Defenses)" as of May 23, 2017.

<http://www.nsk.com/company/governance/index.html#tab4>

# Material Issue: Compliance

## Basic Philosophy

NSK has formulated the NSK Code of Corporate Ethics and clarified its "NSK Corporate Ethics Policies" and "Code of Conduct Concerning Compliance" with the aim of outlining universal principles for conducting all of the Company's activities in accordance with the NSK Corporate Philosophy. NSK aims to continue developing as a company that is trusted by international society and local communities by adhering to the laws and regulations of each country in its corporate activities around the world, and by taking actions based on high ethical standards as a corporate citizen.

## NSK's Efforts to Enhance Compliance

Key initiatives to enhance compliance undertaken to date are as follows.

### (1) Strengthening NSK's Compliance Systems

- ① Compliance Committee  
NSK established this committee in March 2012 and continues to hold it four times a year.
- ② Global Legal and Compliance Meetings  
NSK has held these meetings with the members responsible for compliance from regional headquarters since August 2012. In Fiscal 2017, meetings were held in the United States in June and in Japan in October.
- ③ Compliance Conferences  
NSK has held these conferences with the compliance representatives from each division and Group Company in Japan twice a year since December 2012.

### (2) Establishing Relevant Regulations & Systems

- Operates a system for examining whether to participate in meetings attended by competitors
- Distributes the "NSK Compliance Guidebook" (revised in 2018)
- Formulates and revises the "Rules for Compliance with the Competition Law," "Operational Rules of Hotline," "Anti-Bribery Standards," "Personal Information Protection Regulations," and "Internal Regulation for Preventing Insider Trading"

### (3) Strengthening Education and Awareness Raising Activities

- Regularly distributes the president's message calling for stringent compliance with laws and regulations
- Implements e-learning for officers and employees (twice a year)
- Conducts compliance training at sales divisions, plants, engineering sections and Group companies
- Designated July 26 as "NSK Corporate Philosophy Day"

- Conducts a compliance slogan contest during compliance month (July 26 -August 31)
  - Internally shares compliance violation information
- ### (4) Strengthening Monitoring
- Conducts internal audits of sales divisions relating to Antimonopoly Act compliance
  - Evaluates internal control related to compliance for the NSK Group
  - Conducts a compliance awareness survey for the NSK Group
  - Operates a whistleblowing system (hotline) in each region

## Examples of Key Initiatives in Fiscal 2017

### (1) Preventing Violations of the Competition Law

To raise awareness of adherence to the Competition Law, training on the Competition Law and compliance was provided to 1,463 people through 106 sessions mainly at sales divisions both in and outside Japan. The required training time was around 90 minutes per person (including compliance training).

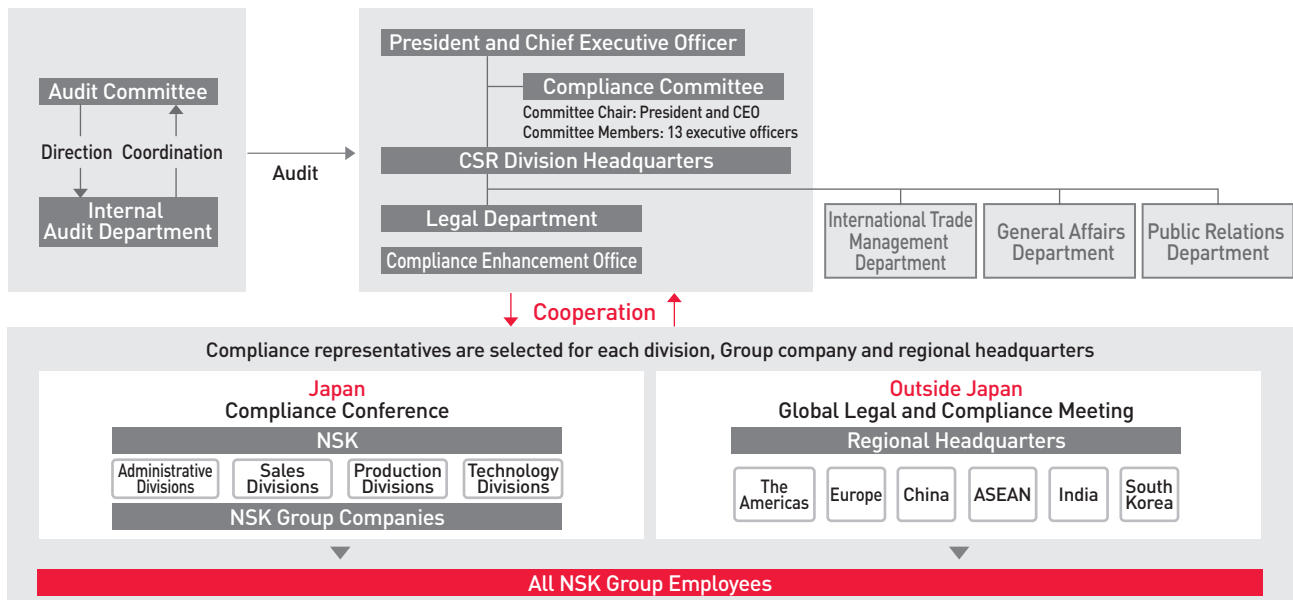
### (2) Second Year of the "NSK Corporate Philosophy Day"

In order to revisit the lessons learned from the past incident, reconfirm the resolve of all employees that no anti-competitive incident will ever occur again, and to ensure that all employees review the Corporate Philosophy and make it their own code of conduct, the date of July 26 has been designated "NSK Corporate Philosophy Day." On the NSK Corporate Philosophy Day in 2017, the president gave a speech and an outside instructor lectured on reaffirming the corporate philosophy and incorporating it into one's actions. On a subsequent day, the attendees discussed workplace issues related to compliance at each workplace.

### (3) Compliance Awareness Surveys

NSK has commissioned an outside survey agency to conduct a compliance awareness survey since 2014 to verify the compliance awareness of its officers and employees. 14,879 respondents including employees from the Company's head office and Group companies in Japan, and 14,014 respondents outside Japan participated in the fourth survey in fiscal 2017. The results of the survey have been reported back to each workplace and effectively used to raise and spread compliance awareness.

## ▶ NSK Group Compliance System (As of August 2018)



# CSR/ESG Management

## Dialogue with Shareholders and Investors

### 1 Basic Philosophy and Structure

In addition to disclosing management information in a fair and rapid manner, NSK is actively engaged in dialogue with shareholders and investors. In line with our aim to achieve sustainable mid- to long-term growth and the stable return of profits, we will continue to be a company that meets the expectations of our stakeholders, including investors and shareholders.

NSK positions IR activities as an important subject for management and organizes its IR office as a dedicated division under the direct control of the CEO and supervised by an executive officer responsible for IR. In cooperation with relevant divisions, the IR office discloses information on business, financial and non-financial (including ESG) matters in an easily understood, fair and appropriate manner.

### 2 Ordinary General Meeting of Shareholders

We recognize the Ordinary General Meeting of Shareholders as a place to engage in active dialogue with shareholders, particularly individual investors, and accordingly set the date to avoid days crowded with other companies' meetings (in 2018, we held the meeting four business days prior to the day that was crowded with other companies' meetings). We also work to provide an accommodating environment, including by promptly disclosing and sending convocation notices and reports (we post convocation notices to our website 28 days prior to the date of the Ordinary General Meeting of Shareholders).

The shareholding ratio of foreign investors is approximately 25%. In light of this, in addition to the posting of the convocation notice in English on our website, we have since 2008 participated on a platform that enables the electronic exercise of voting rights.

#### ▶ The 157th Ordinary General Meeting of Shareholders (June 22, 2018)

**Number of shareholders present: 161**

**Ratio of shareholder voting rights exercised: 84.1%**

### 3 Dialogue with Investors

#### Dialogue with institutional investors

NSK holds financial conferences for analysts and institutional investors in which the mid-term management plans and earnings results are presented by the president. Moreover, the Company holds a variety of IR events including individual interviews by analysts and institutional investors and small meetings, while also visiting investors outside Japan, participating in conferences sponsored by securities firms and convening business briefings.



**Total number of dialogue opportunities in fiscal 2017: 555 companies**

#### Dialogue with individual investors

NSK is promoting the proactive disclosure of information. In addition to holding briefings for individual investors several times a year, we have set up a website specifically for individual investors in order to give them a better understanding of the Company. Through the briefings and website, NSK is also available to answer questions.

**Total number of individual investors participating in fiscal 2017: 513 in 9 briefings**

Website for individual investors (Japanese only)  
<http://www.nsk.com/jp/investors/individual.html>

At NSK, having determined our "Disclosure Policy," we strive to conduct the disclosure of information in a fair manner that does not give rise to discrepancies in information among market participants.

For further information on our Disclosure Policy, please access the link below to our website.  
<http://www.nsk.com/investors/management/disclosurepolicy.html>

### 4 Feedback to Management

We have created a system in which opinions and comments obtained through IR activity and shareholders' meetings are communicated to the Board of Directors, senior executives and the relevant internal departments.

The main information reported at the Board of Directors meetings is the 1) Summary of the Ordinary General Meeting of Shareholders (analysis of voting rights executed, effectiveness of dialogue with institutional investors), and 2) reports on visits to overseas investors (investors' assessments of medium- and long-term policies, as well as their opinions and interests, and other items).

