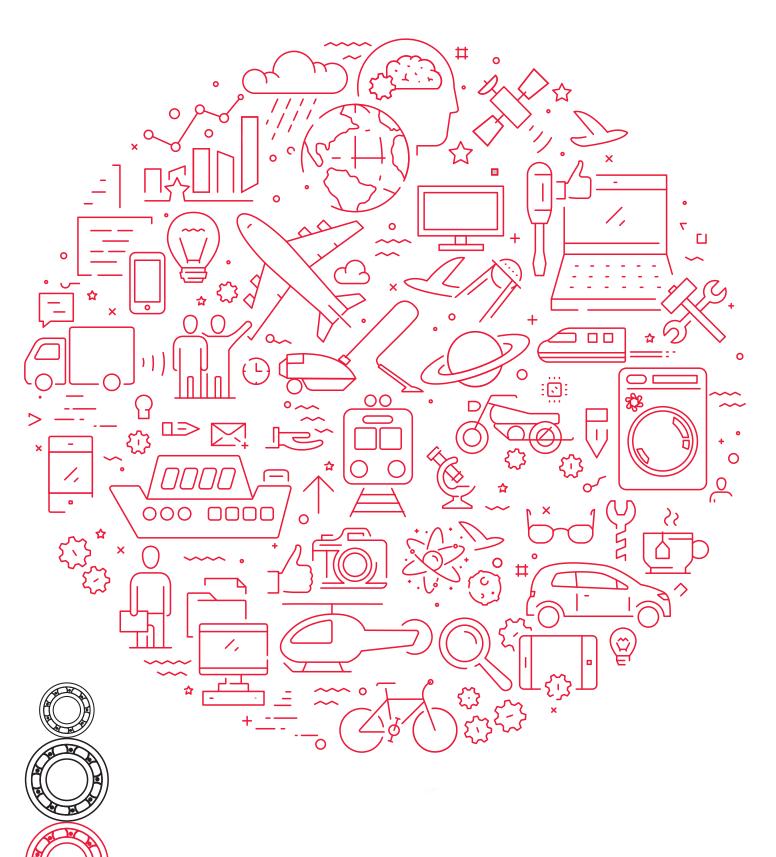




NSK REPORT 2019 Year ended March 31, 2019 Integrated Report



#### 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

#### **Action Guidelines**

#### **Beyond Limits, Beyond Today**

Beyond Frontiers
Beyond Individuals
Beyond Imagination
Beyond Perceptions
Challenging the Future

**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.

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## **NSK's Value Creation Story**

# **Vision**

We formulated NSK Vision 2026 to mark the 100th anniversary of our foundation in 2016, aiming to create new value over the next decade.

## Origin

Over the 100 years since its foundation in 1916, NSK has taken on the challenge of developing innovative technologies as Japan's first bearing manufacturer and has supported the development of industries worldwide while contributing to the reduction of energy loss.

## Businesses

(Year ended March 31, 2019)

Sales: ¥991.4 billion Industrial Machinery Business (27%) Automotive Business (70%)

> Bearing sales (including industrial/automotive)

No. 1 market share in Japan, No. 3 worldwide

NSK's Value Created Environmental contribution Customers Employees (low friction, high efficiency, improvement of transmission efficiency) Contribution to an advanced technological society Realization of a more prosperous society Local Suppliers ommunitie Growth of a wide range of industries Advancement of mobility societies Future Generations Improvement of shareholder value Shareholders and Investors NSK's Seven Key SDGs 

# Sustainability

#### **Promote ESG Management**

Placing "safety," "quality," "compliance," and "environment" as core values, NSK will help find solutions to social issues by realizing value co-creation as it meets the expectations of stakeholders.

## Strategy

The Company launched its 6th Mid-Term Management Plan for the three years beginning in April 2019 in order to achieve its vision for 2026: "Establish a corporate foundation for sustainable growth." NSK will build its business base and strengthen resources to reach the next growth phase.

#### Value Base

#### Four Core Technologies + 1

NSK's Four Core Technologies are "tribology," which controls friction and wear; "materials," which affects product performance; "numerical simulation," which is indispensable for optimal product design and development; and "mechatronics," which realizes complex and minute movement. In combination with "manufacturing engineering,"—upon which our Four Core Technologies take shape—we take on the challenge of creating new value.

#### **Global Business Foundation**

NSK has 208 production sites, sales sites and R&D centers in 30 countries and regions around the world, all of which are managed by six headquarters worldwide. Leveraging this network, we work in close collaboration globally while engaging in agile local-oriented management.

#### 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 August 2019.



https://www.robecosam com/csa/indices/ djsi-index-family.html



https://www.ftserussel l.com/products/ indices/ftse4good



https://www.ftserussell. com/products/indices/ blossom-iapan



http://vigeo-eiris.com/



https://www.issgoverna nce.com/esg/ratings/ corporate-rating/



https://www.sjnk-am. com/

#### NSK Report 2019 Editorial Policy

The NSK Report 2019 is designed to provide all stakeholders with a deeper understanding of how the Company collaborates in the creation of value that meets the expectations of the world over the medium to long term, and of the processes that will achieve both social contribution and corporate development

In the fiscal year under review, NSK launched its 6th Mid-Term Management Plan. In NSK Report 2019, we explain, from both financial and non-financial perspectives, the management issues and specific measures that we will tackle over the three years of the Plan to realize NSK's goal in 2026, the 110th anniversary of its foundation.

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 Sustainability Report (formerly 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 2019 dated September 20th, 2019, 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, 2019. 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

## **NSK's Business**

## **Industrial Machinery Business**

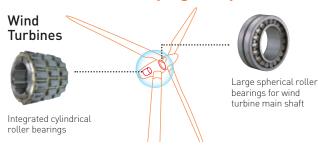
The Industrial Machinery Business is involved in operations related to two product categories, namely industrial machinery bearings and precision machinery and parts.

Industrial machinery bearings meet a wide range of demands in all industries and come in a variety of types, ranging from miniature to extra-large size. On the other hand, represented by linear motion products, such as ball screws and linear guides as well as mechatronics products such as XY Tables and MEGATORQUE MOTOR™, precision machinery products play key roles in machine tools and semiconductor/LCD production equipment, which require precise positioning. Possessing thorough knowledge of industrial characteristics, operating environments, and national/regional differences, both businesses respond appropriately to a variety of needs.

Other 3%Other Asia Precision Machinery 14% and Parts 6% Industrial Machinery Sales Bearings 21% China 20% ...

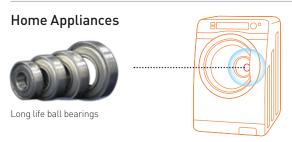
Europe 13%

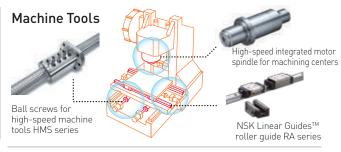


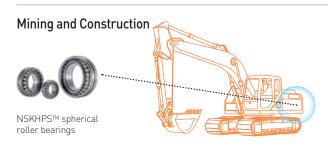


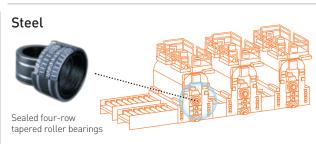


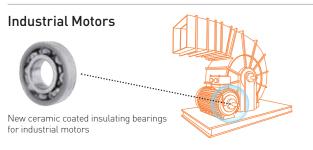
Axle tapered roller bearings

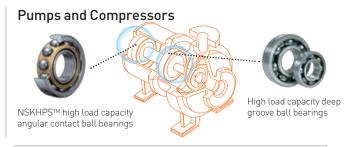


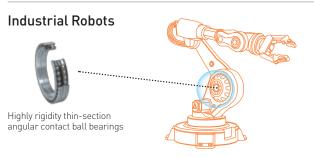


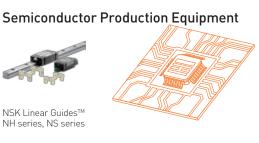




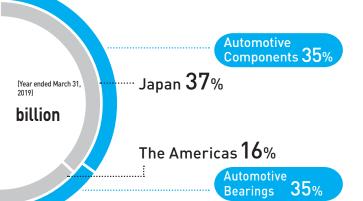












#### **Automotive Business**

The Automotive Business is developing a wide range of important functional parts that support the three critical elements of automobiles—namely running, turning and stopping—in two businesses: automotive bearings and automotive components. The automotive bearings business provides various types of bearings used in automobiles, including hub unit bearings and needle bearings. The parts provided by the automotive components business include those for automatic transmission (AT) products, electric power steering (EPS) and ball screws for electric brakes.

Amid the accelerating innovation in automobile technologies, such as power source diversification and autonomous driving, we are advancing the development of new technologies and products, creating new value and making proposals.

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



#### **Automotive Bearings**

#### **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 **Transmission Products**

In efficiently conveying engine power to the tires, NSK products are critical to the transmissions that need to operate smoothly and with flexibility. We engage in Four Core Technologies plus One, namely tribology, materials, numerical simulation, mechatronics and manufacturing engineering, 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**

#### **Ball Screws for Electric Brakes**

Along with the trend of making it mandatory to eguip 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 top 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 Components**

#### 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**

#### 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 electric A/C compressors

Bearings for in-vehicle motors



#### Automotive Bearings / Automotive Components

#### **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

## History of NSK's Overseas Expansion

Since its foundation in 1916 as the first bearing manufacturer in Japan, NSK has been facing the challenges of developing innovative technologies while creating new value in a host of different forms. In previous issues of NSK Report, we have showcased our history from a variety of angles, but this time we would like to focus on the history of our overseas expansion.

With its mission statement guiding all to "contribute to a safer, smoother society," "help protect the global environment" and "work across national boundaries," NSK is spreading its business activities, which are aimed at contributing to society, around the world. The NSK Group currently operates from 208 business sites in 30 countries and regions, and more than 20,400 of its 33,843 employees work overseas. The history of our overseas expansion has not always proceeded smoothly, but rather than purely pursuing profits we have placed the highest priority on contributing to the development of the countries and regions in which we operate while striving to remain a good corporate citizen.

#### After World War II to 1950s

Economic environment

Period of postwar reconstruction, start of product exports

Start of bearing exports

- Having received permission from GHQ to resume private trading, exports started Centered on bearings for automobile maintenance and repairs in Asian countries and regions, such as India, Hong Kong, Taiwan, Thailand, etc.
- Started exports to Europe and the United States in 1958, expanded into U.S. market through export sales and technical alliance with The Hoover Company
- Increased total export value of bearings (Japanese companies)



¥230,000 (1947) ⇒ ¥34.0 million (1948) ⇒¥248.0 million (1949) ⇒ ¥423.0 million (1950)

#### 1960s

Economic environment

Period of high economic growth in Japan, rapid expansion of bearing production/exports

Establishment of overseas sales networks commenced

- JAMCO Corporation, first local sales office, established in the state of New Jersey, USA, followed by sales offices established in Germany, France, Australia and Brazil, accelerate overseas sales (1962)
- Established representative offices in Johannesburg, Bangkok and London
- Following 1962 Japan-China Long-Term Comprehensive Trade Memorandum and 1969 Japan-China Trade Pact Memorandum, begins exports to China
   Under "contributing to growth and development of developing countries" policy, decides to strengthen exports of plant machinery

#### Japanese Bearing Production/Exports



[1960] [1970] Production ¥41.6 billion ⇒¥190.2 billion Exports ¥2.7 billion ⇒ ¥48.2 billion

Technical assistance contract signed



#### 1970s

Economic environment

Structural change, from domestic capital expenditures to export-driven growth, growth under the transition to floating exchange rate system/ rising crude oil prices

NSK's overseas business

Start of overseas production and acceleration of overseas business expansion

- Opened bearing plants and commenced operations at Geelong, Australia (1970), Suzano, Brazil (1972), Clarinda in the United States (1974), Peterlee in the United Kingdom
- Built a sales structure and established local subsidiaries in France, the United Kingdom, the Netherlands, Italy and Singapore Representative offices established in Vienna in Austria, Valencia in Spain and Mexico City

 Established a manufacturing joint venture company, Korea Precision Co., Ltd.



The Peterlee plant in the United Kingdom being visited by HRH Prince Charles

#### 1980s

Strong yen appreciation, Japanese bubble economy, Prominent Japanese customers, including automobile and electrical equipment manufacturers, expand entries into overseas markets

Expansion of business structure in Europe and the United States, full-scale business expansion in Asia

Expanded overseas production capabilities mainly in Europe and the United States against backdrop of trade friction of increasing severity



Number of Production Sites 1981 → 1990 North America  $3 \Rightarrow 6$  Europe  $1 \Rightarrow 10$ (including acquisition of UK-based UPI Group [RHP brand])

- Production of steel balls for bearings commenced
- In response to overseas expansion of customer companies in automotive sector, widen product lineup, including hub unit bearings, steering columns and seat belts in the United States and Europe.
- Technology centers established in the United States and the United Kingdom to strengthen technical services
- In Asian region, overseas subsidiaries established in South Korea, Taiwan, Thailand Changwon plant in South Korea commences production Representative offices in India, Indonesia established



Technical Center (ATC) in the United States (1988)

#### **Export of Plant Machinery and Licensing of Technology**

The export of plant machinery and technical assistance were characteristics of NSK's overseas expansion from the 1960s to the 1970s. Based on NSK production technology and quality that has evolved and improved, the intention was to contribute to the economic development of developing countries. The export of plant machinery and technical assistance enhanced NSK's overall technical capabilities, which served as the foundation, and gave rise to a positive effect as the industrialization of the partner country further increased the demand for bearings. The local contributions made at this time led to the early expansion into China in the 1990s and to M&A in Poland.

1965	Technical assistance contract with Shriram Industrial Bearings, India
1967	Contract to supply plant machinery to what was then Czechoslovakia
1968	Contract to supply plant machinery and provide technical assistance to Pakistan-based corporation, RCD
1970	Contract to supply plant machinery to Metalexport in Poland
1970	Technical assistance contract with KBC of South Korea
1972	Contract to supply plant machinery to Bulgaria
1975	Supply of plant plant machinery to People's Republic of China
	1967 1968 1970 1970 1972

#### Overseas M&A

As a pioneer among Japanese companies for overseas M&A, NSK acquired UPI, the largest bearing manufacturer in the United Kingdom, known for its RHP brand, in 1990. This acquisition represented a major step toward becoming a market insider in Europe which was regarded as a conservative market, and the globalization of the Group's management. This move also led to the start of the ongoing IMC\* meetings, the establishment of the regional headquarters structure and the localization of overseas management. Amid the expansion of European Union and the major pan-European trend, we acquired the formerly state-owned Polish bearing manufacturer FLT Iskra in 1998. The company, to which NSK had previously exported plant machinery and thereafter had maintained the relationship to supply spare parts, was mainly manufacturing small (normal diameter) ball bearings. This acquisition became an important foundation for NSK to cement its position as the world No. 1 for ball bearings.

\*IMC: International Management Committee meeting



For more information on NSK's history, please refer to or visit the following:

NSK Report 2018 pp. 2-3 NSK's History of Creating Value

URL https://www.nsk.com/investors/library/pdf/nsk\_report/ir201803e.pdf

NSK Report 2017 pp. 2–3 The Pioneering Spirit that Has Endured Throughout the 100 Years of NSK

URL▶ https://www.nsk.com/investors/library/pdf/nsk\_report/ir201703e.pdf

NSK Report 2016 pp. 2-3 NSK's Business Development History, Depth of Overseas Production and Widespread Product Use

URL▶ https://www.nsk.com/investors/library/pdf/nsk\_report/ir201603e.pdf

#### **Expansion of Overseas Sites**

1965: Number of Sales Sites : 4 Total NSK sites in 4 countries

1976: Number of Production Sites : 6

Total NSK sites in 14 countries



#### Number of Sites as of March 31, 2019

Number of sites	Number of countries and regions (except Japan)
Japan 59 Overseas 149	29

For more details

please turn to Global Business Foundation on pp. 44-45

#### 1990s

Bursting of Japan's bubble economy, entry into low-growth period, end of Cold War, EU integration, dawning of Asia period

NSK's overseas business

Optimized production by manufacturing in the best location either at a demand site or export base, overseas M&A, strengthening of global management system

#### Establishment/enhancement of production, sales and technical service networks around the world

- Full-scale establishment of production bases in Asia region Kunshan, Jiangsu province, China (1997), Jakarta, Indonesia (1995), Thailand Steering columns (1996), Thailand Seat belts (1996), India Steering columns
- Overseas M&A Acquisition of UPI and FLT Iskra
- Commencement of IMC\*
- Appointed American as headquarters executive officer (1996)
- Number of Overseas Sites (1999)



⇒ Production 13 Sales 10 Furone The Americas → Production 9 Sales 14

⇒ Production 9 Sales 22



Signing of UPI Group (UK)

## **2000s**

Rapid growth in emerging countries and financial crisis

NSK's overseas business

Streamlining of Europe/Americas businesses and strengthening of regional headquarters functions, growth in Asia region, further rapid expansion of China business

- Establishment of business, function and regional matrix system and strengthening of regional headquarters functions, key global position localization in Europe and the United States Streamlining of Europe/Americas businesses, production site
- reorganization, optimization of numbers of employees Strengthening of growth fields and growth regions (electric
- power steering plants newly established, establishment of sales offices in Central and South America) China business: Expansion of production items, pursuit of autonomous management system, enhancement of functions of Chinese headquarters, establishment of R&D center





2003 → Net sales ¥9.7 billion, number of employees 1,835, production sites 5 2010 → Net sales ¥82.6 billion, number of employees 4,811, production sites 10

#### 2010s

Economic environment

Great East Japan Earthquake, increase of environmental awareness, ESG management

Pursuit of advances in overseas business development

- Localization of regional headquarters' top management (The Americas, Europe, China, India)
- Establishment of overseas plants in accordance with new concept
- China Hefei plant, where Kunshan plant plays role of mother plant (2012)
- Mexico bearing plant following global team (United States, Brazil, China, South Korea, Japan) and China/South Korea facilities (2014)
- Cheonan plant in South Korea, where consideration given to the environment, and employee working environments (2017)
- Promotion of human resource diversity



Mexico bearing plant (2014)

**Overseas Sales** 

of which Asia region

¥336.1



Global Human Resources (as of March 31, 2019)

The Americas: 3,164; Europe: 4,259; China: 7,660; Other Asia: 5,329 (Group employees, excluding Japan)

of which Asia region

## Trends in NSK's Domestic/Overseas Net Sales

Currently accounting for 63% of sales, overseas business has been the driving force behind NSK's growth since the 1990s.

¥623.8 billion ¥168.3 Overseas Sales 2018 Domestic Overseas ¥355.9 billion **Overseas Sales** 2010 of which Asia region - 1,000 ¥227.2 billion ¥69.8 Overseas Sales 2000 billion - 800 ¥117.4 billion Overseas Sales 600 ¥27.1 billion Overseas Sales Overseas Sales 1980 - 400 ¥0.3 billion ¥9.4 billion 1960 1970 200 **–** N 1960 2018 (FY)

## To Our Stakeholders





## Looking Back on the 5th Mid-Term Management Plan and Ahead to Our **Next Plan**

.........

Looking back over the three years of the 5th Mid-Term Management Plan (MTP), the first year, 2016, saw many defining events such as Brexit and the arrival of the Trump administration. These two events led to changes all over the world and continue to do so even now. China, which had seen immense growth, made its presence even clearer by announcing its "Belt and Road Initiative" and "Made in China 2025." The trade friction that arose between the US and China drastically worsened the business environment. At the same time, technological innovation also accelerated. In the Automotive Business, the Big Four Tech Companies (i.e. Google, Amazon, Facebook, and Apple or "GAFA"), have arrived on the scene, and a new business model, which adds environmental awareness to the trends of CASE will greatly alter technology in the future as well as the role of automobiles in our society. In the Industrial Machinery Business, to counter the declining labor force in developed countries we have seen an evolution in factory automation (FA) and labor-saving, supported by technological advances such as Internet of Things (IoT) technology, Artificial Intelligence (AI), robots, and 5G communications. We have also seen an increase of investment aiming for the urbanization of developing countries, as well as advancement of environmental countermeasures spurring on electrification.

Looking at NSK's business results, amid strong demand in 2017, the second year of the MTP, we managed to achieve our goal of one trillion yen in sales one year early by focusing on maximizing our output. We also set a new record high for operating income and net income. However, in the final year, the effect of the US-China trade friction became apparent, and we saw a worsening environment for the Industrial Machinery Business and Automotive Business. There were decreases in sales and profits, and the final year of the plan ended in a year-on-year decrease in our consolidated business results.

A future issue based on reviewing the 5th MTP is the regeneration of the steering business. In next-generation product development, we have now achieved the technical performance levels we targeted, and we will secure official orders as soon as possible to ensure our re-growth scenario. Although we made significant investment in automotive bearings, the fixed cost burden is somewhat large amid the current situation where global automobile production is at a standstill. Although the market is expected to grow in the mid- to long-term, we aim to establish a lean cost structure while paying close attention to the current trends in the vehicle production numbers. There was a very strong demand in the Industrial Machinery Business from early 2017. We

put all our efforts into securing output to maximize our sales opportunities. Although these efforts resulted in a significant increase in sales and profits, our production capacity could not keep up with the increase in demand, which led to a reliance on extra staff to meet production output. After identifying mid- to long-term trends in demand during the 6th MTP, we will aim to optimize the business structure, including our sector and customer portfolio with an emphasis on growth fields, and organization of production capacity. In addition, while NSK as a whole has been continuously working to improve operational efficiency and systematization, it is necessary to further prepare for the new era of Al.

Based on these reflections and issues, the 6th MTP. which was established in line with vision for 2026, marking the 110th anniversary of NSK's founding, is now being continuously pursued by the two pillars set forth in the 5th MTP. We will further evolve NSK by strengthening our competitiveness through "Operational Excellence" and continuing our policy of investing for the future through "Challenging Innovation." Positioning these three years as a period of strengthening our business base and resources for the next growth phase, our focus is on measures in the short-term to achieve "new initiatives targeting growth," to "enhance managerial resources," and to "contribute to the environment and society."

The business and management environments are very uncertain and unpredictable at the moment. Not only is the conventional autonomous cycle of the economy changing, but political trends which have a major impact on the economy are also altering the current situation. In such an environment, expressing goals in absolute terms of sales and profits can serve to mislead markets, and it would be irresponsible of us to do so. A key focus NSK set for 2026 is to establish a corporate foundation for sustainable growth. This does not mean simply seeking sustainable growth itself, but rather achieving growth while reducing the burden on society as a whole, as well as on employees and suppliers. This is what I mean when we use the word "sustainable." Sustainability is formed by the strength of managerial resources such as people, technical capabilities, organizational structure, and the information that flows within this structure. Without this, businesses cannot grow or produce profitability. We will work to strengthen our managerial resources with a heightened awareness of "sustainable" perspective. It is important that in the 6th MTP we show the extent that NSK will increase its market position and profitability, and how much we will return to shareholders in the context of overall economic growth and compared with our competitors. We must then make efforts to produce results in line with this.

	CASE	P. 31
$\neg \nu$	6th MTP	PP. 22-23
-	6th MTP	PP. 22-2

......

## To Our Stakeholders

## Mid- to Long-Term Risks to NSK and Countermeasures

Amid the current rapidly changing global situation, looking at NSK's current business scale and regional portfolio, the weight of China stands out. This is the result of our success in leveraging the high growth of the Chinese economy, but at the same time it is also becoming important that we manage country risk soundly. In response to this, NSK has been focusing on internalization in China for the past 10 years. Internally, we have localized the top management of business divisions and those responsible for functional divisions, and from an external perspective, we invited Chinese corporate management experts and university professors to serve on an advisory board. With this, we have incorporated views and opinions on society, politics and the economy that are not bound by the boundaries of companies and industries. Ultimately, we will aim for a system in which our Chinese operations are fully run by Chinese personnel.

We will also work to further improve our presence in regions other than China. ASEAN is a region with many Japanese companies as well as strong political and economic connections. Another strategically critical region is Europe. Europe is an important region because it has very unique production facilities and industrial machinery, as it focuses on the machine field and machine parts. I would like to take steps to improve our presence in Europe.

The second relates to automobiles, where EV and autonomous driving stand at the forefront of technological innovation, as well as the expanding area of carsharing. The number of electric-powered vehicles such as EVs and HEVs is sure to increase over the midto long-term. For pure EVs, which do not contain an internal combustion engine, the number of bearings used per unit will likely decrease. On the other hand, demand for in-vehicle motors will expand dramatically in the continuing pursuit of safety, comfort, and convenience. As the use of bearings will become more sophisticated and performance requirements will increase, 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 for improving EV functionality that incorporate NSK's core technology. With products that make use of NSK's strengths, we will connect new needs generated by technological innovation to business opportunities.

In addition, if society changes in such a way that car sharing becomes the norm, then the scale of the

automobile industry will be greatly affected. We will see a completely new way of mobility in cities, and everyone will share cars with simple mechanisms such as EVs. On the other hand, when it comes to long-distance travel, drivers will want a car that they enjoy driving, and one that is functional as well as appealing. In other words, we may see the market diverge. NSK must take advantage of having contact points with customers in all directions and proceed with technological development and technical proposals while fully understanding how the automotive industry is changing. The risk is with our relationship with players in the automotive industry, such as GAFA, Uber, Didi Chuxing, which are strengthening their position in automotive circles. We must think about how we can consciously form points of contact with these companies. Looking at the current world of cyber technologies, which are becoming ever more sophisticated with the evolution of IoT, AI, and 5G communication, if these technologies become the defining factors, then I believe this could be a weakness in NSK's business. However, in order to realize the merits of cyber technology, the importance of physical parts and their motion will no doubt come under the spotlight. NSK's core technology is used to give things efficient and effective motion. Regardless of how good the information and data are, if the mechanism of the object that moves in response to the signal is remiss, the level of satisfaction obtained from it will be low. Rather than simply seeing this as a risk, from the perspective of how to utilize various information and data for movement, and how to make the movement more satisfying, I think there is value in developing and refining NSK's core technology once again.

Looking at the competitive environment, Chinese manufacturers have gone from strength to strength, and Japanese companies as well as Western companies in China have begun making use of such manufacturers. The challenge for NSK, a company that is highly regarded for its outstanding functionality and high quality, will be a tough one. However, even if Chinese manufacturers' product quality improves, there is still a large difference in terms of the accumulated analytical power and expertise to derive causes and solutions when problems occur in the market. NSK has the ability to solve problems and provide technical proposals based on the experience accumulated over our 103 years of history. It will be difficult for competitors to emulate this. On the other hand, NSK also has a chance to work and partner with these companies.

Finally, the risk of a shrinking workforce due to the declining birthrate and aging population will be particularly noticeable in Japan and China. Even if there are workers, there will be fewer people willing to work in the machine component manufacturing industry. The key within the next five to ten years will be our ability to create production facilities, production processes and



plants that do not rely on people. In the 5th MTP, we worked on introducing NSK's Smart Factories, and set up model lines for both small-lot large variety large-sized bearings, and mass-produced small-sized bearings. In the future, we intend to work on developing these lines into 2nd and 3rd generations, expand the number of lines this technology is used in, and expand this technology overseas.



Mid- to Long-Term Risks Risk Management

PP. 36-37

## NSK's Strengths and Their Further Evolution

One of NSK's strengths lies in its intangible assets-in particular its people. The quality of our people will be essential in order to respond to requests from customers and the market. Not only in Japan, but also in Europe, the United States, and China, people working under the NSK brand are serious and are particular about monozukuri. I know our employees take pride in working for a world-leading manufacturer. **Another** strength is our strong relationships with business partners, such as customers, suppliers and distributors. It is this relationship of trust that allows us to embark on new challenges together in addition to profit-driven initiatives such as cost or pricing. I think that this has been cultivated across our history of more than 100 vears.

NSK's intellectual property: "Four Core Technologies plus One." We have added manufacturing engineering to tribology, materials, numerical simulation, and mechatronics, and position these as NSK's technical foundation. Our strengths lie in our accumulated expertise in precision grinding and assembly, heat treatment and other technologies. In mechatronics technology, over the last 20 years we have accumulated electronics technology and ECU software design technology via our electric power steering business.

Tribology is a technology that controls friction and wear, but friction itself is a complex topic. Chinese automakers are very skilled at manufacturing EVs, and have put great efforts into this area. The management of such automakers told me that looking ahead, they must now look at how to deal with friction, which is something they had not regarded up until now. It is necessary to reduce or control friction as much as possible for EVs too. If we can refine our core technologies and integrate systems that take advantage of needed digital

technology such as Al and IoT, we can raise expectations for NSK as the industry undergoes rapid technological changes.

