

## NSK Sustainability Report 2019



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#### Editorial Policy

The NSK Group carries out a variety of governance, social, and environmental initiatives to do its part in creating a sustainable society. We produce the Sustainability Report to explain these initiatives in detail. With this report, care was taken to facilitate understanding of the overall picture and progress of each initiative by including the policy, structure, targets and performance, the activities in fiscal 2018, and data measuring progress.

#### Scope of Coverage

- **Period of Coverage**  
Primarily fiscal 2018 (April 1, 2018 to March 31, 2019).  
Activities conducted outside this period are indicated with the inclusion of a date.
- **Organizations Covered**  
NSK Ltd. and its consolidated subsidiaries (88 companies in all).  
Affiliates accounted for using the equity method (16 companies).
- **Scope of Performance Data**  
All sites in the NSK Group. The scope is indicated separately for information with a different scope.
- **Reporting Cycle**  
Published annually.
- **Date Published**  
January 2020

#### Reference Guidelines

Global Reporting Initiative Standards 2016/2018 by the Global Reporting Initiative (GRI)  
ISO 26000: 2010 Guidance on Social Responsibility by the International Organization for Standardization (ISO)  
Environmental Reporting Guidelines (2018 edition) by the Ministry of the Environment of Japan

#### Third-Party Assurance/Verification

In order to improve the reliability of this report, we received third-party assurance of fiscal 2018 performance in governance, social, and environmental areas. Third-party assurance of the lost-worktime injury rate was obtained from Sustainability Accounting Co., Ltd. In addition, we also received third-party verification of emissions of greenhouse gases, energy use, water withdrawal, total waste, and VOC emissions from the Japan Quality Assurance Organization.

#### Related Methods of Disclosure

See the *NSK Report 2019* and NSK's website for financial and non-financial information about the NSK Group.



NSK Report 2019



NSK's website  
<https://www.nsk.com/>



# About the NSK Group

Since producing the first bearings in Japan in 1916, NSK has helped drive global industrial development for more than a century by creating and supplying many types of bearings, automotive parts, precision machinery/components, and other products. Our products are hard at work around the world, and their high performance and high quality has made NSK a trusted brand. At NSK, we are determined to keep contributing to a safer, smoother society by supplying products that reduce energy loss by controlling friction with our Motion & Control™ technologies, as reflected in our Mission Statement, which serves as the foundation of all of our business activities.

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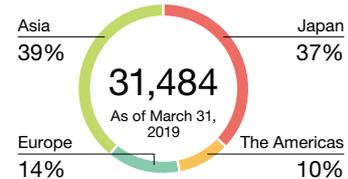
# The NSK Group's Business and Company Overview

## Company Overview As of March 31, 2019

Company Name	NSK Ltd.
Established	November 8, 1916
Capital	67.2 billion yen
Group Companies	Within Japan: 18 Outside Japan: 70
Head Office	Nissei Bldg., 1-6-3 Ohsaki, Shinagawa-ku, Tokyo 141-8560, Japan
Number of Employees (Consolidated)	31,484

### Breakdown of Employees by Region (Consolidated)

\* Excluding temporary employees.

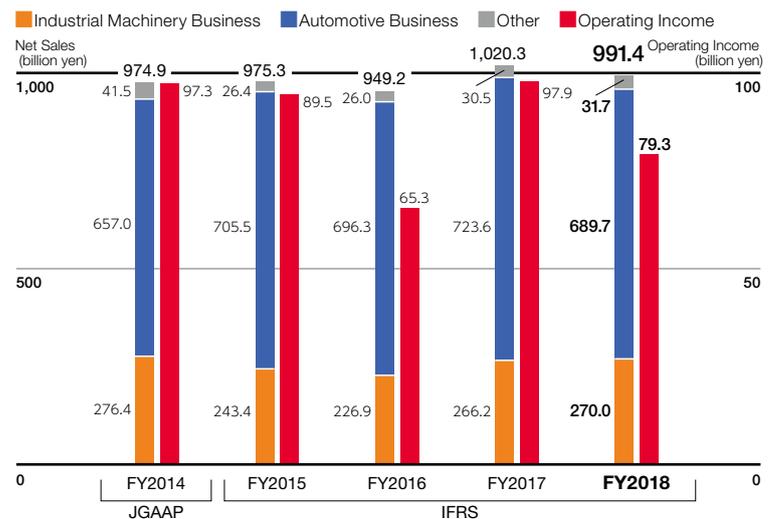


## Financial Highlights (International Financial Reporting Standards [IFRS]) FY2018

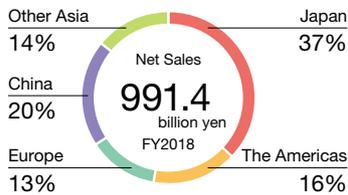
Net Sales	991.4 billion yen
Operating Income	79.3 billion yen
Capital Expenditures	81.1 billion yen
R&D Expenses	19.0 billion yen
Total Assets	1,086.5 billion yen

### Net Sales / Operating Income (Consolidated)

Note: Part of industrial machinery business operations was transferred to the automotive business in FY2016. Accordingly, figures for FY2015 and prices have been reclassified to match current segments.



### Breakdown of Net Sales by Region (Based on customer location)



## Business Segments

### Industrial Machinery Business

**Net Sales (%)**

**Breakdown of Net Sales, by Region (%)**

### Automotive Business

**Net Sales (%)**

**Breakdown of Net Sales, by Region (%)**

Reference data is available on our website.

[www.nsk.com](http://www.nsk.com) → Investors → Financial Information

Financial Highlights

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## NSK Group Businesses

### Industrial Machinery Business

This business includes the two fields of Industrial Machinery Bearings, which boast a wide range of sizes from the ultra-small with an outer diameter of 2 mm, to the ultra-large exceeding 6 m, and Precision Machinery and Parts, which consists of ball screws, linear guides, and mechatronic products.



#### Industrial Machinery Bearings

Bearings are essential components in the rotating parts of machinery products. Bearings reduce energy loss caused by friction and enable smooth rotation. The NSK Group's bearings are used in a wide range of products and machines from everyday home appliances to railway vehicles, wind turbines for power generation, and large industrial machinery, as well as in airplanes and satellites.



Axle tapered roller bearings for train cars



Large spherical roller bearings for wind turbine main shaft

#### Precision Machinery and Parts

The high quality and reliability of the NSK Group's precision machinery and parts are based on the precision machining technology we have developed for manufacturing bearings. Bearings are the core components of machines essential for manufacturing machine tools and industrial robots used to manufacture mobile phones, automobiles, and other products. They are also found in injection molding machines that produce plastic parts, and in semiconductor equipment.



Ball screws for high-speed machine tools HMS series



Megatorque Motor™

### Automotive Business

This business includes the two fields of Automotive Bearings, such as needle bearings and hub unit bearings, which facilitate smooth motion in automotive engines and wheels, and Automotive Components, such as electric power steering (EPS) and automatic transmissions (AT).



#### Automotive Bearings

Some 100 to 150 bearings are incorporated into a single automobile. The NSK Group provides numerous products that support the diverse automotive needs of society, including various bearings used in the engine, transmission, and electrical components, as well as the hub unit bearings that support the axle.



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



Bearings for electric A/C compressors

#### Automotive Components

In this field, NSK provides many of the key components that assist in forward motion, turning, and stopping in automobiles, such as steering systems that transmit the driver's movement of the steering wheel to the vehicle's wheels, and clutches that are used in automatic transmissions and hybrid systems. These products achieve lower fuel consumption and contribute to safe and comfortable driving.



Column Type Electric Power Steering



Ball screws for electric brakes

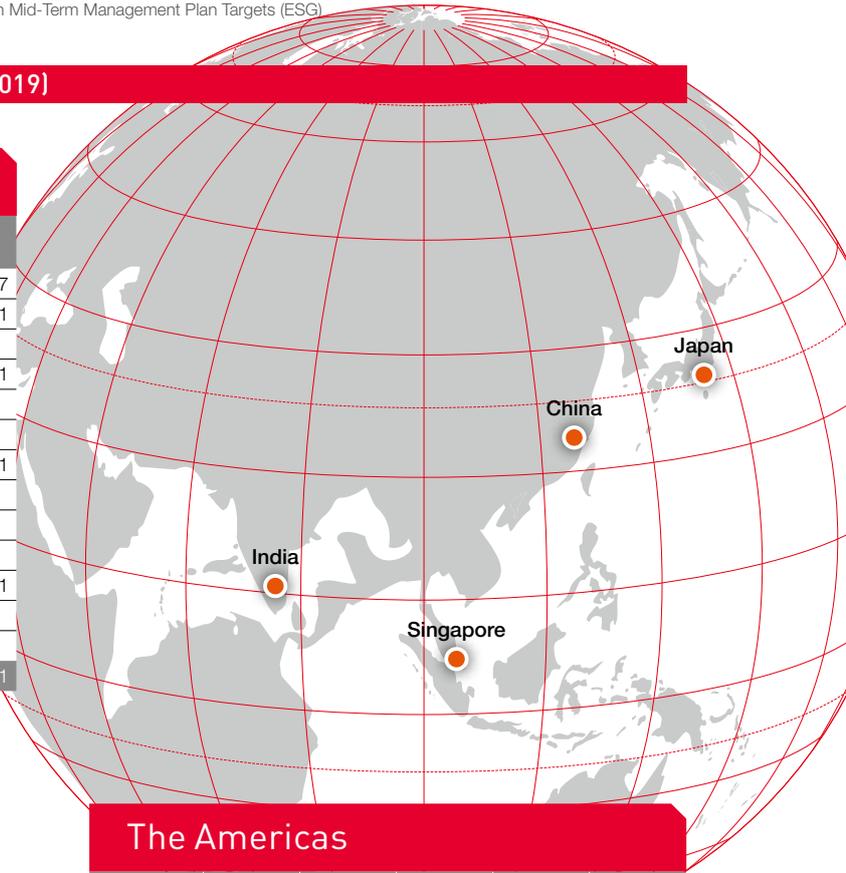
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## NSK Group Sites Worldwide (as of March 31, 2019)

### Asia and Oceania

Countries and regions	Headquarters	Production Sites	Sales Sites	Representative Offices	R&D Centers
Japan	1	20	31		7
China	1	11	18	1	1
Taiwan			3		
South Korea		2	2		1
Singapore	1		2		
Indonesia		3	2		
Thailand		2	5		1
Malaysia		2	4		
Philippines				1	
Vietnam			2		
India	1	5	10		1
Australia			4		
New Zealand			1		
Sub-total	4	45	84	2	11

 Headquarters



### The Americas

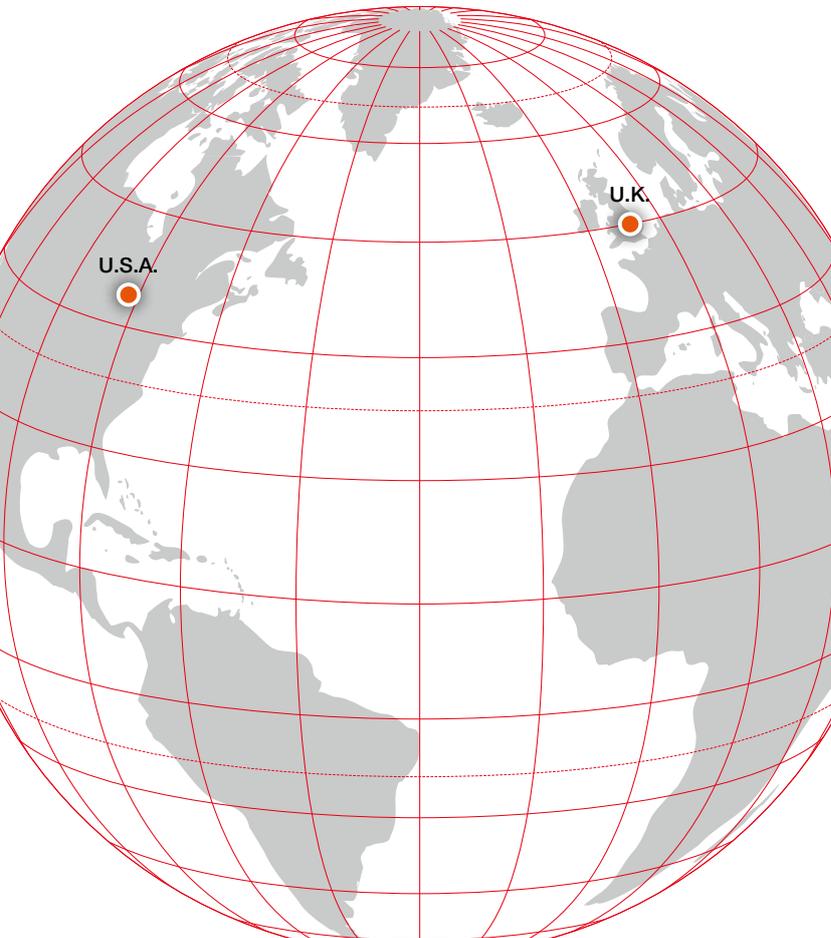
Countries and regions	Headquarters	Production Sites	Sales Sites	Representative Offices	R&D Centers
U.S.A.	1	7	9		1
Canada			2		
Mexico		2	1		
Brazil		1	5		1
Peru			1		
Argentina			1		
Sub-total	1	10	19		2

### Europe, Middle East and Africa

Countries and regions	Headquarters	Production Sites	Sales Sites	Representative Offices	R&D Centers
U.K.	1	4	2		1
Germany		1	2	2	1
France			1		
Italy			1		
Netherlands			1		
Spain			1		
Poland		4	3		1
Russia			1		
Turkey			1		
United Arab Emirates			1		
South Africa			1		
Sub-total	1	9	15	2	3

### Global

Global total	6	64	118	4	16
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 Reference data is available on our website.