# Key Questions and Answers at Recent Meetings

## 1 The state of competition and the Company's position in the industry

NSK maintains the leading market share for bearings in Japan and the third largest market share in the world. Among other leading products, the Company has the largest global market share for ball screws and the third largest global market share for electric power steering (EPS). Despite increased competition in each product, NSK is ensuring its competitive advantages through its ability to offer solutions to a wide range of close customers, a global operating base and its technological strengths based on four core technologies.

## 2 The Company's view on overseas plant conditions and development

NSK currently has 64 production plants around the world: 20 in Japan, 10 in the Americas, nine in Europe, 12 in China and 13 in Other Asia, giving a total of 44 plants outside Japan. In the Automotive Business, the Company's basic policy is to respond to the local procurement needs of customers through local production and local supply. Under this policy, NSK has been working on local plant development, while taking into consideration an appropriate volume balance. In the Industrial Machinery Business, which has multi-product, small-lot businesses, we are focused on prioritizing efficiency through bulk production, with optimized supply realized amid the use of some export products.

## 3 The Company's view on M&A

One of the most important management issues concerns the option of M&A when such an action could bolster the Company's technological edge and expand its business. We nevertheless believe it is important to maximize any potential effects of M&A by carefully conducting two PMIs: the Pre-Merger Investigation and the Post-Merger Integration (integration process of management, operations and mind-set). M&A activity in the past has included the U.K. bearing manufacturer UPI in 1990, the Polish state-owned company FLT Iskra in 1998 and making Amatsuji Steel Ball Mfg. a wholly owned subsidiary in 2006.

## 4 Medium term growth strategies in the Automotive Business

Amid rising demand for automatic transmissions (step ATs) in emerging markets and trends toward multistep AT, we have positioned the AT-related business as one of the drivers for growth in the Automotive Business. We will seek to secure global supply capabilities and address our customers' expansion of production.

With electric vehicles (EVs), there is some variation according to either drive unit type or deceleration mechanism type, and although it is difficult to calculate the actual number of bearings to be used, demand for bearings is in general expected to decline. Meanwhile, we believe that demand will arise as a result of the electrification of component units that have conventionally derived their power from the engine as well as the emphasis on efficiency-oriented bearings to enhance the conservation of energy. This is in turn expected to fuel new business opportunities where advanced technological capabilities are required. Moreover, we are focused on expanding our business in new products and areas by making good use of NSK's technologies, including ball screws for use in electric brake systems, which are exhibiting a rapid rise in the rate of installation; components for wheel hub motors that drive the motor part of the wheel; and EV drive units, which show promise as a deceleration mechanism necessary in the use of compact high-speed motors as a power source. (Please see PP. 16-19 for Feature 1.)

## 5 NSK's focus on expanding the steering business

Electric power steering (EPS) has been widely installed due to the ease of assembly and fuel-saving attributes. Today, computerized steering control is increasingly important as Advanced Driver Assistance Systems (ADAS) and autonomous driving continue to evolve, and accordingly EPS is now considered essential. Moreover, EPS demand appears likely to expand further due to an increase in automobile demand in emerging markets and a pickup in utilization rates in larger vehicles. NSK's steering business has continued to grow in line with its strength in column-type EPS. However, given the impact of a shift to lower-assist EPS timed to the change in delivered models,

we are moving into an adjustment phase. We will work to realize a return to growth by expanding new projects for column-type EPS and capturing new business for rack-type EPS that leverages our ball screw technology. In addition, over the medium to long term, we will be striving to develop next-generation technologies including steering systems based on steer-by-wire (force feedback actuator, road wheel actuator) and Parallel Link type Active Suspension. (Please see PP. 18-19 for Feature 1.)

## 6 Strategies and Priorities for the Industrial Machinery Business

Operational excellence is one of the two main pillars in our Fifth Mid-Term Management Plan. As one of the measures of this pillar, NSK is improving profitability by enhancing production capacity at the Shenyang plant in China and improving productivity by introducing new manufacturing methods and newly constructed building at the Kirihara, Fujisawa plant in Japan. In addition, the Company is focused on ensuring sustainable growth by expanding its presence in focus sectors. Specifically, this refers to infrastructure-related fields such as wind power generation and railway, where demand appears likely to expand over the medium to long term; expansion in such capital goods areas as machine tools in which NSK shows particular strength; the robotics and medical fields, which are expected to demonstrate further growth in the future; and aftermarket sales, where we are taking measures to strengthen our efforts overseas. Moreover, there is the possibility that advances in IoT, AI and other technologies will transform the structures, systems and ways of using industrial machinery. We will take a proactive stance and seize on developments and needs in the market, while searching for business opportunities in new fields.

## 7 The state of competition and differentiation in the Industrial Machinery Business outside Japan, particularly in China

It has been said that there are more than 1,000 bearing manufacturers in China and that the leaders are improving their technical capabilities and quality in the standard products. NSK is focused on avoiding price competition in low-end areas of demand and in standard products where differentiation is somewhat difficult. Rather, our basic strategy is to focus on growth in fields where we are able to utilize advanced product and production technologies based on our four core technologies. We will secure competitive advantage through the stable and continuous supply of high-quality products in these fields. In addition to promoting the local procurement of parts and materials meeting NSK quality standards, we are focused on improving competitiveness by strengthening local production capacity, largely by making good use of the know-how we have accumulated over the years.

## 8 The status of capital expenditure and R&D expenses

We have revised upward expectations for both the amount of capital expenditures and R&D expenses, compared to our outlook at the start of our Fifth Mid-Term Management Plan. Investments to improve productivity (equipment upgrades, labor-saving measures) so as to raise competitiveness and R&D investments into new products and new technologies have increased. (Please see P. 28 for Progress of the Mid-Term Management Plan.)

## 9 Stance on shareholder returns

In our Fifth Mid-Term Management Plan, we stipulated our policy with regard to the return of profits to shareholders. While placing an emphasis on stable dividends, the Company is targeting a payout ratio of 30%. In addition, as a flexible way to return profits to shareholders, we are acquiring treasury shares. (Please see PP. 38-39 for Financial Strategy / Policy on Shareholder Returns.)

## 10 Stance on CSR/ESG, initiatives with regard to SDGs

We are advancing CSR/ESG management based on our corporate philosophy. We have set initiative goals specifically for the CSR/ESG field, and by advancing these goals we strive to realize a sustainable society and raise corporate value. (Please see PP. 46-47 for NSK's View of CSR in Corporate Value Creation.)

# Management



## 1 Toshihiro Uchiyama N

Director,  
President and Chief Executive Officer  
[Number of Shares Owned: 83,600]

## 2 Saimon Nogami C

Director, Representative Executive Vice President,  
Chief Financial Officer,  
Responsible for Administrative Divisions,  
Head of Corporate Strategy Division Headquarters  
[Number of Shares Owned: 44,800]

## 3 Shigeyuki Suzuki

Director, Representative Executive Vice President,  
Head of Automotive Business Division Headquarters,  
Head of Automotive Powertrain Division  
Headquarters - Automotive Business Division  
Headquarters  
[Number of Shares Owned: 53,300]

## 4 Yasuhiro Kamio

Director, Representative Executive Vice President,  
Head of Industrial Machinery Business Division Headquarters,  
Head of Japan Sales and Marketing Division  
Headquarters - Industrial Machinery Business  
Division Headquarters  
[Number of Shares Owned: 76,100]

## 5 Nobuo Goto

Director, Executive Vice President,  
Responsible for Technology Divisions,  
Responsible for Quality Assurance Division  
Head of Technology Development Division Headquarters  
[Number of Shares Owned: 19,400]

## 6 Akitoshi Ichii

Director, Senior Vice President,  
Head of Corporate Planning Division Headquarters,  
Responsible for Asia  
[Number of Shares Owned: 55,161]

## 7 Toshihiko Enomoto A

Director  
[Number of Shares Owned: 15,316]

## 8 Kazuaki Kama N★

Outside Director,  
Independent Director,  
Executive Corporate Advisor of IHI Corporation,  
Outside Director of Kyokuto Boeki Kaisha, Ltd.,  
Outside Director of Sumitomo Life Insurance Company  
[Number of Shares Owned: 2,800]

## 9 Yasunobu Furukawa A★ C

Outside Director,  
Independent Director,  
Certified Public Accountant,  
Outside Director of Keisei Electric Railway Co., Ltd.  
[Number of Shares Owned: 2,700]

## 10 Teruhiko Ikeda C★ A

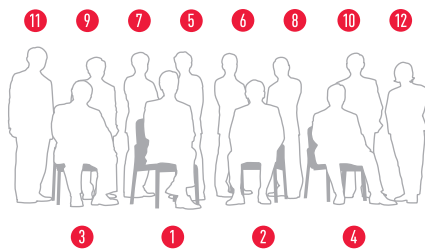
Outside Director,  
Independent Director,  
Advisor of Mizuho Trust & Banking Co., Ltd.  
[Number of Shares Owned: -]

## 11 Hajime Bada N

Outside Director,  
Independent Director,  
Honorary Adviser of JFE Holdings, Inc.,  
Outside Director of Mitsui Chemicals, Inc.,  
External Auditor of Asagami Corporation  
[Number of Shares Owned: -]

## 12 Akemi Mochizuki A

Outside Director,  
Independent Director,  
Certified Public Accountant  
[Number of Shares Owned: -]



**N** : Nominating Committee      **C** : Compensation Committee  
**A** : Audit Committee      ★ : Chairperson

Notes: 1. For the career summary of each director, the independence of the independent directors and the reasons behind their appointments, please see the Notice of the 157th Ordinary General Meeting of Shareholders of NSK and Independent Directors/Auditors Notifications published on the following websites of the Tokyo Stock Exchange.