Under Vision 2026, which we established on the occasion of our 100th anniversary, we declared our intent to set the future in motion. Looking back on the 100-year history of NSK, I believe we have undertaken many ambitious initiatives and challenges in the past. In becoming the first company to manufacture bearings in Japan, we overcame one challenge after another. Additionally, in the post-war economic development of Japan, for example, we gave rise to a new era in motion by developing bearings for the Shinkansen, which need to withstand operating at speeds of over 300 km per hour and bearings for VTRs requiring smooth rotation to the utmost limit.

However, over the past 30 years or so, we have become passive in our approach, and have not tried to actively drive change. We need to have a strong awareness of our new role in providing comprehensive solutions that utilize Motion & Control™, the concept of our business, to society.

As the speed of technological evolution accelerates,

we need to challenge ourselves in new fields with innovative ideas, ask ourselves whether we can form these ideas into a product, and speed up this process. To that end, we are creating and working on a development organization for new business areas that is not bound by existing frameworks. In this context, we value the attitude of challenging everything. In "NSK: 100 Years of Progress" published earlier this year, there is a story from 1961, when NSK's Fujisawa Technology Center was established. The Company used the motto "It doesn't matter if you strike out. Challenge the unknown without fear of failure." to encourage the development of new products. We need to reestablish this spirit and

or be critical even if they "strike out."



Our strong relationships with business partners, such as customers, suppliers and distributors

⇒Creating Value with Stakeholders PP. 34-35

Four Core Technologies plus One

tackle a range of new challenges. In terms of NSK's

management stance, I believe we need to encourage

employees to step into the batter box, and not get angry

## To Our Stakeholders

#### NSK's Stance on ESG

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NSK has put "protection of the global environment through Motion & Control™" as part of its mission statement, and has released many environmentally friendly products that make full use of Four Core Technologies plus One. On the other hand, natural disasters caused by climate change are a frequent occurrence across the world, and air, soil, and water pollution problems are becoming more serious. Environmental issues such as CO<sub>2</sub> emissions and plastic waste are also being put in the spotlight more and more. Various regulations to ensure global environmental conservation have been strengthened, and societal demands that encourage companies to expand their environmental efforts are increasing. Starting this year, NSK has set the environment as a core value in addition to safety, quality and compliance. In addition to contributions through our products, we are also implementing concrete measures to reduce the amount of CO<sub>2</sub> emissions caused by our manufacturing. Up until now, we have focused on reducing the emissions per production unit, but we have also declared that we will work to reduce the absolute amount, and our goal is to reduce current emissions by 60% by 2050. If we focus on contributing to social value in the future, there will be many areas that will incur costs. It is necessary to prioritize such decisions from the top down, and to proceed with a sense of urgency. Therefore, the organizations responsible for environmental measures are now under the direct control of the president.



Since 2014, we have been conducting an awareness survey of our people-our most important assets-in particular surveying the level of employee satisfaction. Originally, it started as a compliance awareness survey, but now the focus has shifted to employee engagement. We aim to listen to the frank opinions of employees, understand their awareness of our Mission Statement and how much they empathize with Vision 2026. The results of the survey are not only compared with previous years, but also between organizations and job types, as well as other group companies. For groups that are found to have a large gap from where they want to be or from the average, we will firstly work to improve the quality and amount of communication, in conjunction with the head of the organization. In addition, we believe that understanding the actual conditions and direction of the Company is what underpins employee satisfaction, so we have increased the number of opportunities to explain the MTP and business results to employees. We obviously take safety very seriously too. A place where employees can work safely and with peace of mind is an important foundation.

We are also promoting diversity and inclusion. Empowering women is one topic at the forefront of current management issues. One of our KPIs is to increase the ratio of female managers and candidates. We are continuing to implement measures such as training to achieve this, and we do not make adjustments simply to meet our targets. It is critical that we provide support for balancing work with childcare and nursing care. Particularly when looking at the distribution of our employees' ages, we see that family care is an issue that cannot be overlooked. We will provide necessary support and measures so that employees can continue working while being in a position to provide nursing care. Furthermore, we live in an age where acceptance of members of the LGBT (SOGI) community at workplaces overseas is commonplace. As a global company, NSK must work to catch up and work on developing our awareness, culture, and environment to be more accepting of diverse members of society in Japan too. We will tackle the issues one by one, such as those disadvantaged in the past by not being aware of welfare systems and workplace facilities. Moving on to persons with disabilities, further innovation is necessary to provide more compatible workplaces.

I believe that our level of governance has reached a certain level of functionality under the Company with Three Committees framework. We conduct evaluations to check whether our Board of Directors is functioning properly. To enhance the effectiveness of the Board of Directors, a panel of external experts has conducted a Board of Directors evaluation since 2015. In the 2018 results, we received an evaluation stating that the Board of Directors had maintained a high level of effectiveness. We have also made proactive efforts to respond to



Japan's Corporate Governance Code. In the future I think it is necessary to consider forming a Board of Directors with a majority of outside directors and changing the chairperson of the Board of Directors to a non-executive director or an outside director. What is more important than the format is how we go about building a healthy and cooperative relationship between outside directors and internal directors. Lately outside directors have actively participated in site visits and executive meetings, and employees are more aware of the presence of outside directors at NSK. This has led to the establishment of business plans and management that take into account the presence of outside directors. For example, we are building a framework for accountability to aid directors with regard to matters such as budget fidelity and operational risk management. I think it is very important to manage from the perspective of stakeholders, especially shareholders and investors, rather than inward-looking discussion based on ways of thinking ingrained in our own company or industry.

Environmentally friendly products P. 47 Compliance awareness survey P. 53 A place where employees can work safely P. 48 and with peace of mind romoting diversity and inclusion, PP. 50-51 panel of external experts has conducted Board of Directors evaluation

#### Role of a Company President

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It is the president's role to set the direction of the company, to determine strategies and plans as well as their execution, and to take responsibility for the results of these actions. There are no limits to the scope of duties. The president needs to be the ultimate decision maker for everything in the company and take full responsibility for the results. There is no clear boundary showing where a president's responsibilities fall. I have been the president of NSK for four years. As time goes on, I feel the weight of my responsibility more and more. One matter I find myself thinking a lot lately is the importance of making my presence known both inside and outside NSK. In a sense, I think that a company president is a symbolic figure. Being the president is no longer about sitting in the president's office and giving orders. I believe it is necessary to be on the shop floor with everyone engaged in business, production, sales, and design and development. It is important to show everyone what the head of NSK looks like and what he believes. In other words, to give the name a meaning,

employees have to recognize the company president as a person. For example, a mere slogan such as that of NSK's core values, "Safety, Quality, Compliance, Environment," or Setting the Future in Motion as part of Vision 2026, is not enough to keep a large organization like NSK going-the president needs to convey the thoughts and feelings behind it. It is important to listen intently to the opinions of those who cannot honestly agree with your idea or direction, and to address these sincerely. However in reality, when you try doing this you might find you cannot arrive at an answer immediately and are at a loss on how to react. Despite these concerns, I believe it is important to step forward and engage in dialog. Even if I have to admit that I was wrong or that something I said was a mistake, I still think this would be a good opportunity to show that it is okay to make mistakes. Also, as the president, I have the opportunity to communicate with a range of people outside of NSK. I think that it is the president's responsibility to bring back the information and hints that I have obtained and share these within the company-in other words, to strengthen the connection between the outside and inside.

#### Toward Sustainable Development

We have begun our 6th MTP. As a stepping stone to our 2026 Vision, we decided to create the plan based on the changes likely to occur in society from a mid- to long-term perspective and aim to establish a corporate foundation that will enable sustainable growth. We will set the next three years as a period of strengthening our business base, under the two key policies of Operational Excellence (constant pursuit of competitiveness) and Challenging Innovation (creation of new value), focusing on the three measures I outlined previously.

Right now there are numerous various social issues around the world that need to be resolved. Furthermore we are seeing major technological innovations with digitization, AI, and CASE at the forefront. At NSK we contribute to "sustainable" development of society by providing "value" through collaborative creation with all of our stakeholders, and positioning social development and NSK's growth on the same vector.

We thank you for your continuing support.

## NSK's Value Creation Model

NSK Mission

In its mission statement, NSK declares its aims of realizing a "safer, smoother society" and protecting the global environment through MOTION & CONTROL™. Under this philosophy, we set out NSK Vision 2026 and intend to realize our mid-term goals and establish corporate fundamentals that will enable sustainable growth while continuing to create value. We also believe that the value created by NSK will lead to contributions to the goals for 2030 for which the SDGs are aiming.

# **NSK Vision**

## **Contribution to Resolving** Social Issues

Safer and smoother society Protection of the global environment



## **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 plus One
- •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 16 locations in 10 countries

Ratio of new employees with science background

76.7%

Number of employees

31,484

Employee development expenditure per person

Approx. ¥86,000

Total equity

¥560.4 billion

Interest-bearing debt

¥274.8 billion

Cash and cash equivalents

¥130.0 billion

Number of customer inquiries to NSK salespeople

5,776 cases/year

Energy input (per year) **17.224**TJ

(As of March 31, 2019)

## NSK's Value Mechanism to Convert Social Issues

Value **Feedback** 

> Global and Wide-Ranging **Business Foundation**

P. 44 R&D

**Receipt of Orders** 

CSR/ESG

Core Compliance

Safety

Deepening of Value Chain Strengthening of Sustainable Systems

P. 14

Creating Value with Stakeholders Strengthening of Relationships with Stakeholders

P. 34

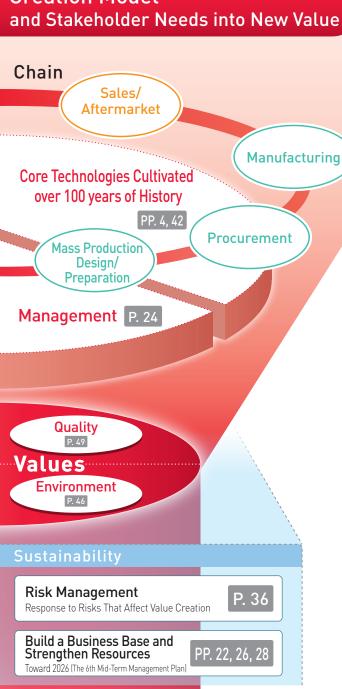


## Statement



NSK's business model for creating value consists of the core values of "safety, quality, compliance, and environment" that support the value chain (NSK's business activities), from R&D to manufacturing, sales, and feedback. Possessing "core technologies cultivated over 100 years of history," "a global and wide-ranging business foundation," and "CSR/ESG management" for tackling social issues autonomously as the drivers, we are working to strengthen our value chain and improve our output and outcomes. We are also promoting four initiatives to maintain and enhance these in a sustainable manner.

## Creation Model and Stakeholder Needs into New Value



## **Output and Outcomes**

#### **Products/Services**

- Industrial Machinery Bearings
- Precision Machinery and
- 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

 Reduction of investment resource/energy usage through improved production processes Promotion of human resource

diversity and inclusion

Compliance with varying

Modern Slavery Act)

awareness

Improvement of compliance

regulations in each country

(e.g., avoiding use of conflict minerals,

(Output as burden on the environment)

industrial waste, water discharge

Greenhouse gases (GHG),

Maintenance of stable ratings

Impact on Society/Environment

## Share of bearings market

Ranked 3rd in the world

Number of EPS mounted on vehicles (cumulative total)

Approx. 91 million

Number of patents held

**7,499** patents (6,987 patents in the previous fiscal year)

Cash flow from operating activities

¥92.6 billion

Dividends/Payout ratio

¥20.7 billion/37.2%

Lost-worktime injury frequency rate\* (globa

0.37 (0.60 in the previous fiscal year) For more information on the los injury rate, please see P. 48.

#### Diversity (global)

Ratio of female employees 19.1% (17.6% in the previous fiscal year)

#### Japan Management College

Total number of graduates over all 18 college terms: 333

#### Global Management College

Total number of graduates over all 8 college terms: **99** Number of regions: Graduates from 20 countries

For more information about the Japan Management College and the Global Management College, please see P. 51

563 (536 in the previous fiscal year)

Development of environmentally

226 products (cumulative total)

GHG emissions per

13.8% decrease (Japan) (-14.5% in the previous fiscal year)

21.7% decrease (excluding Japan) (-26.1% 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%].

## NSK's Business Activities and Corporate Value Creation (Deepening of Value Chain)

#### Value Chain **NSK's Business Activities** Sales/ Feedback NSK engages in BtoB operations, with its major customers including automakers and machinery Manufacturing manufacturers. Global and Wide-ranging Core Technologies Cultivated NSK has two business segments, the Industrial **Business Foundation** over 100 years of History Machinery Business and the Automotive Business, which reflect the industries in which the Company's Procurement R&D customers operate. The Industrial Machinery Business Mass Production Receipt of Orde Division Headquarters and the Automotive Business Division Design/ reparatio Headquarters oversee these businesses on a global level. Each business division headquarters maintains its own CSR/ESG Management production, sales and technology units that take responsibility for the entire 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 encompassing R&D, manufacturing, sales and feedback underpinned by Safety Quality its core values: safety, quality, compliance and the environment. Core Values Compliance Environment Value Chain Mass **Production** Receipt of R&D Design/ **Orders** reparation Mass production design entails the design of large-lot Having worked together to ascertain customer needs and social needs, sales and technology Our Four Core Technologies plus One are tribology, products delivered to customers. Mass production materials, numerical simulation, mechatronics and manufacturing engineering (see p. 42). divisions then make technical proposals and includes both newly designed products and demonstrations that culminate in the receipt of standardized products that do not require new designs. R&D covers a wide range of fields including fundamental research, advanced development, orders. The timing of orders received, lead times and Mass production preparation involves the setting up of application development and manufacturing other aspects of order-taking activities depend on processes and production equipment at mass engineering. NSK's R&D activities lead to the the customer's business, products and components used. For global products, the sales divisions coordinate with the relevant sites in other countries. production plants once specifications have been finalized. In many cases, customer approval is required for product specifications, equipment and processes. creation of new products, technologies and businesses. Inputs •Technical staff (human capital) Experience and track record in QCDDSM (manufacturing, Mass production equipment preparation, capital intellectual and human capital) investment (manufacturing capital) Accumulated technologies, R&D centers (intellectual capital) Strong relationships of trust with customers Design engineers (human capital) Key (social/relationship capital) Accumulation of a wide variety of technologies R&D structure with external parties (social/relationship capital) Sales capabilities (human capital) (intellectual capital) •Technology centers, R&D sites (intellectual capital) •Financial foundation for funding R&D Technical proposal capabilities (intellectual and human capital) NSK brand recognition (social/relationship capital), etc. NIT (intellectual and human capital), etc (financial capital), etc. NSK's strengths are in its ability to solve complex NSK has internal systems that support 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 technological problems based on our Four Core tight-knit communications between Technologies plus One, the breadth of talented technical staff and accumulated technologies gained through deep customers and the Company's engineering and sales staff. NSK's global development and supply knowledge and experience. improvements in product development, design Our Strengths Based on our tight-knit relationships with customers, we capabilities also help to win a variety of proposals and project management. can quickly grasp their product- and technology-related orders (e.g., orders for newly NSK develops its own, specialized production needs and guide development to meet those needs. developed, improved and equipment, which leads to lower costs for existing/standard products). •Global Account Managers (GAMs) and Key Account Managers (KAMs) work •NSK leverages collaborations and joint development with mass-produced products. our customers, suppliers and external research NSK has a framework in place to manage the institutions in its product development (e.g., steel entire process, from order receipt to the mass together on project requirements. production launch. In accordance with that materials, grease, motors, electronic control units NŠK focuses on high-quality, [ECUs]) framework, detailed inspection and confirmation NSK has a global network of technology centers. environmentally friendly products that of specifications, quality, and cost are performed NSK has systematic education programs and educational institutions, including the NSK Institute of Technology are trusted by customers. at each process milestone (NPDS). NSK works to improve profitability through (NIT), for the training and strengthening of its technical timely and cost-conscious preparations, from product design to mass production. Establishment and promotion of proactive R&D Based on changing customer and Utilization of core assets (capitalized) themes for rapid technological changes in the world (electrification, automation, IoT, the environment) social needs, improvement in the level differentiation technology) aimed at of proposal capabilities utilizing streamlining mass production design and Utilization of open innovation existing and newly developed reducing lead times technologies •Equipment and process settings to achieve Improvement of development and evaluation efficiency by utilizing Al and simulation Supply proposals from optimal stable mass production quality and reduced

- Improvement of "plus One = manufacturing engineering" that emphasizes and optimizes quality from the development stage

  Training and retention of engineers to hand down
- and evolve Four Core Technologies
- Development of technologies and products to contribute to protection of the global environment/CO2 reduction
- locations that make use of global production sites
- Maintaining relationships of trust and proposal/provision of value/services in new styles that go beyond conventional
- workload
- Ascertainment of required quality level of
- markets (end users) and reflection in products
  •Improvement of development and evaluation efficiency by utilization of AI and simulation
- Installation of mass production equipment that contributes to global environmental protection and CO2 reduction



## 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 a key to acquiring new projects.

In principle, products are manufactured once orders are received, rather than in anticipation of orders.



capital



Intellectual capital



Human capital



Financial capital



Social/ Relationship capital



Natural capital



Based on the specifications determined by the development and design departments, activities to procure the raw materials/components used in products, production facilities, sub-materials, . The Company realizes high-level QCD and stable procurement through fair, impartial, transparent and socially and environmentally friendly transactions with its suppliers







- Relationships of trust and coordination with suppliers (social/relationship
- Development purchasing (intellectual and human capital)
- Buyer skills (human capital)





Group's manufacturing plants. A wide range of business

management, production control, plant accounting and

management concerning quality, cost and delivery (QCD).

Both the Industrial Machinery Business and the Automotive Business maintain their own manufacturing plants.

general affairs work, is necessary to ensure stringent

collaborations, including in manufacturing, quality

assurance, manufacturing engineering/equipment





- Production plants and facilities (manufacturing capital) Various manufacturing engineering, 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
- 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.

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.

Sales activities span the delivery of manufactured







- •Human resources to undertake production, sales and inventory (PSI) management (human capital)
- Aftermarket service distribution channels (customers, distributors and sales outlets), etc. (social/relationship capital)
- Production-related survey and analytical data (intellectual capital), etc.
- NSK responds quickly and meticulously through its global sales network (118 locations).
- 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.
- Design and development that leverages customer and market field data
  •Ongoing strengthening of efforts to reduce
- the environmental impact of logistics
- Building of supply chain that can respond rapidly to demand fluctuations
- •Further improvement in customer satisfaction (strengthening of channel management, cultivating specialists)

- favorable and strong relationships with its suppliers.

  NSK achieves a high level of QCD through continuous improvement activities and joint
- development in collaboration with suppliers. NSK has a structure that enables in-house development, manufacturing as well as

NSK continuously maintains and strengthens

- procurement of facilities and equipment within the Group.

  NSK is strengthening its tolerance to foreign
- exchange rate fluctuations by expanding localization In the event of, for example, a natural disaster, the
- Company has in place a system to quickly ascertain the damage status and supplier problems and take the necessary measures in cooperation with them.
- •NSK promotes CSR activities throughout the supply chain toward the realization of a sustainable society.
- Stable procurement (ensuring flexibility of supply, strengthening effectiveness of supply chain BCP)
- Optimization of supplier portfolio (thorough collaboration and competitive
- •Improvement in level of CSR management throughout the supply chain
- •Reduce environmental impact throughout the value chain (appropriate management of environmentally hazardous substances, global warming countermeasures)
- Improvement of productivity using IoT (smart factory, next-generation line development, etc.)
- Strengthening the effectiveness of BCP in production (strengthening building and equipment tolerance, improving complementary supply capacity)
- Training and retention of human resources to hand down and evolve *monozukuri*, creation of comfortable workplaces
- Shift to production facilities and production processes that contribute to global environmental conservation and CO2

# 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.

NSK Ltd. and Consolidated Subsidiaries		IFRS from the fiscal year ended March 31, 2016, onward.					
Years ended Marc	ch 31		2009	2010	2011	2012	
Financial	Sales		647,593	587,572	710,431	733,192	
Data	[By segment]*1	Industrial Machinery Business	267,021	201,963	259,095	255,835	
		Automotive Business	352,453	366,463	424,157	444,585	
		Others / Adjustments	28,118	19,145	27,178	32,772	
	[By region]	Japan	323,375	289,540	354,542	363,754	
	(Based on customer location)	The Americas	78,754	70,609	85,466	86,267	
	,	Europe	111,866	98,504	102,176	107,958	
		Asia (excluding Japan)	133,596	128,918	168,246	175,213	
		China	_	_	82,587	89,068	
		Other Asia	_	_	85,658	86,143	
	Operating income	2	22,106	11,305	43,524	44,417	
	Ordinary income		16,964	7,598	38,572	42,004	
	Net income attribu	Itable to owners of the parent	4,561	4,765	26,110	28,514	
	Capital expenditu		44,138	21,818	41,294	54,619	
	Depreciation and		39,729	37,149	34,943	35,807	
	R&D expenditure		10,691	8,794	10,515	10,373	
	Cash flows from	operating activities (A)	11,785	51,108	64,973	57,158	
	Cash flows from i	investing activities (B)	(46,422)	(29,355)	(33,348)	(56,090)	
	Free cash flows (	*	(34,637)	21,753	31,625	1,068	
	Dividends paid		7,574	4,327	5,950	6,491	
	Acquisition of trea	asury shares	_	_	_	_	
		e to owners of the parent	233,395	247,941	257,012	280,312	
	(Shareholders' equit Total assets	yJ	744,229	789,624	788,626	845,073	
	Interest-bearing	dobt	323,165	304,937	274,585	296,750	
Man Einancial	3		24,050	24,633	26,334	27,444	
Data	Number of employees worldwide (persons)			13,204	15,039	16,181	
	Number of employees outside Japan (persons Number of employees: non-consolidated (persons			5,932	6,306	6,203	
	. ,		5.5	6.6	6.5	6,203	
	Ratio of female employees (Japan) (%)		8.5	8.7	17.6	18.0	
	Total waste (×10 <sup>4</sup> t)* <sup>3</sup> Greenhouse gas emissions (×10 <sup>4</sup> t-C0 <sub>2</sub> equivalen			37.8	86.5	87.7	
	o .	•			140	157	
Per Share		ntally friendly products (cumulative		124			
Data (Yen)	Earnings (Net inc		8.44	8.82	48.30	52.75	
Data (1011)		e to owners of the parent y)	431.74	458.65	475.45	518.56	
	Cash dividends*4		14.0	8.0	11.0	12.0	
Financial	Operating income		3.4	1.9	6.1	6.1	
Indices	-	shareholders' equity (ROE) (%		2.0	10.3	10.6	
		e assets (ROA) (%)	0.6	0.6	3.3	3.5	
		n to total capital (%)	31.4	31.4	32.6	33.2	
	Net D/E ratio (tim		0.85	0.73	0.60	0.58	
	Dividend payout r		165.9	90.7	22.8	22.7	
	Total return ratio	[%]*5	165.9	90.7	22.8	22.7	
	Period-end share	price (yen)	377	738	717	637	
	Price earnings ra	tio (PER) (times)	44.7	83.7	14.8	12.1	
	Price book-value	ratio (PBR) (times)	0.9	1.6	1.5	1.2	
	Dividend yield (%)		3.7	1.1	1.5	1.9	
Exchange	US\$1		100.74	92.83	85.63	79.02	
Rate Data	€1		144.47	130.89	112.92	109.40	

<sup>\*1</sup> In accordance with segment changes in the business domains (part of operations transferred from the Industrial Machinery Business to the Automotive
\*2 Figures of a subsidiary merged in the fiscal year ended March 31, 2017 are included in the compilation.
\*3 Data of total waste and greenhouse gas emissions up to and including the fiscal year ended March 31, 2010 are compiled only for Japan; after the fiscal
\*4 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
\*5 Total return ratio = (Dividends paid + Acquisition of treasury shares) ÷ Net income attributable to owners of the parent.



Millions of yen (Financial data)

,	MILLIONS					
2019	2018	2017	2016	2015	2014	2013
991,365	1,020,338	949,170	975,319	974,885	871,742	732,842
269,974	266,249	226,924	243,395	276,361	242,969	216,142
689,658	723,564	696,271	705,511	656,998	590,545	490,545
31,732	30,524	25,974	26,411	41,525	38,226	26,154
367,537	372,134	330,512	318,434	328,837	329,136	333,348
157,581	155,498	165,177	183,652	164,821	134,483	103,352
130,127	137,856	121,920	131,830	133,752	124,590	102,667
336,119	354,849	331,559	341,403	347,475	283,532	193,473
194,994	212,097	201,185	204,361	210,237	167,239	91,442
141,124	142,752	130,373	137,042	137,238	116,293	102,030
79,279	97,875	65,341	89,534	97,327	68,049	32,361
-	_	_	_	91,002	66,785	30,310
55,809	69,312	45,560	65,719	61,962	31,167	15,739
81,102	68,788	58,602	54,996	49,197	45,448	48,025
48,801	46,785	43,354	43,048	38,568	35,079	34,598
19,023	17,059	13,858	11,155	10,660	9,919	10,432
92,617	83,746	67,936	108,622	67,709	70,342	53,797
(72,673)	(53,001)	(54,243)	(45,212)	(46,335)	(42,402)	(45,262)
19,943	30,744	13,692	63,410	21,374	27,940	8,534
20,737	21,245	20,174	18,425	15,161	8,650	5,943
19,999	_	14,999	_	_	_	_
536,676	537,175	461,350	454,661	456,046	359,201	319,286
1,086,456	1,092,310	1,043,955	1,032,374	1,129,164	1,000,932	882,547
274,780	250,908	267,399	278,152	326,400	315,532	305,102
31,484	31,861	31,501	31,587	31,088	30,454	28,487
19,729	20,254	20,210	20,296	20,052	19,231	17,267
7,892	7,726	7,585	6,278	6,294	6,310	6,398
10.6	10.5	10.7	7.0	6.9	6.6	6.5
23.0	22.4	21.1	20.6	20.1	19.2	18.2
97.8	99.7	99.1	99.1	96.8	93.9	87.1
226	224	219	211	202	190	173
107.46	131.16	86.08	121.38	114.56	57.70	29.14
1,048.18	1,016.30	873.11	839.56	842.69	664.74	591.36
40.0	40.0	38.0	34.0	28.0	16.0	11.0
8.0	9.6	6.9	9.2	10.0	7.8	4.4
10.4	13.9	9.9	14.3	15.3	9.2	5.2
5.1	6.5	4.4	6.1	5.8	3.3	1.8
49.4	49.2	44.2	44.0	40.4	35.9	36.2
0.27	0.22	0.28	0.23	0.31	0.41	0.51
37.2	30.5	44.1	28.0	24.4	27.7	37.7
73.1	30.5	77.1	28.0	24.4	27.7	37.7
1,037	1,426	1,592	1,030	1,758	1,062	715
9.7	10.9	18.5	8.5	15.3	18.4	24.5
1.0	1.4	1.8	1.2	2.1	1.6	1.2
3.9	2.8	2.4	3.3	1.6	1.5	1.5
110.91	110.86	108.42	120.14	109.93	100.24	83.10
128.40	129.70	118.84	132.58	138.77	134.37	107.14

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

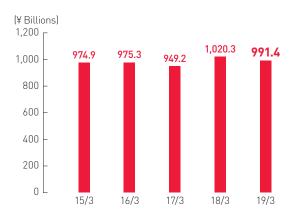
## Financial and Non-Financial Highlights

## Trends in Major Indices

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

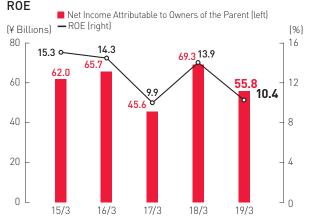
The comments under the charts apply to the actual results for the fiscal year ended March 2019.

#### Sales



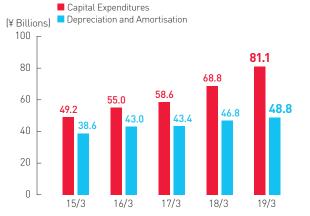
Although the Industrial Machinery Business rose versus the previous year due to a positive first half, the Automotive Business faced a market adjustment in Europe and China and a decline in electric power steering sales. As a result, sales fell to ¥991.4 billion, a decrease of 2.8% from the previous year.

## Net Income Attributable to Owners of the Parent /



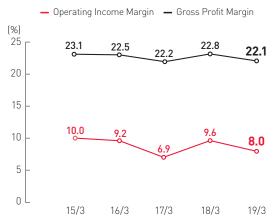
ROE for FY19/3 declined to 10.4% due to lower net income. Despite this, NSK cleared the target ROE of 10% or higher established in the Company's 5th Mid-Term Management Plan.