[www.nsk.com](http://www.nsk.com) → Company →

Global Network

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# Recognition by Outside Agencies

Over and above their financial performance, companies that merit high evaluations for their environmental and social contributions are increasingly being recognized for their promise of long-term sustainable growth. These companies are also attracting interest from a socially responsible investment (SRI) perspective while forging an increasingly important presence among a wide range of institutional investors. Acknowledged for its integrity, NSK has been included in the following internationally recognized SRI/ESG indices as of September 2019.



- **Selected for inclusion in the Dow Jones Sustainability Indices' (DJSI) Asia Pacific Index**

NSK has been selected for inclusion in the Asia Pacific Index that covers the Asia-Pacific region of the Dow Jones Sustainability Indices (DJSI), which is highly regarded as a global stock price index for socially responsible investment (SRI). The DJSI is rated based on economic, environmental, and social contribution.

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



- **Selected as a component of the FTSE4Good Index and the FTSE Blossom Japan Index**

NSK has been selected as a component of the FTSE4Good Index, a global index for socially responsible investment. It has also been included in the FTSE Blossom Japan Index, which since 2017 selects companies that have shown excellence in dealing with environmental, social, and governance (ESG) issues for three consecutive years.

<https://www.ftserussell.com/products/indices/ftse4good>

<https://www.ftserussell.com/products/indices/blossom-japan>



- **Selected as a component of the Euronext Vigeo Eiris Index – World 120**

NSK has been included in the Euronext Vigeo Eiris Index – World 120, which highlights companies that have excellent environmental, social, and corporate governance records. NYSE Euronext, the world's largest securities trading group, and Vigeo Eiris, a European company that evaluates the performance of socially responsible companies, evaluate and select the top 120 companies.

<http://vigeo-eiris.com/>



- **Selected as "Prime" by ISS-oekom research**

NSK has been rated "Prime" by ISS-oekom, an ESG evaluation organization. ISS-oekom evaluates corporate social responsibility initiatives based on evaluation items selected in the "environment" and "society" categories.

<https://www.issgovernance.com/esg/ratings/corporate-rating/>



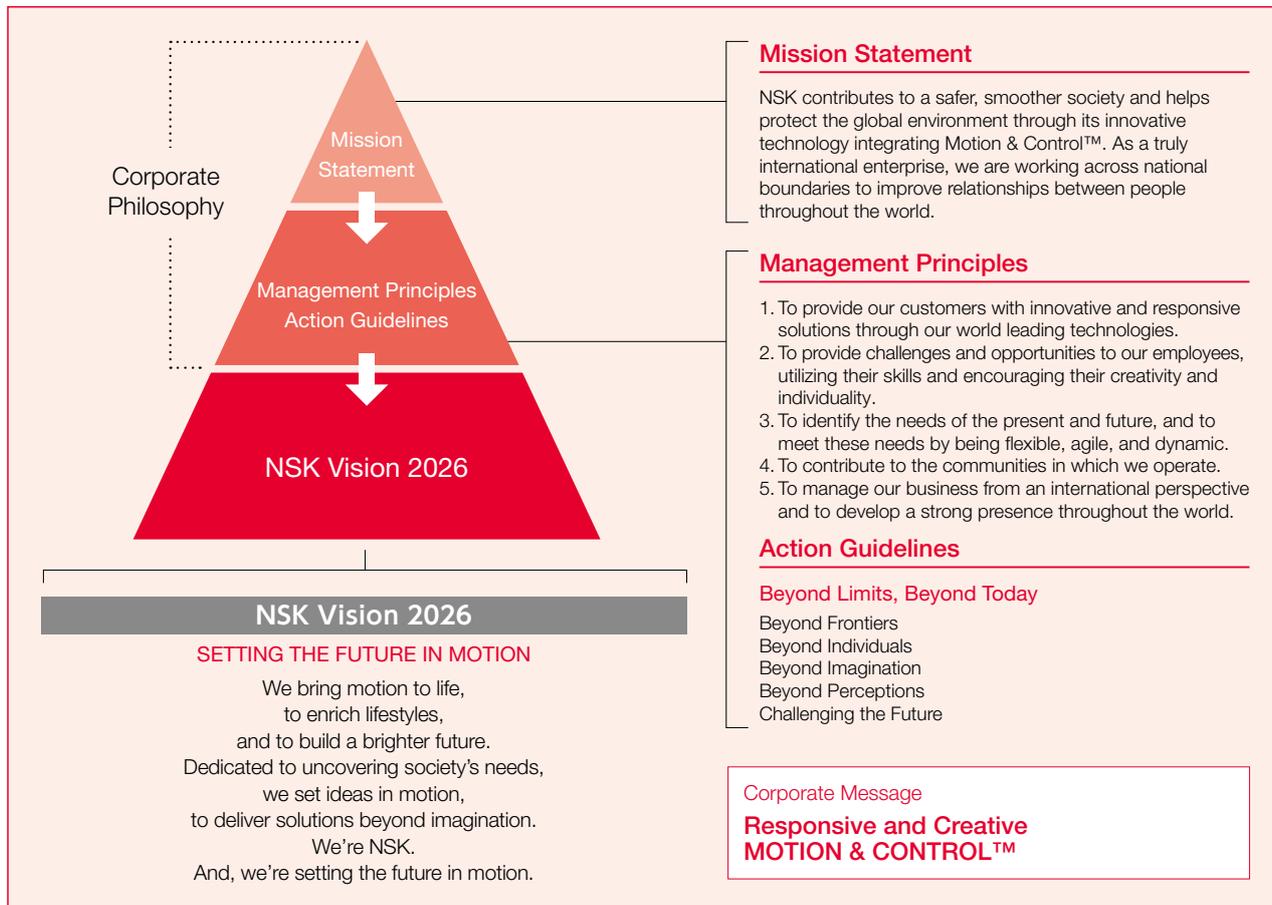
- **Selected as a member of SNAM Sustainability Index**

NSK has been selected as a member of the SNAM Sustainability Index established by Sampo Japan Nipponkoa Asset Management Co., Ltd.

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

# NSK Corporate Philosophy and NSK Vision 2026

The NSK Corporate Philosophy is comprised of four parts—the Mission Statement, Management Principles, Corporate Message, and Action Guidelines. It articulates the mindset all NSK executives and employees strive to live up to and their guiding principles for action. Moreover, NSK Vision 2026, formulated to mark the 100th anniversary of the Company's founding, expresses the vision that we aspire to achieve over the medium to long term, with 2026 as the target year. The NSK Group is committed to achieving further growth based on the NSK Corporate Philosophy and NSK Vision 2026.



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### Instilling Our Corporate Philosophy and Vision

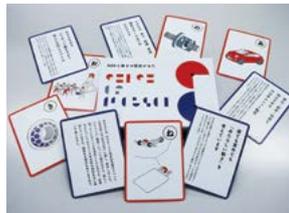
NSK has adopted a variety of initiatives to increase employees' understanding of the Corporate Philosophy and NSK Vision 2026, and to ensure that these values are reflected during the course of their duties.

In Japan, we are advancing Vision initiatives focusing on mid-career employees who will make up the core leadership of the company by 2026. This initiative involves setting up opportunities for employees to freely interact across organizational boundaries in order to empower individuals and organizations to take new approaches. Workshops are also held by managers, allowing each workplace to establish opportunities for dialogue and creativity in order to help realize our vision for 2026.

NSK *Karuta* (card game) and jackets for the leaders of vision initiatives were also created in order to drive further progress toward realizing our vision.



Regional Vision Promotion Leader Meeting



NSK *Karuta* (card game)

### "SENSE OF MOTION"—Future Forum 3

As part of the NSK Vision 2026 Project, NSK launched the "SENSE OF MOTION"—Future Forum in fiscal 2016. The Future Forum seeks to build a platform to support, nurture, and connect the creators and innovators whose new ideas will shape the society of the future.

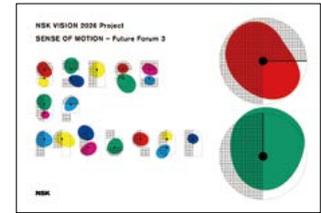
The theme for Future Forum 3 in 2018 is "New Motion, Shaped by the Indeterminate." With the unclear trajectory of modern society, the participants considered ways to confront uncertainty and find new approaches.

The Forum featured a keynote lecture, roundtable discussion, and a chance to network with speakers who are pioneering new horizons in the fields of science, technology and manufacturing, and the arts. It was attended by 227 people from inside and outside the Company.

These forums will be held annually through 2026.



President Uchiyama speaks at Future Forum 3



"SENSE OF MOTION" logo

### Idea Dojo Project

NSK established the Idea Dojo Project as a means of bringing the innovative ideas of employees to life. The project solicits ideas from within the Company regardless of area or field, and the Company supports selected ideas for application to concrete projects. In fiscal 2018, concepts for an electric-assist wheelchair using NSK's electric power steering technology and a face massage roller that incorporates tribology technology were selected and worked on with the aim of creating new innovations.

This project will continue until 2026, along with the "SENSE OF MOTION"—Future Forum.



Testing an electric-assist wheelchair



NSK face massage roller (prototype)

### Global Vision 2026 Committee

The leaders of our global vision teams from the Americas, Europe, ASEAN, China, South Korea, and India gather together to report on, share, and discuss measures to promote the dissemination of the Vision in each region every six months. Region-specific measures are shared, and participants engage in lively discussions while referring to the activities in their countries. This meeting is usually held in Japan, but in September 2019 it was held in Shanghai, China. The participants got a real feel for the Chinese vision measures, and this helped to further stimulate new approaches on a global scale. The meeting also produced a sense of significant progress, including discussions about the global expansion of Innovation Station in the Americas. Going forward, we hope to hold the meetings in various other regions as well.



Global Vision 2026 Committee



# CSR 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 NSK VISION 2026 on the occasion of its 100th anniversary. Moreover, the Sixth Mid-Term Management Plan 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 NSK's seven key goals based on this approach.

### Future Vision



### Societal Issues

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



### 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.



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## 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.	 	Number of new products and services, sales of infrastructure-related products, etc.	
2	We will contribute to climate change countermeasures by reducing the impact of our business activities on the environment.	  	Reduction rate of CO <sub>2</sub> emissions, total waste volume, recycling rate, water usage, etc.	
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.	    	Number of environmentally friendly products developed, CO <sub>2</sub> emissions reduced by end user use of NSK products, etc.	
4	We will form richly diverse organizations where both employee motivation and value creation are fulfilled.		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.			

## Formation of an In-house SDGs Project Team and Consideration of Company-wide Initiatives

In May 2019, NSK announced its seven material issues on the SDGs and an Initiative Declaration. It also formed a cross-cutting project team consisting of members from business division headquarters, R&D, CSR, environment, and other departments, in order to establish more concrete targets and KPIs. The members, gathered from these different departments, are employees who are highly aware of social issues and who are expected to play central roles in our activities aimed at 2030. They are currently engaged in vigorous discussions. The project team will propose plans that will enable NSK to balance contribution to the SDGs with innovation through business.



Discussion in the SDGs in-house project team

## Initiatives to Raise Employee Awareness

Alongside discussions within the SDGs in-house project team, the NSK Group takes steps to increase awareness of the SDGs across the Group. As one such measure, we have launched a special SDGs page on our company intranet where we explain each of the SDGs, including the background to their adoption, and introduce examples of advanced initiatives, in order to convey a clear understanding of the SDGs to employees. We will continue education activities so that all NSK employees can take action with awareness of how they can help to resolve social issues.

## CSR/ESG Management Execution System

At the NSK Group, departments set up for various functions such as compliance, quality assurance, occupational safety and health, and the environment are working every day to improve the effectiveness of their activities. Further, to deliberate and make decisions on the policies of the entire Group, verify and review the progress of initiatives, and share information across departments, we have established various committees, with the President and officers as members.

- Compliance Committee
- Safety and Fire-Prevention Enhancement Committee
- NSK Quality Committee
- Global Environment Protection Committee

The NSK Group considers it important to select issues to address and to set policies and attainment targets by taking into consideration such matters as regulatory requirements, the expectations and needs of stakeholders, potential risks and opportunities, and relevance to the NSK Group's business endeavors. We work through the PDCA cycle, setting Mid-Term Management Plan targets, including for environmental (E) and social (S) activities as well as for R&D (see p. 34), and monitoring management indicators for assessing progress. The importance of activities as recognized by NSK is explained in the "NSK's Approach" part of each section.