[Notice of the Ordinary General Meeting of Shareholders]  
<http://www2.tse.or.jp/disc/64710/140120180525447459.pdf>  
 [Independent Directors/Auditors Notifications] [Japanese only]  
<http://www2.tse.or.jp/disc/64710/140120180528448960.pdf>

2. Number of the Company's shares owned as of March 31, 2018

## Executive Officers and Group Officers

President and Chief Executive Officer	Toshihiro Uchiyama	Vice Presidents	Masaru Takayama
Representative Executive Vice Presidents	Saimon Nogami		Seiji Ijuin
	Shigeyuki Suzuki		Nobuaki Mitamura
	Yasuhiro Kamio		Takashi Yamanouchi
Executive Vice Presidents	Masatada Fumoto		Kazuya Fukuda
	Nobuo Goto		Steven Beckman
Senior Vice Presidents	Yasutsugu Hada		Susumu Ishikawa
	Koji Inoue		Tatsuya Atarashi
	Hiroshi Suzuki		Guoping Yu
	Hiroya Miyazaki		Hideki Ochiai
	Adrian Browne		Kunihiko Akashi
	Katsumi Kobayashi		Hiroya Achiha
	Masami Shinomoto	Keita Suzuki	
	Hiromasa Orito	Hayato Omi	
Group Officers	Kazunori Iritani	Tamami Murata	
	Akitoshi Ichii	Hiroyuki Tsugimoto	
	Kenichi Yamana	Seong-Il Jo	
	Tomoyuki Yoshikiyo	Yoshinori Sugimoto	
			Minoru Arai

# Consolidated Statements of Financial Position (IFRS)

(Millions of Yen)

As of March 31,		2017	2018
<b>Assets</b>			
Current assets	Cash and cash equivalents	139,573	<b>131,283</b>
	Trade receivables and other receivables	200,954	<b>217,200</b>
	Inventories	131,810	<b>143,052</b>
	Other financial assets	12,284	<b>1,953</b>
	Income tax receivables	3,024	<b>1,006</b>
	Other current assets	18,637	<b>16,848</b>
	<b>Total current assets</b>	<b>506,284</b>	<b>511,346</b>
Non-current assets	Property, plant and equipment	329,183	<b>351,875</b>
	Intangible assets	17,174	<b>18,191</b>
	Investments accounted for using equity method	23,186	<b>27,168</b>
	Other financial assets	88,904	<b>96,543</b>
	Deferred tax assets	21,052	<b>18,931</b>
	Net defined benefit assets	54,969	<b>64,171</b>
	Other non-current assets	3,198	<b>4,082</b>
	<b>Total non-current assets</b>	<b>537,670</b>	<b>580,964</b>
<b>Total assets</b>		<b>1,043,955</b>	<b>1,092,310</b>
<b>Liabilities and Equity</b>			
<b>Liabilities</b>			
Current liabilities	Trade payables and other payables	150,212	<b>141,797</b>
	Other financial liabilities	111,240	<b>109,168</b>
	Provisions	60	<b>66</b>
	Income tax payables	4,540	<b>6,123</b>
	Other current liabilities	52,548	<b>50,804</b>
	<b>Total current liabilities</b>	<b>318,603</b>	<b>307,960</b>
Non-current liabilities	Financial liabilities	157,240	<b>143,009</b>
	Provisions	15,327	<b>12,116</b>
	Deferred tax liabilities	37,089	<b>42,913</b>
	Net defined benefit liabilities	24,771	<b>18,954</b>
	Other non-current liabilities	5,911	<b>6,341</b>
	<b>Total non-current liabilities</b>	<b>240,340</b>	<b>223,335</b>
<b>Total liabilities</b>		<b>558,943</b>	<b>531,296</b>
<b>Equity</b>			
	Issued capital	67,176	<b>67,176</b>
	Capital surplus	79,676	<b>80,264</b>
	Retained earnings	308,395	<b>362,859</b>
	Treasury shares	(17,937)	<b>(17,815)</b>
	Other components of equity	24,039	<b>44,689</b>
	<b>Total equity attributable to owners of the parent</b>	<b>461,350</b>	<b>537,175</b>
	Non-controlling interests	23,661	<b>23,839</b>
<b>Total equity</b>		<b>485,011</b>	<b>561,014</b>
<b>Total liabilities and equity</b>		<b>1,043,955</b>	<b>1,092,310</b>



## Consolidated Statements of Income (IFRS)

(Millions of Yen)

Year ended March 31,	2017	2018
Sales	949,170	<b>1,020,338</b>
Cost of sales	738,434	<b>788,052</b>
Gross profit	210,736	<b>232,286</b>
Selling, general and administrative expenses	132,021	<b>138,459</b>
Share of profits of investments accounted for using the equity method	5,086	<b>6,448</b>
Other operating expenses	18,458	<b>2,398</b>
Operating income	65,341	<b>97,875</b>
Financial income	2,576	<b>2,476</b>
Financial expenses	4,301	<b>3,103</b>
Income before income taxes	63,617	<b>97,248</b>
Income tax expense	14,619	<b>24,087</b>
Net income	48,997	<b>73,160</b>
Net income attributable to:		
Owners of the parent	45,560	<b>69,312</b>
Non-controlling interests	3,437	<b>3,848</b>
(Earnings per share attributable to owners of the parent)		
Basic earnings per share (yen)	86.08	<b>131.16</b>
Diluted earnings per share (yen)	86.03	<b>130.96</b>

## Consolidated Statements of Comprehensive Income (IFRS)

(Millions of Yen)

Year ended March 31,	2017			2018		
	Before tax effect	Tax effect	Amount (net)	Before tax effect	Tax effect	Amount (net)
Net income			48,997			<b>73,160</b>
Other comprehensive income						
Items that will not be reclassified to profit or loss						
Remeasurements of net defined benefit liability (asset)	(2,445)	(1,162)	(3,608)	<b>13,877</b>	<b>(2,815)</b>	<b>11,061</b>
Net changes in financial assets measured at fair value through other comprehensive income	9,923	(1,216)	8,707	<b>10,852</b>	<b>(2,572)</b>	<b>8,279</b>
Share of other comprehensive income of investments accounted for using equity method	213	(81)	131	<b>212</b>	<b>(57)</b>	<b>155</b>
Total items that will not be reclassified to profit or loss	7,691	(2,460)	5,231	<b>24,941</b>	<b>(5,445)</b>	<b>19,496</b>
Items that may be reclassified to profit or loss						
Exchange differences on translating foreign operations	(8,419)	—	(8,419)	<b>3,917</b>	—	<b>3,917</b>
Share of other comprehensive income of investments accounted for using equity method	(138)	—	(138)	<b>93</b>	—	<b>93</b>
Total items that may be reclassified to profit or loss	(8,558)	—	(8,558)	<b>4,010</b>	—	<b>4,010</b>
Total other comprehensive income	(866)	(2,460)	(3,327)	<b>28,952</b>	<b>(5,445)</b>	<b>23,506</b>
Total comprehensive income for the period			45,670			<b>96,667</b>
Total comprehensive income for the period attributable to:						
Owners of the parent			42,430			<b>92,551</b>
Non-controlling interests			3,240			<b>4,116</b>

## Consolidated Statements of Changes in Equity (IFRS)

(Millions of Yen)

Year ended March 31, 2017	Equity attributable to owners of the parent			
	Issued capital	Capital surplus	Retained earnings	Treasury shares
Opening balance	67,176	79,603	278,524	(3,949)
Net income	—	—	45,560	—
Other comprehensive income	—	—	—	—
Total comprehensive income for the period	—	—	45,560	—
Purchase of treasury shares	—	—	—	(15,008)
Disposal of treasury shares	—	27	—	1,021
Share-based payment transactions	—	383	—	—
Cash dividends	—	—	(21,905)	—
Changes in the ownership interest in subsidiaries	—	(339)	—	—
Other	—	—	6,216	—
Total transactions with owners, etc.	—	72	(15,689)	(13,987)
Closing balance	67,176	79,676	308,395	(17,937)

	Equity attributable to owners of the parent							
	Other components of equity				Total	Total	Non-controlling interests	Total equity
	Exchange differences on translating foreign operations	Net changes in financial assets measured at fair value through other comprehensive income	Remeasurements of net defined benefit liability (asset)	Total				
Opening balance	(3,191)	35,292	1,204	33,306	454,661	24,210	478,871	
Net income	—	—	—	—	45,560	3,437	48,997	
Other comprehensive income	(8,340)	8,705	(3,495)	(3,130)	(3,130)	(196)	(3,327)	
Total comprehensive income for the period	(8,340)	8,705	(3,495)	(3,130)	42,430	3,240	45,670	
Purchase of treasury shares	—	—	—	—	(15,008)	—	(15,008)	
Disposal of treasury shares	—	—	—	—	1,048	—	1,048	
Share-based payment transactions	—	—	—	—	383	—	383	
Cash dividends	—	—	—	—	(21,905)	(2,482)	(24,388)	
Changes in the ownership interest in subsidiaries	—	—	—	—	(339)	(1,305)	(1,645)	
Other	—	(6,136)	—	(6,136)	80	—	80	
Total transactions with owners, etc.	—	(6,136)	—	(6,136)	(35,741)	(3,788)	(39,530)	
Closing balance	(11,531)	37,862	(2,290)	24,039	461,350	23,661	485,011	

(Millions of Yen)