#### Capital Expenditures / Depreciation and Amortisation



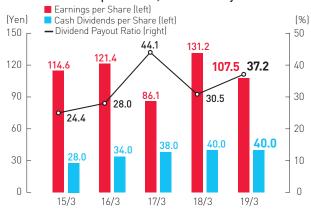
As a result of investments targeted at productivity increases to achieve greater competitiveness and investments in capacity increases to address greater future demand, capital expenditures in FY19/3 grew to ¥81.1 billion, an increase of ¥12.3 billion from the previous year.

#### Operating Income Margin / Gross Profit Margin



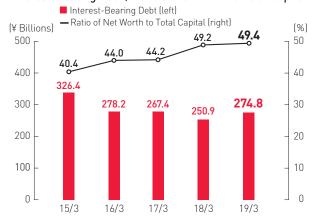
NSK's operating income margin declined to 8.0% (down 1.6 percentage points year on year) due to lower net sales in the electric power steering business and higher costs (steel procurement, research and development, amortisation, labor costs, etc.).

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



Despite lower profits, from the perspective of strengthening shareholder returns and ensuring dividend stability, during FY19/3 the Company maintained the same ¥40 cash dividend per share issued in the previous year. The dividend payout ratio was 37.2% and the total return ratio, including share buybacks, reached 73.1%.

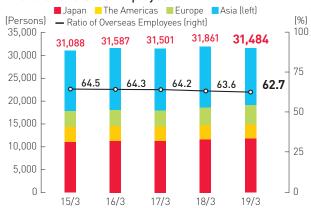
#### Interest-Bearing Debt / Ratio of Net Worth to Total Capital



Despite an increase in interest-bearing debt from the previous year, the current level will not have an impact on NSK's financial stability. NSK is working to balance sustainable shareholder returns, delivered through cash dividends and treasury share purchases, with financial stability.

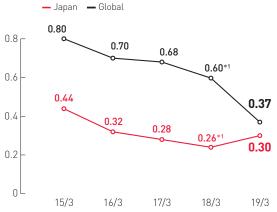


#### Number of Employees Worldwide / Ratio of Overseas Employees



Although the Company continued to hire more technical personnel, a review in line with business activities in China resulted in the number of employees worldwide at the end of FY19/3 falling to 31,484, a decrease of 377 employees from the end of the previous year.

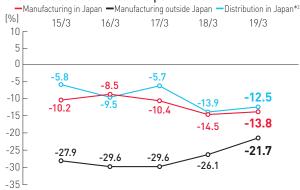
#### Lost-Worktime Injury Frequency Rate



Thanks to strengthened workplace safety initiatives, the lost-time injury frequency rate is on a declining trend globally, but this rate increased slightly in Japan. For additional information on NSK's safety management, please see P. 48.

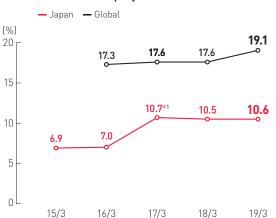
\*1 Adjusted for the purpose of greater accuracy.

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



Although NSK continues to improve productivity and introduce energy-efficient machinery, differences in the types of products manufactured led to a 13.8% decline in greenhouse gas emissions related to production in Japan, an increase of 0.7 percentage point, and a 21.7% decline outside of Japan, an increase of 4.4 points. Distribution-related greenhouse gas emissions in Japan declined 12.5%.

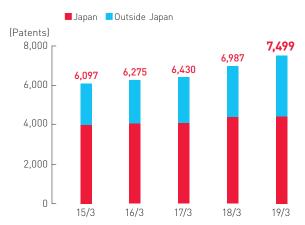
#### Ratio of Female Employees



NSK is striving to expand work options and provide career advancement programs for female employees. The ratio of female employees at NSK was 10.6% in Japan and 19.1% on a global basis. For more information, please see Promoting the Advancement of Women in the Workplace on P. 50.

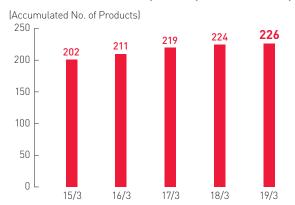
\*1 Figures of a subsidiary merged in FY17/3 are included in the compilation.

#### Number of Patents Held



Toward realizing Innovation & Challenge, Setting the Future in Motion, NSK is strengthening technical development. The number of patents possessed in FY19/3 reached 7,499, an increase of 512 patents from the previous year.

#### Number of Environmentally Friendly Products Developed



NSK developed two new products, bringing the total number of environmentally friendly products to 226. For more details, please see Developing Environmentally Friendly Products on P. 47

<sup>\*1</sup> Rates of percentage increase and decrease are presented compared with the base date of the year ended March 31, 2012 [0%].
\*2 Past data have been adjusted for the purpose of greater accuracy.

<sup>\*</sup>Cumulative data from the year ended March 31, 2003.

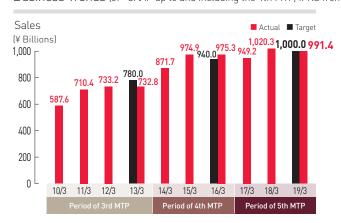
# Looking Back on Past Mid-Term Management Plans

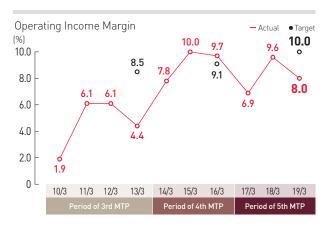
Here we take a retrospective look at the past 10 years of mid-term management plans, from the 3rd to the 5th. (Note: Mid-Term Management Plan is abbreviated as MTP)

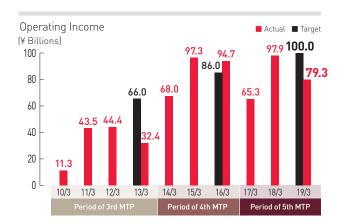
	The 3rd MTP Year to March 31, 2010-Year to March 31, 2013	The 4th MTP Year to March 31, 2014-Year to March 31, 2016	The 5th MTP Year to March 31, 2017-Year to March 31, 2019
Vision Positioning	Responding to paradigm shifts  Reorganizing business foundation toward net sales of ¥1 trillion  • Period to establish and consolidate corporate fundamentals appropriate for a company with sales of ¥1 trillion  • Continue measures to become No. 1 in total quality	Establishing corporate fundamentals appropriate for a company with net sales of ¥1 trillion  • Establish corporate fundamentals appropriate for a company with sales of ¥1 trillion in 2016, the 100th anniversary of NSK's foundation  • Implement measures to achieve mid-term targets  • Continue to implement basic strategies (focus on profitability, growth in emerging countries, global management)	Embark on New Chapter in Evolution Towards Next 100 Years  Initiate mid- and long-term policies for realizing sustainable growth Introduce resources for the future
Outline of the MTP	Our Three Core Management Strategies  Enhancement of business-based management (sales & marketing, production and technological divisions brought under business headquarters management)  Growth strategies Profitability improvement  Specific Measures  A. Enhancement of business-based management Autonomous management by integrated business management and the clarification of divisional responsibilities  B. Growth strategies Increase presence in emerging markets Expand environmental, infrastructure and resource businesses Respond to technological innovation  C. Profitability improvement Proactive sales strategy (strengthen proposal-based sales capabilities) Reorganize global production sites Accelerate new product development	Business Strategies Growth with focus on profitability  Growth in emerging countries Enhancement of customer and sector strategies Production and technological innovation capabilities Strategic alliances  Corporate Foundation Develop management capability to handle ¥1 trillion in sales volume Enhancement of corporate governance and compliance Reform of business structure Advancement of global management  Basics of MTP (Priority Issues) Safety, quality and compliance	Two Pillars of the Plan  Operational excellence Constant pursuit of competitiveness Innovate and challenge Creation of new value  Management Tasks  Achieve sustainable growth Reconstruct the profit base Expand into new growth fields  Strategies by Business Industrial Machinery Business Respond to changes in the business environment and expand target fields  Automotive Business Reinforce the profit base and establish a platform for future growth
Looking Back	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 sales of ¥1 trillion and achieved some measure of success. 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 3rd MTP (the year ended March 2013) were not achieved. 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.	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 sales and profit, a year ahead of schedule in the second year of the 4th 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.  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, 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.	Under an environment of robust demand during the fiscal year ended March 2018, the second year of the MTP, the Company poured its energies into maximizing output and achieved sales of ¥1 trillion, as targeted in the 5th MTP, ahead of schedule. Both operating income and net income achieved new record highs. However, due to a downturn in the economic cycle starting in the second half of the fiscal year ended March 2019, the final year of the MTP, and the impact of the US-China trade dispute, the business environment for both the industrial machinery and automotive businesses deteriorated. Full-year performance during the final year of the MTP experienced a year-on-year decline in sales and profits, which resulted in failure to achieve the MTP targets.  Meanwhile, amid technological changes including the expanding use of IoT, Al, and robots, as well as autonomous driving and electrification, the Company developed new technologies and products intended to connect to the future, and also released ball screws for brakes, industrial actuators, and other products to the market. On the other hand, the steering business entered a transitional period, making activities aimed at returning to growth important.
Achievements	Strengthened its business foundation in China (established a production system for a full product lineup, built an autonomous management system within China) Exceeded the MTP target for global expansion of the EPS business Enhanced profitability following the reorganization of the Precision Machinery and Parts Business Advanced local production and local procurement	Achieved all the MTP numerical targets     Improved profitability on a consolidated basis     Expanded business in China, increased EPS sales     Made progress with the global management structure     Strengthened and enhanced compliance	Achieved sales of ¥1 trillion, achieved record highs for operating income and net income Achieved growth in the powertrain business and recovery in the industrial machinery business Developed and proposed new technologies and products Started smart-factory model-line operations Expanded initiatives to address social issues (ESG, SDGs) Strengthened shareholder returns. Total return ratio 57% [3-year total]
Issues and Shortcomings	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 Decrease in the Industrial Machinery Business sales ratio Strengthening of the compliance system to restore trust and prevent any reoccurrence following the cartel incident	Continue to build foundation as a company with ¥1 trillion in sales  Establish profitability not greatly affected by business cycles or fluctuations in the amounts of raw materials or exchange rates  Promote new products and development in new areas	<ul> <li>Firmly achieve ¥1 trillion in sales and a double-digit operating income margin</li> <li>Restart growth in the EPS business</li> <li>Productivity improvements leveraging ICT</li> </ul>

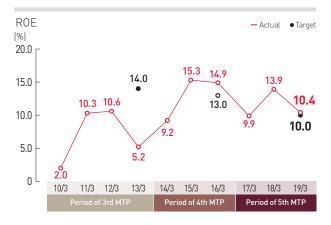


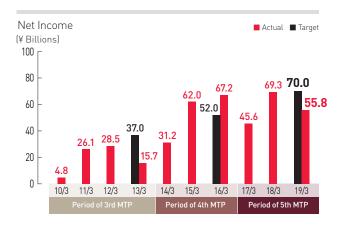
#### Business Trends (JP-GAAP up to and including the 4th MTP, IFRS from the 5th MTP onward)

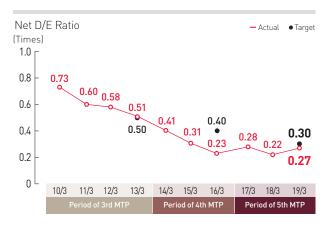






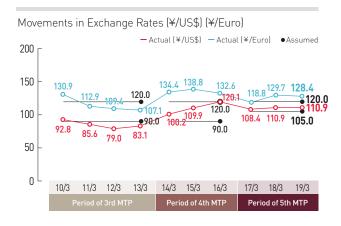






Capital Expenditures/Depreciation and Amortisation/ R&D Expenditures

	4th MTP (Actual)	5th MTP (Initial Plan)	5th MTP (Actual)
Capital Expenditures (including intangible assets)	¥149.0 billion	¥180.0 billion	¥208.5 billion
Depreciation and Amortisation	¥115.3 billion	¥130.0 billion	¥138.9 billion
R&D Expenditures (on a statutory basis)	¥31.7 billion	¥40.0 billion	¥49.9 billion
R&D Expenditures (on a managerial basis)	_	¥80.0 billion	¥86.3 billion



## Toward 2026

#### The 6th Mid-Term Management Plan

The 6th Mid-Term Management Plan (6th MTP) raises "the establishment of a corporate foundation for sustainable growth" as NSK's vision for 2026, the 110th anniversary of the Company's founding. The 6th MTP covers the first three years for realizing this vision and defines the initiatives and targets as "building a business base and strengthening resources in preparation for the next growth phase". NSK established this vision because it believes in the importance of firmly establishing a mechanism and foundation that will enable continued growth over the next ten years and into the future beyond.

In this MTP, the Company has not established any numerical targets as absolute values for sales and profits. Under an uncertain, wildly changing economic environment, the Company will work to enhance managerial resources while at the same time pouring its energies into building initiatives that will realize growth. As growth-related management targets, the Company aims to ensure each business segment achieves growth rates that exceed growth

in the markets that serve as their benchmarks, and will place greater priority on addressing change. Moreover, the Company will also accelerate initiatives related to non-financial issues, such as the environment and diversity and inclusion.

NSK has set its sights on electrification, automation, the environment, IoT, and other trends in order to ensure growth through 2026 and beyond, and will aim for further evolution by fusing digital technologies with its Four Core Technologies and with the manufacturing engineering that give these Four Core Technologies shape in each of these fields. Moreover, by working to actively incorporate technologies outside of the Company, NSK will create new value in new products and new fields. Through these initiatives, the Company will directly and indirectly contribute to solutions to social issues and the establishment of a sustainable society.

## Secure sales of ¥1 trillion and profitability

5th MTP Year to March 31, 2017-Year to March 31, 2019 **Embark on New Chapter in Evolution Towards Next 100 Years** 

- Respond to changes in business environment
- Rebuild profit base
- Develop new products, target new fields

Diversity and Inclusion

6th MTP Year to March 31, 2020-Year to March 31, 2022 Build Business Base and Strengthen Resources in Preparation for Next Growth Phase

- New initiatives targeting growth
- Enhance managerial resources
- Contribute to the environment and society

	50.0455		
Financial Targets	5th MTP (FY18) Results	6th	MTP Targets
Sales/Growth Ratio Growth	¥991.4 billion	Sales growth 2%/year	Industrial Machinery: Achieve sales growth that surpasses market growth Automotive Bearings: Achieve sales growth that surpasses growth in global vehicle production volume Automotive Comps: Secure orders to restart growth in the steering business
Operating Income % Profitability	8.0%	8% or more	Secure stable profitability
ROE Efficiency	10.4%	10% or more	ROE exceeding cost of capital
Net D/E Ratio Financial Stability	0.27 times 49.4%	0.3 times 50%	Maintain an A-level credit ranking
Payout Ratio Share buyback Shareholder Returns	36.3% (3-year total)  ¥35.0 billion (share buyback)	Payout ratio 30 - 50%  Annual dividend  ¥40/ share or more	Continue stable dividend Acquisition of treasury shares Agile capital policy
Capital Expenditure (3-year total) Capital Expenditure	¥208.5 billion	¥180.0 billion	Investments to underpin sustainable growth
R&D Expenses R&D	¥86.3 billion (3-year total)	vs. Sales 3-4%	Continue developing technologies for further growth
Non-Financial Targets			
Greenhouse Gases (GHG) Emissions Reductions	13.8% reduction (Japan) 21.7% reduction (outside Japan) Rate of reduction in GHG emissions per production unit compared with the base date of the year ended March 31, 2012 (0%)	7% reduction (global) Rate of reduction in GHG emissions compared with the base date of the year ended March 31, 2018 (0%)	Reduce GHG emissions released by business operations
Promoting		The Company aims to increase	the ratio of women among managers and manageria

and developing skills.

the Advancement

of Women (Japan)

initiatives targeted at female employees for the purpose of transforming mindsets



## **VISION 2026**

Vision for 2026: Establish a corporate foundation for sustainable growth Provide values through evolution of MOTION & CONTROL™ Challenge next growth phase

## 3 key management tasks

#### Business growth and profitability

**ESG** management

Utilization of robust managerial resources

 Balance investment in future growth with shareholder returns under a stable financial structure

- Safety, Quality, Compliance, and Environment
- Corporate governance

· Personnel, Technology, Organization, Information

Transition to growth with profitability

#### NSK's Value Created

Customers

Environmental contribution (low friction, high efficiency, improvement of transmission efficiency)

Employees

Local

Communities

Contribution to an advanced technological society

Suppliers

Realization of a more prosperous society

Growth of a wide range of industries

Advancement of mobility societies

Improvement of shareholder value

**Future** Generations

Build Business Base and Strengthen Resources in Preparation for Next Growth Phase

















Secure sales of ¥1 trillion and profitability



Constant pursuit of

New initiatives targeting growth Enhance managerial resources

Contribute to the environment and society

Personnel, Technology, Organization, Information

**NSK Core Values** 

Safety, Quality, Compliance, Environment

#### Three Initiatives

Challenging innovation

Creation of

new value

#### 1. New initiatives targeting growth

Grow by delivering value that meets the needs of a future society

- 1. Expand NSK core products in the growth segments of electrification, automation, environment, and IoT
- 2. Grow by commercializing new products in growth segments
- 3. Expand the product lineup for and restart growth in the EPS business
- 4. Utilize M&A and strategic alliances

#### 2. Enhance managerial resources

- 1. Evolve in personnel development
- 2. Evolve in manufacturing (Monozukuri)
- 3. Evolve in technology development
- 4. Utilize of digital technology

#### 3. Contribute to the environment and society

Address environmental and societal issues by strengthening managerial resources and NSK's core values + corporate governance

## Build Business Base and Strengthen Resources in Preparation for Next Growth Phase

The goal of the 6th MTP is to build a "business base and strengthen resources in preparation for the next growth phase." The foundations for this goal are the four NSK core values of "safety, quality, compliance, and environment", and the four managerial resources of "personnel, technology, organization, and information". The 6th MTP will continue to be anchored on the two policy pillars of "operational excellence" and "challenging innovation" established in the 5th MTP, but will focus on the three policies of "new initiatives targeting growth", "enhancing managerial resources", and "contributing to the environment and society".

## CSR/ESG Management

#### NSK's Approach to CSR and ESG

Under its mission statement calling for a safer, smoother society, protection of the global environment, and improved relationships between people, NSK aims to balance its contribution to resolutions for social issues with sustainable growth as a company by generating values through co-creation with all stakeholders. With the goal of realizing this aim in mind, NSK established VISION 2026 on the occasion of its 100th anniversary. Moreover, the 6th MTP continues to target the establishment of a corporate foundation for sustainable growth and provision of values through the evolution of MOTION & CONTROL™ as its vision for 2026, and is thus formulated to undertake the three management tasks of ESG management, business growth and profitability, and utilization of robust managerial resources.

Under a governance framework that raises the efficiency, flexibility, and fairness of management and strengthens the supervisory function, NSK's approach to CSR and ESG is based on the core values of safety, quality, compliance, and environment. NSK's approach also defines contribution to resolutions of social issues as a responsibility of the Company. Similarly, upon advancing specific initiatives, the Company formulated an SDGs Declaration that respects the spirit of the SDGs and selected the NSK's seven key goals based on this approach.

#### **Future Vision**

## **NSK VISION 2026 Setting the Future in Motion**

Vision for 2026: Establish a corporate foundation for sustainable growth Provide values through evolution of MOTION & CONTROL™

#### 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

Safety, Quality, Compliance, and Environment Corporate Governance

ESG management

3 key management tasks

Business growth and profitability

Balance investment in future growth with shareholder returns under a stable financial structure

## Value Created

- Environmental contribution (low friction, high efficiency, improvement of transmission efficiency
- Contribution to an advanced technological society
- Realization of a more prosperous
- Growth of a wide range of industries
- Advancement in mobility society
- Improvement of shareholder value

#### Societal Issues

- Climate Change
- Natural Disaster Response
- Resource Depletion
- Water Shortages
- Ecosystem Conservation
- Water Safety
- Product Safety

- Eradication of Poverty and Hunger
- Preventing/Reducing Inequality
- Preventing Forced Labor and Child Labor
- Quality of Education
- Gender Equality
- Hygienic Facility Maintenance
   Eradication of Conflict/Terrorism
  - Population Growth
  - Falling Birthrates/Aging Populations (Among other issues)

## SUSTAINABLE G A



Utilization of

robust managerial

resources

Personnel, Technology, Organization, Information























#### NSK's SDGs Declaration

In line with our Mission Statement, NSK will work to resolve societal issues by conducting sincere and responsible business operations and achieving innovation in our products and services. in order to help realize a sustainable society.

We will uphold the spirit of all 17 SDGs, and have selected seven SDGs that are particularly interlinked with our business, which we will place priority on tackling.

















#### NSK's Initiatives and Non-Financial Targets

To promote CSR/ESG management, NSK considers it important to clarify the short-, mid- and long-term issues and evaluate the results of its initiatives. To those ends, we recognize that it is important to set up non-financial targets and their management indicators that will lead to the resolution of social issues and are proceeding with the identification of key performance indicators (KPIs). As set out below, this report shows the key goals for NSK and the initiatives being taken, and also shows as a reference the measurables for checking and evaluating the progress of and the results from solving those issues by using qualitative expressions. Going forward, we will further enhance our efforts to resolve social issues.

#### Seven Primary Sustainable Development Goals Addressed by NSK

	Declaration of NSK's Initiatives	NSK's Seven Key SDGs	Measurables			
1	We will contribute to a safe and resilient social infrastructure through innovation.	9 say marketing to the same state of the same st	Number of new products and services, sales of infrastructure related products.			
2	We will contribute to climate change countermeasures by reducing the impact of our business activities on the environment.	7 ::::::::::::::::::::::::::::::::::::	Reduction of CO <sub>2</sub> emissions, total waste volume, recycling rate, water usage, etc.	17 PRINTERSHIPS		
3	We will contribute to the creation of a waste-free society and reduce impact on the global environment through environmentally friendly products and reuse of resources.	7	Number of environmentally friendly products developed, CO <sub>2</sub> emissions reduced by end user use of NSK products.	<b>⊕</b> P. 34		
4	We will form richly diverse organizations where both employee motivation and value creation are fulfilled.	8 minorate.	Female employee ratio, childcare leave/caregiving leave, employment of seniors, etc.			
5	We will enhance our dialogue through multi-stakeholder partnerships to increase the effectiveness of our SDGs initiatives.					

#### Initiatives to Strengthen CSR/ESG Management

Environment	Environmental Management  P. 46	Maximize the environmental contribution through products and minimize the environmental impact from business activities  • Creating environmentally friendly products  • Contributing to reduction of CO <sub>2</sub> emissions through products/services  • Reducing CO <sub>2</sub> emissions from business activities by 60% compared with FY2017 by 2050  • Contributing to building a recycling-oriented society by promoting 3Rs (Reduce, Reuse, Recycle)
	Safety Management ▶ P. 48	Create safe, secure, and comfortable workplaces where safety is the first and foremost priority  Preventing serious accidents Improving safety awareness Preventing recurrence of occupational accidents
	Quality Management ▶ P. 49	Enhance quality in cooperation with customers and suppliers  Promoting NSK Product Development System (NPDS) activities  Promoting NSK Quality No.1 (NQ1) Program activities to aim for stable production with zero defects  Developing human resources to build a stronger foundation for quality creation
Social	Human Resource Management P. 50	Create a fair workplace that empowers the individual  Leveraging a diverse workforce  Providing opportunities for growth  Building more engaging workplaces
	Supply Chain Management P. 52	As a business partner, build trusting relationships and embody mutual development  • Ensuring stable procurement  • Strengthening the effectiveness of supply chain BCP  • Achieving sustainable and responsible procurement
	Compliance ▶ P. 53	Increase trust from international society and local communities by adhering to the laws and regulations and by taking actions based on high ethical standards  • Strengthening compliance system, education and awareness-raising activities and monitoring
Governance	Corporate Governance ▶ P. 54	Realize a transparent, fair and timely decision-making system for sustainable growth and improvement in our corporate value over the mid- to long- term  • Enhancing the effectiveness of Board of Directors • Strengthening Group governance

## **New Initiatives Targeting Growth**

#### **Segment Strategy**



#### NSK's Industrial Machinery Business: Strengths and Value Creation

Ever since NSK's foundation, our industrial machinery business has helped build a safe, smooth society by supplying high-performance high-quality bearings, linear motion, and mechatronic products to a vast range of sectors that support our modern life—from infrastructure such as steelmaking facilities and railway cars, to machinery used in advanced manufacturing such as machine tools and semiconductor manufacturing equipment, capital goods such as speed reducers, and consumer goods such as washing machines and air conditioners. Meanwhile, through our aftermarket business we have worked to support a wide range of industrial equipment users by delivering maintenance and repair products and technical expertise. By further refining our product development to develop high-precision products to support an advanced technological society, we will work to deliver even more compact, high-efficiency products that contribute to an energy-efficient society.

NSK's strength lies in our product lineup founded on the Four Core Technologies plus One and the technical support we deliver to our customers. The pioneer spirit that inspired us to create Japan's first domestically-produced bearings lives on today. The sincere and ongoing efforts of our employees to not only meet but to exceed our customers' expectations have earned us the strong trust of customers both in Japan and across the world, allowing NSK to maintain a leading position in the industry. Our R&D prowess—which

enables us to overcome technological hurdles, our ability to manufacture in optimum global locations, and our delivery framework consisting of not only direct sales but also a strong distributor network have won acclaim from customers and built NSK into a trusted brand around the world. This in turn motivates us to deliver even more advanced engineering and technical services and propose new solutions to our customers.

While we have a strong and balanced global lineup catering to both OEM customers and the aftermarket, NSK is particularly strong in the two core products of precision bearings and precision ball screws, holding the top global share in each. Technical service is another of our strengths, with our engineers working with our customers at the front line of their operations to deliver solutions. NSK's technical services have also won acclaim outside Japan. We are steadily developing a strong reputation, including recently winning a large maintenance contract in the U.S.

One of the key factors supporting our global industrial machinery business is the diversity of our people. Our locations outside Japan are increasingly overseen by local managers, and our teams work to provide a swift and fine-tuned customer response based on the characteristics and needs of each region. Furthermore, non-Japanese managers, including women, hold key posts at our Industrial Machinery Business Division Headquarters in Japan. The diversity of our personnel is an important base for the development of our business, and we will continue to evolve our organization in this way going forward.



#### Our Vision for 2026

Industry is currently undergoing a major structural shift. The shift to low-carbon and decarbonized technology is accelerating in response to the common global problems such as population growth and environmental issues. Meanwhile, advances in Internet of Things (IoT) and artificial intelligence (AI) technology are leading to improvements in big data analysis capabilities, which, combined with the spread of 5G technology, is driving a reform in the structure of industry and related economic models. In this environment, NSK's industrial machinery business must evolve its business portfolio to meet these changing market needs. Although we are already working to focus our resources on areas and sectors that will grow in line with needs related to automation, labor-saving, smart manufacturing, and the environment, one area that I want to place even more emphasis on is increasing the ratio of solution-based services—in addition to our product-based business—that we offer. In other words, we aim to build a business model that spans all phases of the product life cycle. By monitoring the condition of bearings used in manufacturing facilities and visualizing the remaining life, we aim to help our customers achieve zero downtime in their machines and plants. At the same time, we will continue to pay close attention to how NSK products are used, and link this knowledge to R&D ideas for new products, as well as new technical services and improved consulting capabilities. These will be important tasks for us as we work toward 2026.

#### **New Initiatives Targeting Growth**

NSK's industrial machinery business has selected the following five key initiatives targeting sustainable growth in its 6th Mid-Term Management Plan.

The first is to capture demand in growth sectors. As I mentioned previously, we have identified several growth sectors where NSK's R&D, design, and quality capabilities can be put to use to respond to changes in technology and customer needs. These include clean energy, such as wind power generation, railway cars—which are once again drawing attention as an environmentally-friendly means of mobility, information and communications technology related to 5G, and high-performance energy-efficient appliances utilizing IoT technology.

The second key initiative is to deliver value leveraging NSK's strength in precision technology. Precision technology is one of NSK's core technologies, and a source of pride on which our industrial machinery business will not compromise. As the working population shrinks in line with declining birthrates and the need for plant automation and labor-saving technology grows, we will work to further accelerate development of the precision bearings and precision ball screws used in machine tools, semiconductor manufacturing equipment, and robotics to maintain our dominant share of the market and further expand our presence.