Initiatives		
Environment	<b>Environmental Management</b> P.72 ●Maximize the environmental contribution through products ●Minimize the environmental impact from business activities	Creating Environmentally Friendly Products P.80
		Global Warming Countermeasures (Energy Conservation Activities) P.83
		Resource Conservation P.90
		Recycling Measures P.90
		Reducing Use of Environmentally Harmful Substances P.94
		Biodiversity Conservation P.97
Social	<b>Occupational Health and Safety Management</b> P.68 Create safe, secure, and comfortable workplaces where safety is the first and foremost priority	Preventing major accidents
		Increasing safety awareness
		Prevention of recurrent accidents
	<b>Quality Management</b> P.41 Enhance quality in cooperation with customers and suppliers	Promoting NSK Product Development System (NPDS) activities
		Promoting NSK Quality No. 1 (NQ1) Program activities with the aim of stable production with zero defects
		Developing human resources to build a stronger foundation for quality creation
	<b>Supply Chain Management</b> P.49 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
	<b>Human Resource Management</b> P.56 Create a fair workplace that empowers the individual	Leveraging a diverse workforce
		Providing opportunities for growth
		Building more engaging workplaces
<b>Compliance</b> P.25 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 the compliance system	
	Strengthening education and awareness raising activities	
	Strengthening monitoring	
Governance	<b>Corporate Governance</b> P.19 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



## Message from the President

# Strengthening ESG management to promote sustainable social and corporate growth

Toshihiro Uchiyama  
President and CEO

## New Mid-Term Management Plan Launched

In April 2019, we launched NSK's Sixth Mid-Term Management Plan. In formulating the new Mid-Term Management Plan, we maintained the usual three-year business plan framework, setting goals for the period from fiscal 2019 to fiscal 2021, but we also kept our sights set on what it will take to achieve the NSK Vision 2026—Setting the Future in Motion.

In today's international community, the course of rapid globalization as we have all come to know it is undergoing dramatic change. With the "America First" policy in the United States, the intensification of trade frictions with China, and the United Kingdom's movement toward Brexit, the environment facing business today is in drastic flux and becoming ever more complex. On top of all this, environmental issues such as extreme weather events and ocean plastic pollution are in the news almost every day. The demand for prompt solutions from the global public has never been stronger.

Meanwhile, on a technical level, the evolution of IoT<sup>\*1</sup>, AI, and robotics is expected to bring previously unimagined change to the world. More specifically, observers predict that technological innovations in the domain called CASE<sup>\*2</sup> will drive transformation among automakers, changing them from manufacturing companies into mobility service providers. The parts needed for the automobiles of this rapidly approaching age will very likely be different than today's. In the area of industrial machinery, meanwhile, automation and manpower reduction will proceed fast and far, bringing increased demand for services such as facilities monitoring and assessment over the maintenance period via the Internet. Needless to say, the skills required of workers and the ways they work will also be changing. At NSK, we are keenly aware of the need to accurately project what will occur in these sweeping trends, decade by decade. Without this kind of clear vision, we would risk mismatches in both corporate policy and business strategy.

A key focus NSK set for 2026 is to establish a corporate foundation for sustainable growth. Accordingly, we are seeking to provide value through the evolution of MOTION & CONTROL™ by addressing three key management priorities: ESG management; business

<sup>\*1</sup> IoT (Internet of Things): A paradigm for creating new value by gathering and analyzing data through the Internet from sensors and other devices embedded in various things such as motor vehicles, home appliances, industrial equipment and public infrastructure. IoT can lead to technological innovation, increased efficiency of machine control in plants, advertising according to individual tastes, fine tuning of power supply, and caring for senior citizens through home appliances.

<sup>\*2</sup> CASE: CASE is an acronym for Connected (as in connected to a network), Autonomous (as in autonomous driving), Shared and Electric. These are key concepts indicating the direction of change in automotive technology.

growth and profitability; and utilization of robust managerial resources. On that basis, under our Sixth Mid-Term Management Plan, we will follow through on “Challenging Innovation” and “Operational Excellence,” which were core initiatives under the Fifth Mid-Term Management Plan. We will also move to achieve “new initiatives targeting growth,” to “enhance managerial resources,” and to “contribute to the environment and society” in order to strengthen our business infrastructure in preparation for the next phase of growth.

Our aim is not simply to pursue sustainable growth itself, but rather to build a corporate culture and corporate organization capable of sustaining growth more efficiently—with less environmental impact and more positive influence on society, employees and suppliers. Put another way, we will reinforce our core values of safety, quality, compliance, and environment, and we will reinforce and make the most of our managerial resources, including our people, technical capabilities, organizational structure, and the information that flows within this structure.

## ESG Management at NSK

The SDGs—international goals for 2030 adopted at the UN—gained traction quickly in the global community. Initiatives to address these goals have spread widely, taken up by nations, communities, companies, citizens' groups, and even individuals. At NSK, we have decided to incorporate the SDGs into our mid-term management plans as a way of clarifying how we deliver solutions to social issues as we seek to achieve our business goals. We have made clear in the NSK Initiative Declaration that, in line with our Mission Statement, we will work to resolve social issues with sincere and responsible business practices designed to achieve innovation in products and services, all in order to help build a sustainable world. While upholding the spirit of all 17 SDGs, we have selected seven key SDGs that are particularly relevant to our business. We will continue to take concrete specific action on these key issues, including providing products that contribute to environmental preservation. We will steadily carry out initiatives while assessing our progress and results.

### 1. Initiatives for the Environment (E)

NSK has made “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 our “Four Core Technologies plus One<sup>\*3</sup>.” On the other hand, since the Paris Agreement in 2015, more rules for reducing CO<sub>2</sub> emissions have been established, increasing demand for renewable energy and fueling fierce competition in the development of environmentally friendly machinery and facilities. With the SDGs, achievement of both economic growth and global environmental conservation is positioned as a key issue.

NSK set the environment as a core value in addition to safety, quality, and compliance in fiscal 2018. To date, typically we have assessed the environmental contribution of our newly developed products by comparing them with our conventional products. From now on, however, we will also include the criteria of CO<sub>2</sub> reduction in customer applications, such as contribution to the spread of wind turbines and the electrification of automobiles. To encourage more customers to use a greater share of environmentally friendly products, we will work hard to maximize our contribution to the reduction of CO<sub>2</sub> emissions, not only in development, but also in production and sales. In addition, we will also implement concrete measures to reduce the amount of CO<sub>2</sub> emitted by our manufacturing operations. To date, we have focused on reducing the emissions per production unit, but we have now also declared that we will work to reduce the absolute amount, and our goal is to reduce current emissions by 60% by 2050. This goal will guide us as we strive to minimize CO<sub>2</sub> emissions from NSK's business activities.

In addition to the advancement of technological development geared toward a low-carbon society, another factor that is heightening the importance of environmental measures is the likelihood that the risk of disasters caused by extreme weather will have an increasing impact on corporate performance. Of course, if we focus on contributing value to society, we will incur costs in various areas. We understand that it is necessary to rate their priority from a long-term perspective and to proceed with a sense of urgency, from the top down. This is why I took on the position of chair of our Global Environment Protection Committee in April 2019. I will personally make sure that we incorporate an environmental perspective into our management, minimize risk, and position NSK to take the fullest advantage of every business opportunity.

### 2. Initiatives for Society (S)

Initiatives for people are also a key issue. We recognize that the SDGs are based on preserving people's dignity and respecting their human rights. The SDGs target the holistic development of society, while valuing people, with the aim of leaving no-one behind.

The source of NSK's competitiveness is our people, who create our advanced technology and world-class products. 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 assess how fully they embrace Vision 2026. The results of the survey are not only compared with previous years, but also between organizations and job types, as well

<sup>\*3</sup> Four Core Technologies plus One: This refers to the four core technologies that are NSK's technical foundation—tribology, materials, numerical simulation, and mechatronics—plus manufacturing engineering, which gives shape to products. See “Research and Development” on p. 34 for details.

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 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 mid-term management plan 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. Safety measures for equipment are of course important. At the same time, we focus on convincing all employees of the importance of safety so that they embrace safety practices as their own.

We are also promoting diversity and inclusion. We operate a global business. Our 31,000-plus employees working around the world come from many different backgrounds, with diversity of gender, age, nationality, culture, lifestyle, and values. We believe that respecting the creativity and individuality of our employees creates new perspectives, ways of thinking, and ideas, leading to greater competitiveness. Empowering women in particular is one of our current management issues. We have set a KPI for the percentage of female managers and candidates. We are continuing to implement training and other measures to achieve this, and we do not adjust our targets to make it easier to meet them. It is also critical that we provide support for balancing work with childcare and nursing care. Given the average age of our workforce, we see that family care is an issue that cannot be overlooked. We strive to provide the needed support programs so that employees can continue working while providing nursing care. Furthermore, we live in an age where acceptance of members of the LGBT (SOGI)<sup>\*4</sup> community at workplaces in many countries 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 all the diverse members of society in Japan, too. We will tackle these issues one step at a time, such as reaching out to ensure that no one is disadvantaged by not being aware of welfare systems and workplace facilities. To better support persons with disabilities, we are pursuing innovation to provide more comfortable workplaces.

Quality is an essential foundation for contributing to a safer, smoother society, in line with our corporate philosophy. Accordingly, we are committed to quality in everything—not only products, but also the information provided outside NSK, services, and even the tasks carried out by individual employees inside the Company.

### 3. Initiatives for Governance (G)

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. Going forward, we will have to reconsider issues such as the ratio of outside directors to internal directors. What is even more important than the format, however, 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. When this takes hold, it will help to facilitate management driven by the perspectives of stakeholders, especially shareholders and investors, rather than inward-looking discussions based on ways of thinking ingrained in our own company or industry.

## Toward Sustainable Development

The world is awaiting solutions to a whole host of social issues, including environmental problems, human rights issues, inequality, and safety. NSK is determined to help resolve social issues by setting the future in motion, all the while caring deeply about stakeholders' points of view and deepening our collaboration with all of them. In that endeavor, we will look beyond preconceived notions, aspiring to keep growing as people and as a company.

Going forward, we will earnestly and steadily work to achieve our goals, positioning sustainable social development and NSK's sustainable growth on the same vector. We thank you for your continuing support.

<sup>\*4</sup> LGBT (SOGI): LGBT is an acronym for Lesbian, Gay, Bisexual, and Transgender. In the broad sense, the term refers to diverse expressions of sexuality and gender. SOGI is an acronym for Sexual Orientation and Gender Identity.

- The NSK Group's Business and Company Overview ■ Recognition by Outside Agencies ■ NSK Corporate Philosophy and NSK Vision 2026 ■ CSR Management
- Message from the President ■ **Fiscal 2018 CSR Activity Targets and Performance** ■ Sixth Mid-Term Management Plan Targets (ESG)

## Fiscal 2018 CSR Activity Targets and Performance

Category		FY2018 Targets
<b>Governance (Management Structure Supporting Sustainable Growth)</b>		
Corporate Governance	Strengthening of corporate governance	● Respond actively to social needs and requests from stakeholders
	Development of group crisis management systems	● Continue to instill management cycles
Risk Management	Disaster preparedness	● Continue to prepare for disasters such as wind and flood damage, and new infectious diseases ● Implement measures to minimize damage from severe disaster risks
	Measures against procurement risk	● Continue to develop replacement parts ● Continue to visualize global supply chain data and continue improving accuracy ● Continue conducting drills to confirm the safety of suppliers ● Instruct suppliers on BCP implementation by supplier BCP inspectors
		Strengthening of compliance
Compliance	Promotion of CSR procurement	● Continue to improve activities using the "NSK Supplier CSR Guidelines" and the "Self-Assessment Check-Sheets"
	Addressing conflict mineral issues	● Continue to conduct and respond to conflict minerals surveys (supply chain surveys, response to customer's surveys)
<b>Quality Assurance (Creating Quality that Can Be Trusted)</b>		
Improvement in Quality		● Raise the level of efforts to prevent recurrence of problems by investigating their root causes ● Ensure quality from the point of view of the market and customers ● Foresee and ameliorate latent quality risks based on the 5 GEN-Principle ● Conduct voluntary inspections/audits that go back to basic rules ● Foster high-quality ethics
<b>Human Resource Management (Creating a Dynamic Work Environment)</b>		
Maximizing Individual Talent in a Fair and Dynamic Work Environment	Leveraging a diverse workforce	● Continue to support women's careers
	Building more engaging workplaces	● Strengthen health management (Japan) ● Enhance support measures for parenting and care giving (Japan)
	Providing opportunities for growth	● Accelerate leadership development
	Occupational health and safety management	● Implement initiatives aimed at achieving zero major accidents
<b>Environment (Activities for Global Environment Protection [Environmental Action Plan])</b>		
Environmental Management	Acquisition and maintaining of environmental management system certification	● Maintain ISO 14001 certification at all subject sites (respond to FY2015 revisions) ● Obtain ISO 14001 certification within three years of starting full-scale operations at a site
	Measures for complying with environmental laws and regulations and coping with environmental risks	● Zero instances in which emissions standards are exceeded ● Zero instances of oil and other leakage-related environmental accidents
<b>Creating Environmentally Friendly Products</b>		
Global Warming Countermeasures	Reduction of CO <sub>2</sub> emissions per production unit (saving energy)	● In Japan (Manufacturing): Reduce CO <sub>2</sub> emissions per production unit by 11.1% (base year: FY2011) ● Outside Japan (Manufacturing): Reduce CO <sub>2</sub> emissions per production unit by 35.2% (base year: FY2011)
	Reduction of CO <sub>2</sub> emissions	● In Japan (Manufacturing): Reduce CO <sub>2</sub> emissions to no more than FY2011 level
Effective Utilization of Resources	Distribution	● In Japan: Reduce CO <sub>2</sub> emissions per transportation volume by 12.2% (base year: FY2011)
	Development/Design/Manufacturing	● In Japan: Continue to reduce waste of resources by changing machining processes ● In Japan: Maintain zero emissions ● In Japan: Maintain a recycling rate of 100%
		Manufacturing
	Distribution	● In Japan: Reduce packaging material waste per production unit by 20.7% (base year: FY2007)
Proper Management of Environmentally Harmful Substances	Development/Design	● Establish a development and design management system that ensures environmentally harmful substances are not contained in products
	Procurement	● Conduct on-site audits at key suppliers ● Investigate suppliers based on the List of NSK Environmentally Harmful Substances
	Manufacturing	● In Japan: Reduce handling of PRTR-designated substances per production unit by 26.6% from FY2011
Biodiversity Conservation		● Continue to develop initiatives for preserving biodiversity through social contribution activities
<b>Working with Local Communities (Social Contributions Targeting Community Development)</b>		
Social Contribution Activities		● Take measures to invigorate social contributions

\* For targets by FY2018, please see the Fifth Mid-Term Management Plan Targets (FY2016-2018) in each chapter. \* Some activity items and fiscal 2018 targets have been revised.