Year ended March 31, 2018	Equity attributable to owners of the parent			
	Issued capital	Capital surplus	Retained earnings	Treasury shares
Opening balance	<b>67,176</b>	<b>79,676</b>	<b>308,395</b>	<b>(17,937)</b>
Net income	—	—	<b>69,312</b>	—
Other comprehensive income	—	—	—	—
Total comprehensive income for the period	—	—	<b>69,312</b>	—
Purchase of treasury shares	—	—	—	(11)
Disposal of treasury shares	—	<b>119</b>	—	<b>134</b>
Share-based payment transactions	—	<b>591</b>	—	—
Cash dividends	—	—	<b>(17,452)</b>	—
Changes in the ownership interest in subsidiaries	—	<b>(122)</b>	—	—
Other	—	—	<b>2,604</b>	—
Total transactions with owners, etc.	—	<b>588</b>	<b>(14,848)</b>	<b>122</b>
Closing balance	<b>67,176</b>	<b>80,264</b>	<b>362,859</b>	<b>(17,815)</b>

	Equity attributable to owners of the parent							
	Other components of equity				Total	Total	Non-controlling interests	Total equity
	Exchange differences on translating foreign operations	Net changes in financial assets measured at fair value through other comprehensive income	Remeasurements of net defined benefit liability (asset)	Total				
Opening balance	<b>(11,531)</b>	<b>37,862</b>	<b>(2,290)</b>	<b>24,039</b>	<b>461,350</b>	<b>23,661</b>	<b>485,011</b>	
Net income	—	—	—	—	<b>69,312</b>	<b>3,848</b>	<b>73,160</b>	
Other comprehensive income	<b>3,757</b>	<b>8,311</b>	<b>11,170</b>	<b>23,239</b>	<b>23,239</b>	<b>267</b>	<b>23,506</b>	
Total comprehensive income for the period	<b>3,757</b>	<b>8,311</b>	<b>11,170</b>	<b>23,239</b>	<b>92,551</b>	<b>4,116</b>	<b>96,667</b>	
Purchase of treasury shares	—	—	—	—	(11)	—	(11)	
Disposal of treasury shares	—	—	—	—	<b>253</b>	—	<b>253</b>	
Share-based payment transactions	—	—	—	—	<b>591</b>	—	<b>591</b>	
Cash dividends	—	—	—	—	<b>(17,452)</b>	<b>(3,231)</b>	<b>(20,684)</b>	
Changes in the ownership interest in subsidiaries	—	—	—	—	<b>(122)</b>	<b>(706)</b>	<b>(828)</b>	
Other	—	<b>(2,589)</b>	—	<b>(2,589)</b>	<b>15</b>	—	<b>15</b>	
Total transactions with owners, etc.	—	<b>(2,589)</b>	—	<b>(2,589)</b>	<b>(16,726)</b>	<b>(3,938)</b>	<b>(20,664)</b>	
Closing balance	<b>(7,774)</b>	<b>43,584</b>	<b>8,880</b>	<b>44,689</b>	<b>537,175</b>	<b>23,839</b>	<b>561,014</b>	

# Consolidated Statements of Cash Flows (IFRS)

(Millions of Yen)

Year ended March 31,	2017	2018
Operating activities		
Income before income taxes	63,617	<b>97,248</b>
Depreciation and amortisation	43,354	<b>46,785</b>
Increase (decrease) in net defined benefit liability and net defined benefit asset	(20,133)	<b>(985)</b>
Interest and dividend income	(2,414)	<b>(2,329)</b>
Interest expenses	3,701	<b>2,978</b>
Share of profits of investments accounted for using the equity method	(5,086)	<b>(6,448)</b>
Decrease (increase) in trade receivables	(22,007)	<b>(12,464)</b>
Decrease (increase) in inventories	(3,756)	<b>(10,382)</b>
Increase (decrease) in trade payables	14,439	<b>(11,116)</b>
Other	13,446	<b>(2,957)</b>
Subtotal	85,161	<b>100,328</b>
Interest and dividend received	6,440	<b>5,174</b>
Interest expenses paid	(3,746)	<b>(2,921)</b>
Income tax paid	(19,919)	<b>(18,835)</b>
Net cash provided by operating activities	67,936	<b>83,746</b>
Investing activities		
Purchases of property, plant and equipment	(53,297)	<b>(61,397)</b>
Proceeds from sale of property, plant and equipment	2,932	<b>386</b>
Purchases of other financial assets	(11,166)	<b>(162)</b>
Proceeds from sale and redemption of other financial assets	10,785	<b>16,941</b>
Other	(3,498)	<b>(8,769)</b>
Net cash used in investing activities	(54,243)	<b>(53,001)</b>
Financial activities		
Proceeds from long-term loans	6,914	<b>12,000</b>
Repayments of long-term loans	(17,963)	<b>(48,687)</b>
Proceeds from issuance of corporate bonds	20,000	<b>20,000</b>
Payments for redemption of corporate bonds	(20,000)	<b>—</b>
Acquisition of treasury shares	(15,001)	<b>(4)</b>
Dividends paid	(21,882)	<b>(17,438)</b>
Dividends paid to non-controlling interests	(2,482)	<b>(3,233)</b>
Other	2,003	<b>(2,440)</b>
Net cash used in financial activities	(48,413)	<b>(39,804)</b>
Effect of exchange rate changes on cash and cash equivalents	(1,221)	<b>770</b>
Net increase (decrease) in cash and cash equivalents	(35,942)	<b>(8,289)</b>
Cash and cash equivalents at beginning of the period	175,515	<b>139,573</b>
Cash and cash equivalents at end of the period	139,573	<b>131,283</b>

# Management's Discussion and Analysis of Financial Position, Results of Operations and Cash Flows

## 1 Overview of the Year Ended March 31, 2018

Business performance in each business segment remained strong amid the gradual recovering trend of the world economy, enabling the NSK Group to set new record-highs for both sales and operating income.

Looking at global economic conditions during the year ended March 31, 2018, the Japanese economy underwent a gradual recovery, mainly driven by a pick-up in consumption and steady improvement in employment. The U.S. economy continued to see solid growth due to stronger employment and capital expenditures. The European economy trended toward recovery, primarily in the Eurozone, on the back of growth in consumption and a moderate increase in

capital expenditures. Meanwhile, the Chinese economy enjoyed steady growth, boosted by a range of government policies, while other Asian economies exhibited a gradual recovery.

In this economic environment, consolidated net sales for the year ended March 31, 2018 totaled ¥1,020,338 million, a year-on-year increase of 7.5%, and operating income totaled ¥97,875 million, a year-on-year increase of 49.8%. Income before income taxes was ¥97,248 million, a year-on-year increase of 52.9%. Net income attributable to owners of the parent was ¥69,312 million, a year-on-year increase of 52.1%.

## 2 Business Segment Information

Details regarding the market environment and results by business segment are as follows.

### Industrial Machinery Business segment

The Industrial Machinery Business has continued to recover. Looking at the NSK Group's results by geographic breakdown, sales in Japan increased, primarily in the machine tool and electrical sectors. In the Americas, sales in the semiconductor and general machinery sectors rose. In Europe, sales increased, primarily in the machine tool and aftermarket sectors. Sales in China also grew steadily due to strength in the electrical, and aftermarket sectors. In other Asian countries, sales increased due to a continuing recovery in demand, primarily in the semiconductor sector.

As a result, net sales in the industrial machinery business totaled ¥266,249 million, a year-on-year increase of 17.3%. Operating income was ¥28,333 million, a year-on-year increase of 93.3%.

In the Industrial Machinery Business, sales to such sectors as machine tools, semiconductors, and electrical equipment were strong, and both sales and operating income could be significantly increased against a backdrop of expansion in production volume associated with robust demand. In addition to strengthening our productivity by investing in capacity increase, we are improving our portfolio by concentrating on high-value-added products and high-profit sectors while improving profitability. Going forward, to expand the Industrial Machinery Business's presence in the market over the medium to long term, we will continue to focus on growth areas and work to expand profit-generating business.

### Automotive Business segment

The global automotive business continued its gradual expansion. Looking at the Company's results by geographic breakdown, sales in Japan increased, primarily in products for transmission systems. In the Americas, sales declined due to slowdown in the U.S. automotive market. In Europe, sales increased due to solid vehicle sales. In China, the increase in sales was slight, partially due to a change in product mix. Meanwhile, sales in other Asian countries rose, primarily in India.

As a result, net sales in the automotive business totaled ¥723,564 million, a year-on-year increase of 3.9%. Operating income totaled ¥65,963 million, a year-on-year increase of 2.1%.

In the Automotive Business, the gradual expansion of global automobile production volumes continued, and we achieved record-high sales as the Japanese powertrain business in particular performed well. Although there were cost hike factors, such as increases in the prices of raw materials, we were able to maintain operating income in the 9% range due to improvements in productivity and other cost reductions. Going forward, we will aim for continued growth from the powertrain business and to contribute to new automotive technologies, such as EVs and autonomous driving, by means of the elemental technologies accumulated up to now and new technological initiatives.

### 3 Analysis of Financial Position

Total assets were ¥1,092,310 million, an increase of ¥48,355 million compared to total assets on March 31, 2017. The main reasons for this were increases of ¥16,245 million in trade receivables and other receivables, ¥11,242 million in inventories, ¥22,691 million in property, plant and equipment, and ¥9,202 million in net defined benefit assets, which offset a decrease of ¥10,330 million in other financial assets (current).

Total liabilities were ¥531,296 million, a decrease of ¥27,647 million compared to total liabilities as of March 31, 2017. The main reasons for this were decreases of ¥8,415 million in trade payables and other payables, ¥2,072 million in other financial liabilities (current), ¥14,230 million in financial liabilities (non-current), ¥5,817 million in net defined benefit liabilities, and ¥3,210 million in provisions (non-current), which offset an increase of ¥5,823 million in deferred tax liabilities.