Our third key initiative is to establish industrial actuators as a new core product. Industrial actuators are key components that support electrification, and the size of the market is

forecast to grow. For example, one application is vibration control actuators that use ball screws and motors in combination to reduce vibration in railway cars. In the new markets that will develop with the advent of electrification, we will utilize NSK's superior component technology to deliver unit and systemized products, with the aim of developing this product line into a future pillar of the Industrial Machinery Business.

The fourth key initiative is to leverage NSK's strengths to expand the GAM (global aftermarket) business. We will utilize NSK's strengths including our brand power and technical service capability to push forward with our key global initiatives, including enhancing sales channel management, developing specialists, strengthening our supply, distribution, and inventory functions, and further promoting IT utilization.

The fifth and final key initiative is to construct a new business utilizing condition monitoring technology. Our condition monitoring system (CMS) technology, which enables the actual usage conditions of NSK products to be visualized and tracked, has won acclaim as among the best of its kind in the industry. In addition to product development, manufacturing, and delivery—the key processes of a traditional manufacturer—we will also focus on developing solution-based business models, such as diagnosing and visualizing the remaining life of a product using CMS technology, helping prevent sudden stoppages in our customers' machinery.

#### **ESG and SDGs Initiatives**

I believe that initiatives by the Industrial Machinery Business can make a particularly important contribution to the environment. Last year NSK positioned "the environment" as one of its core values alongside safety, quality, and compliance, and set a Group-wide target of a 60 percent reduction in its CO2 emissions by the year 2050. We are pushing forward with initiatives toward this goal. For example, we have reduced energy consumption at our NSK Kyushu plant (Fukuoka, Japan) by converting air conditioning systems to electric heat pumps, introduced smart manufacturing technology in the form of a new hybrid line in the Kirihara branch of our Fujisawa plant (Kanagawa, Japan), as well as converting heat treatment furnaces to electric technology. We are also working to develop new, energy-efficient heat treatment furnaces. NSK's products are incorporated in a diverse array of devices, and the contribution our products make to reducing friction and energy loss is immeasurable. In the case of motors, NSK products help improve motor efficiency and reduce energy consumption, while electrifying the hydraulic system in injection molding machines and replacing it with ball screws helps lower CO2 emissions. Additionally, the development and supply of bearings for wind power generation—a key renewable energy source—directly serves to combat global warming. At NSK we are not only committed to reducing CO<sub>2</sub> emissions, but are also focusing on doing our part to achieve the SDGs associated with our business. Going forward we aim to contribute to society while continuing to grow as a company.

## **New Initiatives Targeting Growth**

#### **Segment Strategy**



## Shigeyuki Suzuki

Director, Representative, Executive Vice President, Head of Automotive Business Division Headquarters

#### **NSK's Automotive Business:** Strengths and Value Creation

The strength of NSK's automotive business lies in our outstanding product capability, which is in turn supported by our foundation technologies. Our products need to be environmentally-friendly, safe, resilient, and ensure driving comfort—all while meeting cost and space requirements. If vehicle electrification continues to advance and cars are no longer equipped with engines, the engine noise that we have become so used to hearing will become a thing of the past, meaning that quieter mechanical components will be required. One of NSK's strengths is that we have the advanced technological capabilities required to provide solutions in this area.

We currently hold a top-class share in the automotive bearing market. Our track record of listening to our customers' needs and delivering solutions has instilled strong trust in NSK, led to increasing orders, and ultimately enabled us to maintain a high market share. At an organizational level we have also established frameworks that allow us to engage constantly with our customers, identify their needs on a detailed level, and use our solution-providing and product engineering expertise to deliver maximum value. This is what sets us apart from our competitors. Through our broad product lineup we will continue to contribute to the evolution of the automobile—namely diversity in vehicle

power sources, electrification of in-vehicle components, improved efficiency, downsizing, and noise elimination in mechanical parts, as well as advances in steering and control technology.

#### Our Vision for 2026

Although growth in global vehicle production numbers has slowed in the short term, output is forecast to continue growing gradually in the mid- to long-term. In particular, the ratio of electric-powered vehicles is predicted to grow significantly. As the automotive industry is rocked by the waves of change in the form of societal trends referred to as "CASE" (connected, autonomous, sharing, electrification) as well as technological innovation, NSK's automotive business is a mix of our existing products and new innovations that set the future in motion. To grow sustainably we cannot simply dive headfirst into new businesses; it is important that we maintain a healthy balance with our existing businesses. I believe that 2026 is around the time that these major technological shifts will take place. Furthermore, looking ahead to 2030 and 2040, the concept of a car itself could even change significantly. In such an event our current business grouping of "powertrain" and "steering and actuator" might lose significance. The conventional business model in which companies cannot generate sales without physical products is also breaking down, and I



believe we will require a shift from hardware to software, and from element components to systems. In these circumstances, we have to evolve ourselves into a company that can adopt a long-term perspective and identify technological and societal trends and changes in customer needs. We need to be able to think ahead to 2030 and 2040, and to make decisions accordingly. To do this, we need to enhance our framework to allow us to achieve a flexible and agile response. And in building this framework, I believe that diversity will be the key. Creating opportunities for a range of people—including both men and women, diverse nationalities, and personnel from both engineering and administrative backgrounds—to come together to share ideas and discuss and tackle problems from the same perspective will be essential. To make the leap to a future that is not simply a continuation of our current path, we cannot operate in isolated silos—we need to bring everyone under the same roof. Therefore, we will strive to build this type of environment as we work to generate new, future-oriented businesses and elements to target the approaching era of technological change.

#### **New Initiatives Targeting Growth**

NSK's automotive business has selected the following five key initiatives targeting sustainable growth in its 6th Mid-Term Management Plan.

The first is to expand the powertrain business. The automotive industry will see increased diversity in power sources from traditional internal combustion engines (ICE) to hybrid electric vehicles (HEV) and fully electric vehicles (EV). Demand for automatic transmissions (AT) in ICE vehicles will grow, while the number of gears used in stepped ATs will also increase. We will work to refine our technology in this area, including making units lighter and more compact, and increasing friction control efficiency. This shift to EVs will not be a simple process. Demand will likely shift first to HEVs, and we have worked to develop HEV-oriented products accordingly. I believe these efforts will eventually bear fruit. Meanwhile, for EVs, in addition to releasing a new traction drive unit, we will also work to propose energy efficiency and noise reduction technologies by developing compact, low-torque speed reducers.

The second key initiative is to expand the in-vehicle motor business. Conventionally, most engines generate hydraulic pressure and use this pressure to generate motion. However, these hydraulic components will be activated by motors. It is predicted that the number of in-vehicle motors will rise dramatically with the shift to electrification, driving increased demand for motor bearings. We must ensure that NSK responds to and captures this growth trend. In addition to building solid

supply capabilities, we will contribute to the improved safety, comfort, and convenience that electrification

Our third key initiative is to expand the hub bearing business. Amid a growing need for safety and fuel economy, we will leverage NSK's technological capability in delivering highly-reliable, low-torque, high-load products to achieve sales growth.

The fourth key initiative is to restart growth in the steering business. In addition to expanding and enhancing our product lineup, we will utilize our core assets and mechanical and software engineering prowess to reduce design workload and lead time, as well as achieve greater efficiency in per-project R&D costs. Additionally, business practices in the steering business differ from those in the bearing business, and it is therefore important that we utilize ideas from employees with diverse knowledge and experience, and broaden our technological scope. In this sense, strategic alliances are one option we may consider.

Our fifth key initiative is to expand the actuator business. As the rebuilding of the steering business will take several years, the actuator business will be a key driver that will allow us to maintain our growth during this period. With regulations on automatic braking systems tightening, I believe that in terms of braking distance and response, systems that employ ball screws will be the most rational solution. As demand continues to grow, in addition to developing superior products we will utilize NSK's global supply capability to further expand the business going forward.

#### **ESG and SDGs Initiatives**

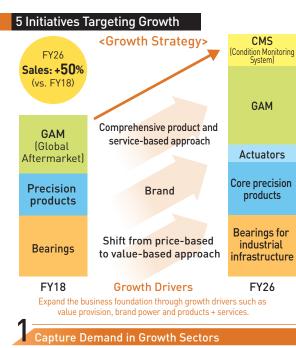
While I previously touched on the importance of diversity, NSK's automotive business is also focused on the environment. Firstly, NSK's bearings and electric power steering systems both serve to reduce the environmental load of the customer products they are incorporated in. Therefore, the more our products are used, the greater the environmental contribution. Furthermore, at our production sites we are shifting technology used in the heat treatment process—which consumes much of the energy used during manufacturing—from conventional methods to induction heat treatment which runs on electricity. Directly applying heat to the workpiece improves energy efficiency, and we will work to further reduce our CO<sub>2</sub> emissions by expanding the number of facilities at which this technology is employed. I believe that setting targets such as the SDGs and evaluating companies' contribution to the global environment and humanity as a whole is an effective way to spur companies to reevaluate the value their business generates and further grow their operations in ways that benefit society.

## The 6th Mid-Term Management Plan "New Initiatives Targeting Growth"

NSK has positioned "New Initiatives Targeting Growth" as a key concept under the 6th Mid-Term Management Plan. Each business segment will pursue five initiatives in an effort to realize sustainable growth.

## Industrial Machinery Business

#### **Future Vision Future Vision Growth Area** NSK's Products Social Needs and Technological Innovation and Services Higher-performance robots Factory automation Capital Goods **Evolve and Construct** Precision equipment Core products Labor-saving (Machine tools, Robots, etc.) New Business Foundation Electrification, next-generation battery technology, renewable energy New products Railway: Improved safety and comfort Smart innovation in construction and Infrastructure Smart technology Wind turbines/Railcars/Construction agricultural machinery New businesses **Consumer Goods Environmental** IoT, next-generation communications (5G) ICT equip/High-functionality and energy-efficient home appliances protection measures Condition monitoring tools, remaining Aftermarket life diagnosis technology





- Wind power
- Railways
- Construction
- Information and communications
- High-performance, energy-saving home appliances





## eliver Value Leveraging NSK's Strength in Precision Technology

- Further expand NSK's presence in demand areas including machine tools, robotics and automation
- Higher specs, improvement in environmental performance, labor-saving and reduction of downtime

#### New Proposal and Contribution to Required Performance (Machine Tools) Main spindle Precision positioning Rotation accuracy Longer precision life Heat-proof High-speed less noise High-rigidity Low abrasion **Condition monitoring** Reduction of downtime

# Establish Industrial Actuators as a New Core Product

- Market expands as a key component supporting electrification
  - For railcars, construction, robots and medical use
  - Need for automation accelerates, electrification in pneumatic/hydraulic devices
  - Improved comfort, safety and environmental performance





JR East cruise train "Train Suite Shiki-shima"

NSK vibration control actuator (left: Actuator; right: Driver)

A ball screw type vibration control actuator that can improve train ride quality (comfort) and enable higher travel speeds. This product is installed in the JR East Train Suite Shiki-shima, a luxury sleeper train that came into service from May 1, 2017.

## verage NSK's Strengths to Expand the GAM Business

NSK's Strengths

- High-reliability products
- Engineering support, service response →Reduce end-user maintenance costs

#### Continue Promoting 4 Fundamental Policies

Strengthen channel management Cultivate specialists Supply/Logistics/Inventory AIP asset efficiency program Promote utilization of IT

## Construct a New Business Utilizing Condition Monitoring Technology

- Product-based + Solution-based business
- Contribute to customers' productivity and quality improvement Provide technology service and solution services
- Establish the CMS Development Center: integrate business development and engineering development





#### **Automotive Business**

#### Future Vision Vehicle Needs/Technological Innovation Areas NSK contributes to: **Mobility** Electrification of power source and in-vehicle parts Environment Comfort Convenience Technology to support mechanical parts, high-efficiency, weight reduction, noise reduction Advanced steering/ control functions Connected Autonomous Shared Electric 5 Initiatives Targeting Growth **Expand the Powertrain Business** Vehicle Production Volume Forecast by Power Source EV HEV ICE (Unit: Million vehicles) 116 107 100 93 FY18 FY21 FY24 FY30 (Source: IHS Automotive, NSK forecast) AT (Automatic Transmission) ✓ ICE+HEV: demand expansion to continue Higher installation rate, multistep AT, largest customer increasing volume Increasing technological requirements Compact, lightweight units, more efficient friction control FY26 Sales: +80% Expand the In-Vehicle Motor Business (vs. FY18) Dramatic Increase in In-Vehicle Motors due to Electrification Improve safety, comfort and convenience Electric brakes, fan motors, sliding seats Differentiate through technological capability and improve electrical efficiency Low noise, low torque Establish supply structure (Rillion units) Number of In-Vehicle Motors 8 6

#### NSK's Products

Powertrain products

Bearings for in-vehicle motors

**HUB** bearings

Steering

Actuators

#### **Future Vision**

Vehicle Technology

FY26

Sales: +50% (vs. FY18)

Respond to Diversified Powertrain in line with

## Shift to Electric-Powered Vehicles

Respond to expansion in AT systems and multistep AT

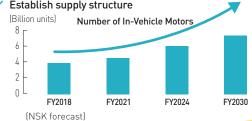
- Increased variation in bearings used due to diversification in transmission systems
  - Deliver value through packaged optimized design proposals

#### EV (Electric Vehicle)

- New products: Traction drive unit/systems
- Technology proposals for motor reducers and 2-speed transmissions
  - Improve electric-efficiency through lightweight, low-torque products, noise reduction



Traction Reducer



**Expand the HUB Bearing Business** 

Expand sales by leveraging engineering ability • High-reliability, low torque, high-load

Sales: +30% (vs. FY18) Growing Need for Safety and Fuel Efficiency

FY26

## **Steering & Actuator Business**

FY26 Sales: +30% (vs. FY18)

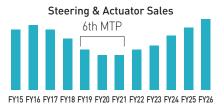
Acceleration in Autonomous Driving Technology and Electrification

Restart Growth in the Steering Business

- Extend product range
- Leverage "core assets" of mechanical parts and software
  - Reduce design man-hours, lead time
  - Improve efficiency in R&D costs per project
- Utilize strategic alliances

## **Expand the Actuator Business**

- Ball screws for brakes
- Develop new applications
  - Steer-by-wire etc.





Force Feedback Actuator for Steer-by-Wire (left) Worm reduction gear type (right) Coaxial reduction gear type

## Financial Strategy / Policy on Shareholder Returns

#### Looking Back on the Financial Results of the 5th MTP

The year ended March 2019 saw a decline in ROE due to lower profits. Despite this, NSK achieved its numerical targets of an ROE of 10% or higher, an A-level credit rating and a net D/E ratio of 0.3 times, as raised in the 5th Mid-Term Management Plan. The Company recognizes that it steadily and soundly improved its financial health during the 5th Mid-Term Management Plan.

	The 4th MTP (Mar/2016)	The 5th MTP (Mar/2019)	Comparison	Evaluation and Comments
Total assets	¥1,032.4 billion	¥1,086.5 billion	+¥54.1 billion	Expanded business scale
Equity attributable to owners of the parent (Shareholders' equity)	¥454.7 billion	¥536.7 billion	+¥82.0 billion	Increased due to profit accumulation
Cash and cash equivalents	¥175.5 billion	¥130.0 billion	-¥45.6 billion	Increased capital expenditures Strengthened shareholder returns
Interest-bearing debt	¥278.2 billion	¥274.8 billion	-¥3.4 billion	Appropriate control of interest-bearing debt
Ratio of net worth to total capital	44.0%	49.4%	+5.4 percentage points	Ensured financial stability
Net D/E ratio	0.23 times	0.27 times	+0.04	Less than the MTP target of 0.3 times
Total return ratio (3 years)	26.3%	56.9%	+30.6	Strengthened shareholder returns Acquired treasury shares worth ¥35.0 billion
ROE	14.3%	10.4%	-3.9 percentage points	Declined due to lower profits Achieved the MTP target of 10% or higher

#### The 6th MTP Financial Strategy / Policy on Shareholder Returns Overview

#### (1) Growth with Profitability

Sustainably achieving "Growth with Profitability" is the most important aspect for generating cash flows and making capital expenditures and R&D investments that lead to future growth, as well as for paying stable dividends to shareholders.

We believe achieving an ROE that exceeds the investment return (cost of capital) expected by shareholders and investors can be considered the "mission" of a publicly listed company. NSK has set a target for ROE of at least 10% in our 6th Mid-Term Management Plan, which exceeds our cost of capital as estimated based on past share trends, business characteristics and the current state of the stock market. We believe maintaining this target over the medium  $\operatorname{term}$ could contribute to further improvement in shareholder value.

#### (2) Maintenance in Stabilization of Financial Base

'Maintenance in Stabilization of Financial Base" is another critical topic for supporting NSK's sustainable growth and for withstanding cyclical (economic fluctuation) impacts.

NSK has been able to steadily improve its ability to generate cash flow compared with the past, and has also stabilized its financial base. (Please see the 11-year summary on P. 16.) NSK recognizes that continuing to keep its net D/E ratio around 0.3 times and maintaining a ratio of net worth to total capital of around 50% will enable the Company to ensure financial stability.

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

#### (3) Stabilization of Shareholder Returns

One of NSK's core management policies is "Stabilization of Shareholder

NSK indicated a numerical target of 30% for its dividend payout ratio for the first time in the 5th Mid-Term Management Plan. As part of the 6th Mid-Term Management Plan, NSK is working to further enhance shareholder returns, and has thus established a dividend payout ratio of 30 – 50% and raised a target of ¥40 or higher for the per share dividend.

ROE of 10% or more

Pursuit of capital efficiency exceeding the cost of capital

- Dividend payout ratio of 30 50% ¥40/share or more (6th MTP)
- Acquisition of treasury shares, Agile capital policies

Total return ratio (3 years) approximately 50%

**Growth with Profitability** 

Stabilization of Shareholder Returns

Balance investment in future growth with shareholder returns under a stable financial structure

> Maintenance in Stabilization of Financial Base

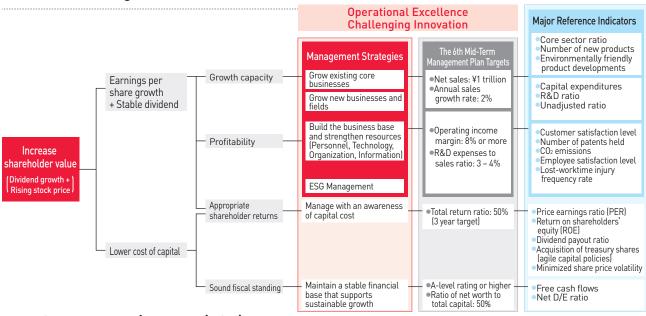
- Net D/E ratio of around 0.3 times
- Ratio of net worth to total capital of around 50%

Maintain an A-level credit rating to support growth and enable the Company to withstand cyclical impact

In addition to returning profits through dividends, NSK recognizes that agile capital policy execution based on share buybacks is another option. NSK intends to appropriately and flexibly execute share buybacks taking into account its cash position and stock market trends. During the three-year period covered by the 6th Mid-Term Management Plan, NSK is targeting a total return ratio of 50%.



#### NSK Financial Logic Tree



#### Total Shareholders' Return (TSR)

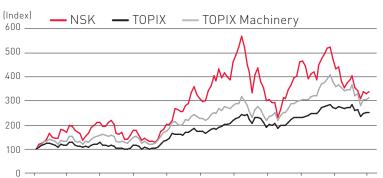
Along with achieving an ROE that exceeds the cost of capital over the mid-term, increasing TSR acquired through dividends and a rising stock price is also important.

Looking at the relatively short-term (one, three and five years), NSK's TSR has been affected by demand adjustments over the most recent period and a depressed stock price due to lower steering-related sales, which led the stock price to underperform the TOPIX and the TOPIX machinery sector. Looking over the longer 10-year period, however, NSK recognizes that it has striven to realize stable shareholder returns, improved share performance above both TOPIX and the TOPIX machinery sector and achieved a TSR that exceeds the cost of capital over the mid- to long-term.

Investment Period	1-Year	3-Years		5-Years		10-Years	
	Cumulative/Annual Rate	Cumulative	Annual Rate	Cumulative	Annual Rate	Cumulative	Annual Rate
NSK	-24.5%	12.1%	3.9%	14.6%	2.8%	238.2%	13.0%
TOPIX	-5.0%	26.2%	8.1%	47.1%	8.0%	153.3%	9.7%
TOPIX Machinery	-12.9%	33.5%	10.1%	39.1%	6.8%	213.1%	12.1%

<sup>\*</sup>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

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



<sup>2009/3 2010/3 2011/3 2012/3 2013/3 2014/3 2015/3 2016/3 2017/3 2018/3 2019/3</sup> \*Share price index trends including dividends (March 31, 2009 = 100)

#### Share Price Trends by Fiscal Year

Fiscal Year	High (Yen)	Low (Yen)	Fiscal Year-End (Yen)	Volatility
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%
2018	1,488	885	1,037	26.1%

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

#### Policy on Cross-Shareholding

NSK aims to reduce the cross-holding of shares deemed to have little benefit in increasing mid- to long-term corporate value. Regarding the appropriateness of cross-shareholdings, NSK conducts quantitative and qualitative evaluations on an annual basis to determine whether each individual shareholding is delivering acceptable benefits in relation to the Company's capital cost. We will sell any cross-shareholdings whose possession cannot be justified, taking into account stock prices and market trends.

The number of cross-shareholdings (disclosed in the Annual Securities Report) totaled 136 stocks as of the end of March 2010. However, this number has been reduced to 79 stocks as of the end of March 2019 (reduction of 57 stocks over nine years).

## Creating Value with Stakeholders

NSK's business is founded on a trust relationship with all of our stakeholders, and we deeply feel the importance of building even more fruitful relationships through two-way communication.

Together with each of our stakeholders we aim to generate a range of value, ultimately contributing to the realization of a sustainable society while also achieving growth as a company.

#### Primary Benefits/Values, Interests, and Expectations of Stakeholders Main Engagement Examples of Themes for Our Relationship with Stakeholders **Further Value Creation** NSK's customers and sales destinations Everyday sales activities · Q: Quality-Offering of Creating and encompass the machine manufacturers, auto Technological exchanges high-quality products, proposing new and automotive components makers, distributors Guest engineers high-quality services value from an and sales outlets that purchase our products Showrooms C: Cost-Appropriate pricing end-user D: Delivery-Stability in delivery, directly, as well as the end users who utilize our Exhibitions perspective products in the various machines produced by Joint research/joint supply chain management, Proposals for direct customers. Being recognized for our development and strict adherence to supply from experience and track record in QCDDSM, sales Information disclosure laws and regulations optimal locations through surveys, etc. strength, brand recognition, global development • D: Development-Leveraging that leverage capabilities, and reliability as a partner is what NSK report technology innovation, global leads to seizing new business and capturing (Integrated report) finding solutions to issues, production sites market share, and this is what enables Sustainability report development of partners sustainable growth. In addition to deepening our Website and development of understanding of the needs of manufacturers, products and technologies distributors and sales outlets through everyday that contribute to the sales activities and technological exchanges, we environment also strive to address the expectations of end S: Service-Support customers users. By effectively incorporating direct at our global sites in each customer and end-user perspectives into our region, reliability, security business activities, products and services, NSK and trouble shooting aims to create values as a part of efforts to • M: Management-Management realize an affluent society, promote capabilities that support the environmental conservation and establish an advanced technological society. The value created by NSK, including advanced Manager/team dialogue Engaging workplaces Increase technology and world class products, is Objective-based (Respect of fundamental opportunities for driven by a diverse team of employees management, performance rights at work, equal dialogue with management, working all over the world. We strive to opportunity, creating safe review systems develop vibrant, motivating workplaces to fully • Internal financial results and inspiring workplaces, vitalize two-way enable each employee's potential. In addition briefings health and productivity communication to fostering creativity and individuality, NSK is Intranet, internal management) Review systems to newsletters, digital signage working to revitalize a constructive Leveraging a diverse achieve more labor-management dialogue, employee workforce, diversity and Internal job posting, diverse work inclusion, work-life balance, communications, and exchanges with Workplace and Career styles external stakeholders. Through these efforts, Aspirations Survey flexibility with working styles Promote NSK aims to raise the awareness of each Vision 2026 initiatives Providing opportunities for situational growth, self-development employee to promote the creation of open, Training, self-improvement understanding and educational transparent workplaces that enable and improvement seminars Employee awareness employees to set the future in motion and opportunities activities through increase corporate value. surveys regular Labor union negotiations awareness QC cycle/cell activities surveys •Further enhance Improvement proposal systems educational and Internal whistleblowing training programs Daily procurement activities NSK's businesses, which reach all corners of Ongoing Proper, fair and transparent the globe, as well as the competitiveness they Procurement Policy transactions that give maintenance possess, are underpinned by numerous **Briefings** consideration to society and and suppliers around the world through the NSK Supplier CSR the environment strengthening of Guidelines "self-diagnosis provision of superior components and raw Joint development favorable and materials. Suppliers ask for close sheet" (materials, components, strong Conflict minerals surveys collaboration in quality assurance and grease, etc.) relationships technology development and require fair • Green Procurement Support for enhanced quality Enhance level of Promoting CSR activities transaction practices. Standards CSR NSK strives to develop mutually beneficial Regular meetings on throughout the supply chain management relationships through frank and open technology and quality Collaboration when throughout the exchange of opinions in daily procurement Supplier Safety disasters occur supply chain activities and mutual improvement initiatives. Confirmation System toward realizing For example, NSK works with suppliers to Local supplier a sustainable audits/interactions raise the level of quality assurance, develop society new technologies, protect the environment, VA/VF and ensure that human rights are fully Joint research/joint respected. These sincere efforts are essential development • Whistleblowing system for environmental conservation and mutual NSK report prosperity along the entire global supply

Sustainability report

chain.

#### Primary Benefits/Values, Interests, and Expectations of Stakeholders Examples of Themes for Main Engagement Relationships with Stakeholders **Further Value Creation** NSK's globally expanding business Activities to contribute to Mutual harmony and benefit Increasing the Local Communities opportunities for depends on building harmonious local communities (donation with communities relationships with local communities, drives, cleanup activities, Contributing to creation of exchange so as to and fulfilling our corporate responsibility etc.) employment/regional promote an to contribute to the development of Plant festivals development understanding of those communities. NSK aims to grow Cooperating in community Preserving the global safety and security as a company that is needed, loved, and events, welfare programs environment, local and raise the degree respected by communities around the Information exchange with environment of trust Ample activities to world. We strive to respect cultures, administrative bodies, local Reducing environmental customs, and needs by engaging, public organizations, others impact (curbing emissions contribute to communicating, and working closely understand and respond to from business activities) communities with each community to achieve demands and expectations) Consideration concerning mutually beneficial development and the Exchange with industry noise protection of local environments. groups Safe operations As providers of financial capital. Set date to avoid periods • Improved Corporate Value Securing and raising shareholders and investors play a concentrated with the Proper stock prices understanding and critical role in supporting NSK's growth shareholders' meetings of Realizing shareholder agreement of capital and monitoring company management. other companies returns that exceed capital market participants Our shareholders expect us to realize a \*The 158th Ordinary General costs with regard to Meeting of Shareholders Providing information in a positive return on investment through management policy, - Number of shareholders Shareholders and Investors sustainable growth, and also demand proper, fair and timely business strategy present: 154 ESG management initiatives that manner, and have sincere and financial strategy Ratio of shareholder voting emphasize maintaining a harmonious dialogue Expanding support of rights exercised: 83.9% Proactively taking initiatives shareholders that balance between society and the Plant tours for shareholders environment. NSK aims to grasp and and making disclosures for contributes to fair Financial conferences meet the expectations of shareholders global social issues, and determination of President's small meetings and investors through sincere efforts to CSR/FSG share prices and Roadshows outside Japan maintain a constructive dialogue and sustainable growth, Securities firm-sponsored further increase the soundness and and realizing a conferences transparency of Company management. balanced Interviews shareholder Engagement visits composition Business briefings •Ample engagement \*Total number of dialogue with shareholders opportunities in fiscal 2018: and investors, and 527 companies strengthening the Briefings for individual tools to accomplish investors that \*Total number of individual Enhancing disclosure investors participating in and heightening fiscal 2018: 314 in 9 briefings appeal of efforts with NSK report regard to CSR/ESG Sustainability report issues Website Ongoing Realizing a safe and prosperous society Joint research Generating and providing NSK Foundation for the opportunities for the growth implementation of that will last long into the future is indispensable not only for NSK but also Advancement of Mechatronics of the next generation that support to nurture for the growth and development of NSK Scholarship Foundation the next generation will be responsible for the society as a whole. To support the Providing products/technical of human talent future **Future Generations** healthy development of the next from a long-term materials Conveying the enjoyment and • Science classes for children generation that will be responsible for importance of monozukuri standpoint shaping future society, we conduct "Bearing Lab" display booth at Passing down a safe society Working through the science classes, offer internships, and the Science Museum (Tokyo, and an abundant natural NSK Scholarship provide scholarships as efforts geared Foundation to Japanl environment Internships provide aid in the toward long-term growth. Through these • School visits, guest teachers activities, we aim to realize a prosperous invigoration of the society for the future by not only Materials for children Asian region by The Secrets of the Bearings" supporting Asian conveying the enjoyment and importance of monozukuri to children and students (comic book) exchange students "Stories of the Bearings" but also by developing future and Japanese (picture book) (Japanese) generations of human resources. nationals who will "Introduction to the Bearings" play an active role

(technology introduction)

(Japanese)

on the international

stage and contribute to the world

# Risk Management

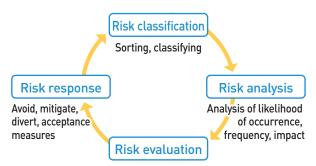
NSK works to build a risk management system based on clearly stipulated fundamental principles aimed at effectively enabling global Group management and internal control functions. Every year, all of the business sites perform their own risk assessment, classifying, analyzing and evaluating risks in accordance with changes in the social environment, the frequency of risk occurrence, the size of impact, and other factors to identify risks that should be addressed. The Corporate Planning Division Headquarters and the Finance Division Headquarters coordinate with business, regional and functional headquarters with regard to risks at each division and each business site, which are managed in accordance with prescribed reporting systems. While putting in place preventive measures, the Company devises steps to swiftly and appropriately take action in the

unfortunate event a risk should actually be manifested, and then works to mitigate impact.