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● Achieved ▲ Partially achieved ✕ Not achieved

Performance in FY2018		Evaluation	Page
<ul style="list-style-type: none"> <li>● Responded to Corporate Governance Code revised on June 1, 2018</li> <li>● Engaged in dialogues with institutional investors about ESG management, held plant tours for shareholders, and held business results briefings for employees</li> </ul>	●	pp. 19-24	
<ul style="list-style-type: none"> <li>● Further promoted PDCA management cycles in each site</li> <li>● Improved the structure of regional headquarters outside Japan</li> </ul>	●	pp. 31-33	
<ul style="list-style-type: none"> <li>● Started establishing guidelines for responding to infectious diseases</li> <li>● Selected model plants and worked on a BCP</li> </ul>	●		
<ul style="list-style-type: none"> <li>● Developed replacement parts, and found and trained new suppliers</li> <li>● Identified and managed the risk on NSK's business activities posed by each supplier</li> <li>● Conducted disaster response drills using a Supplier Safety Confirmation System</li> <li>● BCP inspectors visited 33 suppliers and checked the status of BCP initiatives</li> </ul>	●	pp. 49-54	
<ul style="list-style-type: none"> <li>● Viewed a message from the president at sites worldwide on NSK Corporate Philosophy Day (July 26) and checked compliance-focused policies</li> <li>● Held 207 competition law training sessions, mainly for sales divisions, which were attended by 2,960 people worldwide</li> <li>● Conducted internal audits of competition law compliance at 42 sites</li> <li>● Revised the Compliance Guidebook and distributed it to officers and employees</li> <li>● Conducted group training and e-learning on compliance</li> <li>● Disseminated information by issuing compliance newsletters</li> <li>● Solicited compliance slogans from within the company</li> <li>● Continued to inform people of the compliance hotline using posters and cards</li> <li>● Promptly investigated 127 reports and took corrective steps where necessary</li> </ul>	●	pp. 25-30	
<ul style="list-style-type: none"> <li>● Held procurement policy briefing sessions and requested initiatives to implement CSR activities be strengthened</li> <li>● Conducted self-assessments using Self-Assessment Check-Sheets in Japan and China, and fed the results back to each supplier</li> <li>● Conducted conflict minerals surveys on parts and steel suppliers</li> <li>● Responded appropriately to all survey requests from customers</li> </ul>	●	pp. 49-54	
<ul style="list-style-type: none"> <li>● Improved product quality focusing on 4Ms (manpower, machinery, materials, and methods)</li> <li>● Included content on "quality improvement based on recurrence prevention" in all quality training</li> <li>● Promoted gathering information, analysis, and feedback on market trends</li> <li>● Implemented measures to enhance the quality of design reviews</li> <li>● Implemented measures to prevent human error and measures for stable operation</li> <li>● Made efforts to improve design quality, manufacturing quality, and supplier quality</li> <li>● Trained DR experts and internal auditors</li> <li>● Continued to conduct quality ethics education introduced in 2016</li> </ul>	●	pp. 41-47	
<ul style="list-style-type: none"> <li>● Continued to support the careers of female manager candidates</li> <li>● Conducted career training sessions for women in managerial track positions</li> <li>● Conducted working group activities led by women employees in sales divisions</li> <li>● Started next generation development activities led by women employees in technology divisions</li> <li>● Established NSK No Smoking Days and informed employees</li> <li>● Produced and distributed the NSK Health and Wellness Initiative 2018 handbook</li> </ul>	●		
<ul style="list-style-type: none"> <li>● Published three kinds of guidebooks on work-life balance support (one for working mothers, another for caregivers, and a third for managers of working parents)</li> <li>● Implemented a flextime system and childcare service for parents of small children with shifts on national holidays</li> <li>● Conducted seminars to support employees returning to work from childcare leave and seminars for caregivers to support work-life balance</li> <li>● Sent employees to the Japan Management College, the Global Management College, and external educational institutions</li> <li>● Strengthened measures for high-risk facilities and procedures and reinforced safety management of external contractors, and started to encourage employees to "Look Across" as a measure to increase safety awareness</li> </ul>	●	pp. 56-67	
<ul style="list-style-type: none"> <li>● Maintained ISO 14001 certification at all subject sites</li> <li>● All subject sites complied with ISO 14001: 2015</li> </ul>	●	pp. 72-79	
<ul style="list-style-type: none"> <li>● Not applicable</li> <li>● No serious legal violations but there were three instances of exceeding wastewater discharge standards</li> <li>● Zero instances of oil and other leakage-related environmental accidents</li> </ul>	✕		
<ul style="list-style-type: none"> <li>● Created two environmentally friendly products</li> <li>● Reduced by 13.8%</li> <li>● Reduced by 21.7%</li> <li>● Increased by 1.9 tons</li> <li>● Reduced by 12.5%</li> <li>● Reduced waste of resources as planned</li> </ul>	●	pp. 80-82	
<ul style="list-style-type: none"> <li>● Maintained zero emissions</li> <li>● Maintained recycling rate at 100%</li> <li>● Recycling rate was 96.9%</li> <li>● Reduced by 29.2%</li> <li>● Reduced by 29.6%</li> <li>● Reduced by 34.0%</li> <li>● Reduced by 65.7%</li> </ul>	●	pp. 83-89	
<ul style="list-style-type: none"> <li>● Revised the List of NSK Environmentally Harmful Substances and strengthened their management</li> </ul>	●		
<ul style="list-style-type: none"> <li>● In Japan: Conducted audits at 38 suppliers</li> <li>● Outside Japan: Conducted audits at 13 suppliers</li> <li>● In Japan: Investigated 244 suppliers</li> <li>● Outside Japan: Investigated 237 suppliers</li> <li>● Reduced by 38.3%</li> </ul>	●	pp. 94-96	
<ul style="list-style-type: none"> <li>● Developed social contribution activities for preserving biodiversity</li> </ul>	●	pp. 97-99	
<ul style="list-style-type: none"> <li>● Promoted the sharing of activity information within the Company, but could not do so as planned</li> </ul>	▲	pp. 101-102	

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## Sixth Mid-Term Management Plan Targets (ESG)

Category	Sixth Mid-Term Management Plan Targets (Initiatives)
<b>Corporate Governance</b>	
Realizing a transparent, fair and timely decision-making system for sustainable growth and improvement in our corporate value over the mid- to long- term	<ul style="list-style-type: none"> <li>● Enhance the effectiveness of the Board of Directors</li> <li>● Strengthen Group governance</li> </ul>
<b>Compliance</b>	
Increasing trust from international society by adhering to laws and regulations, and by taking actions based on high ethical standards	<ul style="list-style-type: none"> <li>● Implement compliance education and awareness-raising activities</li> <li>● Strengthen auditing and monitoring of compliance risks</li> <li>● Support implementation of compliance programs outside Japan and strengthen monitoring</li> </ul>
<b>Disaster Preparedness</b>	
Development of group crisis management systems	<ul style="list-style-type: none"> <li>● Strengthen cooperation with regional headquarters outside Japan</li> <li>● Continue working on BCP by promoting management cycles and by further implementing measures to improve effectiveness</li> </ul>
Implementing measures against disaster risks	<ul style="list-style-type: none"> <li>● In Japan: Implement disaster mitigation measures against wind and flood damage</li> <li>● Outside Japan: Promote establishment of BCP against serious disaster risk</li> </ul>
<b>Research and Development</b>	
Meeting the needs of customers and society, and providing products that bring people joy	<ul style="list-style-type: none"> <li>● Strengthen development capabilities through enhancement of assessment and simulation technology</li> <li>● Utilize excellent expertise and technology from outside the Group</li> </ul>
<b>Quality Assurance</b>	
Quality that contributes to safety and security from the perspective of markets and customers	<ul style="list-style-type: none"> <li>● Verify performance within complete grasp of the level and conditions required by the market</li> <li>● Identify and review front-line 4Ms (manpower, machinery, materials and methods) quality risks: Review of good product conditions</li> <li>● Establish a global quality audit department to strengthen the quality auditing function (design, production, supplier)</li> <li>● Establish a department specialized in procurement quality: A specialized department that enhances quality monitoring and guidance support for suppliers</li> <li>● Raise the level of recurrence prevention through pursuit of root causes: Correcting problems in work processes through reflection</li> </ul>
<b>Supply Chain Management</b>	
Ensuring stable supply and making the most of supplier portfolios	<ul style="list-style-type: none"> <li>● Ensure supply flexibility underpinning growth</li> <li>● Increase effectiveness of supply chain BCP</li> <li>● Practice sustainable and responsible procurement</li> </ul>
<b>Human Resource Management</b>	
Promoting maximum engagement and creating people capable of supporting our next phase of growth	<ul style="list-style-type: none"> <li>● Build a global talent management system</li> <li>● Promote more diversity and inclusion</li> <li>● Support the career advancement of each and every employee</li> <li>● Revise human resources policies to capitalize on the abilities of a diverse workforce</li> <li>● Promote work style reform</li> <li>● Promote health and wellness</li> <li>● Support operational efficiency and better decision-making through ICT solutions</li> </ul>
Occupational Health and Safety Management	<ul style="list-style-type: none"> <li>● Prevent major accidents</li> <li>● Increase safety awareness</li> <li>● Prevent recurrent accidents</li> </ul>
<b>Environment</b>	
Environmental management	<ul style="list-style-type: none"> <li>● Maintain ISO 14001 certification at all subject sites (respond to FY2015 revisions)</li> <li>● Obtain ISO 14001 certification within three years of starting full-scale operations at a site</li> <li>● Zero instances in which emissions standards are exceeded</li> <li>● Zero instances of oil and other leakage-related environmental accidents</li> </ul>
Creating environmentally friendly products	<ul style="list-style-type: none"> <li>● Continue to create environmentally friendly products with a Neco score of 1.2 or higher</li> <li>● Two million tons or more of CO<sub>2</sub> emissions reduction at the stage of use of NSK's products</li> </ul>
Global warming countermeasures	<ul style="list-style-type: none"> <li>● Manufacturing, technology, offices: FY2021 CO<sub>2</sub> emissions: 7% reduction from FY2017</li> <li>● Distribution: FY2021 CO<sub>2</sub> emissions per transportation volume: 4% reduction from FY2017</li> </ul>
Effective utilization of resources	<ul style="list-style-type: none"> <li>● Development and design, manufacturing: Continue to reduce steel waste</li> <li>● Recycling rate of at least 99%</li> <li>● Waste per unit 4% reduction from FY2017</li> <li>● Water withdrawal per unit 4% reduction from FY2017</li> <li>● Distribution: <ul style="list-style-type: none"> <li>● In Japan: packaging material waste per unit 15% reduction from FY2017</li> </ul> </li> </ul>
Proper management of environmentally harmful substances	<ul style="list-style-type: none"> <li>● Development and design, procurement, manufacturing: Full response to 10 substances of EU RoHS2</li> <li>● Procurement: Obtain consent to its Green Procurement Standards <ul style="list-style-type: none"> <li>● In Japan: Maintain 99% or higher</li> <li>● Outside Japan: Obtain 99% or higher</li> </ul> </li> <li>● Response rate for the NSK Survey of Environmentally Harmful Substance Inclusion <ul style="list-style-type: none"> <li>● In Japan: Maintain 100%</li> <li>● Outside Japan: Obtain 100%</li> </ul> </li> <li>● In Japan: Handling of PRTR-designated substances per production unit 1% reduction year on year</li> </ul>
Biodiversity conservation	<ul style="list-style-type: none"> <li>● Continue educating employees on biodiversity</li> <li>● Continue to develop initiatives for preserving biodiversity through social contribution activities</li> </ul>



# Governance

## Management Structure Supporting Sustainable Growth

Any company worthy of the trust and expectations of society must exercise strong corporate governance. Strengthening governance systems and practicing sound, highly transparent management also serve to increase corporate value.