Total equity totaled ¥561,014 million, an increase of ¥76,003 million compared to total equity as of March 31, 2017. The main reasons for this were increases of ¥69,312

million in net income attributable to owners of the parent, and ¥20,649 million in other components of equity.

Total current assets increased ¥5,061 million compared with the previous fiscal year-end, to ¥511,346 million. Total current liabilities decreased ¥10,642 million compared with the previous fiscal year-end to ¥307,960 million. As a result, the current ratio increased from 1.59 times as of the previous fiscal year-end to 1.66 times. Gross interest-bearing debt decreased ¥16,491 million compared with the end of the previous fiscal year-end to ¥250,908 million. Net interest-bearing debt (interest-bearing debt net of cash and cash equivalents) was down ¥8,202 million compared with the previous fiscal year-end to ¥119,624 million. The net D/E ratio decreased from 0.28 in the previous fiscal year to 0.22. Equity per share attributable to owners of the parent increased from ¥873.11 to ¥1,016.30. The equity ratio attributable to owners of the parent increased from 44.2% as of the previous fiscal year-end to 49.2%.

### 4 Cash Flows

Total cash and cash equivalents at the end of the period were ¥131,283 million, a year-on-year decrease of ¥8,289 million. Cash flows for the fiscal year under review are presented as follows.

#### Net cash flow provided by operating activities

Net cash flow provided by operating activities totaled ¥83,746 million, an increase of ¥15,810 million, compared to the same period of the previous year. The main cash inflows were ¥97,248 million in income before income taxes, and ¥46,785 million in depreciation and amortisation. Meanwhile, the main cash outflows were a ¥12,464 million increase in trade receivables, a ¥10,382 million increase in inventories, a ¥11,116 million decrease in trade payables, and ¥18,835 million in income tax paid.

#### Net cash flow used in investing activities

Net cash flow used in investing activities totaled ¥53,001 million, a decrease of ¥1,241 million compared to the same period of the previous year. The main cash outflow was ¥61,397 million in purchases of property, plant and equipment. Meanwhile, the main cash inflow was ¥16,941 million in proceeds from sale and redemption of other financial assets.

#### Net cash flow used in financing activities

Net cash flow used in financing activities totaled ¥39,804 million, a decrease of ¥8,609 million compared to the same period of the previous year. The main outflows were ¥48,687 million in repayments of long-term loans and ¥17,438 million in dividends paid. Meanwhile, the main cash inflows were ¥12,000 million in proceeds from long-term loans and ¥20,000 million in proceeds from issuance of corporate bonds.

### 5 Fiscal Policy

The NSK Group's financing is currently derived from its own funds and borrowings, etc. With regard to working capital, in the case of financing through borrowing, it is common to obtain short-term loans with a term of less than one year in the local currency used by each consolidated company. As of March 31, 2018, the outstanding balance of short-term loans was ¥62,039 million. Long-term funds, such as those for machinery and equipment for production, are financed primarily through long-term loans and corporate bonds. As of March 31, 2018, the outstanding balance of long-term loans and corporate bonds was ¥188,868 million, the

breakdown of which was loans from financial institutions of ¥108,868 million and unsecured corporate bonds of ¥80,000 million.

Going forward, we aim to reduce our interest-bearing debt by strengthening our financial and earnings structure. The NSK Group believes that it is possible to finance the working capital and capital expenditures necessary to maintain growth through its sound financial situation, ability to generate cash flow from operating activities, commitment line contracts totaling ¥15,000 million and the issuance of commercial paper amounting to ¥50,000 million.

# Basic Knowledge of Bearings

Here, we provide basic information on bearings.

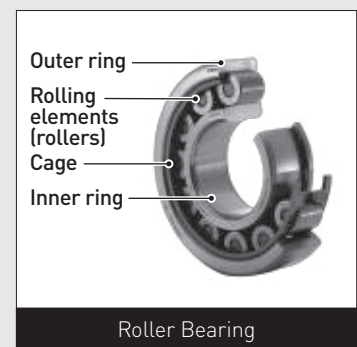
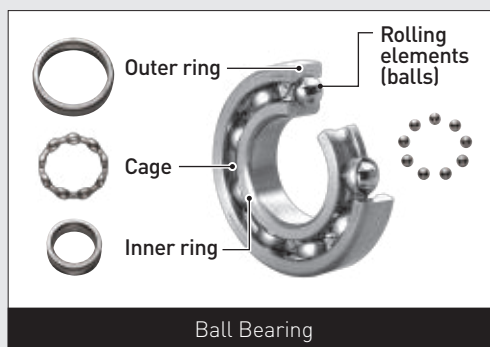
## Structure and Function

Bearings—the staple of industry. A surprisingly large number of them can be found all around us. Bearings are used in all kinds of machinery, such as automobiles, airplanes, washing machines, refrigerators, air conditioners, vacuum cleaners, photocopy machines, computers and even in satellites far away in outer space. Bearings enhance the functionality of machinery and help to save energy. Around 100 bearings are used in the average household and 100 to 150 or more are in an automobile. They play an active role in making our lives smoother everywhere in the world, from everyday life to offices, factories and cutting-edge science laboratories. Bearings are utilized in tough environments and in hidden places, such as inside machinery, so we do not usually get the opportunity to see them. Nevertheless, bearings are crucial for the stable operation of machinery and for ensuring top performance.

The term *bearing* incorporates the meaning of “to bear,” in the sense of “to support,” and “to carry a burden.” This refers to the fact that bearings support and carry the burden of revolving axles.

### Structure

The ball bearings and roller bearings pictured to the right represent two typical types of the most basic category of bearings, known as rolling bearings. Rolling bearings are made up of four elements—an outer ring, an inner ring, a cage as well as rolling elements—and have an extremely simple basic structure.



### Function

The basic function of bearings is principally to reduce mechanical friction. Reducing friction means:

**1. Machinery will run more efficiently**









**2. There will be less frictional wear, extending the operating life of the machinery**

**3. Preventing abrasion burn and avoiding mechanical breakdown**

Bearings also contribute to lower energy consumption by reducing friction and allowing the efficient transmission of power. This is just one way in which bearings are environmentally friendly.

## Types of Bearings

A brief overview of typical bearings is presented as follows.

- |  |   |   |  |
|--|---|---|--|
| <p><b>1 Deep groove ball bearing</b></p>  <p>This is the most widely used bearing in the world.</p>   | <p><b>2 Angular contact thrust ball bearing</b></p>  <p>In this type, the rolling element meets the inner and outer ring raceways at a contact angle. This bearing can carry radial and axial loads.</p> | <p><b>3 Thrust ball bearing</b></p>  <p>Thrust ball bearings are capable of handling loads in the axial direction (axial loads). They can support heavy loads.</p> | <p><b>4 Cylindrical roller bearing</b></p>  <p>The rolling elements are the cylindrical roller type.</p>  |
| <p><b>5 Tapered roller bearing</b></p>  <p>The rolling elements are of the tapered roller type. Because the rollers are tapered, this bearing is able to carry combined axial and radial loads.</p> | <p><b>6 Self-aligning roller bearing</b></p>  <p>This bearing has an automatic aligning function to compensate for minute misalignments between the inner and outer rings during operation.</p>          | <p><b>7 Thrust needle bearing</b></p>  <p>This bearing is used in parts such as compressors that deliver the air in automobile air-conditioning units.</p>         | <p><b>8 Cage and roller</b></p>  <p>This is one of several kinds of bearings used in vehicles' manual transmissions. It is required to be highly durable.</p> |



## Did you know? —the Amazing World of Bearings

### Playing a role in severe ultra-high and ultra-low temperature environments

#### High temperature

Medical CT scanners have become an essential part of keeping us healthy. High-performance bearings are used inside the CT scanner vacuum tubes that generate X-rays and are working in high-temperature environments reaching 300 to 500°C.



#### Low temperature

NSK bearings work in ultra-low temperature environments of -162°C in LNG (liquefied natural gas) pumps. Moreover, some bearings are used in environments of -250°C within the liquid fuel pumps of space rockets.



### Ranging in size from an outer diameter of 6 m down to 2 mm

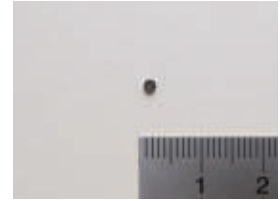
#### Largest

The Eurotunnel, which links England and France under the Strait of Dover, was dug using a tunnel boring machine that employed an extra large size bearing weighing 15 tons and having an outer diameter of 6 m.



#### Smallest

Miniature bearings are used in cooling fans and extra small motors, for example. The smallest bearings made by NSK have a bore diameter of 0.6 mm, an outer diameter of 2.0 mm and a thickness of 0.8 mm.



### Astounding rotation speed of 400,000 times per minute

#### High-speed rotation

Dental handpieces used by dentists rotate at an astounding speed of 400,000 times per minute (6,600 times per second). The high-accuracy, low-vibration bearings used in these devices help reduce pain during medical treatment.



### The balls that are the closest to being perfect spheres on Earth

#### Sphericity

With a sphericity of less than 0.05 micrometers, the balls that are closest to being perfect spheres on Earth are the balls used in bearings. If a 10-mm diameter ball were enlarged to the size of the Earth, any bumps would only be about the size of the Great Buddha of Kamakura, Japan (11 m).



### Bearings used in different environments

#### Artificial satellites

With its vacuum, microgravity, severe temperature differences and cosmic radiation, the special environment of space differs from the environment of Earth. Even so, bearings must perform flawlessly here. NSK bearings also are used in the flywheels for artificial satellite attitude control.