In addition, the internal audit division coordinates with the Audit Committee to monitor the tasks carried out by executive divisions, build an internal control system and audit operational status.

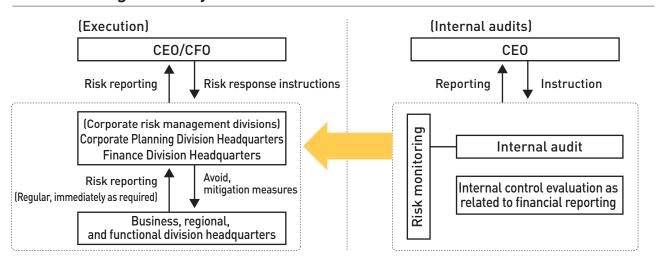
As NSK's business activities spread to more areas, the range of anticipated risks also widens. However, the Company has identified 10 types of representative risks deemed of high importance according to what they entail and likelihood of occurring, their degree of impact and mitigation measures. Among the risks we present, the three types outlined in 1, 2, and 6 could lead to business opportunities for NSK, and we include details concerning these as well.

# Risk Management Flow



Evaluation of likelihood of occurrence, frequency, impact
Pursuit of underlying cause

# Risk Management System



High

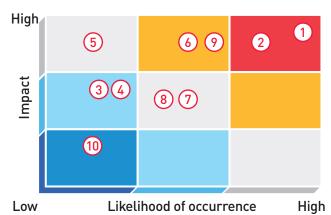
# Risk Heat Map

Short-term risk: 1-2 years

# 

Likelihood of occurrence

Long-term risk: 10 years





# Representative Risks and Mitigation Measures

Risk Ty	pes	Details of Representative Risks	Risk Mitigation Measures
Risk associate changes to tee innovation, an or competitive	chnology Id the market	Risk of delay in responding to market changes, as well as to customers' technology demands and technological innovation as with CASE and IoT Risk of being unable to respond to an increasingly competitive market populated by rival companies and new market entrants Opportunity' Generation and expansion of new businesses brought about by the introduction of new products and new technology (industrial machinery actuator, CMS, ball screws for automatic brakes, EV speed reduction mechanisms, steer-by-wire, others)  PP. 26-31	Understand the needs through close relationships with a broad range of customers     Pursue the Four Core Technologies plus One, and utilization of digital technology     Leverage open innovation and alliances
Risk related to situations and on specific reg	d dependency	Risk of change in economic environment of a specific region in which the Company conducts business, and of the impact of falling into political instability Risk associated with halt in operations on account of deteriorating public order, outbreak of riots or terrorism Risk associated with business continuity in the event the supply chain breaks down Risk of overemphasis on Asia, particularly China Poportunity Business expansion in important regions other than China, such as ASEAN, Europe, others  PP. 44-45	Expand and enhance a balanced presence in other regions     Get an early grasp of information on dangers by strengthening ability to gather information from each region     Leverage our global network that has the principle of local production, local procurement     Obtain advice from the China Advisory Board
Risk concerni and preventio disaster	-	Risk of major industrial accident occurring Risk of halt in operations due to lack of labor management Risk of halt in operations due to mistaken BCP measures to address fires or natural disasters Risk of being unable to secure a comfortable and safe working environment in neighboring regions, or for employees	Strengthen and nurture safety awareness as a core value, thoroughly educate and enlighten Share case studies from other locations introducing what went right, and what went wrong Audit and evaluation of various levels from management to operation staff as well as processes and systems, thorough implementation of countermeasures Conduct simulations of anticipated scenarios, prepare disaster countermeasures, formulate a business continuity plan
4 Risk associate	ed with quality	Risk of compensation claims due to significant quality defects Risk associated with insufficient response due to improper quality assurance system or quality control management Risk of spoofed, falsified quality data	Secure high quality through process management that leverages the NSK Product Development System (NPDS)     Realize zero defects by utilizing NSK Quality No. 1 (NQ1) activities     Conduct auditing, monitoring based in the internal control system, strengthen support systems
Risk with regation compliance	ard to	Risk of violation of relevant laws and regulations     Risk of further losing the trust of society due to bearing responsibility for criminal, civil and administrative acts associated with the above	Undertake education on strict adherence to laws and regulations, create a corporate culture and atmosphere interwoven with morals and manners     Review compliance systems, policies, and related rules on an as needed basis to strengthen and improve     Promote specific measures related to strengthening compliance, follow up to confirm on status of implementation
Risk concerni environment	ng the	Risk of not progressing toward attaining reduction in CO2 emissions (60% reduction in emissions in 2050) and other specific goals related to the environment Risk of being unable to respond to changes in environment-related laws and systems, or to evolving environment-related technologies and market needs Opportunity Expand sales of environmentally friendly products P. 47	The Environmental Protection Committee formulates environmental policy and environmental action plans  Determine and implement specific response measures, and understand information in order to conform to environment-related laws and systems  Acquire external certifications in the development, design, production and distribution divisions that pay careful attention to environment-related issues, and manage thoroughly according to reviews by third-party institutions
Risk associate human resour labor	_	Risk of being unable to secure globally competent human resources, consequently hindering business expansion and execution of strategy Risk of impact on operations due to insufficient workforce Risk of impact on operations due to deteriorating labor relations	Make the most of diverse human resources [Realization Of Diversity and Inclusion, Facilitating a work-life balance], Create environments where employees can work with vitality [Respect of fundamental Rights, Creating secure, safe, and comfortable workplaces, Consideration to health]. Engrain a basic policy of providing opportunities and workplaces that foster the growth of self-motivated employees [Realization of talent management, offer education and training opportunities]      Undertake measures to bolster engagement and systems, including support for females, elderly and handicapped to play an active role, conduct employee awareness surveys and Employee Relations [ER]
Risk with rega	ard to	Risk of dependency on specific source of supply or occurrence of quality problems that could hinder the supply of raw materials or components due to partners' insufficient production capacity  Risk of impact from rising costs for raw materials or components  Risk of supply-related problems occurring with regard to new technology or new products  Risk of not proceeding with initiatives related to CSR procurement	Build a firm understanding of the Company's basic policy through procurement policy briefings, NSK Supplier CSR Guidelines, procurement standards, use of whistleblowing system and other measures  Cultivate and educate new suppliers based on high and increasingly sophisticated assessed purchasing capabilities  Implement supplier BCP inspections, as well as audits of suppliers in terms of quality, environment, and CSR, strengthen and enhance support structure to facilitate improvements
Risk associate information at communication technology (IC	nd on	Risk of decline in competitiveness due to lagging sophistication of IT systems Risk of decline in business efficiency due to loss of stability in IT system that underpins business operations Risk of halt in operations or loss of trust from society on account of insufficient measures or lack of IT security to defend against cyber-attacks and other external threats	Maintain and raise technology level by pursuing new IT system technology and field trial deployment     Ensure stability through backup and redundancy of IT system platform, and standardize system support     Build and strengthen a management structure relevant to cyber security risks and educate and enhance knowledge internally with regard to information security, acquire external certifications
10 Risk relate	d to finance	Risk relating to the collection of accounts receivable due to sales destination trust problems Risk of cost burden from problems that arise related to quality, litigation concerning business activities Risk of procurement of necessary funds, cash flow Risk related to mistakes in accounting procedures	Gain an early understanding through the risk reporting system, conduct swift reaction to address through close collaboration with relevant divisions     Perform Group management and strengthen effectiveness based on the internal control system

# **Business Activities Report**

# 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 the Industrial Machinery Business

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

#### Customers

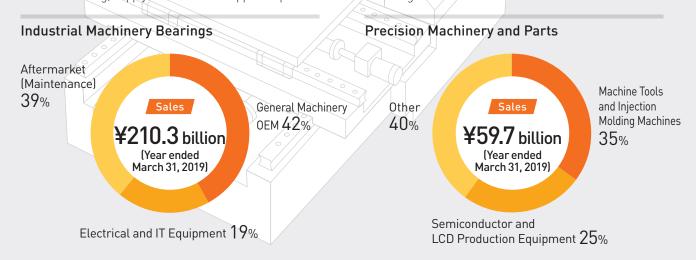
- Machinery manufacturers in Japan and overseas (excluding automotive), distributors and sales outlets
- Large number of customers, wide range of products

#### Features of Customers and NSK Businesses

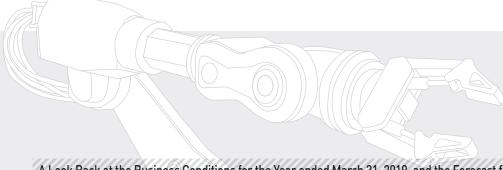
- Products for use in general machinery are produced in small lots and many varieties, whereas products for electrical and IT equipment are mass produced (large volumes of standardized products).
- Products for use in general machinery and the aftermarket include large products with relatively long lead times.
- 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.

#### NSK's Competitive Advantages

- Extensive product lineup as a comprehensive manufacturer
- Technological capabilities based on our Four Core Technologies plus One
- Accumulated expertise in customer needs and technology for a wide range of industries and applications
- Manufacturing, supply and technical support capabilities delivered via a global network

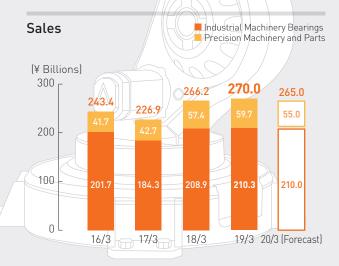






A Look Back at the Business Conditions for the Year ended March 31, 2019, and the Forecast for the Year ending March 31, 2020

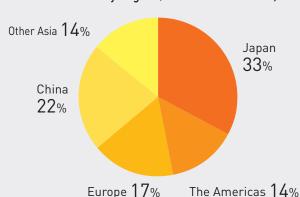
A positive first half for the year ended March 31, 2019 contributed to increasing in both sales and profits. In the year ending March 31, 2020, demand is expected to bottom out during the first half and recovers during the second half.



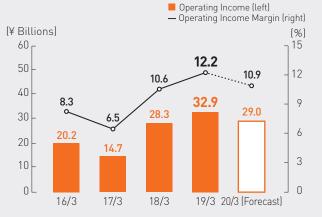
The year ended March 31, 2019 saw strong demand for the Company's products continued through the first half of this period in response to increased capital expenditures in IoT, automation and labor-saving measures. The second half of this period saw demand transition to a period of adjustment with the manifestation of impacts from the US-China trade dispute. For the full period, however, a positive first half contributed to securing higher sales and profits year on year. In addition to higher sales, the results of cost reductions and pricing policies helped lead the operating income margin to recover to the 12% level

Looking at the segment's results by geographic breakdown, sales in Japan increased, primarily in the aftermarket sector,

#### Sales Breakdown by Region (Year ended March 31, 2019)



#### Operating Income/Operating Income Margin



despite the negative impact of a slowdown in the smartphone-related market. In the Americas, despite strong demand from sectors including medical equipment, sales declined due to depreciation of emerging countries' currencies, including the Brazilian real. Sales in Europe decreased due to a decline in the electrical sector, including home appliances, although sales in the wind power sector rose. In China, sales grew due to an increase in the aftermarket, wind power and machine tool sectors, despite weaker sales in the electrical sector, including electric tools and motors. In other Asian countries sales increased, primarily in India.

As a result, sales in the Industrial Machinery Business totaled ¥269,974 million (a year-on-year increase of 1,4%), operating income totaled ¥32,887 million (a year-on-year increase of 16.1%) and the operating income margin reached 12.2%.

The business environment for the upcoming period also holds risks for a global economic slowdown, including US-China trade friction and the UK's withdrawal from the European Union. As such, the future outlook remains unclear. However, capital expenditures delayed during this period are expected to recover from the second half of the upcoming period, with sales for the year ending March 31, 2020 anticipated to total ¥265,000 million (a year-on-year decrease of 1.8%), operating income to total ¥29,000 million (a year-on-year decrease of 11.8%) and the operating income margin to reach 10.9%.

In this business, the Company will continue to flexibly address changes in demand trends. Moreover, as social needs for IoT, robotics and renewable energy increase, the Company is working to expand its mid- to long-term presence in the market and expand businesses that add to sales by building a new business foundation that addresses these growth areas.

# **Business Activities Report**

# **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) and 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.

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

#### Specific Features of the Automotive Business

#### Customers

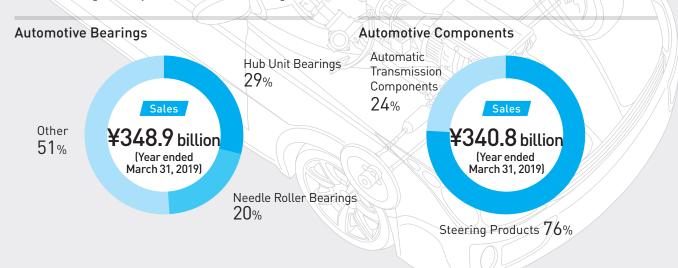
- Automakers in Japan and overseas
- Auto component manufacturers in Japan and overseas

#### Features of Customers and NSK Businesses

- 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.
- The delivery volume required for a single project has been on the rise as customers employ common platforms and planned production volumes grow.
- NSK's 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.

#### NSK's Competitive Advantages

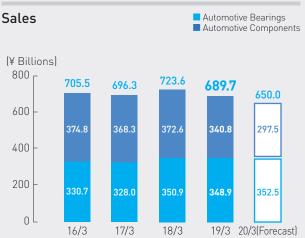
- Diverse business relationships/customer base among automakers and first-tier auto parts makers
- Global supply capabilities
- Development capabilities/technological response capabilities for advances in automobile functions
- Global management systems to focus on meeting overseas demand.





#### A Look Back at the Business Conditions for the Year ended March 31, 2019, and the Forecast for the Year ending March 31, 2020

A market slowdown and decline in EPS led to lower sales and profits year on year during the year ended March 31, 2019. In the year ending March 31, 2020, despite a continued slowdown in EPS, NSK aims to achieve growth in bearings and products for the AT that surpasses the markets growth.



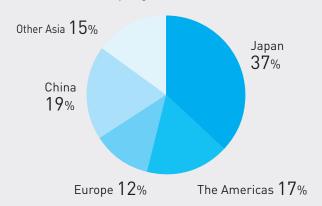
0 L 16/3 17/3 The year ended March 31, 2019 saw higher sales of products for automatic transmission (AT) systems and needle roller bearings. On the other hand, sales declined year-on-year as a result of a slowdown in the global automotive market and lower

Looking at the segment's results by geographic breakdown, sales in Japan decreased due to lower sales in the EPS business despite robust sales of products for AT systems. In the Americas, sales increased mainly due to solid sales of products for AT systems. In Europe, sales decreased due to lower vehicle production stemming from new exhaust gas emission testing methods (WLTP). Sales in China decreased

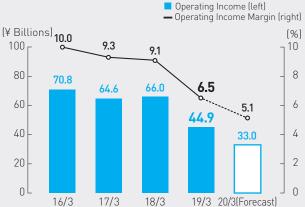
electric power steering (EPS) sales due to the impact of model

changes.

### Sales Breakdown by Region (Year ended March 31, 2019)



#### Operating Income/Operating Income Margin



due to a reactionary decline from special tax incentives for compact cars which ended last year, as well as lower EPS sales. In other Asian countries, overall sales decreased due to the impact of exchange rate fluctuations, although sales in India increased

As a result, sales in the Automotive Business declined to ¥689,658 million (a year-on-year decrease of 4.7%). Meanwhile, operating income slipped to ¥44,949 million (a year-on-year decrease of 31.9%) and the operating income margin fell to 6.5% as a result of lower volume, higher steel prices and labor costs, and increased technological development expenses targeted at future growth.

Automotive Business demand trends for the year ending March 31, 2020 are expected to remain unclear due to ongoing uncertainty regarding a conclusion to US-China trade friction and the UK's withdrawal from the European Union. Moreover, although NSK aims to achieve growth in products for AT systems and bearings that surpasses that of the market, given the continued decline in EPS sales due to the impact of model changes, sales are expected to fall to ¥650,000 million (year-on-year decrease of 5.8%), operating income to ¥33,000 million (year-on-year decrease of 26.6%), and the operating income margin to 5.1%.

In this business, the Company will work to expand operations with a focus on products for AT systems, for which demand is expected to continue increasing, and aims to restart growth in the EPS business. Moreover, NSK will contribute to electrification, autonomous driving, and other automobile-related technical innovations by employing existing technologies and new technologies to be developed in the future. NSK will also work to improve profitability by raising productivity and reducing fixed costs.

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

### NSK's Four Core Technologies, and Giving them Shape is Manufacturing Engineering

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.

Then there is manufacturing engineering, another important technology and strength of NSK that gives shape to our Core Technologies.

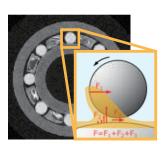
The technologies and products that have been created based on our Four Core Technologies, with the "plus One" of manufacturing engineering, are contributing both to the development of industry across the world and to people's abundant lifestyles. NSK will continue to engage in advanced technological development and provide highly functional, high-quality products that meet market needs in the years to come.

# Four Core Technologies + 1

### **Tribology**

#### Studying, Clarifying and Controlling Friction

Tribology is the study of friction and wear of contact surfaces in relative motion, such as rotating parts that endure enormous



Friction on the bearing's ball surface

forces with a thin oil film.
Severe operating conditions are mitigated through lubrication and surface treatments developed by NSK, resulting in superior performance for applications requiring low friction, high-speed rotation, quiet operation, or enhanced durability.

#### **Materials**

#### Unrelenting Pursuit of Performance Durability and Reliability

Materials research and development affects nearly every aspect of product performance. Through careful selection of material composition, heat treatment, and ceramic



optimization of application performance. This may result from improvements in function, endurance, or reliability, or through advancements in cost-effectiveness or production efficiency.

materials, NSK enables

Four Core Technologies

Durability testing machines

#### **Numerical Simulation**

#### Simulated Recreation in Cyberspace to Predict Performance

In the past, accuracy and reliability in product development were achieved with experience-based design and longer



testing periods. NSK's simulation technology allows virtual validation to accelerate design and production. Extreme conditions or innovative designs that defy previous expectations can also be evaluated and analyzed.

Simulated example of an automotive component

#### **Mechatronics**

# Technology Supports People for a Convenient, Safe and Comfortable Future

Mechatronics integrates machine elements technology with control technology. By combining bearings, ball screws and linear guides, together with motors, sensors and computers, greater mechanical functionality is elicited with computer



Manipulation system for bio-medicine

control. This technology applies new functions and performance to a range of industrial machinery, such as for automobiles and bio-medicine. It also contributes to greater reliability, as well as to convenience and safety in daily life.

#### Manufacturing Engineering

#### Giving Shape to Four Core Technologies

Contributing to the environment and heightening safety and security through our Four Core Technologies requires something to breathe life into these technologies. In addition, it is essential to consistently produce with high quality. NSK tackles these issues by applying AI to its equipment, utilizing IoT, and optimizing its overall production framework while it works to realize the creation of smart factories that economize on space, save on energy, and reduce manpower requirements.



Cheonan Plant in South Korea







# A Fusion of Product Technology and Manufacturing Engineering to Address New Needs

The business environment that surrounds needle roller bearing products is seeing an ongoing expansion in demand with automatic transmission (AT) systems, while diverse sources of power, as typified by a shift toward electrification and EVs, are driving higher performance demands for parts that are lighter, more space saving, faster and quieter. Moreover, customer development periods are becoming shorter, and that requires technologies and structures that can keep pace with such development speed.

To address such changing needs in a timely manner we established the Needle Development Center in 2018, our seventh R&D center in Japan and 16th worldwide. In the No. 3 Building at our newly constructed Haruna Plant (Gunma, Japan) we have brought together product design, press technology, die development, mass production method development, prototype processing, as well as evaluation and inspection functions. On that same floor we have developed an environment in which we can move forward on development through close collaboration between the design and development divisions, together with the manufacturing engineering divisions.

Needle bearing demand expansion for multistep AT (eight or more speeds)

Technical innovation representative of the shift to EVs

Further raising needle competitiveness

Expanding the product range that addresses new needs

Timely introduction of new products to the market

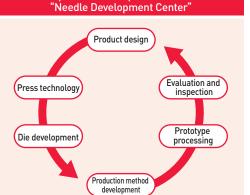
### Advance development technology

- Collaboration with advance development divisions
- Propose press technology application products that anticipate needs

#### **Plants**

- Collaboration with manufacturing technologies at each plant
- Bring manufacture of externally produced parts in-house
- Support for early prototyping

# New product development structure



# Core Technology Manufacturing Engineering

 Realize further advanced press technology application products

#### Each product's technology division

• Steadily taking an early approach to the needs/seeds of press technology application products

#### Fusion of product technology and manufacturing engineering

Aim

Boost new product development capability Raise development speed

Enhance mass manufacturing engineering capabilities Develop new production method

Significantly shorten prototype delivery

#### Product introduction

#### Low-noise thrust needle roller bearing



This bearing contributes to creating a more comfortable driving experience when using the electric motor in EVs and in plug-in hybrid vehicles (PHVs).







### 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. In addition, the Company has made contributing to the development of each country and region the highest priority while emphasizing such issues as job creation and environmental protection. Looking ahead, NSK will give exhaustive consideration to being a good corporate citizen and will also endeavor to further enhance and strengthen its global business foundation.

#### Global Sites

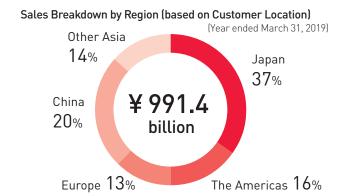
#### Background to Globalization

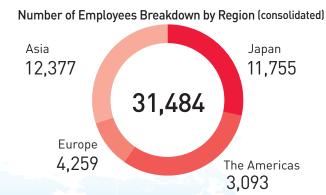
As far as the Japanese manufacturing industry goes, NSK has long been advancing overseas expansion. Having continued its overseas exports that commenced in 1948 and started overseas production in Brazil, the United States and the United Kingdom in the 1970s, the Company has regarded these operations 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, 2019, the Company had a total of 208 production, sales and technology sites in operation in 30 countries and regions under six regional headquarters.

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.







The Americas	Headquarters	Production Sites	Sales Sites	Representative Offices	R&D Centers
U.S.A.	1	7	9		1
Canada			2		
Mexico		2	1		
Brazil		1	5		1
Peru			1		
Argentina			1		
6 countries and regions Total	1	10	19		2
Europe/Middle East/Africa					
U.K.	1	4	2		1
Germany		1	2	2	1
France			1		
<u>Italy</u>			1		
Netherlands			1		
Spain			1		
Poland		4	3		1
Russia			1		
Turkey			1		
UAE			1		
South Africa			1		
11 countries and regions Total	1	9	15	2	3

	Headquarters			Representative	R&D
Asia/Oceania	(●)	Sites		Offices	Centers
Japan	1	20	31		7
Singapore	1		2		
Indonesia		3	2		
Thailand		2	5		1
Malaysia		2	4		
China	1	11	18	1	1
Taiwan			3		
South Korea		2	2		1
Philippines				1	
Vietnam			2		
India	1	5	10		1
Australia			4		
New Zealand			1		
13 countries and regions Total	4	45	84	2	11
Global Total	6	64	118	4	16

208 locations in 30 countries and regions



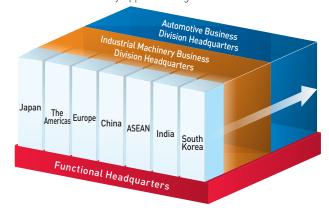
#### Global Management

#### Organizations That Support Global Management

Underpinned by the two Industrial Machinery and Automotive business axes, NSK employs a "matrix"-type organizational structure supported by regional headquarters that execute operations in each region and functional headquarters that buoy business in a cross-sectional manner from a functional standpoint.

From the business execution standpoint, a regional headquarters is positioned to oversee a region under each business headquarters, and each business site is positioned beneath each regional headquarters. Orders and directions on business planning and strategy implementation flow from the business headquarters to regional headquarters and then to individual sites. On the other hand, each functional headquarters located at headquarters in Japan supervises and supports shared Groupwide functions such as human resources, legal affairs and accounting at sites worldwide from the perspective of policy and standardization.

Adopting this type of organization is aimed at effectively 1) reducing overlapping operations and costs under a policy of making shared Groupwide functions consistent and 2) speeding up business execution responsiveness by entrusting decision-making to lower-tier organizations based on a broad framework decided by upper-tier organizations.



\*Individual sites are divided by regions it has a presence in: Japan, The Americas, Europe, China, ASEAN, India and South Korea.

#### **Global Management Evolution**

NSK has worked to localize management with the aim of building a system able to undertake locally oriented, agile business management in each region as it expands operations overseas. Currently, the Company is expanding business under local leadership by placing numerous local employees in key posts that include regional managers.

With the perspective of fostering global management cooperation, NSK has held the International Management Committee (IMC) meeting, where top regional managers discuss mid-term management plans, business strategies, and fiscal year business budgets biannually at the Tokyo headquarters. The IMC goes beyond simply strengthening collaboration across regions and headquarters to serve as a platform for all regions to participate in global management. IMC meetings have been held for around 30 years and the 60th is scheduled for March 2020.

#### Functional Headquarters Global Management

Functional headquarters support the smooth execution of business plans outlined by headquarters across the Group, thus making coordination of these various functions indispensable. Each functional headquarters builds structures able to realize robust global coordination in such areas as finance, legal affairs, human resources and ICT, as it holds global meetings on a regular basis.

#### Functional Headquarters Key Roles

- Formulate strategies on specific functions in line with business plans outlined by the headquarters
- Propose measures necessary for business operations across the Group and take an optimal leadership role for overall Group management

#### Key Objectives of Global Meetings

- Groupwide policy/strategy discussions, sharing, vector coordination
- Mutual support to verify the implementation of and to complete plans
- Increase shared measures in each region, raise functions by spreading best practices to all regions
- Measures to exchange information on matters of concern, adjust strategies, and improve speed
- Form mutual (human) networks

Functions	Finance Legal affairs Public relations Human resources Saley & financiumg Roculement ICT Procurement Quality assurance Technology development Vision 2026
Meeting frequency	1-4 times annually
Meeting locations	Japan (Tokyo headquarters) or each region on a rotating basis
Meeting duration	2-3 days
Represented regions	All regions
Attendee positions	Regional headquarters function managers and responsible officers
Number of attendees	1-3 persons from each region + 5-30 from the host country for a total of 10-50 persons

# Initiatives to Strengthen CSR/ESG Management

#### **Environmental Management**

#### Why Environmental Management Matters

The realization of a sustainable society in which we find solutions to the advance of climate change and other environmental issues, and where economic development and environmental protection coexist is a pressing issue facing all of humanity. Accordingly, NSK has positioned the environment as one of its core values, and is working to strengthen measures aimed at maximizing the environmental contribution through its products and minimizing the environmental impact from business activities while striving to enhance sustainable corporate value.

#### 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 is working 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.

#### **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

o actively support efforts to prevent global warming by developing environmentally friendly manufacturing processes and technologies

#### 2. Reduction of Negative 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.

#### **Environmental Management**

NSK has established a Global Environment Protection Committee as its highest decision-making body for environmental management. Chaired by the president and composed of the officers involved, such as from business division headquarters and technology development divisions, the Global Environment Protection 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 division and each business site work together to promote environmental efforts.