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# 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

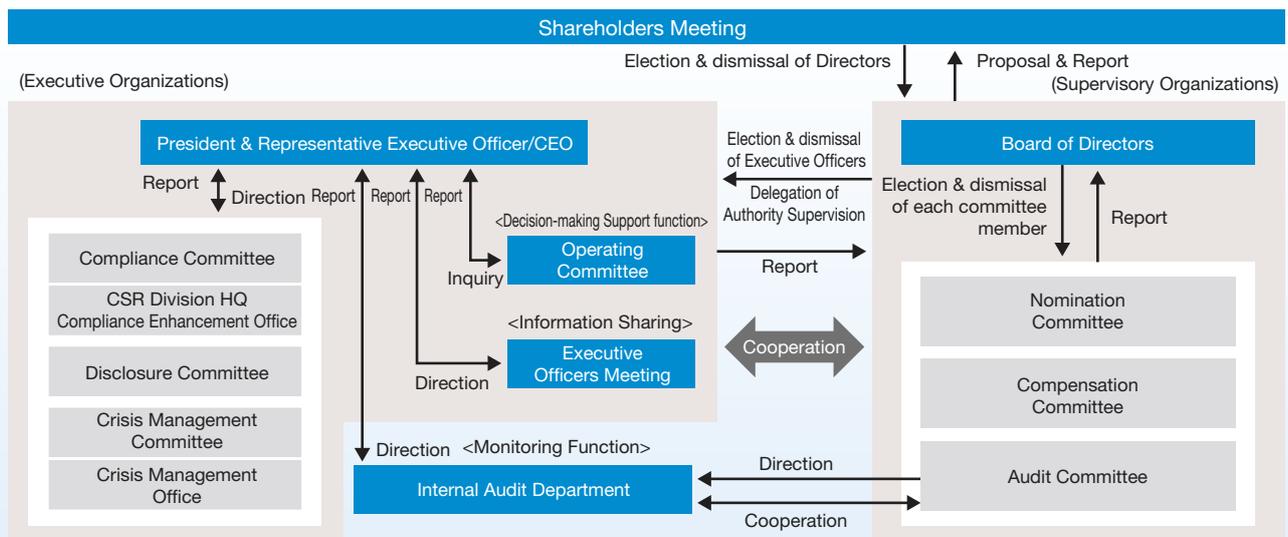
1. To increase the efficiency and agility of management by proactively delegating decision-making authority regarding the execution of operations from the Board of Directors to the Company's executive organizations.
2. To ensure that supervisory organizations have oversight of executive organizations 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



■ Corporate Governance   ■ Compliance   ■ Risk Management

■ Roles and Structure of Supervisory Organizations (As of August 2019)

Internal director (Man)   Outside director (Man)   Outside director (Woman)

Organizations	Board of Directors	Nomination Committee	Compensation Committee	Audit Committee
<b>Structure</b>	<p><b>12 members</b> (7 internal directors, 5 outside directors)</p> <ul style="list-style-type: none"> <li>At least one third of Board are outside directors</li> </ul>	<p><b>3 members</b> (2 outside directors, 1 internal director)</p> <ul style="list-style-type: none"> <li>Majority outside directors</li> <li>Chair : Outside director</li> </ul>	<p><b>3 members</b> (2 outside directors, 1 internal director)</p> <ul style="list-style-type: none"> <li>Majority outside directors</li> <li>Chair : Outside director</li> </ul>	<p><b>3 members</b> (2 outside directors, 1 internal director)</p> <ul style="list-style-type: none"> <li>Majority outside directors</li> <li>Chair : Outside director</li> </ul>
<b>Objectives and Authority</b>	<ul style="list-style-type: none"> <li>Passes resolutions related to basic management policies, etc. (including delegation of duties to executive officers)</li> <li>Supervises execution of duties by executive officers</li> </ul>	<ul style="list-style-type: none"> <li>Determines the content of proposals submitted to the Shareholders Meeting regarding the appointment or dismissal of directors</li> </ul>	<ul style="list-style-type: none"> <li>Determines policies on the compensation of directors and executive officers</li> <li>Determines the individual compensation provided to directors and executive officers, and other matters</li> </ul>	<ul style="list-style-type: none"> <li>Audits the duties of directors and executive officers</li> <li>Creates audit reports</li> <li>Determines the content of proposals related to appointment or dismissal of the accounting auditor, and other matters</li> </ul>
<b>Secretariat</b>	Corporate Planning Division Headquarters, Secretariat Office	Corporate Planning Division Headquarters, Human Resource Management Division Headquarters	Human Resource Management Division Headquarters	Internal Audit Department
<b>Number of times convened in FY2018</b>	10	7	8	14

■ Changes to NSK's Corporate Governance Systems

	1999~	2004~	2006~	2015~
<b>Form of Corporate Organization</b>	<p><b>1999</b></p> <ul style="list-style-type: none"> <li>Adopted an executive officer system</li> </ul>	<p><b>2004</b></p> <ul style="list-style-type: none"> <li>Transitioned to a Company with Committees System</li> </ul>	<p><b>2006</b></p> <ul style="list-style-type: none"> <li>Transitioned to a Company with Committees System</li> </ul>	<p><b>2015</b></p> <ul style="list-style-type: none"> <li>Transitioned to a Company with Three Committees System (Nomination, Audit and Compensation)</li> </ul>
<b>Committee</b>	<p><b>1999</b></p> <ul style="list-style-type: none"> <li>(Voluntary) Established a Compensation Committee</li> </ul> <p><b>2003</b></p> <ul style="list-style-type: none"> <li>(Voluntary) Established an Audit Committee</li> </ul>	<p><b>2004</b></p> <ul style="list-style-type: none"> <li>(Voluntary) Established a Nomination Committee</li> <li>Established Nomination, Compensation and Audit committees based on the Companies Act of Japan</li> </ul>		<p><b>2018</b></p> <ul style="list-style-type: none"> <li>Chairs of three committees all outside directors</li> </ul>
<b>Outside Director</b>	<p><b>1999</b></p> <ul style="list-style-type: none"> <li>One outside director</li> </ul> <p><b>2003</b></p> <ul style="list-style-type: none"> <li>Two outside directors</li> </ul>	<p><b>2004</b></p> <ul style="list-style-type: none"> <li>Three outside directors</li> </ul> <p><b>2005</b></p> <ul style="list-style-type: none"> <li>Four outside directors</li> </ul>	<p><b>2010</b></p> <ul style="list-style-type: none"> <li>Established criteria for the independence of NSK's outside directors</li> <li>Each of the Company's outside directors registered with the Tokyo Stock Exchange as an independent director</li> </ul>	<p><b>2018</b></p> <ul style="list-style-type: none"> <li>Five outside directors</li> </ul>
<b>Others</b>	<p><b>2002</b></p> <ul style="list-style-type: none"> <li>Established the Crisis Management Committee</li> </ul>	<p><b>2004</b></p> <ul style="list-style-type: none"> <li>Established the Internal Audit Office (current Internal Audit Department) to undertake auditing functions and monitor the operations of the Company</li> </ul> <p><b>2005</b></p> <ul style="list-style-type: none"> <li>Established the Information Disclosure Team (current Disclosure Committee)</li> </ul>	<p><b>2012</b></p> <ul style="list-style-type: none"> <li>Established the Compliance Committee</li> </ul> <p><b>2006</b></p> <ul style="list-style-type: none"> <li>Established the Internal Control Project Team (later merged into the current Internal Audit Department)</li> </ul>	

## 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.

## 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 requirements as follows:

- 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 our website. These criteria satisfy those of the Tokyo Stock Exchange, Inc.



Reference data is available on our website.

[www.nsk.com](http://www.nsk.com)→Company→Corporate Governance→

Independent Directors

### ■ 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 as Director	Attendance at Board of Directors and Committee Meetings in FY2018				Composition of Each Committee from June 2019		
		Board	Nomination	Compensation	Audit	Nomination	Compensation	Audit
Teruhiko Ikeda	June 2015	○ 100% (10/10)		● 100% (8/8)	○ 100% (10/10)		●	○
Hajime Bada	June 2018	○ 100% (7/7)	○ 100% (6/6)			●		
Akemi Mochizuki	July 2018	○ 100% (6/6)			○ 100% (10/10)			●
Toshio Iwamoto	June 2019	—	—	—	—		○	
Yoshitaka Fujita	June 2019	—	—	—	—	○		

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

2. 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.

## 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.

## Directors/Officers' Compensation

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

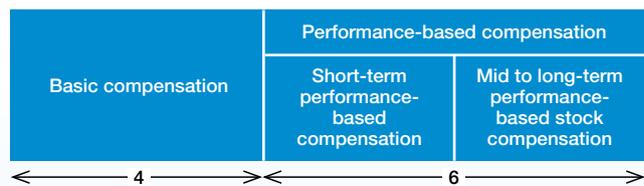
NSK has changed indicators for performance-based compensation (short-term performance-based compensation) for executive officers starting in March 2020 as well as changed the stock-based compensation system for executive officers to a mid- to long-term performance-based stock compensation system. However, 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/investors/library/pdf/nsk\\_report/ir201803e.pdf](https://www.nsk.com/investors/library/pdf/nsk_report/ir201803e.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.

Executive officer compensation package



### (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.

- 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.
  - **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, 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 CO<sub>2</sub> 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.
  - **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 a fixed 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.

Classification	Compensation, etc., Total (¥Millions)	Basic Compensation		Performance-Based Compensation		Stock Compensation	
		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.

Name	Consolidated Compensation, etc., Total (¥Millions)	Title	Company	Amount for Each Item of Consolidated Compensation, etc.			
				Basic Compensation (¥Millions)	Performance-Based Compensation (¥Millions)	Stock Compensation (¥Millions)	Retirement Benefit (¥Millions)
Toshihiro Uchiyama	153	Director	NSK	7	—	—	—
		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

## 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 our website for NSK's corporate governance reports in English.



Reference data is available on our website.

[www.nsk.com](http://www.nsk.com) → Company → Corporate Governance → Corporate Governance Report

# Compliance

## NSK's Approach

### Acting with the Highest Ethical Standards and Striving to Maintain the Trust of Society

The NSK Group has formulated the NSK Code of Corporate Ethics and clarified its Corporate Ethics Policies and Code of Conduct Concerning Compliance with the aim of outlining universal principles that should be followed to ensure all of the Company's activities are conducted in accordance with the NSK Corporate Philosophy. The Group 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.

To that end, the Group has put in place policies and a management system related to compliance, constantly enhances its education and training for officers and employees, conducts internal audits, and has established the Compliance Hotline. It also strives to fulfill its corporate social responsibility through initiatives such as preventing information leaks and addressing issues related to conflict minerals.

## NSK Code of Corporate Ethics (Established: February 2002, Revised: June 2017 by a Resolution of the Board of Directors)

The NSK Code of Corporate Ethics sets out the universal approach for the Company and its officers and employees as they engage in a range of corporate activities, in accordance with the NSK Group vision and philosophy.

### NSK Corporate Ethics Policies

1. Personnel will strive to ensure that NSK Ltd. and its affiliates continue to prosper as a company that acts in a sincere and fair manner, and which is respected and trusted in international and regional society.
2. Personnel will comply with all laws related to the Company's business activities. Moreover, personnel will act in a highly ethical manner in order to ensure that NSK fulfills its responsibility as a corporate citizen.

### Code of Conduct Concerning Compliance (Excerpts)

- |   |   |
|---|---|
| 1. Compliance with Competition Laws   | 9. Protection of Corporate Assets                                   |
| 2. Compliance with Import- and Export-Related Laws                            | 10. Handling of Confidential and Personal Information               |
| 3. Prohibition of Commercial Bribery (handling of entertainment, gifts, etc.) | 11. Relations with Customers  |
| 4. Transactions with Public Institutions and Handling of Political Donations  | 12. Relations with Suppliers  |
| 5. Accurate Recording and Processing  | 13. Prohibition of Acts Discrediting Competitors                    |
| 6. Prohibition of Insider Trading   | 14. Prohibition of Discrimination, Cultivation of a Sound Workplace |
| 7. Handling of Intellectual Property Rights                                   | 15. Respect of Fundamental Rights at Work                           |
| 8. Prohibition of Illegal and Criminal Conduct                                | 16. Global Environmental Protection                                 |

\* Applies to NSK and its consolidated subsidiaries. Employees who violate the NSK Code of Corporate Ethics are subject to disciplinary action in accordance with the rules of employment.



Reference data is available on our website.