(C) JAXA

#### Wind turbines

Wind turbine generators are increasingly used as a source of renewable energy. The locations in which these are installed have expanded from coastlands and mountains to the ocean and are required to be maintenance-free under severe environmental conditions. Extra large size bearings, which can reach 2 m in size, are now required to provide greater reliability and durability than before.



#### Food processing machinery

Food processing machinery's greatest priority is the consideration of health and safety. Naturally, bearings must not contain any toxic substances for humans but must be resistant to water and dust, be able to withstand antiseptic chemicals and be unlikely to rust. Therefore bearings for special environments which meet these needs are also used.



SPACEA™ Series bearings for special environments

# Glossary

Term	Meaning
Actuator	Actuators refer to mechanical components that, for example, play a role in the actuation of brakes and gear shifting of automobiles.
Aftermarket	Aftermarket refers to maintenance and repair demand. In NSK, aftermarket mainly means the demand and business for repair and replacement.
Alternator	An alternator is an electric generator to use and change engine rotation to electricity. The term <i>alternator</i> derives from alternating current.
Ball Screw	A ball screw is a machinery part consisting of a screw shaft, nut and ball, etc. Ball screws convert rotation into linear motion and enable accurate positioning. In ball screws, a rolling element (ball) like the ones used in bearings is incorporated in the section where the groove of the screw and screw head contact each other and, similar to a bearing, the ball screw moves smoothly and features minute levels of friction resistance.
BCP	BCP stands for <b>B</b> usiness <b>C</b> ontinuity <b>P</b> lan. In a BCP, companies determine activities in normal times and the methods and means for continuing business in times of emergency to minimize damage to business assets and to allow continuation or early recovery of the core business in the event of emergency situations such as natural disasters, large fires and terrorist attacks.
BOD	BOD stands for <b>B</b> iochemical <b>O</b> xxygen <b>D</b> emand and serves as an index to indicate the degree of water pollution caused by organic compounds. Specifically, BOD refers to the amount of oxygen required for microbes to oxidize and decompose the organic compounds. The value shown in the Material Balance (P. 50) indicates the BOD load as determined by multiplying the amount of water discharged into rivers from NSK's business sites by the BOD measurement value.
Brake Boosters	One of the components of an automobile's brake is referred to as a brake booster. A system that helps reduce the amount of force needed from the driver to operate the brake. One type that makes use of the engine intake's negative pressure for its operation was mainstream, but the shift toward electrification is ongoing.
Brake Rotor	Brake rotors are the disc-shaped components that make up part of the disc braking systems found in automobiles and motorcycles. By pressing the other part of the brake (brake pad) against the rotor as it turns along with the wheel, the resulting friction decelerates or stops the wheel.
Clutch Assembly	Unit component used for automobile automatic transmissions (ATs) that consists of friction plates, separator plates, clutch housing, etc. Clutch assembly serves the function of transmitting or shutting off motive power.
CMS	CMS stands for <b>C</b> ondition <b>M</b> onitoring <b>S</b> ystem. One example of a CMS is a system for understanding/analyzing the operational status of bearings (e.g., vibration, noise, rotational torque) based on various data by bearings with sensors installed.
Column-Type EPS (Column Assist EPS)	Column-type EPS is a type of Electric Power Steering which has a power assist element of a motor located on the steering column. The steering column is a component that conveys the turning of the steering wheel of vehicles to the steering gear, and the steering column adjusts the steering wheel position and mitigates the impact during a collision. NSK has been strong at steering column production and boasts a top-class world market share of column-type EPS.
Conflict Minerals	Minerals that lead to sources of funds for armed groups and antigovernment forces that violate human rights, the procurement of which gives rise to concerns about complicity in conflicts. Under the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act, companies listed on the U.S. market are obliged to investigate usage and disclose information every year with regard to the four minerals (tin, tantalum, tungsten and gold) mined in the Democratic Republic of Congo and adjoining countries.
CSR Procurement	CSR procurement refers to the procurement of raw materials and parts in consideration of compliance with laws and regulations, environmental protection, human rights, occupational safety and health.
CVT	CVT stands for <b>C</b> ontinuously <b>V</b> ariable <b>T</b> ransmission, also known as gearless transmission. This term refers to transmissions that continuously shift the gear ratio using a mechanism other than gears.
ECU	ECU stands for <b>E</b> lectronic <b>C</b> ontrol <b>U</b> nit. By using electronic circuits, ECU is a device that controls the operation of a motor, etc. Among NSK's products, ECU used for electric power steering is particularly important.
Electric Power Steering	Please refer to "EPS."
Electric Tilt and Telescopic Mechanisms	Electric tilt and telescopic mechanisms enable the steering wheel to be adjusted to an angle and position that is comfortable for the driver to operate. The tilt mechanism adjusts the steering wheel angle (height), and the telescopic mechanism adjusts the forward and backward position of the steering wheel. Electric tilt and telescopic mechanisms enable the angle and position to be adjusted electrically.
EPS	EPS stands for <b>E</b> lectric <b>P</b> ower <b>S</b> teering. An EPS is a mechanism that supports the turning of automobile steering wheels (in other words, enabling the turning of steering wheels even with light force) by using an electric motor instead of hydraulic power. EPS can be divided into three types (column type, pinion type and rack type) depending on the location of the motor to which the power assist is provided.
Four Core Technologies	Four core technologies refer to NSK's core technologies. For details, please refer to P. 40.
Friction	Friction refers to friction resistance. Friction becomes an important factor when applying different types of movement in machinery and devices. In terms of bearings, friction affects the smoothness of movement when the inner ring and outer ring turn, so reducing and controlling friction is essential.
GAM	GAM stands for <b>G</b> lobal <b>A</b> ccount <b>M</b> anager in NSK. GAMs coordinate the global platform projects of automobiles across regions.
Green Procurement	Green procurement refers to the procurement of raw materials in consideration of the environment. The NSK Group has stipulated the NSK Group Green Procurement Standards ( <a href="http://www.nsk.com/sustainability/csrReport/supplemental/greenps.html">http://www.nsk.com/sustainability/csrReport/supplemental/greenps.html</a> ).
Hub Unit Bearings	A hub for automobiles is the component where the wheels are screwed on. Hub unit bearings are used for the rotation part of the hub and are unit-type bearings integrated with coupling parts. Depending on the level of integration, there are various types of hub unit bearings.



Term	Meaning
IoT	IoT stands for the <b>I</b> nternet of <b>T</b> hings. IoT is a concept to generate new value by collecting data via the Internet from sensors embedded on various things such as automobiles, home appliances, industrial machines and public infrastructure, and analyzing such data. IoT leads to such technological innovation as efficiency increases in machine control in plants, advertising according to individual tastes, detailed adjustment of power supply and monitoring senior citizens through home appliances.
KAM	KAM stands for <b>K</b> ey <b>A</b> ccount <b>M</b> anager in NSK. KAMs coordinate with Global Account Managers for key customers in each region and build close relationships with customers as the contact person in individual regions. By taking advantage of such close relationships with customers, KAMs have a role in regional sales activity and response in technological matters.
Linear Guide	A linear guide is a machinery part that is used for the section to support the linear motion of machines. Linear guides are one of the linear motion products and are used for machine tools, transfer machines and platform screen doors at stations, etc.
Lower-Assist EPS	Lower-assist EPS refers to rack-type EPS and pinion-type EPS (single pinion, dual pinion) that provide power assist near the tires among the types of electric power steering. Column-type EPS provides assist near the steering wheel.
Mother Plant	We position plants with outstanding capacity such as excellent technical ability and significant production capacity as Mother plants. In NSK, Mother plants have the role of transferring technology, etc., to the plants located overseas.
MRO	MRO stands for <b>M</b> aintenance, <b>R</b> epair or <b>R</b> eplacement, <b>O</b> peration. In NSK Report 2017, we make references to the demand for maintenance and repair services of industrial machines and equipment in the Industrial Machinery Business.
Multistep AT	Among the different types of automobile and motorcycle AT (automatic transmission) equipped with the capability to automatically shift between gear ratios depending on vehicle speed and the rotational velocity of the engine, NSK refers to such AT with seven or more gear stages as multistep AT.
Needle Bearing	Bearing with needle-type rolling elements. Low cross-sectional height and high load capacity helps realize space-saving.
NIT	NIT stands for <b>N</b> SK <b>I</b> nstitute of <b>T</b> echnology, which is an internal educational institute for our engineers to master more advanced technology.
OHSAS18001	OHSAS stands for <b>O</b> ccupational <b>H</b> ealth and <b>S</b> afety <b>A</b> ssessment <b>S</b> eries. This standard was issued by the British Standards Institution (BSI) as OHSAS 18001 in 1999 with support from 13 institutions such as standardization-related groups and certification institutions around the world. OHSAS 18001 is a mechanism for managing occupational safety and health management risks that relate to workers such as health hazards and occupational accidents and for improving performance.
Operational Excellence	In this report, operational excellence refers to "efforts to enhance front-line capability to increase the competitiveness of the NSK Group's business."
Per Production Unit	Per production unit refers to the standard amount of raw materials, workforce, power, etc., that are necessary to produce a certain amount of industrial products. "CO <sub>2</sub> emission per production unit" means CO <sub>2</sub> (carbon dioxide) emissions discharged in the process of production of a certain amount of a product.
Planetary Gear	Planetary gear refers to a epicyclic gearing mechanism consisting of three elements—sun gear, planetary gear and ring gear.
Powertrain	Powertrain describes the main components that generate power and deliver to the drive wheel in automobiles.
PRTR Act	The PRTR Act stands for the Pollutant Release and Transfer Register Act and refers to the Act on Confirmation, etc., of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof. This is a Japanese law intended to encourage the improvement of chemical substance management by requiring that the amount of chemical substances released to the environment is reported to the authorities.
PSI Management	The PSI of PSI Management stands for <b>P</b> roduction, <b>S</b> ales and <b>I</b> nventory. PSI Management refers to the appropriate management and operation of production, sales and inventory.
QCDDSM	QCDDSM stands for <b>Q</b> uality, <b>C</b> ost, <b>D</b> elivery, <b>D</b> evelopment, <b>S</b> ervice and <b>M</b> anagement. The QCDDSM elements are generally focused on by the manufacturing industry including NSK.
Rack-Type EPS (Rack Assist EPS)	Rack-type EPS is electric power steering that assists tire direction movement with a rack shaft in the steering gear section. (Please also refer to "Lower-Assist EPS.")
Sales Channel	Sales channels mean sales routes. Distributors play a role in the product supply to end users as sales channels.
Shift to By-Wire Technology	Shift to By-Wire Technology refers to the replacement of standard automobile handling systems, which are operated using mechanical or physical mechanisms, with transmission systems that rely on electrical signals. In automobiles, some of the potential targets for conversion to by-wire operations in the future include the accelerator, brakes, the gear shift and steering.
Smart Factory	Smart Factory in this report refers to a new concept factory set up in the Fifth Mid-Term Management Plan. The status of equipment and processing in each process during manufacturing is understood with data in real time, which is utilized for quality control, equipment maintenance and product traceability. The understanding and management of big data are realized by advancements in Information Technology (IT). The evolution of the informatization of things such as IoT is the technology behind the Smart Factory.
UK Modern Slavery Act 2015	The Modern Slavery Act 2015 c.30 was established in 2015 in the United Kingdom to respond to crimes such as human trade, forced labor and sexual exploitation.
VOC	VOCs stands for Volatile Organic Compounds. VOCs are considered to be one cause of photochemical smog.
XY Table	The XY table refers to the positioning devices that move in the X-axis (left and right) and the Y-axis (forward and backward). By stacking mechanisms (tables) that can move in each direction, these devices can be positioned to the desired location. These devices are used for precision positioning of industrial robots and semiconductor production equipment.