Held three times in fiscal 2018, the Global Environment Protection Committee deliberated on the environmental goals of the 6th Mid-Term Management Plan and the fiscal 2050 reduction targets for greenhouse gases, and also confirmed the progress of the activities performed by each of the specialized subcommittees



142×103 tons (143×103 tons)

230×103 tons (224×103 tons)

208×103 tons (205×103 tons)

3,159×103 m3 (3,040×103 m3)

2,430×10<sup>3</sup> m<sup>3</sup> (2,587×10<sup>3</sup> m<sup>3</sup>)

729×10<sup>3</sup> m<sup>3</sup> (453×10<sup>3</sup> m<sup>3</sup>)

1.4 tons (1.3 tons)

4×103 tons (3×103 tons)

128 tons (132 tons)

42 tons (50 tons)

#### Input and Output of Global Business Activities (FY2018)

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 manufacturing and distribution, the Company is working on initiatives together with suppliers and customers in its aim to reduce the environmental impact on society as a

Figures within parentheses indicate fiscal 2017 results

PRTR-designated substances (Japan) 464 tons (490 tons)

#### OUTPUT (Global) INPUT (Global) Suppliers Atmospheric gases Materials and parts Component Reduction of environmental impact Greenhouse gases (CO2 equivalent)\* 978×103 tons (997×103 tons) raw materials $758 \times 10^{3} \text{ tons } (756 \times 10^{3} \text{ tons})$ Steel Fuel combustion (Scope 1)\* Minimization of the Oils and greases $21 \times 10^3$ tons ( $21 \times 10^3$ tons) NSK Electric power/heat use (Scope 2)\* 836×103 tons (854×103 tons) $\underline{\text{[Reference] Indirect emissions [Scope 3]* 2,705\times10^3 tons (2,039\times10^3 tons)]}$ Energy Development 17,224TJ (17,088TJ) SOx Waste Design 2,455TJ (2,426TJ) Fuel Total waste [Japan 113×10³ tons [112×10³ tons], outside Japan 117×10³ tons [112×10³ tons] 14,769TJ (14,662TJ) Electricity and heat Recycled Water supply Landfill waste Incinerated waste and water treatment 18×103 tons (16×103 tons) $4,700 \times 10^3 \,\mathrm{m}^3 \, [4,713 \times 10^3 \,\mathrm{m}^3]$ Water Water quantity Groundwater $2.011 \times 10^3 \text{ m}^3 (1.869 \times 10^3 \text{ m}^3)$ Discharged water General water $2,194 \times 10^3 \text{ m}^3 (2,325 \times 10^3 \text{ m}^3)$ Rivers Sewage system Reduction of environmental impact Industrial water $495 \times 10^3 \text{ m}^3 (519 \times 10^3 \text{ m}^3)$ Products/services Environmentally harmful Materials and parts Maximization of an substances Customers environmental contribution (Environmentally harmful substances) PRTR-designated substances (Japan) 72 tons (105 tons)

<sup>\*</sup> 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 CO2 Emissions from Fuel Combustion. The amount of greenhouse gas emissions for Scope1 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



#### **Developing Environmentally Friendly Products**

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 that make the most of the Company's Four Core Technologies (tribology, materials, numerical simulation, and mechatronics), plus one, namely manufacturing engineering. By delivering these products 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.
- 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.

#### Initiatives to Maximize CO2 Emissions Reduction through Our Products

NSK aims to accelerate its contributions to the environment through its products, and has formulated guidelines in order to calculate CO2 emissions avoided at the customer use stage.

NSK's work to improve upon the bearings and other products it produces reduces friction loss and saves on weight, and this leads to energy savings for products such as automobiles and appliances. In addition, advancing the development of bearings for wind turbines functions to expand the use of renewable energy. This is why NSK formulated guidelines that take into account two different perspectives with regard to calculating CO2 emissions avoided, namely contributing by improving base performance of products, and contributing to energy diversification applications. As a result of the calculations, in fiscal 2018 CO2 emissions avoided through NSK products amounted to 1.39 million tons, exceeding the 980 thousand tons\* in emissions produced from our business activities. NSK is working to improve upon these efforts and aims to avoid CO2 emissions of two million tons by fiscal 2021.

\* The total of scope 1 and scope 2 greenhouse gas emissions (volumes of CO<sub>2</sub>, others)

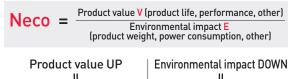
### NSK Eco-Efficiency Indicators (Neco)

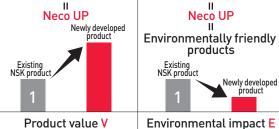
NSK conducts assessments of products under development by utilizing NSK eco-efficiency indicators (Neco) as a yardstick for quantitatively assessing the degree of their environmental friendliness. The Neco score is a numerical value obtained by dividing the product value V by the environmental impact 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.

For example, with a bearing, 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 a cumulative total of 226 environmentally friendly products by fiscal 2018.

#### Maximize reductions of CO2 emissions



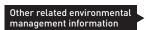




#### **Environmentally Friendly Products Developed in Fiscal 2018**

Products	Technology Developed by NSK	Benefits for Customers	Neco
High-Efficiency Motor Bearings  https://www.nsk.com/company/news/2018/1025b.html	Loss reduction     The application of an appropriate amount of specialized grease, developed by NSK, reduces stirring resistance and cuts loss by 60%     Extending product life     Specialized grease curtails friction in the bearing interior and extends product life (by more than 2.7 times)	Energy savings     Lower motor power     consumption for industrial     machinery     Resource conservation     Reduction of resource     consumption by extending     product lifespan	2.5
High-Durability Precision Ball Screws for high-accuracy machine tools https://www.nsk.com/company/news/2018/1030a.html	Extending bearing accuracy lifespan     Use of a proprietary surface modification technology enhances oil film formation characteristics, which suppresses raceway surface friction and leads to maintaining accuracy over a lengthy period     Reducing frictional torque during low-speed running* Frictional torque is reduced as an oil film is formed during low-speed running that causes severe conditions	Improved reliability     Prevention of deterioration in     machining accuracy for highly     accurate machine tools     Maintenance cycle extension     Lower maintenance frequency     Energy savings     Lower frictional torque     contributes to energy savings	1.5

<sup>\*</sup> Friction is reduced during rotations, making lighter power rotations possible



NSK's Website: Home>Sustainability>Environmental activities https://www.nsk.com/sustainability/environment/index.html Sustainability Report https://www.nsk.com/sustainability/csrReport/index.html

# Initiatives to Strengthen CSR/ESG Management

#### Safety Management

#### Why Safety Management Matters

Promoting a safe and secure workplace is tied to the vitality of employees and the offering of exceptional products and services. NSK has positioned safety as one of its core values, and works to raise the level of its activities globally, while heightening employee awareness.

#### NSK's Approach

To protect the safety and health of each and every employee, NSK approaches the issue of safety by undertaking 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."

Maintaining safe workplaces means taking measures to keep equipment safe and promoting global standards of safety management, together with actively encouraging information sharing, and by fostering a culture where employees watch out for each other's safety.

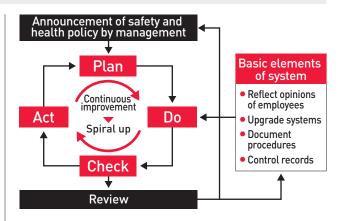
#### Occupational Safety and Health Management System

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 labor and safety-related regulations and international standards, and we strive to foster a corporate culture of "safety first" that fully engages all employees at each

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.

We are conducting activities globally with the intention of obtaining the international standard covering occupational health and safety management systems. Following our acquisition of ISO 45001\* at three production sites in Japan in fiscal 2019, we plan to progressively proceed with acquisitions going forward.

\* The international standard covering occupational health and safety management systems issued by ISO in March 2018.



#### Lost-Time Injury Frequency Rate\*1

	FY2016	FY2017	FY2018
In Japan	0.28	0.26*2	0.30
Outside Japan	0.89	0.79	0.41
Global	0.68	0.60*2	0.37

- \*1 Lost-time injury frequency rate = Number of work accidents resulting in one or more days of work absence/total actual working hours  $\times$  1,000,000.
- \*2 Retroactively corrected to improve accuracy.

#### Initiatives to Prevent Occupational Accidents

NSK incorporates safety measures into its equipment from the design stage, and then conducts evaluations to raise the level of equipment safety as we strive to prevent occupational damage due to human error or machinery malfunction. To this end, in its equipment development divisions the Company develops "Safety Sub-assessors" who are highly knowledgeable and possess capabilities concerning safety.

The Company also performs risk assessments on existing equipment at its production sites, and works to raise the level of its safety measures. Aiming to realize this, from 2016 the Company implemented full-fledged training of safety sub-assessors, and their number had grown to 471 individuals by fiscal 2018.

#### Initiatives to Raise Safety Awareness

NSK has compiled a manual which brings together procedures used in its Safety Dojo\* so that from fiscal 2018 we could roll out this training, currently being implemented at a limited number of plants, to production sites in countries around the world.

We have also created a safety and fire prevention portal on our internal intranet to introduce throughout the Group disaster information and safety measure resources that can be accessed by employees through easy-to-understand videos and photos.

\* Safety Dojo: Training area designed to help employees gain awareness of safety hazards and the importance of work rules by experiencing simulated accidents.



Super Safety Dojo at the NSK Fukushima Plant (Japan)

Other related safety management information NSK's Website: Home>Sustainability>Creating a Dynamic Work Environment https://www.nsk.com/sustainability/hr/index.html Sustainability Report https://www.nsk.com/sustainability/csrReport/index.html



#### Quality Management

#### Why Quality Management Matters

Raising the quality of the products and services a company offers greatly affects credibility among its customers and society, and is linked to increase in corporate value. This is why 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 customers and 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 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 working to achieve the level of "NSK Quality" that contributes to customer safety, security, and confidence. 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

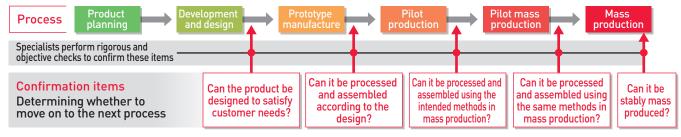
#### Action Guidelines

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

#### NPDS: Quality Management System

NSK is deploying globally its innovative quality management system, NPDS (NSK Product Development System), 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, dedicated staff perform stringent checks to 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 divisions, including production, design development, production technology, quality assurance, sales and logistics, NQ1 (NSK Quality No.1) activities aim to achieve zero defects in stable production, and are designed to optimize the flow of goods and information throughout the 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 thoroughly carries out various improvements targeting zero defects on a test line. Results are then rolled out horizontally to other lines and manufacturing sites.

#### Quality that Contributes to Safety and Security from the Perspective of Markets and Customers

NSK endeavors to satisfy the needs of its customers with regard to quality, and in tandem with this, we work to grasp the needs from the perspective of the end user of that product which contains the items we produce as we seek to construct a framework in which we can continue to propose products and services that fully provide the quality that society demands.

To this end, we take the issues we learn of through daily interactions with customers and other exchanges of information, analyze that from the perspective of quality assessments, and identify issues for improvement. In addition, we conduct monitoring of the quality of products after they have been introduced to the market, and then aggregate and analyze information on defects and other problems. By providing feedback on issues to divisions involved in development, design, manufacturing, sales and other areas, we enhance the level of products and services, and together with this, endeavor to prevent quality problems before they occur.

#### Customer Commendations on Quality

NSK receives commendations from customers in recognition of is efforts.

"Award for Excellence" from Ogura Clutch Co., Ltd. January 2019 "Award for Quality Control Excellence" from Toyota Motor February 2019

March 2019 "Quality Control Award" from Hino Motors, Ltd. March 2019 "Excellence in Quality" from Toyota Motor Corporation, Kinu-ura Plant "REGIONAL AWARD for excellence in Quality" from April 2019 Yamaha Motor Co., Ltd.

# Initiatives to Strengthen CSR/ESG Management

## **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 is an essential component for the sustainable growth of the Company as a whole. This is why we are committed to creating an equal opportunity workplace that embraces diversity and inspires each and every employee to put their best effort forward.

#### **Basic 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 creating a "fair workplace that empowers the individual." This commitment features three key areas of focus: leveraging a diverse workforce, building more engaging workplaces, and providing opportunities for 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, utilizing their skills and encouraging their creativity and individuality" in our Management Principles, 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.

#### Leveraging a diverse workforce

Diversity and inclusion

Work-life balance

# A Fair Workplace that Empowers the Individual

# Building more engaging workplaces

Respecting fundamental rights at work

Creating safe
and inspiring workplaces
Improving health

and wellness

# Providing opportunities for growth

Talent management

Self-development and educational opportunities

#### Leveraging a Diverse Workforce

#### 2026 Diversity Roadmap

NSK is promoting diversity and inclusion in a three-phase initiative lasting from 2016 to 2026.



#### 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 [SOGI]\* 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. SOGI stands for sexual orientation and gender identity.

#### 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.

We conduct training for female managerial candidates to prepare them with the skills and mindset they will need to excel as leaders.

We also hold events to give female university students in the sciences an opportunity to experience firsthand how a career in engineering can be a great option for them. Through these programs, we hope to develop female leaders of the future.

# Female Employee Rate and Female Manager Rate\*

	FY2016	FY2017	FY2018
Female employees	10.7%	10.5%	10.6%
Female managers	1.2%	1.6%	1.6%

<sup>\*</sup> 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 also take 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 services on working public holidays when regular daycare facilities are closed. 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.

We are also currently trialing seminars to support employees as they make the transition back to work after parental leave. In addition, we have published and widely distributed support guidebooks to help ease concern and promote workplace communication on these issues —one for working mothers, another for caregivers, and a third for managers of working parents.

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

3						
	NSK	Japanese Law				
Parental leave	Through end of April following child's third birthday (first five days are paid)	Up to 2 years old (unpaid)				
Reduced hours for working parents	Through end of March of child's 6th grade year	Up to 3 years old				
Caregiver leave	Up to 1 year	Up to 93 days				
Reduced hours for working caregivers	Up to 3 years (eligible for extension)	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					

<sup>\*</sup> 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. An improvement in employee productivity will lead to an improvement in their ability to produce quality work, which will ultimately cultivate a more fulfilling life both at work and at home. For this reason, NSK strives to better manage employee working hours, to encourage employees to take their annual paid leave, and to provide a variety of work style options like flextime to fit their diverse lifestyles. We are also trialing telecommuting options—from home or satellite office—to offer new ways of working and lessen the burden of a commute. 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.

#### **Providing Opportunities for Growth**

#### Leveraging Global Talent

At NSK, we are constantly looking for ways to best leverage our global talent. This is why we have worked with regional HR departments to standardize rules and policies across regions, and to create programs aimed at developing a workforce that spans the globe. We have designed NSK core competencies, which are used in leadership training and employee reviews. Our succession plan serves as a guide for the systematic promotion of managers. We also operate a global mobility guideline that supports assignment across regions, allowing our workforce to thrive in roles around the world.

#### **Human Resource Development Programs**

To develop the talent necessary to support sustainable growth, NSK employs strategic assignment to ensure that all employees can realize their full potential. We are also working to promote career advancement and boost employee motivation by orchestrating 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 both the Japan Management College and the Global Management College, which provide selective training for future leaders of the organization. NSK has also begun offering opportunities to participate in external education and liberal arts programs, with an aim to broaden horizons and develop the well-rounded character required to succeed in global business.

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 NSK's engineers. In addition, we have been focusing on language training in order to equip employees with the skills they need to communicate effectively with people from around the world.

In fiscal 2018, we invested approximately ¥86,000 per person (non-consolidated) in employee development, allowing us to improve the quality of our education and training programs and make them available to more employees.

### **Building More Engaging Workplaces**

#### Health and Wellness Initiatives (Japan)

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.

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 2018, we 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.

In 2018, NSK was 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. We have worked to maintain our certification in 2019 as well.



management information

Other related human resource NSK's Website: Home>Sustainability>Creating a Dynamic Work Environment https://www.nsk.com/sustainability/hr/index.html Sustainability Report https://www.nsk.com/sustainability/csrReport/index.html

# Initiatives to Strengthen CSR/ESG Management

#### Supply Chain Management

#### Why Supply Chain Management Matters

NSK's business is supported by many suppliers. We strive to build trusting relationships and grow continuously with them by improving our technical expertise as well as product quality. However, there are various issues, including human rights and environmental protection, in our global supply chain, that could pose risks to our business continuity. NSK has been tackling these issues in an effort to minimize risks, and help achieve a sustainable society.

#### NSK's Approach

NSK has formulated NSK Group Basic Policy for Procurement with the aim of engaging in procurement practices that are fair, environment friendly and care for society. We share this policy with suppliers, while promoting CSR and Green procurement throughout the global supply chain. Our goal is to realize a sustainable society.

#### **Holds Procurement Policy Briefings**

Every year, NSK holds a supplier conference with major suppliers. Through this opportunity, we share the procurement policy and ask suppliers to implement more CSR-conscious management.



At the last conference held in January 2019 at NSK's headquarters, we raised issues regarding cybersecurity, appropriate terms of employment / working conditions for foreign workers, and the importance of continuously improving CSR activities across the entire supply chain.

#### **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

- 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.

  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.

#### 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.

#### 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.

#### 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 of suppliers of parts and materials used in NSK products. Surveys to date 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. We put more effort on human rights protection throughout the supply chain, as society urges global manufacturers do more in this area (for example, the Modern Slavery Act 2015 UK). Accordingly, we revised the NSK Supplier CSR Guidelines along with the CSR self-assessment checklist.

#### **Promoting and Enhancing CSR Activities**

NSK distributes NSK Supplier CSR Guidelines and NSK Group Green Procurement Standards, asking 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

Furthermore, for CSR self-assessments conducted in Japan and China in 2018 we added assessment items that include the status of compliance to labor and environmental laws as well as the listing of environmental pollution and labor accidents, while feeding back evaluation results to suppliers in an effort to spread these activities and improve their performance. NSK has also begun an initiative to introduce CSR audits based on its new objective standards.

#### CSR Self-Assessment Results (2018 Japan)



(Replies: 426 companies)

Other related supply chain information

NSK's Website: Home>Sustainability>Supply Chain Management https://www.nsk.com/sustainability/supplier/index.html Sustainability Report https://www.nsk.com/sustainability/csrReport/index.html



#### Compliance

#### NSK's Approach

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 holds it three-four times a year.
- ② Global Legal and Compliance Meetings; Global Legal Department Manager Meetings
  - NSK has held these meetings with the members responsible for compliance from regional headquarters biannually since August 2012. In fiscal 2018, meetings were held in the United Kingdom in the first half and Japan in the second half. A meeting solely for legal department managers at key locations was held once in Japan in August.
- ③ Compliance Conferences NSK has held these conferences with the compliance representatives from each division and Group companies 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 Management 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
- Implements compliance-related e-learning for officers and employees
- Conducts compliance training at sales divisions, plants, engineering sections and Group companies
- Designated July 26 as "NSK Corporate Philosophy Day" during which various special events are held
- 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 2018

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

We work to realize fair and free transactions by raising awareness of adherence to the Competition Law. In fiscal 2018, we conducted training on the Competition Law and compliance which was provided to 2,960 people through 207 sessions mainly at sales divisions both in and outside Japan. It took around 60 minutes per person (including compliance training).

#### (2) NSK Corporate Philosophy Day

In order to revisit the lessons learned from the past incidents, reconfirm the resolve of all employees that no anti-competitive incident will ever occur again, and to ensure that all NSK Group 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."

In fiscal 2018, the president gave a speech that was broadcasted to NSK facilities in Japan and overseas. In Japan, several executives held a panel

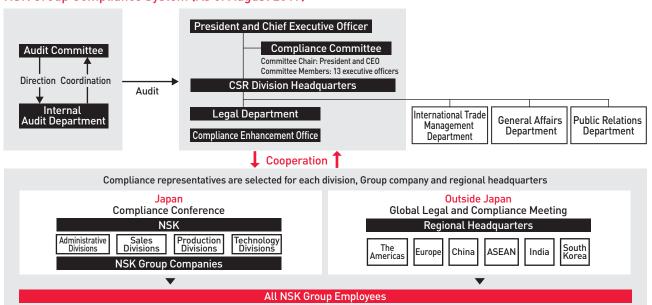
discussion on the Corporate Philosophy. Overseas, after speeches by facility managers, each site held its own events that included lectures by outside experts and discussions on the Corporate Philosophy and compliance.

#### (3) Compliance Awareness Surveys

NSK has commissioned an outside survey agency to conduct a compliance awareness survey since 2014.

The fifth survey held in fiscal 2018 was conducted as employee engagement survey in cooperation with the Human Resources Department and 15,538 executives and employees in Japan participated in it. In fiscal 2019, we will continue to undertake initiatives to address issues brought to light in survey results (such as enhancing compliance in manufacturing divisions and further improving the reliability of a whistleblowing system) and activities to raise and spread compliance

#### NSK Group Compliance System (As of August 2019)



# Initiatives to Strengthen CSR/ESG Management

#### **Corporate Governance**

#### NSK's approach

NSK believes that the establishment and maintenance of systems that ensure transparent, fair and timely decision making is essential in order to achieve sustainable growth and increase our mid- to long-term corporate value. To realize this objective, we are working to construct our corporate governance systems based on the following four guiding principles.

#### Policy on Development of Corporate Governance Systems

#### We aim:

- 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 ensure that supervisory organizations have oversight of executive organizations by clearly separating the two.
- 3 To strengthen supervisory organizations' oversight of the executive organizations by ensuring cooperation between the two.
- 4 To improve the fairness of management by strengthening compliance systems.

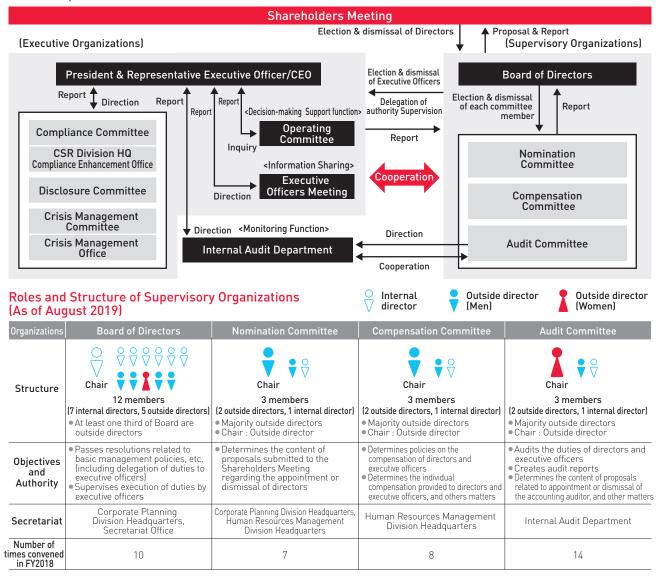
#### Corporate Governance Systems

#### **Current Systems and Operating Status**

NSK has adopted a Company with Three Committees (Nomination, Audit and Compensation) as its form of corporate organization to better achieve the basic approach. NSK's Board of Directors determines basic management policies, etc. with the aim of achieving the Group's sustainable growth and increasing mid-to long-term corporate value. The Board proactively delegates

decision-making authority regarding business execution to executive organizations, while supervising the status of implementation in an appropriate manner. The CEO has the ultimate authority and responsibility for all decision-making and operational executive functions delegated by the Board. Under the direction of the CEO, executive officers are responsible for executing their respective duties in accordance with the division of duties.

#### **NSK's Corporate Governance Structure**





#### Changes to NSK's Corporate Governance Systems

	1999~	2004~	2006~	2015~
Form of Corporate Organization	1999 • Adopted an executive officer system	2004 • Transitioned to a Company with Committees System	2006 • Transitioned to a Company with Committees	2015 Transitioned to a Company with Three Committees [Nomination, Audit and Compensation]
Committee	1999 • (Voluntary) Established a Compensation Committee 2003 • (Voluntary) Establish	2004 • (Voluntary) Established a Nomination Committee • Established Nomination, Comp Audit committees based on the hed an Audit Committee		2018  Chairs of three committees all outside directors
Outside Director	1999 2003  • One outside director directors	2004 2005 • Three outside • Four outside directors directors	directors • Each of the Company's ou	2018 • Five outside directors e independence of NSK's outside directors registered lange as an independent director
Others	2002 • Established the Crisis Management Committee	2004 • Established the Internal Audit Offic Internal Audit Department) to undefunctions and monitor the operation Company  2005 • Established the	ertake auditing	Project Team (later merged into

#### Initiatives to Further Enhance Effectiveness of the Board of Directors

#### Officer Training

NSK provides training to its directors and executive officers to enhance their knowledge regarding relevant laws such as the Companies Act of Japan, corporate governance, its business and financial status.

We also hold executive sessions several times a year related to the direction of our business strategies and CSR/ESG management-related topics.

#### **Active Board Deliberations**

To achieve active Board deliberations, NSK believes that it is important to provide information to directors in advance of the meeting date. We provide information in an appropriate manner, including distributing materials to all directors in advance, and prior explanation by officers and the Board secretariat. NSK's Board of Directors meetings are around three hours long and feature active discussion from all participants.

#### Evaluation of Effectiveness of the Board of Directors

To help further improve corporate value, NSK is taking steps to improve the effectiveness of its Board of Directors by further deepening discussion of mid-to long-term management issues and direction. To this end, evaluations of the Board of Directors have been carried out every year since fiscal 2015 to verify whether the functions of the Board are being properly fulfilled.

Meanwhile, outside experts have been charged with the responsibility of carrying out evaluations to maintain objectivity and fulfill this responsibility by conducting questionnaires and interviews.

#### Main Content of Questionnaire

The main content of the questionnaire conducted in fiscal 2018 is outlined below.

- Role of the Board of Directors (including deliberating on management strategies, monitoring operation of internal control systems)
- Composition and balance of the Board of Directors
- Operation of the Board of Directors
- Operation of advisory committees (Nomination/Compensation/Audit Committees)

#### Results of Evaluation

An assessment in fiscal 2018 by external experts found that the Board of Directors maintained a high level of effectiveness. Details are as follows:

- The Board of Directors appropriately delegated authority to executive organizations and appropriately monitored the execution of duties by executive officers, etc.
- Outside directors gave useful opinions based on their extensive knowledge of and experience in corporate management, finance and accounting at Board of Directors' meetings.
- Advisory committees maintained their independence and their reporting to the Board of Directors was appropriate.

# Initiatives to Strengthen CSR/ESG Management

#### Outside Directors

#### Selection Standards

NSK expects outside directors to contribute to enhancing and reinforcing the Company's corporate governance, achieving sustainable growth and increasing mid-to long-term corporate value. When electing outside directors, we verify requirement as

- $\boldsymbol{\cdot}$  Persons who have neither a special interest with the Company nor a conflict of interest with regular shareholders
- · Persons who meet NSK's criteria for independence
- · Persons who have considerable experience and deep insight as a corporate executive or as experts
- · Persons who can devote sufficient time to perform duties as an outside director of NSK

The Nomination Committee determines outside director candidates who meet the above criteria. The criteria for the independence of NSK's outside directors can be found on the https://www.nsk.com/company/governance/index.html These criteria satisfy those of the Tokyo Stock Exchange, Inc.

#### Provision of Information Regarding Business Execution

NSK provides opportunities for outside directors to attend operating organizations and visit business facilities in Japan and overseas that enables them to learn directly about the status of business execution in order to deepen their understanding of NSK's business and matters specific to NSK.

In addition, the Company holds meetings comprised solely of outside directors on an as-needed basis to facilitate information exchange and foster shared understanding. While respecting the objective of these meetings as an opportunity to freely share opinions, the Board secretariat follows up any relevant matters as appropriate to improve the effectiveness of the Board of Directors.

#### **Outside Director Attendance and the Three Committee Systems**

•:Chair

Name	Date Appointed	Attendance at Board of Directors Composition and Committee Meetings in FY2018 from					on of Each Committee om June 2019	
	as Director	Board	Nomination	Compensation	Audit	Nomination	Compensation	Audit
Teruhiko Ikeda	June 2015	© 100% (10/10)		100% (8/8)	© 100% (10/10)		•	0
Hajime Bada	June 2018	© 100% (7/7)	© 100% (6/6)			•		
Akemi Mochizuki	July 2018	© 100% (6/6)			© 100% (10/10)			•
Toshio Iwamoto	June 2019	-	-	-	-		0	
Yoshitaka Fujita	June 2019	-	-	-	-	0		

Notes: 1. Each of the outside directors has been registered with the Tokyo Stock Exchange as an independent director.