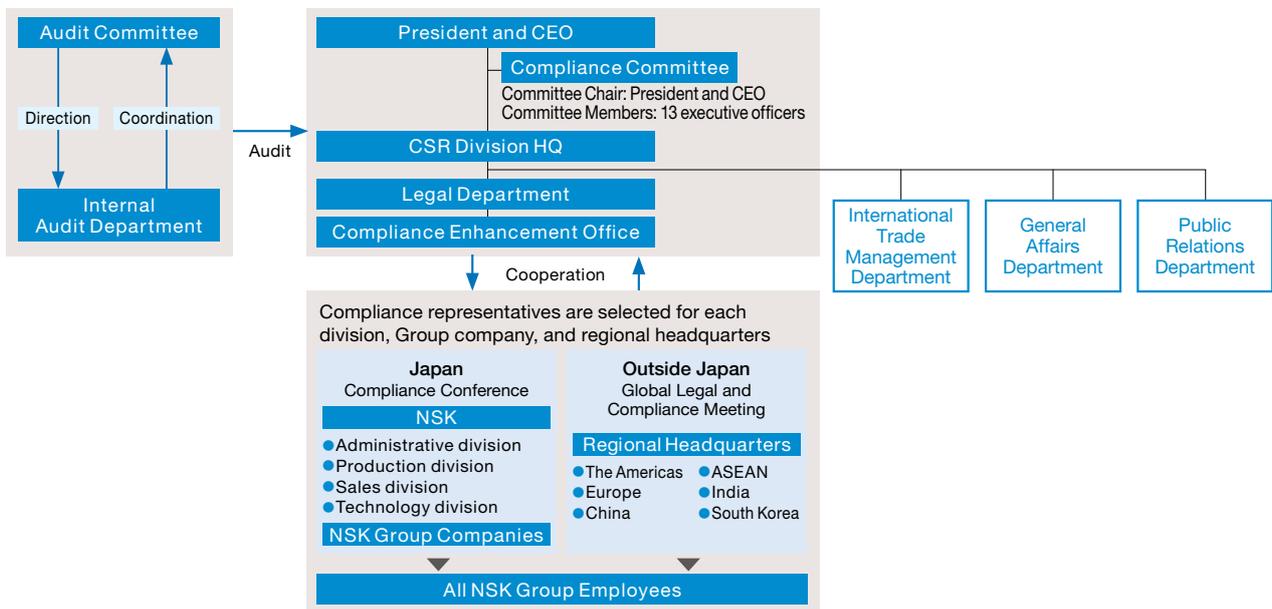
[www.nsk.com](http://www.nsk.com) → Company → Compliance →  
NSK Code of Corporate Ethics

## Compliance Promotion System

NSK has established a Compliance Committee chaired by the president. The committee formulates policies aimed at strengthening compliance and formulates and promotes initiatives to strengthen compliance in order to achieve those policies. At the same time, it monitors and supervises the implementation of those initiatives and reports regularly to the Board of Directors.

NSK has also established a Compliance Enhancement Office in the Legal Department at CSR Division Headquarters and tasked it with overseeing the practical work related to compliance across the entire NSK Group based on the decisions of the Compliance Committee. The NSK Group has appointed persons responsible for compliance at each department, site, and NSK Group company in Japan as well as each headquarters outside Japan to serve as key contact points who regularly report on compliance and conduct risk management.

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

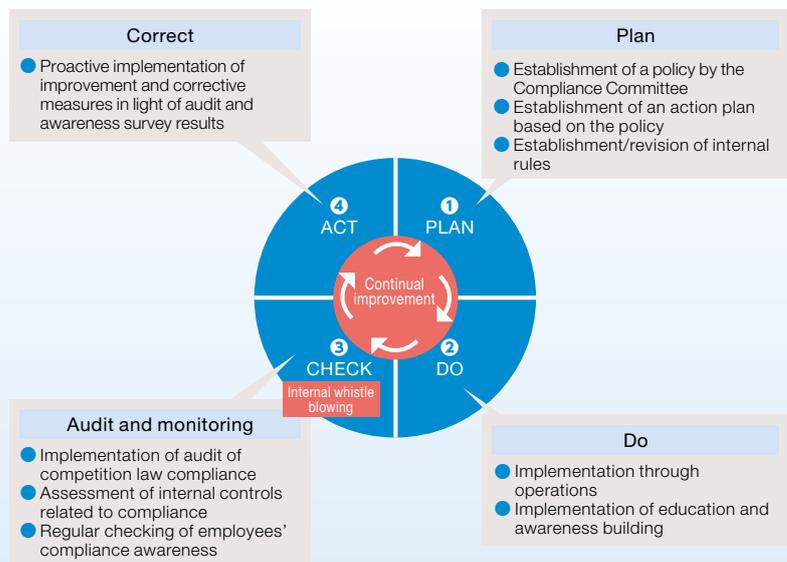


The policies (“plan”) decided at the Compliance Committee are deployed (“do”) by the Compliance Enhancement Office to each organization within the Group. The office reports the results of monitored (“check”) internal audits and compliance awareness surveys, and also implements (“act”) improvements and corrective measures based on audit and awareness survey results. The office makes the most of the PDCA cycle to ensure continual compliance improvement.

In fiscal 2018, there were no compliance problems requiring disclosure.

See p. 30 for details of a compliance awareness survey.

### PDCA Cycle for Continual Compliance Improvement



### ■ Global Legal and Compliance Meetings

In order to strengthen the global compliance system, global legal and compliance meetings are held twice a year. At these meetings, members responsible for compliance from the Americas, Europe, China, ASEAN, India, and South Korea gather with their colleagues and report and discuss on activities in their respective regions and countries. They also share information on legal requirements in each country, seeking ways to improve future efforts in each country. Global legal and compliance meetings were held in the UK in May 2018 and in Japan in January 2019. Discussions included the action plan for the year as well as responses to anti-bribery regulations and personal information protection regulations in each country.

### ■ Internal Reporting System (Compliance Hotline)

The NSK Group has made explicit in its internal rules that employees who learn of acts that violate or might violate the NSK Code of Corporate Ethics or compliance are to contact the compliance hotline (whistleblowing system) made available in their regions and countries. The Group makes sure that employees are well informed about the hotline. In some regions, the hotline is available to suppliers as well.

In Japan, we established hotline operational rules to ensure a functioning system that is also in accordance with the Whistleblower Protection Act. In fiscal 2017, we changed the system to enable hotline users to contact the Audit Committee as a point of contact independent of executive personnel, in order to further increase the effectiveness of the internal reporting system.

The system allows hotline users to remain anonymous, and rules are established to ensure they are protected from disadvantageous repercussions. Reported incidents are investigated by the CSR Division Headquarters in Japan and by the local legal department outside Japan with the help of relevant departments as needed. If a compliance violation becomes apparent, corrective actions and recurrence prevention measures are quickly taken where needed.

We are working to ensure that users are well informed about the compliance hotline by putting up posters about the whistleblowing system and distributing business card-sized cards containing the hotline contact information.

In fiscal 2018, the hotline was contacted 127 times worldwide. The incidents were quickly investigated and resolved, including implementation of corrective actions where needed.

#### Compliance Hotline: Consultations and Reports

	FY2016	FY2017	FY2018
Number of consultations and reports	52	88	127

### ■ Compliance Audits

The Compliance Enhancement Office, in cooperation with the Internal Audit Department, regularly conducts internal audits and on-site assessments of the state of compliance with the Antimonopoly Act of Japan and other competition laws. In fiscal 2018, audits were conducted on 42 business sites and no major non-conformities were found.

Evaluations of internal controls related to compliance are also carried out. In fiscal 2018, evaluations were conducted on 123 business sites using a self-assessment technique and no major non-conformities were found.

## NSK's Efforts to Enhance Compliance

NSK and its group companies are making Group-wide efforts to ensure thorough compliance and striving to enhance business activities based on corporate social responsibility. Key initiatives to enhance compliance undertaken to date are as follows.

### Main Compliance Strengthening Measures to Date

Item	NSK Group Initiatives
Strengthening Systems	Established Compliance Committee (meetings held three or four times a year)
	Established Compliance Enhancement Office
	Holds Global Legal and Compliance meetings (twice a year) with legal and compliance representatives outside Japan
	Holds a Compliance Conference (twice a year) with compliance representatives in Japan
Establishing Relevant Regulations and Systems	Operated a system for examining whether to participate in meetings attended by competitors
	Distributed the NSK Compliance Guidebook to officers and employees (revised in 2018)
	Established the Rules for Compliance with the Competition Law
	Established Rules for Hotline Operation
	Revised Internal Regulation for Preventing Insider Trading and introduced prior informed consent for trading of NSK stock
	Established Anti-Bribery Standards
Strengthening Education and Awareness Raising Activities	Formulated Personal Information Management Regulations
	Regularly distributed the president's message calling for thorough compliance
	Implemented compliance e-learning for officers and employees
	Conducted compliance training at sales divisions, plants, engineering sections and Group companies
	Started bimonthly Compliance Newsletter
	Designated July 26 as "NSK Corporate Philosophy Day"
Strengthening Monitoring	Conducted a compliance slogan contest during compliance month (July 26 – August 31)
	Internally shared compliance violation information
	Conducted internal audits of sales divisions relating to Antimonopoly Act compliance
	Evaluated internal control related to compliance for the NSK Group
	Conducted a compliance awareness survey for the NSK Group

### ■ Main Initiatives in Fiscal 2018—Compliance Education and Awareness Raising Activities

The NSK Group conducts a variety of mandatory compliance education and training sessions with the aim of further heightening officers' and employees' awareness of compliance issues. The education and training cover a wide range of topics including compliance with competition laws, prevention of bribery, and prevention of insider trading.

#### Preventing Violations of the Competition Law

The NSK Group strives to realize fair and free business transactions by ensuring employees are aware of and comply with competition law and by prohibiting agreements with competitors regarding such matters as price, quantity, customers, and sales outlets as well as the exchange of information that could impact competition with competitors.

To raise awareness of adherence to competition law, training on the law and other compliance-related themes was provided to 2,960 people through 207 sessions mainly at sales divisions both in and outside Japan in fiscal 2018. The required training time was around 60 minutes per person. In the future, we will continue this training on competition law, incorporating discussion among participants.

In addition to training, rigorous steps are taken to prevent violations of the law, including requiring in-advance applications and ex post facto reports when participating in meetings where there could be contact with competitors.

#### Strengthening Anti-Bribery Measures

Given stronger anti-bribery regulations in many countries, NSK clearly states in the NSK Code of Corporate Ethics that bribery is prohibited, and has established Anti-Bribery Standards.

Bribery prevention rules have been established in each region and country based on the Anti-Bribery Standards, taking into consideration the anti-bribery regulations in each country and region.

In fiscal 2018, we offered anti-bribery training and e-learning in the Americas, Europe, China, and ASEAN countries, etc.

### Basic Approach to Rejection of Organized Crime

NSK's basic policy is to fulfill its social responsibility in all corporate activities. Accordingly, we maintain unwavering opposition to antisocial forces that threaten the order and safety of civil society. We refuse undue claims and illegal demands from organized crime and reject all relationships with criminal elements, including business relations. Furthermore, this policy is spelled out clearly in the NSK Code of Corporate Ethics and awareness of it is continually promoted to ensure a systematic response across the Group. We have also strengthened cooperation with the police and other external organizations.

### Preventing Insider Trading

The Internal Regulation for Preventing Insider Trading applies to all officers and employees. It requires NSK and its group companies' officers and employees to submit a permit application in advance via a system whenever they buy or sell NSK shares. We promote awareness of insider trading regulations in e-learning programs and the Compliance Newsletter. In fiscal 2018, we produced and put up new posters in a further effort to keep everyone informed about the regulation.

### Distribution of Compliance Guidebook

NSK distributed the NSK Compliance Guidebook, which explains the 16 items of the NSK Code of Conduct Concerning Compliance in the NSK Code of Corporate Ethics, to officers and employees of the NSK Group to raise awareness about compliance. In June 2018, we revised the Guidebook in light of legal amendments and changes in societal demands, adding content related to matters such as data falsification, as well as sexual orientation and gender identification. Employees who receive the Guidebook pledge to abide by its content.

The Guidebook has been translated into multiple languages (Japanese, English, Chinese, Korean, Polish, Indonesian, Thai, etc.) so that employees can understand its content in their native language. In fiscal 2018, e-learning was provided in Japan to study the content of the Guidebook. Through the NSK Supplier CSR Guidelines, we share this awareness with suppliers and ask them to understand and practice compliance, including compliance with competition law. (See p. 52 for details.)



NSK Compliance Guidebook 2018

### Establishment of NSK Corporate Philosophy Day

Eight years have passed since the Japan Fair Trade Commission raided NSK offices in 2011. In order to revisit the lessons learned from the past incident, reconfirm the resolve of all NSK Group employees that no anti-competitive incident will ever occur again, and to ensure all employees review the Corporate Philosophy and make it their own code of conduct, the date of July 26 has been designated "NSK Corporate Philosophy Day." In fiscal 2018, the president gave a message that was broadcast to NSK facilities in and outside Japan. In Japan, several executives held a panel discussion on our Corporate Philosophy. Outside Japan, after speeches by facility managers, each site held its own events, such as lectures by outside experts and discussion on our Corporate Philosophy and compliance.

### Compliance Month

Starting on NSK Corporate Philosophy Day, NSK holds an annual compliance month, inviting employees to submit compliance slogans.

In fiscal 2018, posters featuring the two outstanding slogans were designed and distributed to all NSK sites.