# NSK Group

As of August 31, 2018

Region	Company name	Consolidated equity	Outline of business
Japan	NSK STEERING SYSTEMS CO., LTD.	100.0%	Manufacture of automotive components
	NSK MICRO PRECISION CO., LTD.	55.0%	Manufacture and sales of automotive bearings, etc.
	NSK MICRO PRECISION CO., LTD. (NAGANO)	100.0%	Manufacture of automotive bearings, etc.
	AMATSUJI STEEL BALL MFG. CO., LTD.	100.0%	Manufacture and sales of steel balls
	AKS EAST JAPAN CO., LTD.	100.0%	Manufacture of steel balls
	NSK KYUSHU CO., LTD.	100.0%	Manufacture of precision machinery & parts
	ASAHI SEIKI CO., LTD.	73.8%	Manufacture of industrial machinery bearing parts, etc.
	SHINWA SEIKO CO., LTD.	82.4%	Manufacture of automotive bearing parts, etc.
	NSK TOYAMA CO., LTD.	100.0%	Manufacture of industrial machinery bearing parts
	NSK MACHINERY CO., LTD.	100.0%	Manufacture of machine tools, etc.
	KURIBAYASHI SEISAKUSHO CO., LTD.	73.5%	Manufacture and sales of automotive bearing parts
	NSK REAL ESTATE CO., LTD.	100.0%	Real estate management and rental, etc.
	NISSEI BLDG. MANAGEMENT LTD.	70.0%	Management of Nissei Building
	NSK HUMAN RESOURCE SERVICES LTD.	100.0%	Consignment services for salary and welfare, education and recruitment
	NSK LOGISTICS CO., LTD.	100.0%	Distribution service
	NSK NETWORK AND SYSTEMS CO., LTD.	100.0%	Design and development for computer systems, etc.
	NSK-CHUGAI, LTD.	65.0%	Sales of electrical components and insurance agent, etc.
ADTECH CORPORATION	100.0%	Research and development of automotive components	
NSK OVERSEAS HOLDINGS CO., LTD.	100.0%	Holding company of subsidiaries	
NSK-WARNER K.K.	50.0%	Manufacture and sales of automotive-related products	
CHITOSE SANGYO CO., LTD.	50.0%	Manufacture of automotive-related products	
INOUE JIKUKE KOGYO CO., LTD.	40.0%	Manufacture and sales of industrial machinery bearings	

## THE AMERICAS

U.S.A.	NSK AMERICAS, INC.	100.0%	Control of American subsidiaries and affiliates
	NSK CORPORATION	100.0%	Manufacture and sales of automotive bearings, etc.
	NSK PRECISION AMERICA, INC.	100.0%	Manufacture and sales of precision machinery & parts
	NSK LATIN AMERICA, INC.	100.0%	Sales of industrial machinery bearings, etc.
	NSK STEERING SYSTEMS AMERICA, INC.	100.0%	Manufacture and sales of automotive components
	NSK-AKS PRECISION BALL COMPANY	100.0%	Manufacture and sales of steel balls
Canada	NSK CANADA INC.	100.0%	Sales of industrial machinery bearings, etc.
Mexico	NSK RODAMIENTOS MEXICANA, S.A. DE C.V.	100.0%	Sales of industrial machinery bearings, etc.
	NSK BEARINGS MANUFACTURING, MEXICO, S.A. DE C.V.	100.0%	Manufacture of automotive bearings, etc.
Brazil	NSK BRASIL LTDA.	100.0%	Manufacture and sales of industrial machinery bearings, etc.
Argentina	NSK ARGENTINA S.R.L.	100.0%	Sales of industrial machinery bearings, etc.
Peru	NSK PERU S.A.C.	100.0%	Sales support of industrial machinery bearings, etc.

## EUROPE

U.K.	NSK EUROPE LTD.	100.0%	Control of European subsidiaries and affiliates
	NSK BEARINGS EUROPE LTD.	100.0%	Manufacture of automotive bearings, etc.
	NSK PRECISION UK LTD.	100.0%	Manufacture of precision machinery & parts
	NSK UK LTD.	100.0%	Sales of industrial machinery bearings, etc.
	NSK STEERING SYSTEMS EUROPE LTD.	100.0%	Manufacture of automotive components
	AKS PRECISION BALL EUROPE LTD.	100.0%	Manufacture and sales of steel balls
Germany	NSK EUROPA HOLDING GMBH	100.0%	Holding company of subsidiaries in Germany
	NSK DEUTSCHLAND GMBH	100.0%	Sales of industrial machinery bearings, etc.
	NEUWEG FERTIGUNG GMBH	100.0%	Manufacture of industrial machinery bearings
France	NSK FRANCE S.A.S.	100.0%	Sales of industrial machinery bearings, etc.
Italy	NSK ITALIA S.P.A.	100.0%	Sales of industrial machinery bearings, etc.
Spain	NSK SPAIN S.A.	100.0%	Sales of industrial machinery bearings, etc.