#### Internal Control

NSK is working to strengthen its Group-wide internal control systems, including formulating a basic policy on the establishment of internal control systems to ensure effective global Group management and internal control functions. This basic policy stipulates duties that must be performed by the Audit Committee, as well as matters required to develop systems for ensuring that the NSK Group's operations are conducted in an appropriate manner and that Executive Officers comply with laws, regulations and the Articles of Incorporation when performing their duties.

The Board formulates a basic policy on the establishment of internal control systems in accordance with the Companies Act and relevant laws. Executive Officers are required to construct and operate legally required internal control systems in accordance with the basic policy determined by resolution of the Board in order to ensure compliance, risk management,

business efficiency, and the reliability of financial reporting (decision-making mechanisms in the NSK Group, structure of the reporting system and establishment of a regulatory framework). The Internal Audit Department reports directly to the CEO and is responsible for conducting audits to determine the legality, adequacy, and efficiency etc. of operations from an independent standpoint from the auditees. It is also responsible for overseeing the evaluation of the effectiveness of internal controls over financial reporting.

The Audit Committee utilizes the internal control system to audit the performance of operations, and conducts audits to ensure that the internal control system is constructed and operated in a satisfactory manner. The Internal Audit Department shall collaborate with and receive orders from the Audit Committee and provide support to audits conducted by the Audit Committee.

#### Response to Japan's Corporate Governance Code

NSK complies with all principles of the Corporate Governance Code and outlines its policies in the Corporate Governance Report that it submits to the Tokyo Stock Exchange, Inc. Please access the website below for NSK's corporate governance reports in English.

English: https://www.nsk.com/company/governance/index.html

<sup>2.</sup> On June 22, 2018, Teruhiko Ikeda and Hajime Bada were appointed to the Audit Committee and Board of Directors/Nomination Committee, respectively. On July 1, 2018, Akemi Mochizuki was appointed to the Board of Directors and Audit Committee. Accordingly, the number of meetings of the Board of Directors and the three committees and the number of meetings subject to attendance in fiscal 2018 differ



### Directors/Officers' Compensation

#### Compensation for Directors and Executive Officers, Policy on Determining Compensation Amounts and Calculation Methods

NSK has changed indicators for performance-based compensation (short-term performance-based compensation) for executive officers starting in March 2020 as well as changed the stock-based compensation system for executive officers to a mid- to long-term performance-based stock compensation system. However, the stock compensation program for directors will be operated as previously as a stock compensation program with no added incentive for business performance, in consideration of the supervisory role of directors. For directors who also serve as executive officers, stock-based compensation will not be provided for the director position.

The revised compensation for directors and executive officers, the policy on determining compensation amounts and the calculation methods are as follows. Compensation for directors and executive officers, the policy on determining compensation amounts and the calculation methods prior to these revisions are listed in the Fiscal 2018 Integrated Report [https://www.nsk.com/jp/investors/library/pdf/nsk\_report/ir201803.pdf].

NSK makes decisions on the executive compensation structure, compensation levels, and individual compensation, etc. at a Compensation Committee meeting chaired by an outside director, and based on advice from external consultants as well as objective information on compensation levels and trends at other companies.

NSK separately determines "directors' compensation" and "executive officers' compensation". When a director also serves as an executive officer, the total of each compensation amount shall be paid.

#### (1) Executive/Officers' Compensation

The compensation package for executive officers consists of a fixed basic compensation and a performance-based compensation that fluctuates with performance. The Company will target a compensation ratio of roughly 4:6 of fixed compensation to performance-based compensation.

#### [Reference: Executive officer compensation package]

	-					
	Performance-based compensation					
Basic compensation	Short-term performance-bas ed compensation	Mid to long-term performance-based stock compensation				

1 Basic compensation

The amount of basic compensation 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 compensation

The performance-based compensation consists of a short-term performance-based compensation and a mid- to long-term performance-based stock compensation.

- 1) Short-term performance-based compensation The short-term performance-based compensation will be determined based on metrics consistent with management goals to increase profitability, raise efficiency of shareholders' equity, to increase profitability, raise efficiency of shareholders equity, and improve corporate value: metrics related to the operating income margin, ROE and cash flow, as well as an achievement target for ESG goals for CO2 emission reductions and safety and quality improvement. The individual's level of achievement in their designated job duties is also evaluated when determining the amount of compensation paid to each executive officer.

  2) Mid- to long-term performance-based stock compensation.
- To further incentivize contributions to the sustainable improvement of corporate value, to ensure they share the interests of shareholders and to further reinforce the link

between executive officer compensation and the mid- to long-term stock price, the Company has introduced in the fiscal year ending March 2020 a performance-based stock compensation program using a Board Benefit Trust system. Through the system, points are fixed after three years based on a relative evaluation of the Company's total shareholder return [TSR] through a comparison with the TOPIX growth rate, the equivalent for which Company shares are then distributed upon retirement. However, for a certain portion of the above, the NSK will compensate executive officers with the equivalent amount acquired by converting shares into cash.

#### (2) Directors' Compensation

The compensation package for directors consists of <u>a fixed</u> basic compensation and fluctuating 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 incentivize contributions to the sustainable improvement of corporate value and to ensure they share the interests of shareholders, the Company has introduced a stock compensation program using a Board Benefit Trust system. The system distributes Company shares upon retirement based on points allocated each fiscal year, of which separate amounts are given for outside and internal directors. However, for a certain portion of the above, the Company will compensate executive officers with the equivalent amount acquired by converting shares into cash. For directors who also serve as executive officers, stock-based compensation will not be provided for the director position.

#### (3) Other

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.

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

The amount of compensation for directors and executive officers between April 1, 2018, and March 31, 2019, was as follows.

_	Compensation, etc., Total	Basic Compensation		Performance-Based Compensation		Stock Compensation	
Classification	(¥Millions)	No. of Directors/ Officers	Amount (¥Millions)	No. of Directors/ Officers	Amount (¥Millions)	No. of Directors/ Officers	Amount (¥Millions)
Directors (internal)	81	9	74	_	_	1	7
Directors (outside)	71	6	54	_	_	6	17
Executive Officers	1,867	32	833	30	411	36	622

Notes: 1. Compensation (excluding stock compensation) for directors (internal) includes compensation for directors who also serve as executive officers. 2. The amount of performance-based compensation is the planned payment amount as of July 1, 2019, based on the results for the year ended March 31, 2019. The amount of performance-based compensation as of July 2, 2018, based on the results for the year ended March 31, 2018, was ¥802 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 ended March 31, 2019 and booked as costs in the fiscal year ended March 31, 2019.

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

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

The amount of compensation for directors and executive officers between April 1, 2018, and March 31, 2019, was as follows.

	Consolidated			Amount for Each Item of Consolidated Compensation, etc.				
Name Compensation, etc., Total (¥Millions)		Title	Company	Basic Compensation (¥Millions)	Performance-Based Compensation (¥Millions)	Stock Compensation (¥Millions)	Retirement Benefit (¥Millions)	
Toshihiro Uchiyama 1	153	Director	NSK	7	-	-	_	
	153	153	Executive Officer	NSK	43	35	66	_
Adrian Browne	106	Executive Officer	NSK	90	11	4	_	
Steven Beckman	134	CEO	NSK Americas, Inc.	71	22	4	37	

# Interview with NSK's Outside Directors



### Hajime Bada

#### **Outside Director.** Independent Director

Honorary Advisor of JFE Holdings, Inc. Outside Director of Mitsui Chemicals, Inc. External Auditor of Asagami Corporation

#### Akemi Mochizuki

#### Outside Director. Independent Director

Certified Public Accountant Employee of Akahoshi Audit Corporation Outside Director of Tsumura & Co.

#### Teruhiko Ikeda

Outside Director. Independent Director

Advisor of Mizuho Trust & Banking Co., Ltd.

NSK has been working on strengthening corporate governance since 1999. However, the governance that shareholders and investors expect has changed since the establishment of Japan's Corporate Governance Code in 2015.

NSK has adopted a Company with Three Committees system as its form of corporate organization. In this report, we asked the outside directors who are the chairpersons of the three committees to talk about the role of outside directors, the operational status of the Board of Directors and committees, and the issues that NSK faces.



#### What do you think is expected of you as an NSK outside director?

I believe that an important point in the Corporate **Ikeda** Governance Code is that outside directors are to "appropriately represent the views of minority shareholders and other stakeholders in the boardroom from a standpoint independent of the management and controlling shareholders." I am conscious that the role required of outside directors is that of a monitoring function in which we supervise the management of the Company and assess progress on management plans, acting as a spokesperson for the diverse range of shareholders and other stakeholders.

> Accordingly, I keep two points in mind. The first is to understand the actual situation of the Company from an external viewpoint. I have been doing this for four years, and I make an effort to visit plants, sales sites, technology development centers, and other locations inside and outside of Japan to hold discussions with employees on site and learn about the actual circumstances of the Company to the best of my ability. The second point is to ask questions and share my opinions in Board of Directors meetings,

committee meetings, and other meetings, always being conscious of maintaining an external point of view. I state my opinions and ask questions being mindful to keep a balanced partnership with upper management that is based on a healthy tension and mutual trust.

Mr. Bada I was appointed as an NSK outside director just last year. Outside directors are required to work to understand meeting discussion items as comprehensively as possible and engage in the dialogue, even if they have no practical experience with the topic. Furthermore, it is necessary for outside directors to state their opinions as a third party based on their own experience.

NSK has adopted a Company with Three Committees structure, and has five outside directors at present, each of whom comes from a different parent organization. I believe that it is extremely beneficial that we have differing fields of expertise and have led different careers up until now. The backbone of my experience lies in the manufacturing industry and engineering, as well as corporate management. I feel that my role is to use that experience to make suggestions and provide guidance from my unique perspective.



Ms. As a Certified Public Accountant, my career has been Mochizuki focused in financial auditing. I think I have accumulated knowledge of corporations and developed my ability to understand a company's situation through studying the figures in financial statements and the status of internal controls over the years. I believe that kind of valuable experience and perspective is expected of an outside director.

> I have seen all sorts of companies, but this is actually my first time with a component manufacturer like NSK. To be honest, the impression I was left with after this year is how different a company is when you are looking at it from the inside as opposed to the outside. Moving forward, I would like to gain a little more understanding of internal activities and thought processes, and delve in even deeper while still maintaining an outside perspective to make contributions that prevent issues from arising within the company itself, or from changes in the environment that surrounds it

Q2

### NSK has long adopted a Company with Three Committees governance structure. What are some of the strengths of this structure, and what should be improved?

Mr.

NSK introduced the executive officer system in 1999. At that **Ikeda** time, the Company invited directors from outside the company onto its board, and voluntarily established the Compensation Committee. I believe NSK is a cutting-edge Japanese company that is highly conscious of corporate governance reform, having adopted a Company with Three Committees structure in 2004.

> Nevertheless, I think that NSK still has challenges left to face. The Board of Directors has both a management and a monitoring function, and despite having adopted a Company with Three Committees structure, NSK's approach is to place an importance on the management function in order for the Board of Directors to operate effectively. Accordingly, the heads of functional division headquarters and business division headquarters are on the Board. However, if NSK is to further strengthen the monitoring function of the Board of Directors moving forward, I think that the structure, namely the ratio of internal to outside directors, as well as the qualifications and expertise required of those directors, will have to change. Furthermore, the CEO is currently acting as the chairperson of the Board of Directors, which will also present a challenge.

One thing that I have felt particularly strongly about this year Mochizuki has been the challenges related to global governance. Although I believe that this is a weak point for many Japanese companies, a company's approach to the foreign market is extremely important. To that effect, I think that NSK still has underdeveloped areas in employee development and personnel distribution, as well as the systems and processes necessary to exercise control globally across all Group companies. NSK has to shift its focus globally while revising its current structures, systems, and processes. However, I think it is also necessary to focus on personnel training and development to increase everyone's level of experience.

Mr. Bada This is my first experience with a Company with Three Committees structure. Shortly after being appointed as an outside director, I attended the International Management Committee (IMC) meeting for two days. There, I felt that



discussions were conducted very openly and also included the opinions of regional entities.

The requirements of external standards including the Corporate Governance Code grow stricter year by year, but NSK has been commended as a pioneer among its competitors for its efforts to conform to them. When considering whether governance can be resolutely achieved simply by putting standards in place, we understand that this is not necessarily the case, considering recent corporate scandals. I think that the elements not written into laws or rules, such as a sense of ethics, good faith, and confidence, are important.

What concerns me in that regard is the disparity in the level of employee engagement on the production shop floor and at Group companies, as evidenced by the results of the Employee Awareness Survey. I think that embedding governance across all companies and all Groups is a challenge for NSK. Discussions at Board of Directors meetings are just the start—in the end, the real question is to what extent does the NSK Group as a whole understand this challenge, and can it properly engage with it.

**Q3** 

#### Concerning the effectiveness of the Board of Directors, it has been mentioned that a monitoring and checking function is needed. Please comment on how information is communicated and how items are discussed in Board of Directors meetings.

Mr. Ikeda

Explanations of the current situation of the Company given prior to Board of Directors meetings and each committee meeting are carried out very thoroughly. I have experience as an outside director and outside auditor with a number of companies, but communication at NSK has been the most thorough and detailed. In addition, opportunities are also created for the Board to visit plants and other locations in order to learn about the actual circumstances of business operations. I have been to the majority of NSK plants in Japan, as well as plants, sales

# Interview with NSK's Outside Directors

sites, warehouses, and other locations in China, ASEAN and South Korea where I was able to have discussions with employees at actual business sites.

As the Board of Directors is a group of people who possess a wide range of experience and knowledge, all manner of opinions are brought forth during meetings, creating an open and lively atmosphere. There are also times when topics have been deferred to the next meeting because the discussion gets heated and a conclusion cannot be reached.

# Mr

I also think that we receive sufficient information. In my one Bada year as an outside director, I have felt that the variance analysis of results against the annual plan, as well as discussions on course correcting, have been conducted with considerable depth. Strictly speaking about this one year, I feel that there were few discussions on acquisition projects, large-scale CAPEX projects, and future research and development projects. I think that we need to increase such discussions related to the future direction of the Company.

> It is necessary to begin discussions on large-scale projects and long-term technology development early on and develop them because they take a long period of three to five years from launch to completion. I would also like to further expand discussions on whether NSK's investment in management resources concerning research and development is appropriate compared to its competitors, and what kind of resources are necessary moving forward.

# Ms.

Since I was originally engaged in financial auditing, I often Mochizuki request site visits as a member of the Audit Committee. I am able to go to regional subsidiaries and plants when I can work it into my schedule, but I would like to have more in-depth interactions and discussions with employees on the shop floor.

> Although we have active discussions in Board of Directors meetings, I think that there is a common pattern in which the internal directors end up having to give a lot of explanations in response to questions from the outside directors. I want to know what kind of discussions the people actually carrying out the work at actual business sites are having, and to what extent discussion takes place internally prior to something being raised as an item to be discussed or reported in Board of Directors meetings.



# **Q4**

### Please tell us about the activities being carried out by the three committees.

#### Mr. Rada

An outside director has been appointed as the chairperson of the Nomination Committee, which had been a role taken on by the company president since last year. The key task among the duties of the Nomination Committee is to select the next company president and directors. In addition to selection, discussions are held on what kind of training and development should be carried out for candidates. Education and training are conducted systematically over a long period of approximately 10 years.

Although outside directors can carry out individual performance evaluations and career path monitoring, I think it is difficult for us to judge an individual's qualifications or eligibility for a position. I think that these are points to be thoroughly examined and judged internally, particularly by the Company president. I think that the validity of the selection process, appropriateness of training, and equality of opportunity should be carefully discussed in the Nomination Committee.

#### Mr. Ikeda

The appointment and compensation of senior management is said to be the most critical governance function. I have been acting as the Chairperson of the Compensation Committee for the past four years, and launched a review of the executive compensation program from the first year of my appointment. Three years ago, we did away with retirement benefits and stock options, and introduced a stock compensation program, which is quite early on for a Japanese company. Last fiscal year, in addition to further enhancing the correlation between performance and compensation, we reviewed the compensation program to incorporate ESG metrics so that incentives are more effective from this fiscal year. For example, CO<sub>2</sub> emissions reduction targets by fiscal year and various safety indicators are used as ESG metrics when evaluating performance. Although NSK was already pushing forward with ESG initiatives, we set KPIs and began linking officers' compensation to these to further accelerate our efforts.

The Audit Committee has a full-time non-executive Mochizuki director, which sets it apart from the other two committees. In addition, the committee is supported by the Internal Audit Department and receives monthly reports on the status of internal risks and issues that arise. We have meetings with members of the Internal Audit Department twice a month to share and discuss information. I don't know about other companies, but these meetings are quite frequent and productive.

> Concerning risk management, the Audit Committee receives information on risks earlier than other committees, so a mechanism to share that information with other directors may be necessary.



Q5

In looking toward the next 100 years, what efforts would you like to see NSK undertake in areas such as business growth and its contribution to society?

Mr Ikeda 100 years ago, NSK began as the first domestic producer of bearings, and its progress on developing bearings and other technology in related fields is what has brought NSK to where is today. I do not think that will fundamentally change. Perhaps moving forward NSK will develop new business areas. To do so, further cultivation of open innovation is essential.

NSK has actively pursued open innovation up until now, but there is a need to accelerate these efforts. People who can make that happen are vital. Personnel development is crucial, and I think that when setting one's sights on the next 100 years, the key is how to be a company that amasses skilled and capable personnel, or how to develop such personnel. NSK should focus its efforts on hiring and developing resources that have foresight, a mind for innovation, and the potential for arowth.

Mr. Bada

Nobody knows what it will be like 100 years from now, but we can be certain that the world will change significantly. Digital innovation such as AI and 5G has already begun, and there is a possibility that the business environment, the social structure, and social norms will change substantially along with it. Society and the corporate world will be required to anticipate those changes, and creating new products will become even more important than before in the manufacturing

Accordingly, open innovation and M&A are vital. To expand business areas and develop new products ahead of competitors, M&A and collaboration with appropriate partners based on a careful selection process is necessary, rather than going it alone.

I believe that diversity in human resources is also crucial. It is not simply about race and gender, but the Company must also be tolerant of diversity in ways of thinking. As such, I think that the relationship between individuals and the Company will have to change into something a little more different than the family-like relationship that has existed until now.

Shifting perspectives, component manufacturers Mochizuki unfortunately find themselves in an extremely unobtrusive position. But we should not get caught up on that. If NSK becomes a company that is recognized as offering value to the world through its bearings, I think that the Company will change from being in the spotlight. Good people will take an interest, and better human resources will be attracted to the Company. I would like the Company to be more open and let the world know what NSK stands for, so that people will think of it as an excellent company.



#### Q6 Please give us some final comments.

Mr Bada In this interview I deliberately emphasized NSK's weaknesses, but I do believe that it is a good company. When asked what makes for a good company, I have always answered: a company whose employees would want their children to join it. I would like NSK to become a company that is loved throughout the world by its employees and customers.

Mr. lkeda

This is directed at NSK employees, but I believe that NSK is very earnest company. When going around business sites and holding discussions with employees, I am impressed that there are so many sincere people working diligently. However, in this rapidly changing generation, that is not enough. I would like NSK to focus more on the outside environment. If NSK does not abandon its way of thinking with internal logic and maintaining the status quo, it will not have a place in a time of such dramatic environmental changes. I would like each individual to consciously work to improve themselves and pay attention to what is going on outside the Company.

I have learned so many things being an outside director Mochizuki at NSK, and I feel that it has been an extremely positive experience in my career. I would be happy if the world were to admire NSK. For that to happen, it would be beneficial for employees to set their vision beyond the confines of the Company and be more open.



### 1 Toshihiro Uchiyama N

Director, Representative, President and Chief Executive Officer [Number of Shares Owned: 87,600]

## 2 Saimon Nogami

Director, Representative, Senior Executive Vice President, Chief Financial Officer [Number of Shares Owned: 48,600]

### 3 Shigeyuki Suzuki

Director, Representative, Executive Vice President, Head of Automotive Business Division Headquarters [Number of Shares Owned: 56,400]

#### 4 Yasuhiro Kamio

Director, Representative, Executive Vice President, Head of Industrial Machinery Business Division Headquarters [Number of Shares Owned: 78.000]

#### 5 Akitoshi Ichii C

Director, Representative, Executive Vice President, Responsible for Administrative Divisions Head of Corporate Planning Division Headquarters, Responsible for Asia,

Responsible for Investor Relations Office [Number of Shares Owned: 57,561]

#### 6 Nobuo Goto

Director, Executive Vice President, Responsible for Technology Divisions Responsible for Quality Assurance Divisions, Head of Technology Development Division Headquarters [Number of Shares Owned: 21,200]

#### 7 Toshihiko Enomoto 🔼

Director [Number of Shares Owned: 18,816]

# 8 Teruhiko Ikeda C\* 🔼

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

# 9 Hajime Bada N\*

Independent Director, Honorary Adviser of JFE Holdings, Inc., Outside Director of Mitsui Chemicals, Inc., External Auditor of Asagami Corporation [Number of Shares Owned: 1,400]

#### 10 Akemi Mochizuki A\*

Outside Director, Independent Director, Certified Public Accountant, Employee of Akahoshi Audit Corporation, Outside Director of Tsumura & Co. [Number of Shares Owned: 1,400]

# 11 Toshio Iwamoto 🖸

Outside Director, Independent Director, Chief Corporate Adviser of NTT Data Corporation, External Auditor of IHI Corporation [Number of Shares Owned: -]

## 12 Yoshitaka Fujita N

Outside Director, Independent Director, Executive Advisor of Murata Manufacturing Co., Ltd. [Number of Shares Owned: 2,000]









Nomination : 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 Independence of the independent directors and the reasons behind their appointments, please see the Notice of the 158th Ordinary General Meeting of Shareholders of NSK and Independent Directors/Auditors Notifications published on the following websites of the Tokyo Stock

[Notice of the Ordinary General Meeting of Shareholders] https://www2.tse.or.jp/disc/64710/140120190524435410.pdf [Independent Directors/Auditors Notifications] [Japanese only) https://www2.tse.or.jp/disc/64710/140120190524435390.pdf

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

# **Executive Officers and Group Officers**

Toshihiro Uchiyama Saimon Nogami Representative Executive Vice Presidents Shigeyuki Suzuki Yasuhiro Kamio Akitoshi Ichii Masatada Fumoto Executive Vice Presidents Nobuo Goto Koji Inoue Hiroya Miyazaki Adrian Browne Katsumi Kobayashi Masami Shinomoto

Senior Vice Presidents

Hiromasa Orito Kenichi Yamana Tomoyuki Yoshikiyo Nobuaki Mitamura Tatsuya Atarashi Hideki Ochiai Kunihiko Akashi

Masaru Takayama Seiji Ijuin Takashi Yamanouchi Susumu Ishikawa Guoping Yu Hiroya Achiha Keita Suzuki Hayato Omi Tamami Murata Hiroyuki Tsugimoto Larry Hagood Jean-Charles Sanchez Hisakazu Tadokoro Narihito Otake Hiromichi Takemura Tatsufumi Soda Ulrich Nass

Seong-Il Jo Yoshinori Sugimoto Minoru Arai

# Consolidated Statements of Financial Position (IFRS)

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As of March 31,		2018	2019
Assets			
Current assets	Cash and cash equivalents Trade receivables and other receivables Inventories Other financial assets Income tax receivables Other current assets	131,283 217,200 143,052 1,953 1,006 16,848	129,965 195,288 159,517 1,696 3,502 17,648
	Total current assets	511,346	507,618
Non-current assets	Property, plant and equipment Intangible assets Investments accounted for using equity method Other financial assets Deferred tax assets Net defined benefit assets Other non-current assets	351,875 18,191 27,168 96,543 18,931 64,171 4,082	378,333 19,550 27,613 79,934 9,633 59,406 4,364
	Total non-current assets	580,964	578,837
Total assets		1,092,310	1,086,456
Liabilities and Equi Liabilities Current liabilities	Trade payables and other payables Other financial liabilities Provisions	141,797 109,168 66	130,333 101,145 85
	Income tax payables Other current liabilities  Total current liabilities	6,123 50,804 307,960	4,004 49,841 285,411
Non-current liabilities	Financial liabilities Provisions Deferred tax liabilities Net defined benefit liabilities Other non-current liabilities	143,009 12,116 42,913 18,954 6,341	175,467 8,677 31,128 19,530 5,839
	Total non-current liabilities	223,335	240,643
Total liabilities		531,296	526,055
Equity	Issued capital Capital surplus Retained earnings Treasury shares Other components of equity	67,176 80,264 362,859 (17,815) 44,689	67,176 80,426 400,720 (37,779) 26,131
	Total equity attributable to owners of the parent Non-controlling interests	537,175 23,839	536,676 23,724
Total equity		561,014	560,400
Total liabilities and	equity	1,092,310	1,086,456



# Consolidated Statements of Income (IFRS)

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Year ended March 31,	2018	2019
Sales Cost of sales	1,020,338 788,052	991,365 771,783
Gross profit	232,286	219,581
Selling, general and administrative expenses Share of profits of investments accounted for using the equity method Other operating expenses	138,459 6,448 2,398	141,808 5,493 3,987
Operating income	97,875	79,279
Financial income Financial expenses	2,476 3,103	2,661 2,710
Income before income taxes	97,248	79,229
Income tax expense	24,087	20,491
Net income	73,160	58,738
Net income attributable to: Owners of the parent Non-controlling interests (Earnings per share attributable to owners of the parent) Basic earnings per share (yen) Diluted earnings per share (yen)	69,312 3,848 131.16 130.96	55,809 2,928 107.46 107.24

# Consolidated Statements of Comprehensive Income (IFRS)

(Millions of Yen)

	2018			2019		
Year ended March 31,	Before tax effect	Tax effect	Amount (net)	Before tax effect	Tax effect	Amount (net)
Net income	 		73,160			58,738
Other comprehensive income	1		1 1 1 1 1 1	1		1 1 1 1 1 1
Items that will not be reclassified to profit or loss Remeasurements of net defined benefit liability (asset) Net changes in financial assets measured at fair value	13,877 10,852	(2,815) (2,572)	11,061 8,279	(4,423) (9,276)	616 2,816	(3,807) (6,460)
through other comprehensive income Share of other comprehensive income of investments accounted for using equity method	212	(57)	155	125	(49)	75
Total items that will not be reclassified to profit or loss	24,941	(5,445)	19,496	(13,575)	3,382	(10,192)
Items that may be reclassified to profit or loss Exchange differences on translating foreign operations Share of other comprehensive income of investments accounted for using equity method	3,917 93	_ _	3,917 93	(4,731) (20)	- -	(4,731) (20)
Total items that may be reclassified to profit or loss	4,010	_	4,010	(4,751)	_	(4,751)
Total other comprehensive income	28,952	(5,445)	23,506	(18,326)	3,382	(14,944)
Total comprehensive income for the period			96,667			43,794
Total comprehensive income for the period attributable to: Owners of the parent Non-controlling interests			92,551 4,116			40,803 2,991

# Consolidated Statements of Changes in Equity (IFRS)

(Millions of Yen)

	E	Equity attributable to owners of the parent			
From April 1, 2017 to March 31, 2018	Issued capital	Capital surplus	Retained earnings	Treasury shares	
Opening balance	67,176	79,676	308,395	(17,937)	
Net income Other comprehensive income	_		69,312		
Total comprehensive income for the period	-	-	69,312	-	
Purchase of treasury shares Disposal of treasury shares Share-based payment transactions Cash dividends Changes in the ownership interest in subsidiaries Other	- - - - -	119 591 - (122)	- - - (17,452) - 2,604	(11) 134 — — — — —	
Total transactions with owners, etc.	-	588	[14,848]	122	
Closing balance	67,176	80,264	362,859	(17,815)	

		Equity attribut	parent				
		Other compone	nts of equity		T	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	Total		
Opening balance	(11,531)	37,862	(2,290)	24,039	461,350	23,661	485,011
Net income Other comprehensive income	- 3,757	- 8,311	_ 11,170	_ 23,239	69,312 23,239	3,848 267	73,160 23,506
Total comprehensive income for the period	3,757	8,311	11,170	23,239	92,551	4,116	96,667
Purchase of treasury shares Disposal of treasury shares Share-based payment transactions Cash dividends	- - -	- - -	- - - -	- - - -	(11) 253 591 (17,452)	_ _ _ (3,231)	(11) 253 591 (20,684)
Changes in the ownership interest in subsidiaries	_	-	_	_	(122)	(706)	(828)
Other	-	(2,589)	-	(2,589)	15	-	15
Total transactions with owners, etc.	_	(2,589)	_	(2,589)	(16,726)	(3,938)	(20,664)
Closing balance	[7,774]	43,584	8,880	44,689	537,175	23,839	561,014