Compliance slogan posters (Japanese)

### Compliance Awareness Surveys

NSK has commissioned an outside survey agency to conduct a compliance awareness survey since 2014. In fiscal 2018, the survey was conducted as the Employee Engagement Survey with the cooperation of the HR department, and 15,538 officers and employees in Japan participated in the survey. In fiscal 2019, we will continue to undertake initiatives to address issues brought to light by the survey results (such as enhancing compliance in manufacturing divisions and further improving the reliability of our compliance hotline) and activities to raise and spread compliance awareness.

## Tax Compliance 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. In March 2018, we established the NSK Group Tax Policy. We are striving to ensure appropriate tax treatment, including refraining from forming organizations that are inconsistent with business purposes and actual conditions for the purpose of tax avoidance.

## Security Export Control Initiatives

The NSK Group has strengthened its system for controls for preventing products and technology from being exported for the aims of the development, manufacture, and use of weapons, based on Japan's Foreign Exchange and Foreign Trade Acts. A basic policy and system of controls related to security export have been set forth in the Standards on Security Export Control, and efforts are being made to maintain and improve the reliability of the NSK Group's export-related operations and to reduce the risk of legal violations.

In fiscal 2018, we conducted investigations of product consignees in some parts of Asia, making sure that there were no concerns, to strengthen our controls. We are planning to expand the regions subject to investigation in the future.

## Addressing Conflict Mineral Issues

The NSK Group has a policy of not using conflict minerals and takes care in its procurement activities to avoid benefiting armed groups that violate human rights. When there are potential conflict mineral issues or other concerns, we take steps to avoid the use of relevant parts and materials. (See "Meeting Regulations for Disclosure on Conflict Minerals" on p. 53 for details.)

## Respecting Human Rights

Expectations are increasing within the international community for corporations to address human rights issues, and the public demands that their efforts go beyond their own organizations to include the entire value chain. The NSK Group encourages understanding of international norms such as the Universal Declaration of Human Rights and the Guiding Principles on Business and Human Rights. We have also included sections on human rights in the NSK Code of Corporate Ethics and the NSK Code of Conduct Concerning Compliance to help our officers and employees act with the highest ethical standards in day-to-day operations. The NSK Supplier CSR Guidelines incorporate sections on human rights in order to ensure that the NSK Group and its suppliers stay in step as they address this important issue. We aim to disseminate human rights initiatives throughout the supply chain by conducting supplier CSR assessments based on the Guidelines.

### ● Related Information

- NSK Code of Corporate Ethics, Code of Conduct Concerning Compliance **P.25**
- NSK Compliance Guidebook 2018 **P.29**
- NSK Supplier CSR Guidelines / Supplier CSR Assessment **P.52**
- Human Rights Initiatives (In response to the UK Modern Slavery Act) **P.53**
- Meeting Regulations for Disclosure on Conflict Minerals **P.53**
- Dialogue and Respecting Fundamental Rights at Work **P.58**



Reference data is available on our website.

[www.nsk.com](http://www.nsk.com) → Investors → Management Policy →  
NSK Group Tax Policy

# Risk Management

## NSK's Approach

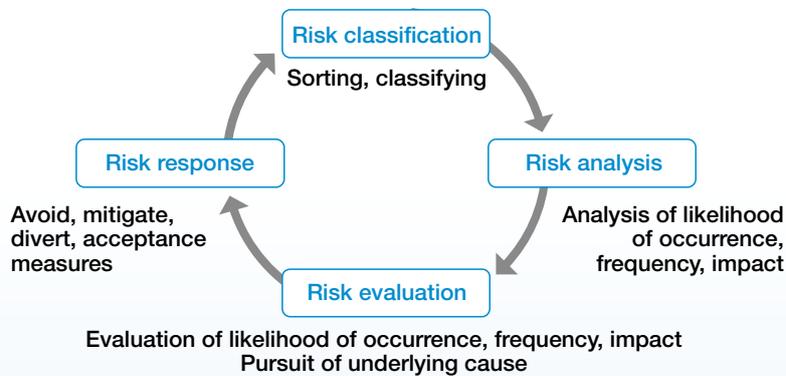
At the NSK Group, the executive management team oversees the implementation of a risk management system guided by the Group's basic internal control policy. Risks faced by the NSK Group are identified, categorized and ranked, before being assigned to responsible departments. This system is designed to minimize risks for the entire Group and to coordinate response measures when risks actually materialize.

## Risk Management Systems

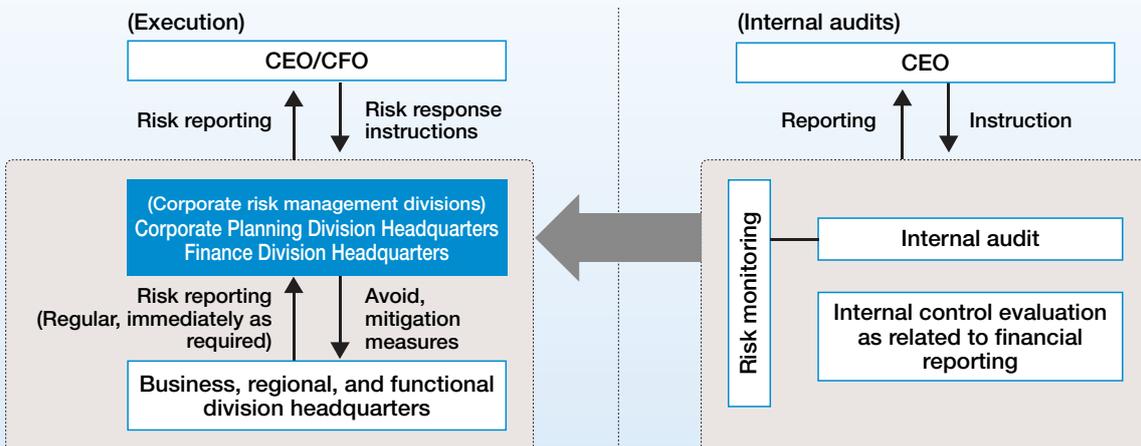
In order to ensure global group management and internal control functions, NSK has implemented a risk management system based on a well-defined basic policy. Each year, all NSK offices identify, analyze, and evaluate risks according to changes in the social environment, risk probability, and the magnitude of potential impact. Under the supervision of the Corporate Planning Division HQ and the Finance Division HQ, risk is managed for each department and business site under the jurisdiction of the Business Division Headquarters, Functional Division Headquarters and Regional Headquarters using a prescribed reporting system. While taking preventive measures, the Company also works to mitigate the impact of any risks that materialize, by taking prompt and appropriate measures in such cases. In addition, the Internal Audit Department works with the Audit Committee to monitor the execution of duties by the executive departments, construct internal control systems, and audit the operational status of the systems.

Due to the expansion of NSK's business activities, the risks facing the Company are extremely varied. However, ten risks have been identified as the most important, and their details, likelihood of materialization, potential impact, and corresponding mitigation measures are shown in Representative Risks Deemed of High Importance in the Appendix on pp. 104-105.

### Risk Management Flow



### Risk Management System



## Information Security Management

There have been several recent scandals around the world involving leakage of personal information and corporate secrets, and various laws and regulations on information security are being strengthened. The NSK Group views information security as an important management task and is taking steps to strengthen it.

### ■ Basic Policy on Information Security and Management Standards and Rules

In June 2003, the NSK Group issued the NSK Basic Policy on Information Security as well as the Rules of NSK Information Management. We subsequently established rules concerning information security and strengthened our group-wide efforts. In June 2019, the NSK Group Basic Policy on Information Security was updated.

### ■ Information Security System

In order to promote even more comprehensive information security enhancement measures worldwide, the Information Security Enhancement Office, which was placed under the ICT Division Headquarters in April 2018, regularly holds global meetings. The Office plans and implements information security measures for the Group, working in cooperation with information security management committees in Japan, the Americas, Europe, China, ASEAN, India and South Korea.

#### Information Security Management System



### ■ Prevention of Information Leaks

NSK takes meticulous care in the handling of confidential information and works hard to prevent the leakage of information. We are deploying tools that enhance security and taking steps to reduce the risk of information leaks from PCs. We have also categorized information according to its level of confidentiality and established rules for proper handling.

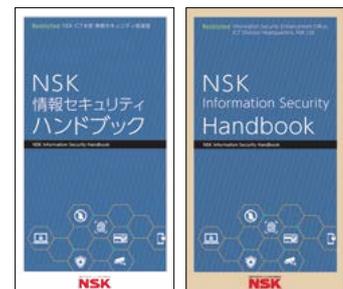
In fiscal 2018, we added 12 companies to the group-wide security network and implemented security improvements.

### ■ Development of Information Security Education

NSK provides education on information security via e-learning programs for all officers, employees, and temporary employees who use PCs. We are also conducting regular email-based training globally to help prevent targeted attacks.

In fiscal 2018, approximately 8,300 employees at Group companies took part in e-learning on information security. In addition, about 8,000 employees filled out a security questionnaire that asked about classification labeling, as well as compliance with information handling rules.

In fiscal 2019, we plan to implement security training for contractors, as well as education for system administrators, as part of rank-specific training. The NSK Information Security Handbook has been prepared and distributed to all Group companies in Japan so that security rules can be easily checked. An English version of the handbook was also prepared for employees whose main language is English and it was distributed to departments as needed.



NSK Information Security Handbook: Japanese version (left) and English version (right)

## Responding to Disaster Risk

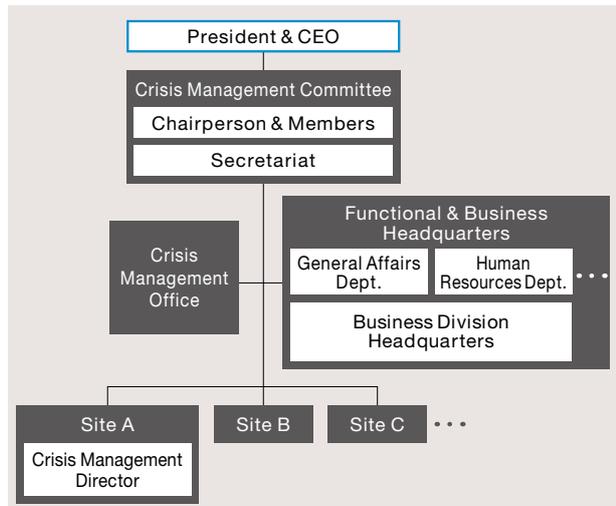
### ■ Crisis Management Systems for Disaster Risk

The NSK Group has established a permanent Crisis Management Committee to oversee Group-wide initiatives to address disaster risk, including natural disasters such as large earthquakes, wind and flood damage, infectious disease outbreaks, and other major incidents. The Committee plans and implements measures to prevent crises and minimize damage in the event that these risks materialize, and is also responsible for establishing and improving business continuity plans (BCP).

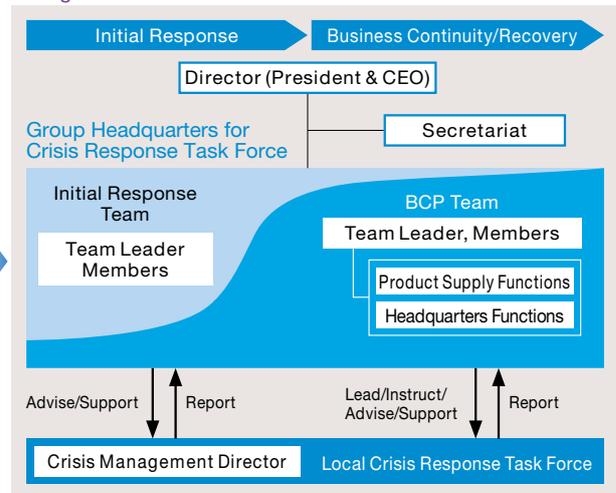
In the event of a crisis, crisis response task forces are set up at the head office as well as at the site of the crisis, and relevant departments cooperate to handle the situation quickly and accurately according to the circumstances.

#### Crisis Management Structure for Disaster Risks

##### Normal Times



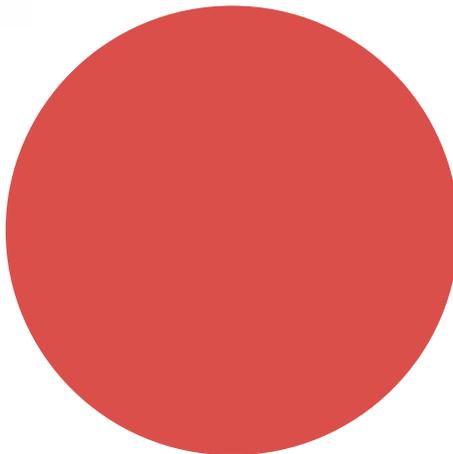
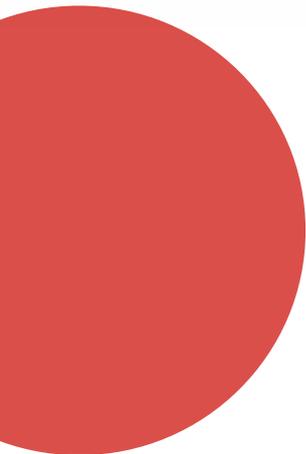
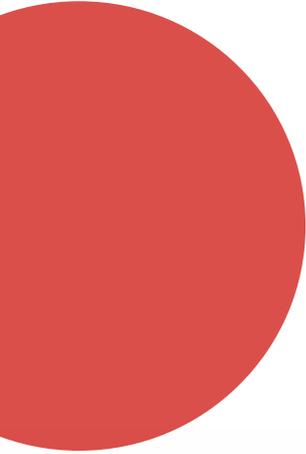
##### Emergencies



### ■ Strengthening Risk Response Capabilities with Business Continuity Planning

When it comes to business continuity planning, NSK's basic policies are to prioritize human life above all else, ensure safety, and fulfill our responsibility to deliver products by restoring our operations quickly. We are working hard to ensure that our plan ensures preparedness for disasters such as large-scale earthquakes.