Region	Company name	Consolidated equity	Outline of business
Netherlands	NSK EUROPEAN DISTRIBUTION CENTRE B.V.	100.0%	Distribution service
Poland	NSK BEARINGS POLSKA S.A.	95.5%	Manufacture of automotive bearings, etc.
	NSK POLSKA SP. Z O.O.	100.0%	Sales of industrial machinery bearings, etc.
	NSK STEERING SYSTEMS EUROPE (POLSKA) SP. Z O.O.	100.0%	Manufacture of automotive components
	NSK NEEDLE BEARING POLAND SP. Z O.O.	100.0%	Manufacture of automotive bearings
	AKS PRECISION BALL POLSKA SP. Z O.O.	100.0%	Manufacture and sales of steel balls
Turkey	NSK RULMANLARI ORTA DOGU TIC. LTD. STI (NSK BEARINGS MIDDLE EAST TRADING CO., LTD.)	100.0%	Sales of industrial machinery bearings, etc.
South Africa	NSK SOUTH AFRICA (PTY) LTD.	100.0%	Sales of industrial machinery bearings, etc.
<b>ASIA</b>			
China	NSK (CHINA) INVESTMENT CO., LTD.	100.0%	Control of Chinese subsidiaries and affiliates, sales of bearings, etc.
	KUNSHAN NSK CO., LTD.	85.0%	Manufacture of automotive bearings, etc.
	NSK STEERING SYSTEMS DONGGUAN CO., LTD.	100.0%	Manufacture of automotive components
	ZHANGJIAGANG NSK PRECISION MACHINERY CO., LTD.	100.0%	Manufacture of automotive bearing parts, etc.
	CHANGSHU NSK NEEDLE BEARING CO., LTD.	100.0%	Manufacture of automotive bearings
	AKS PRECISION BALL (HANGZHOU) CO., LTD.	100.0%	Manufacture and sales of steel balls
	SUZHOU NSK BEARINGS CO., LTD.	100.0%	Manufacture of automotive bearings
	NSK-YAGI PRECISION FORGING (ZHANGJIAGANG) CO., LTD.	82.0%	Manufacture of automotive bearing parts, etc.
	NSK (CHINA) RESEARCH AND DEVELOPMENT CO., LTD.	100.0%	Research and development of automotive bearings, etc.
	NSK HANGZHOU AUTOMOTIVE COMPONENTS CO., LTD.	100.0%	Manufacture of automotive components
	NSK HANGZHOU AUTOMOBILE ELECTRONIC TECHNOLOGY CO., LTD.	100.0%	Manufacture of automotive components
	SHENYANG NSK PRECISION CO., LTD.	100.0%	Manufacture of precision machinery & parts
	SHENYANG NSK CO., LTD.	100.0%	Manufacture of industrial machinery bearings
HEFEI NSK CO., LTD.	100.0%	Manufacture of automotive bearings, etc.	
TOHSHIN-NSK ROLLERS (SUZHOU) CO., LTD.	40.0%	Manufacturing automotive bearing parts	
Hong Kong	NSK HONG KONG LTD.	70.0%	Sales of industrial machinery bearings, etc.
Taiwan	TAIWAN NSK PRECISION CO., LTD.	70.0%	Sales of precision machinery & parts
Singapore	NSK ASEAN AND OCEANIA PTE. LTD.	100.0%	Control of ASEAN and OCEANIA subsidiaries and affiliates
	NSK INTERNATIONAL (SINGAPORE) PTE LTD.	100.0%	Sales of industrial machinery bearings, etc.
	NSK SINGAPORE (PRIVATE) LTD.	100.0%	Sales of industrial machinery bearings, etc.
Indonesia	PT. NSK BEARINGS MANUFACTURING INDONESIA	100.0%	Manufacture of automotive bearings, etc.
	PT. NSK INDONESIA	100.0%	Sales of industrial machinery bearings, etc.
	PT. AKS PRECISION BALL INDONESIA	100.0%	Manufacture and sales of steel balls
Thailand	NSK BEARINGS MANUFACTURING (THAILAND) CO., LTD.	74.9%	Manufacture and sales of automotive bearings
	SIAM NSK STEERING SYSTEMS CO., LTD.	74.9%	Manufacture and sales of automotive components
	NSK ASIA PACIFIC TECHNOLOGY CENTRE (THAILAND) CO., LTD.	100.0%	Development of products, etc.
	NSK BEARINGS (THAILAND) CO., LTD.	49.0%	Sales of industrial machinery bearings, etc.
Malaysia	NSK BEARINGS (MALAYSIA) SDN. BHD.	51.0%	Sales of industrial machinery bearings, etc.
	NSK MICRO PRECISION (M) SDN. BHD.	100.0%	Manufacture of automotive bearings, etc.
	ISC MICRO PRECISION SDN. BHD.	100.0%	Manufacture of automotive bearings, etc.
Vietnam	NSK VIETNAM CO., LTD.	100.0%	Sales of industrial machinery bearings, etc.
Australia	NSK AUSTRALIA PTY. LTD.	100.0%	Sales of industrial machinery bearings, etc.
New Zealand	NSK NEW ZEALAND LIMITED	100.0%	Sales of industrial machinery bearings, etc.
India	NSK BEARINGS INDIA PRIVATE LIMITED	100.0%	Manufacture and sales of automotive bearings
	RANE NSK STEERING SYSTEMS PRIVATE LTD.	51.0%	Manufacture and sales of automotive components
South Korea	NSK KOREA CO., LTD.	100.0%	Manufacture and sales of automotive bearings, etc.

# Information for Investors / Company Data

As of March 31, 2018

## Corporate Address

NSK Ltd.  
Nissei Bldg., 1-6-3 Ohsaki, Shinagawa-ku,  
Tokyo 141-8560, Japan  
Tel: +81-3-3779-7111  
Fax: +81-3-3779-7431

## Contact Information

For questions or additional information, please contact:  
IR Office, NSK Ltd.

Nissei Bldg., 1-6-3 Ohsaki, Shinagawa-ku,  
Tokyo 141-8560, Japan  
Tel: +81-3-5487-2564 Fax: +81-3-3779-7442  
E-mail: ir@nsk.com

## NSK's Website

▶ <http://www.nsk.com/>

## Common Stock

Authorized: 1,700,000,000 shares  
Issued: 551,268,104 shares  
(including 20,075,546 shares of treasury stock)

## Number of Shareholders

34,878

## Transfer Agent

Mizuho Trust & Banking Co., Ltd.  
1-2-1 Yaesu, Chuo-ku, Tokyo 103-8670, Japan

## Other Information Concerning the Company

### IR-Related Information

Please refer to the Company's IR website for other IR information including the latest news and detailed financial data.

<http://www.nsk.com/investors/>

### CSR-Related Information

Please refer to the Company's CSR website and CSR Report for more details on CSR activities and other related information.

<http://www.nsk.com/sustainability/>



CSR Report 2018

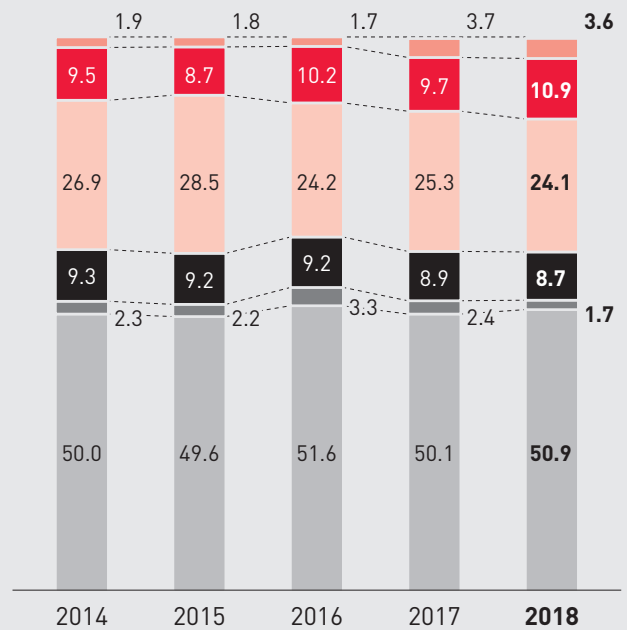
## Listing

Tokyo

## Security Code

6471

## Breakdown of Shareholders (%) (by shareholder type)



[As of March 31]

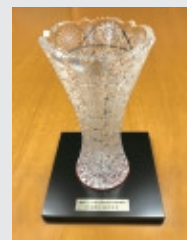
■ Financial Institutions ■ Securities Companies  
■ Other Japanese Corporations ■ Foreign Investors  
■ Individuals / Others ■ Treasury Stock

## NSK Report 2017

NSK issued its second integrated report, "NSK Report 2017" last year. Following the previous year's "NSK Report 2016," this marked the second consecutive year that NSK was recognized with the WICI Japan Award for Excellence in Integrated Reporting.



NSK Report 2017

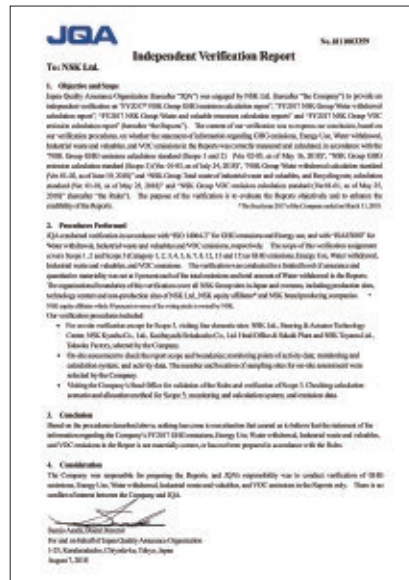


## Third-Party Assurances

To ensure the reliability and accuracy of NSK Report 2018 as an integrated report, NSK obtained assurances from an external third party for the following data information described in this report.

### Items Subject to Assurance

- Lost-Worktime Injury Rate (P. 49)
- Energy Use (P. 50)
- Water Withdrawal (P. 50)
- Greenhouse Gases Emissions (Scope 1, 2 and 3) (P. 50)
- Total Waste (P. 50)
- VOC Emissions (P. 50)



Independent Verification Report



Independent Assurance Statement

## At the Time of Publishing the NSK Report 2018

In 2016, the year NSK celebrated the 100th anniversary of its establishment, the Company published its first integrated report with the goal of supporting readers in gaining a deeper understanding of NSK's mid- to long-term value creation process. Two years have passed since that first publication, and we keenly feel that through this integrated report there has been an increase in the number of opportunities for constructive dialogue not only with shareholders and investors but also with our employees and all our stakeholders.

"NSK Report 2018" marks our third integrated report. For this edition, we have made "Setting the Future in Motion" as the theme that represents the vision of how we see ourselves a decade after our 100th anniversary. In this year's publication, we hope to convey, to some extent, the story of NSK's value creation, specifically, the creation of value for automobiles,

which are undergoing dramatic technological once-in-a-century advances, as well as our initiatives toward CSR/ESG management, which looks to realize a sustainable future. Also, through an interview with the head of technology, we will introduce the "strength of our fundamental technologies," which is one of our capabilities that supports NSK's corporate value, as well as the "Future in Motion" upon which we are currently taking action.

For this report, not only the members of the departments in charge but also various involved parties working together gave consideration to NSK's value creation framework and future, and jointly worked on the report. As the executive officer responsible for the creation of this report, I expressly stated that the production process be valid and the information contained herein be accurate.

Looking to the future as well, NSK will work to further enrich the

content of the NSK Report and will use it as a tool for dialogue with stakeholders. I would be delighted to receive the frank views and requests of everyone who reads this report.



Director, Senior Vice President  
Head of Corporate Planning  
Division Headquarters

Akitoshi Ichii

MOTION & CONTROL™  
**NSK**



NSK used environmentally friendly paper and printing methods for this publication.

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