(Millions of Yen)

	Eq	Equity attributable to owners of the parent		
From April 1, 2018 to March 31, 2019	Issued capital	Capital surplus	Retained earnings	Treasury shares
Opening balance	67,176	80,264	362,859	(17,815)
Net income Other comprehensive income	_	_	55,809 -	
Total comprehensive income for the period	-	-	55,809	-
Purchase of treasury shares Disposal of treasury shares Share-based payment transactions Cash dividends Changes in the ownership interest in subsidiaries Other	-	_ 21 375 _ (235)	_ _ _ (21,514) _ 3,565	(20,053) 89 - - - -
Total transactions with owners, etc.	-	161	(17,948)	(19,963)
Closing balance	67,176	80,426	400,720	(37,779)

	Equity attributable to owners of the parent							
		Other componer	nts of equity			Non-controlling		
	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	Total	interests	Total equity	
Opening balance	(7,774)	43,584	8,880	44,689	537,175	23,839	561,014	
Net income Other comprehensive income	_ (4,823)	– (6,537)	– (3,645)	– (15,006)	55,809 (15,006)	2,928 62	58,738 (14,944)	
Total comprehensive income for the period	(4,823)	(6,537)	(3,645)	(15,006)	40,803	2,991	43,794	
Purchase of treasury shares	-	- 1	-	-	(20,053)	-	(20,053)	
Disposal of treasury shares	-	- :	-	-	111	-	111	
Share-based payment transactions	_	- :	-	-	375		375	
Cash dividends	_	- :	-	-	(21,514)	(2,816)	(24,330)	
Changes in the ownership interest in subsidiaries	-	-	-	-	(235)	(290)	(525)	
Other	-	(3,551)	-	(3,551)	14	-	14	
Total transactions with owners, etc.	-	(3,551)	-	(3,551)	(41,302)	(3,106)	(44,408)	
Closing balance	(12,598)	33,494	5,234	26,131	536,676	23,724	560,400	



# Consolidated Statements of Cash Flows (IFRS)

(Millions of Yen)

Year ended March 31,	2018	2019
Operating activities		
Income before income taxes	97,248	79,229
Depreciation and amortisation	46,785	48,801
Increase (decrease) in net defined benefit liability and net defined benefit asset	(985)	621
Interest and dividend income	[2,329]	(2,368)
Interest expenses	2,978	2,600
Share of profits of investments accounted for using the equity method	(6,448)	(5,493)
Decrease (increase) in trade receivables	(12,464)	18,602
Decrease (increase) in inventories	(10,382)	(17,859)
Increase (decrease) in trade payables	(11,116)	(10,856)
Other	(2,957)	(1,354)
Subtotal	100,328	111,924
Interest and dividend received	5,174	7,484
Interest expenses paid	(2,921)	(2,642)
Income tax paid	(18,835)	(24,149)
Net cash provided by operating activities	83,746	92,617
Investing activities		
Purchases of property, plant and equipment	(61,397)	(73,379)
Proceeds from sale of property, plant and equipment	386	1,090
Purchases of other financial assets	(162)	(38)
Proceeds from sale and redemption of other financial assets	16,941	6,829
Other	(8,769)	(7,176)
Net cash used in investing activities	(53,001)	(72,673)
Financial activities		
Proceeds from long-term loans	12,000	34,333
Repayments of long-term loans	(48,687)	(46,809)
Proceeds from issuance of corporate bonds	20,000	40,000
Acquisition of treasury shares	(4)	(20,044)
Dividends paid	(17,438)	(21,495)
Dividends paid to non-controlling interests	(3,233)	(2,892)
Other	(2,440)	(3,569)
Net cash used in financial activities	(39,804)	(20,477)
Effect of exchange rate changes on cash and cash equivalents	770	(784)
Net increase (decrease) in cash and cash equivalents	(8,289)	(1,318)
Cash and cash equivalents at beginning of the period	139,573	131,283
Cash and cash equivalents at end of the period	131,283	129,965

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



# Overview of the Year Ended March 31, 2019

Looking at global economic conditions during the year ended March 31, 2019, the Japanese economy continued its gradual growth due to solid capital expenditure and a favorable employment environment. However, this expansion lacked strength due to the impact of a slowdown in the overseas economy during the second half of the fiscal year under review. In the US, economic growth continued due to increases in capital expenditure and individual consumption, although signs of a slowdown have recently begun to emerge. In Europe, although consumer spending remained strong in the Eurozone, economic growth slowed due to confusion surrounding the UK's withdrawal from the European Union as well as a decrease in vehicle production due to new exhaust gas emission testing methods (WLTP).

In China, economic growth slowed against the backdrop of increased trade friction with the US, with weaker capital expenditure and consumer spending, and vehicle production volume falling below the previous year's level. In other Asian countries, economic growth slowed, reflecting the weakness in the global economy.

In this economic environment, consolidated sales for the year ended March 31, 2019 totaled ¥991,365 million, a year-on-year decrease of 2.8%, and operating income totaled ¥79,279 million, a year-on-year decrease of 19.0%. Income before income taxes was ¥79,229 million, a year-on-year decrease of 18.5%. Net income attributable to owners of the parent was ¥55,809 million, a year-on-year decrease of 19.5%.

# Business Segment Information

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

#### Industrial Machinery Business segment

Overall sales in the industrial machinery business increased year on year as strong demand for the Company's products continued through to the end of the first half of the fiscal year due to increased capital expenditure related to IoT, automation, and labor-saving. Although demand shifted to an adjustment phase in the second half against the backdrop of a sluggish smartphone market as well as slowdown in Chinese economy, the Company was able to secure a year-on-year increase in full-year sales in the industrial machinery business.

Looking at the segment's results by geographic breakdown, sales in Japan increased, primarily in the aftermarket sector, despite the negative impact of a slowdown in the smartphone-related market. In the Americas, despite strong demand from sectors including medical equipment, sales declined due to depreciation of emerging countries' currencies, including the Brazilian real. Sales in Europe decreased due to a decline in the electrical sector, including home appliances, although sales in the wind power sector rose. In China, sales grew due to an increase in the aftermarket, wind power and machine tool sectors, despite weaker sales in the electrical sector, including electric tools and motors. In other Asian countries sales increased, primarily in India.

As a result, sales in the industrial machinery business totaled ¥269,974 million, a year-on-year increase of 1.4%. Operating income was ¥32,887 million, a year-on-year increase of 16.1%.

Looking ahead, the industrial machinery business segment will continue to address changing trends in demand in a flexible and agile manner. As social needs across a wide range of fields, beginning with IoT as well as robotics and renewal energy, expand, NSK will endeavor to enhance its presence within the market over the medium and long term and expand its business commensurate with revenues by building a foundation that is capable of adapting to these growth fields.

#### Automotive Business segment

Despite an increase in sales of products for the automatic transmission (AT) systems and needle bearings, overall sales in the automotive business declined year on year due to lower sales of electric power stéering (ÉPS) systems resulting from vehicle model changes as well as a slowdown in the Chinese and European automotive markets.

Looking at the segment's results by geographic breakdown, sales in Japan decreased due to lower sales in the EPS business despite robust sales of products for AT systems. In the Americas, sales increased mainly due to solid sales of products for AT systems. In Europe, sales decreased due to lower vehicle production stemming from new exhaust gas emission testing methods (WLTP). Sales in China decreased due to a reactionary decline from special tax incentives for compact cars which ended last year, as well as lower EPS sales. In other Asian countries, overall sales decreased due to the impact of exchange rate fluctuations, although sales in India increased.

As a result, sales in the automotive business totaled ¥689,658 million, a year-on-year decrease of 4.7%. Operating income totaled ¥44,949 million, a year-on-year decrease of 31.9%.

In conjunction with efforts to expand its business focusing mainly on AT-related products, which are projected to experience an ongoing increase in demand, the automotive business segment will work to secure regrowth of the EPS business. Moreover, every effort will be made to contribute to technological innovation in automobiles in such areas as electrification and autonomous driving through the use of existing technologies nurtured over a long period and the development of new technologies. In addition, this business segment will strive to improve profitability by increasing productivity and reducing fixed costs.



# Analysis of Financial Position

Total assets were ¥1,086,456 million, a decrease of ¥5,854 million compared to total assets as of March 31, 2018. The main reasons for this were decreases of

¥21,912 million in trade receivables and other receivables and ¥16,608 million in other financial assets (non-current), which offset an increase of ¥26,458



million in property, plant and equipment.

Total liabilities were ¥526,055 million, a decrease of ¥5,240 million compared to total liabilities as of March 31, 2018. The main reason for this was a decrease of ¥11,463 million in trade payables and other payables. Total equity totaled ¥560,400 million, a decrease of ¥613 million compared to total equity as of March 31, 2018. The main reasons for this decrease were ¥21,514 million in cash dividends from retained earnings, ¥19,963 million in treasury shares and ¥18,558 million in other components of equity, which offset ¥55,809 million in net income attributable to owners of the parent.

Total current assets decreased ¥3,727 million compared with the previous fiscal year-end, to ¥507,618 million. Total current liabilities decreased ¥22,548

million compared with the previous fiscal year-end to ¥285,411 million. As a result, the current ratio increased from 1.66 times as of the previous fiscal year-end to 1.78 times. Gross interest-bearing debt increased ¥23,871 million compared with the end of the previous fiscal year-end to ¥274,780 million. Net interest-bearing debt (interest-bearing debt net of cash and cash equivalents) was up ¥25,190 million compared with the previous fiscal year-end to ¥144,814 million. The net D/E ratio increased from 0.22 in the previous fiscal year to 0.27. Equity per share attributable to owners of the parent increased from ¥1,016.30 to ¥1,048.18. The equity ratio attributable to owners of the parent increased from 49.2% as of the previous fiscal year-end to 49.4%.



# Cash Flows

Total cash and cash equivalents at the end of the period under review were ¥129,965 million, a decrease of ¥1,318 million compared to total cash and cash equivalents as of March 31, 2018. 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 ¥92,617 million, an increase of ¥8,870 million, compared to the previous year. The main cash inflows were \(\frac{1}{79}\),229 million in income before income taxes, ¥48,801 million in depreciation and amortisation, and ¥18,602 million in decrease in trade receivables. Meanwhile, the main outflows were ¥17,859 million in increase in inventories. ¥10,856 million in decrease in trade payables and ¥24,149 million in income tax paid.

#### Net cash flow used in investing activities

Net cash flow used in investing activities totaled ¥72,673 million, an increase of ¥19,671 million compared to the previous year. Net cash flow used in investing activities includes ¥73,379 million in purchases of property, plant and equipment.

#### Net cash flow used in financing activities

Net cash flow used in financing activities totaled ¥20,477 million, a decrease of ¥19,327 million compared to the previous year. The main cash inflows were ¥34,333 million in proceeds from long-term loans and ¥40,000 million in proceeds from issuance of corporate bonds. Meanwhile, the main outflows were ¥46,809 million in repayments of long-term loans, ¥20,044 million in acquisition of treasury shares and ¥21,495 million in dividends paid.



# 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, 2019, the outstanding balance of short-term loans was ¥58,637 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, 2019, the outstanding balance of long-term loans and corporate bonds was ¥216,142 million, the

breakdown of which was loans from financial institutions of ¥96,142 million and unsecured corporate bonds of ¥120,000 million.

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.

# **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.

https://www.nsk.com/investors/management/taxpolicy.html

# Basic Knowledge of 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.

#### Steel Balls: The World's Roundest Balls

Introducing steel balls, one of the important components that make up the basic structure of bearings.

#### What Are Steel Balls?

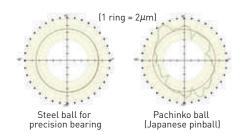
As their name indicates, steel balls are balls made from steel. Generally, the name refers to balls used in bearings and other products. Technically, these balls are called steel balls for rolling bearings.

Bearings are rolling parts that are attached to the rotating parts of machines; they comprise multiple steel balls inserted between a large and small ring. Thanks to the steel balls, friction is reduced, enabling the bearing to roll extremely smoothly. Steel balls simply need to be round, hard, and tough. It is also essential that the steel balls inserted in bearings are all of uniform excellence. Continuous research day and night has enabled us to achieve the world's roundest steel balls.

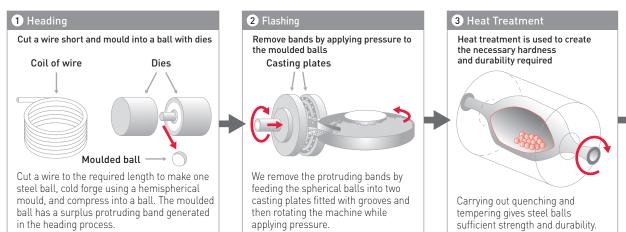


### Evaluation of Their Roundness

One index that evaluates the roundness of a ball is sphericity, as prescribed under the Japanese Industrial Standards (JIS). General bearing steel balls have a sphericity of 99.999%. Although it is difficult to understand how round steel balls for bearings are in numerical terms, all becomes obvious when they are compared with pachinko balls (Japanese pinball), which look round in appearance.



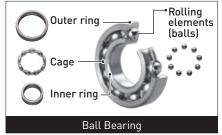
## Production Process: The general production process for steel balls is as follows





#### 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:

Machinery will run more efficiently

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

Preventing abrasion burn and 3 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 Steel Materials

Various kinds of steel materials are used for steel balls, and the materials are selected according to the environments in which they are to be used, such as load, rotation speed, and temperature. The main materials used for steel balls are as follows:

#### High-carbon chromium bearing steel

This is the material that is widely and generally used for bearings. Featuring exceptional resistance to wear, this type of steel supports the rotating parts of all machines, including those in automobiles.

#### Stainless steel

Featuring excellent corrosion resistance, this material is mainly utilized for bearing steel balls that will be used in corrosive environments. Having many uses, stainless steel is used not only for bearings but also valves.

#### Heat-resistant steel

Made of special heat-resistant material, this type of steel is mainly utilized in bearings exposed to high-temperature environments of around 300°C, such as airplane jet engine bearings.

### Balls Other Than Steel Balls

Balls other than steel balls are also used all around us as elemental components. There have a wide variety of uses, including for bearings and ball-point pen nibs. There are many different uses, and just a few of them are listed below.





Bearings and other products that require Applications high-speed rotation, such as machine tools, etc.

> High strength and wear resistance even at high temperatures

#### Brass balls



**Applications** Features

Used to fill the holes of carburetors for motorcycles and cars

Copper alloys with good electric and thermal conductivities are used

#### 2 Carbide balls



The tips of ball-point pens, etc., where Applications resistance to wear is required

Ball-point pens can be broadly divided into two

types, those that use oil- or water-based inks. Since the inks used also come in a variety of colors, excellent quality in terms of corrosion resistance and wettability for each ink is required.



Applications Gas leak prevention valves for gas cocks, etc.

Lightweight is the primary feature of nylon

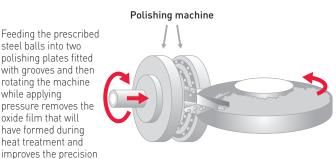
balls. Their properties include low electric and thermal conductivities and resistance to acids and alkalis.

#### 4 Grinding

Adjust the dimensions of the steel balls and improve the surface roughness

Feeding the prescribed steel balls into two polishing plates fitted with grooves and then rotating the machine while applying pressure removes the oxide film that will have formed during heat treatment and

of the steel balls.



5 Lapping

As in (4.), the steel balls are fed into two polishing plates fitted with grooves, which are rotated while applying pressure to improve the precision of the steel balls. In lapping, the quality of steel balls is greatly affected by the grindstone and polishing oil used as well as by the process conditions. The optimization of the lapping conditions is indispensable in improving the precision of the steel balls.

#### 6 Visual Inspection/Packing



Steel balls produced by means of the process shown on the left are packaged and shipped following a visual inspection process.

# 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.
AIP	AIP is an acronym for Asset Improvement Program. AIP is a service proposal program for stable operation and increased reliability of production facilities that are important customer assets. This solutions service uses NSK's expert technology knowledge to analyze areas such as facilities, processes and work content, and then proposes optimal solutions for items and content for which numerical improvement is possible, for example, cost reduction, improvement in operational efficiency and reduction in the number of malfunctions.
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.
ВСР	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.
Big Data	Big data is large-capacity digital data generated and stored in conjunction with the spread of the Internet, increased use of the Internet and improvement in computer processing speed. By utilizing a huge amount of information, big data is expected to create future business opportunities such as resolving social and economic problems and increasing the added value of products and services. It is also necessary to create regulations and rules for the use of big data.
BOD	BOD stands for <b>B</b> iochemical <b>Q</b> xygen <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. 46) 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.
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 that 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 has a top-class record of column-type EPS in the world.
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.
Decarbonization	Society demands a reduction in the amount of fossil fuels used because the combustion of fossil fuels such as oil and coal causes carbon to transform into greenhouse gases (e.g., CO <sub>2</sub> ) causing global warming. Decarbonization is aimed at moving away from the use of fossil fuels.
Direct Rate	Direct rate is the percentage of raw materials and parts injected into the production line that have been passed through from the initial process to the final process to become a finished product.
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.
EPS	EPS stands for <b>E</b> lectric <b>P</b> ower <b>S</b> teering. An EPS is a mechanism that supports the driver in controlling automobile steering wheels (enabling the turning of steering wheels with light force and providing driving assistance) 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.
5G	5G stands for <b>5</b> th <b>G</b> eneration (5th generation mobile communication system). 5G is a next-generation wireless communication system with faster speed, larger capacity, fewer delays and multiple connections when compared to the current mainstream 4G technology. Moving forward, full-scale introduction of 5G is scheduled in each country and region.
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.
GAFA	GAFA is an acronym for <b>G</b> oogle, <b>A</b> mazon, <b>E</b> acebook, <b>A</b> pple, the four main IT corporations based in the United States.
GAM	GAM is an acronym for <b>Q</b> lobal <b>A</b> fter <b>M</b> arket and refers to business for the after-sales market, which targets repair demand. We have positioned GAM as an important measure in the Industrial Machinery Business of the 6th Mid-Term Management Plan and are promoting global initiatives.
Green Procurement	Green procurement refers to the procurement of parts and raw materials in consideration of the environment. The NSK Group has stipulated and complies with the NSK Group Green Procurement Standards [http://www.nsk.com/sustainability/csrReport/supplemental/greenps.html].



Term	Meaning		
Hub Unit Bearings	A hub unit bearing is a type of bearing that integrates the part attached to the vehicle body and the part called a hub, to which the wheel is mounted. It supports the vehicle body while smoothly rotating the wheels.		
loT	IoT stands for the Internet of Things. 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.		
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.		
Modern Slavery Act	The Modern Slavery Act has been established in the United Kingdom and Australia. The act was established to prevent crimes such as human trafficking, forced labor and sexual exploitation.		
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.		
Multistep AT	Among the different types of automobile 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, eight 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>I</b> echnology, which is an internal educational institute for our engineers to master more advanced technology.		
Open Innovation	Open innovation consists of initiatives used to create innovative new merchandise (products), services or business models. These innovations are based on a wide range of knowledge and technology integrated during the development of new technologies and products. Specifically, a company performing open innovation combines the technologies, ideas and know-how from other industries and fields such as other companies, universities, municipalities and social entrepreneurs, in addition to its own.		
Pawl-Type One-Way Clutch	A one-way clutch is a clutch mechanism that transmits rotational force in only one direction. One-way clutches are used for automobile drive parts. The newly developed pawl-type one-way clutch has the following characteristics: 1) it can be used in a non-lubricated environment, 2) it significantly reduces drag loss, 3) it is compact and light weight and 4) it reduces backlash. The pawl-type one-way clutch is effective for running two-motor hybrid electric vehicles.		
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. "CO2 emission per production unit" means CO2 (carbon dioxide) emissions discharged in the process of production of a certain amount of a product.		
Planetary Gear	Planetary gear refers to an epicylic 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 $\underline{\mathbf{Q}}$ uality, $\underline{\mathbf{C}}$ ost, $\underline{\mathbf{D}}$ elivery, $\underline{\mathbf{D}}$ evelopment, $\underline{\mathbf{S}}$ ervice and $\underline{\mathbf{M}}$ anagement. The QCDDSM elements are generally focused on by the manufacturing industry including NSK.		
QC Circle	QC circles are an initiative related to <b>Q</b> uality <b>C</b> ontrol. QC circles are volunteer activities held in small groups aimed at improving the quality of products, services and the workplace environment; reducing costs; increasing safety; etc.		
Rack-Type EPS (Rack Assist EPS)	Rack-type EPS (electric power steering) is a type of lower assist EPS. It is an EPS that assists tire direction movement with a rack shaft in the steering gear section.		
Smart Factory	Smart Factory in this report refers to NSK's new concept factory. 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.		
VA/VE	VA and VE are abbreviations for Yalue Analysis and Yalue Engineering, which are analytical methods and activities for increasing the added value provided to customers. VA is related to all activities in the entire value chain from R&D to after-sales service. VA activities consist of maximizing value by analyzing relationships between costs and the improvement of functions and quality. VE is sometimes used as a similar term to VA. However, VE refers to engineering methods for cost reduction through measures such as changing drawing/specifications and streamlining manufacturing methods. In some cases, VA and VE are divided on a time line with VE designated as deciding on specifications before mass production and VA as analysis/reform activities during and after mass production.		
VOC	VOCs stands for <b>Y</b> olatile <b>Q</b> rganic <b>C</b> ompounds. 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 machine tools and semiconductor production equipment.		

# NSK Group As of March 31, 2019

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 recruitmen
	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-WARNER K.K.	50.0%	Manufacture and sales of automotive-related products
	CHITOSE SANGYO CO., LTD.	50.0%	Manufacture of automotive-related products
	INOUE JIKUUKE KOGYO CO., LTD.	40.0%	Manufacture and sales of industrial machinery bearings
THE AMERICA	S		
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, et
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.  NSK POLSKA SP. Z 0.0.  NSK STEERING SYSTEMS EUROPE (POLSKA) SP. Z 0.0.  NSK NEEDLE BEARING POLAND SP. Z 0.0.  AKS PRECISION BALL POLSKA SP. Z 0.0.	95.5% 100.0% 100.0% 100.0% 100.0%	Manufacture of automotive bearings, etc. Sales of industrial machinery bearings, etc. Manufacture of automotive components Manufacture of automotive bearings 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.
ASIA			
China	NSK (CHINA) INVESTMENT CO., LTD. KUNSHAN NSK CO., LTD. NSK STEERING SYSTEMS DONGGUAN CO., LTD. ZHANGJIAGANG NSK PRECISION MACHINERY CO., LTD. CHANGSHU NSK NEEDLE BEARING CO., LTD. AKS PRECISION BALL (HANGZHOU) CO., LTD. SUZHOU NSK BEARINGS CO., LTD. NSK (CHINA) RESEARCH AND DEVELOPMENT CO., LTD. NSK HANGZHOU AUTOMOTIVE COMPONENTS CO., LTD. NSK HANGZHOU AUTOMOBILE ELECTRONIC TECHNOLOGY CO., LTD. SHENYANG NSK PRECISION CO., LTD. SHENYANG NSK CO., LTD. HEFEI NSK CO., LTD. TOHSHIN-NSK ROLLERS (SUZHOU) CO., LTD.	100.0% 85.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 40.0%	Control of Chinese subsidiaries and affiliates, sales of bearings, etc.  Manufacture of automotive bearings, etc.  Manufacture of automotive components  Manufacture of automotive bearing parts, etc.  Manufacture of automotive bearings  Manufacture and sales of steel balls  Manufacture of automotive bearings  Research and development of automotive bearings, etc.  Manufacture of automotive components  Manufacture of automotive components  Manufacture of precision machinery & parts  Manufacture of industrial machinery bearings  Manufacture of automotive bearings, etc.  Manufacture of automotive bearings, etc.
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.  NSK INTERNATIONAL (SINGAPORE) PTE LTD.  NSK SINGAPORE (PRIVATE) LTD.	100.0% 100.0% 100.0%	Control of ASEAN and OCEANIA subsidiaries and affiliates Sales of industrial machinery bearings, etc. Sales of industrial machinery bearings, etc.
Indonesia	PT. NSK BEARINGS MANUFACTURING INDONESIA PT. NSK INDONESIA PT. AKS PRECISION BALL INDONESIA	100.0% 100.0% 100.0%	Manufacture of automotive bearings, etc. Sales of industrial machinery bearings, etc. Manufacture and sales of steel balls
Thailand	NSK BEARINGS MANUFACTURING (THAILAND) CO., LTD. SIAM NSK STEERING SYSTEMS CO., LTD. NSK ASIA PACIFIC TECHNOLOGY CENTRE (THAILAND) CO., LTD. NSK BEARINGS (THAILAND) CO., LTD.	74.9% 74.9% 100.0% 49.0%	Manufacture and sales of automotive bearings Manufacture and sales of automotive components Development of products, etc. Sales of industrial machinery bearings, etc.
Malaysia	NSK BEARINGS (MALAYSIA) SDN. BHD. NSK MICRO PRECISION (M) SDN. BHD. ISC MICRO PRECISION SDN. BHD.	51.0% 100.0% 100.0%	Sales of industrial machinery bearings, etc. Manufacture of automotive bearings, etc. 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 RANE NSK STEERING SYSTEMS PRIVATE LTD.	100.0% 51.0%	Manufacture and sales of automotive bearings, etc. 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, 2019

#### Corporate Address

NSK Ltd.

Nissei Bldg., 1-6-3 Ohsaki, Shinagawa-ku,

Tokyo 141-8560, Japan Tel: +81-3-3779-7111

#### **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 E-mail: ir@nsk.com

#### **NSK's Website**

### https://www.nsk.com/

#### Common Stock

Authorized: 1.700.000.000 shares Issued: 551.268.104 shares

(including 36,735,014 shares of treasury stock)

#### Number of Shareholders

46,727

#### 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.

https://www.nsk.com/investors/

#### **CSR-Related Information**

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

https://www.nsk.com/sustainability/ Sustainability Report 2019



#### Key Question and Answers at Recent Meetings

Investors>FAQ

https://www.nsk.com/investors/faq.html

NSK Report 2018 P. 61

https://www.nsk.com/investors/library/pdf/nsk repo rt/ir201803e.pdf

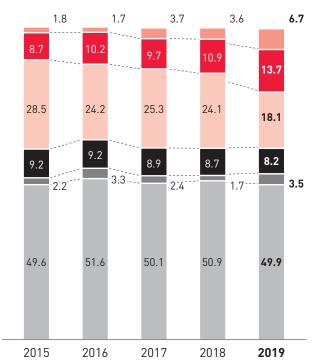
#### Listing

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 2018

NSK issued its third integrated report, "NSK Report 2018" last year. This marked the third consecutive year that NSK was recognized with the WICI Japan Award for Excellence in Integrated Reporting.





NSK Report 2018

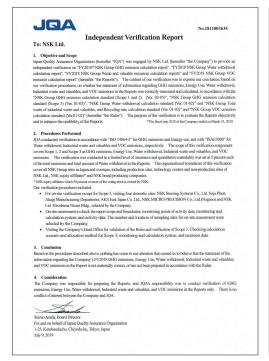


# Third-Party Assurances

To ensure the reliability and accuracy of NSK Report 2019 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 Frequency Rate (P. 48)
- Energy Use (P. 46)
- Water Withdrawal (P. 46)
- Greenhouse Gases Emissions (P. 46)
- Total Waste (P. 46)
- VOC Emissions (P. 46)



Independent Verification Report



Independent Assurance Statement

# At the Time of Publishing the NSK Report 2019

The main topic covered in this integrated report is that of sustainability (sustainable growth).

Launched in May 2019, NSK's 6th Mid-Term Management Plan is an initiative designed to "establish a corporate foundation for sustainable growth" as our Vision for 2026, the 110th anniversary of the Company's founding. In this integrated report, we have enhanced the explanations about NSK's corporate foundation that is aimed to be achieved under the Plan and our efforts to increase sustainability.

In addition, NSK's business is built on relationships of trust with various stakeholders, and this report describes these in detail on the pages devoted to "Creating Value with Stakeholders."

Furthermore, a section entitled "Interviews with NSK's Outside Directors" has been included to introduce some of NSK's efforts to improve the effectiveness of its corporate governance.

This report was produced primarily by the IR Office, which worked in cooperation with many of the departments involved and edited the opinions expressed. As the executive officer responsible for IR and thus 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 NSK Report as an aid to dialogue with stakeholders. By all means, read through this report. I would be delighted to hear your frank views and any requests for future content.



Director, Representative Executive Vice President Responsible for Administrative Divisions Head of Corporate Planning Division HQ Responsible for Investor Relations Office

Akitoshi Ichii