The NSK Group has concrete measures in place for disaster readiness, including a complete organizational structure and the necessary procedures and tools for preparedness at all the business sites of Group companies in Japan. We also conduct drills to confirm the viability of the plan and address the issues that emerged during the drills. We also take steps to minimize the potential for damage, including earthquake-proofing buildings and preventing equipment from falling over or moving, enhancing emergency communication and reporting systems, and adopting earthquake-resistant IT infrastructure.



# Research and Development

## Setting the Future in Motion with R&D

Balancing prosperity with reduced environmental impact is a challenge in establishing a sustainable society. For this reason, all kinds of things that support society, such as motor vehicles and home appliances, must be made more energy efficient, safer, and cleaner. R&D is the core driver of this kind of progress. As the world continues to change dynamically, companies are expected to pursue growth in step with the evolution of society by developing more advanced technologies and products.

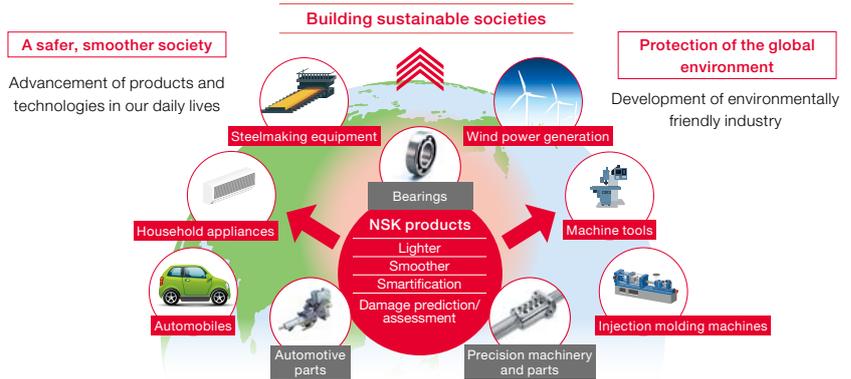
### CONTENTS

- P.35 Continuous Enhancement of R&D Activities
- P.39 Protection of Intellectual Property

# Continuous Enhancement of R&D Activities

## NSK's Approach

At the NSK Group, product and technology development is driven by Four Core Technologies—tribology, materials, numerical simulation, and mechatronics—plus manufacturing engineering, collectively referred to as “Four Core Technologies + 1.” R&D plays an essential role in realizing the NSK Corporate Philosophy, which clearly lays out the company’s responsibility to create a safer, smoother society and protect the global environment. R&D gives shape to our solutions, contributing to energy savings and reduced CO<sub>2</sub> emissions. We also aim to speedily supply the market with sophisticated products, offering new features that accurately meet the needs of customers and society. Through R&D activities, we contribute to creating a brighter, more prosperous society for all.

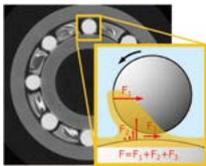


## Four Core Technologies + 1

### 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 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.



Friction on the bearing's ball surface

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



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 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.



Manipulation system for bio-medicine

### 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

■ Continuous Enhancement of R&D Activities ■ Protection of Intellectual Property

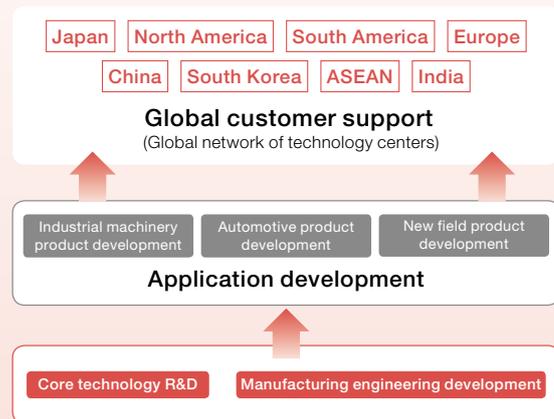
## R&D Organizational Structures

To increase its technical capabilities on a global level, NSK created the Technology Development Division Headquarters as an organization under the direct control of the President & CEO. The organization oversees and executes tasks such as the planning and implementation of technology strategy, the control and management of technology-related risks, and human resource development. The Core Technology R&D Center, the New Field Products Development Center, and the CMS Development Center, which are under the umbrella of the Technology Development Division Headquarters, carry out R&D and product innovation to meet social needs and customer requests while collaborating with outside research institutions, universities, and venture firms.

### ■ Global Engagement in Technology Development

NSK operates technology centers at 16 sites in 10 countries and regions, including Japan, the Americas, Europe, China, South Korea, ASEAN, and India. This worldwide network aims to flexibly and swiftly respond to customers' wide-ranging needs in each locale. At these technology centers, experts across a range of fields are developing new technologies and next-generation products to meet local needs in three categories: industrial machinery products, automotive products, and new field products. They are also working hard to enhance technical services and share information globally.

### Technology Development Process



## Fifth Mid-Term Management Plan Targets (FY2016 – 2018)

To meet the needs of customers and society, the NSK Group will create new value by developing new fields and investing in new technology while assessing market trends, such as those in the evolution of automotive technology, IoT\*, social infrastructure, healthcare, and robotics. In terms of production, we are moving forward with the creation of smart factories and pursuing next-generation manufacturing practices.

\*IoT (Internet of Things): A paradigm for creating new value by gathering and analyzing data through the Internet from all kinds of things, including motor vehicles, home appliances, and industrial equipment.

### ■ Initiatives in Fiscal 2018

NSK aims to build a more sustainable world. In fiscal 2018, we worked to develop products that contribute to improved efficiency in industrial machinery and equipment and enhanced fuel efficiency, compactness, and safety in automobiles. We are continuing our efforts to “expand into new growth fields” under our Fifth Mid-Term Management Plan, embracing this as a core challenge. NSK spent around 19.0 billion yen on R&D in fiscal 2018. Sales of new products\* totaled 168.4 billion yen, or 18% of all sales.

\*\*New products\* refers to products launched within the last five years.

#### R&D Expenses

Unit: Yen (billions)

	FY2016	FY2017	FY2018
R&D Expenses	13.9	17.1	19.0

#### New Product Sales and Share of Sales

Unit: Yen (billions)

	FY2016	FY2017	FY2018
Sales of new products	214.7	201.3	168.4
New products' share of total sales	23%	21%	18%



## Sixth Mid-Term Management Plan Targets (FY2019 – 2021)

To meet the needs of customers and society and to provide products that bring people joy, the NSK Group aims to delve even deeper into the Four Core Technologies +1 to make high-performance products—at an even higher level of quality—that can contribute to the world.

Specifically, we will increase productivity by strengthening our development capabilities through enhancement of assessment and simulation technology and the use of IoT. We will also actively utilize excellent expertise and technology from outside the Group.

## Main Initiatives in Fiscal 2018

### Development of Vibration Control Actuator for Train Cars

With the increasing speed of rail travel, an uncomfortable ride caused by train car shaking has become an important issue, necessitating technology to reduce passenger car vibration.

NSK developed a vibration control actuator—a motorized ball screw control device—to enhance the performance of control devices installed on train cars.

As a mechanism that converts a motor's rotary motion into linear motion (the force that reduces car body vibration), the product uses a high-efficiency, low-inertia precision ball screw. It can actively control lateral swaying and shaking from outside the car body, reducing vibrations with good responsiveness.

The product has already been installed in rail cars and demonstrated that it can improve ride comfort by substantially reducing vehicle shaking. In this way NSK is enabling more comfortable rail travel at higher speeds.

This product won the 2018 “CHO” MONODZUKURI Innovative Parts and Components Award (Japan Brand Award) sponsored by MONODZUKURI Nippon Conference and The Daily Industrial News (*The Nikkan Kogyo Shimbun*).



NSK vibration control actuator (left: actuator; right: driver)

### Innovation in Production Technology

The NSK Group's pursuit of technological innovation includes production facility design and product processing technology. We work hard to achieve maximum productivity without wasting labor or energy. Our development and production divisions are working together to develop the most compact production equipment possible and to replace existing hydraulic machinery and motors with high-efficiency models. We are also working to create smart factories that adopt the latest production systems using robots.

### Development of Engineering and Technical Human Resources

R&D in the NSK Group is driven by engineers with world-class talent. Developing and raising the skills of engineers is essential to meeting market needs accurately and creating new value. This is why we take a global approach to technology sharing and human resource development, dispatching technical experts from Japan to educate global staff and bringing overseas staff in for training at technology centers and plants in Japan. In fiscal 2007, we established the NSK Institute of Technology (NIT) to nurture global engineers. Each year over 400 students strive to learn specialized technical knowledge and skills. (See pp. 62-63 for details.) We understand that interaction among people from diverse industries and lines of work can lead to innovative ideas, so we actively send staff to lectures, training sessions, and seminars outside the Company.

## Expanding Engagement in Open Innovation

Enhancing the progress of innovation is key to creating the “super-smart society” (Society 5.0) advocated by the Japanese government.

Open innovation combines original technologies and ideas from different industries and fields, including those created by universities, local governments, and venture companies in and outside Japan. We leverage open innovation to search for new business seeds, building on the original technologies and products we have developed as a bearing manufacturer.

Through open innovation, we support the creation and development of new markets and also invigorate our own organization.

### Examples of Open Innovation

- Joint development related to dynamic wireless charging through participation in the second phase of the Cross-ministerial Strategic Innovation Promotion Program (SIP) led by Japan’s Cabinet Office
- Signed a sponsorship agreement with CARTIVATOR Resource Management, an incorporated association aiming to make flying cars a reality
- Capital tie-up with WHILL, Inc. in the field of next-generation personal mobility
- Investment in SoftWheel Ltd., a manufacturer of wheels for personal mobility, such as wheelchairs and bicycles

# Protection of Intellectual Property

## NSK's Approach

The NSK Group sees intellectual property as essential for ensuring revenues and developing its business. The NSK Code of Conduct Concerning Compliance clearly states that personnel must strive to create, protect, and utilize intellectual property; must handle intellectual property rights with great care; and must not infringe on the intellectual property rights of others.

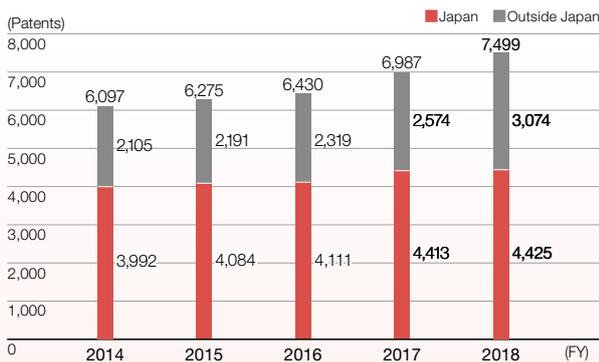
## Intellectual Property Management Structure

NSK has established an Intellectual Property Department under the Technology Development Division Headquarters. In cooperation with division headquarters and technical departments in each region, the Intellectual Property Department formulates and implements an intellectual property strategy for the entire NSK Group and implements intellectual property efforts in step with global expansion of the business.

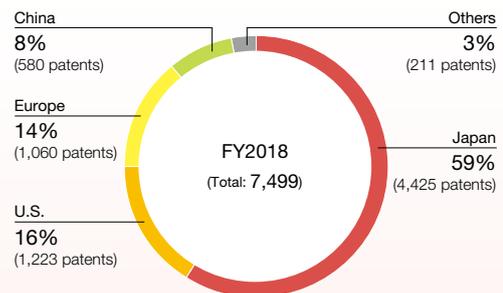
We have always been aware of the importance of Group-wide intellectual property initiatives. NSK is one of Japan's leading filers of patent applications in the field of mechanical parts, as many of our main products belong to this sector. We also aim to acquire stronger patent rights that can contribute to future business. The technology and intellectual property divisions study patentability within each development topic. These efforts have accumulated the NSK Group a large number of patents: 4,425 in Japan and 3,074 outside Japan as of March 31, 2019. We make effective use of this intellectual property as a management resource in global business development.

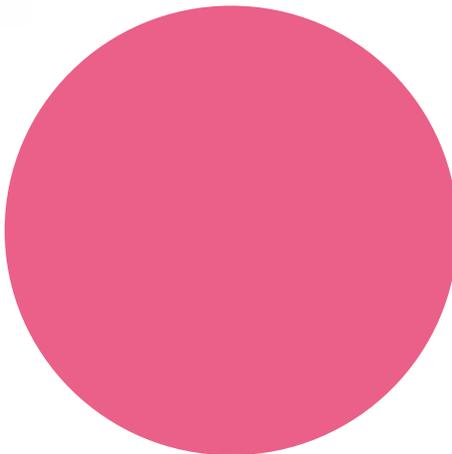
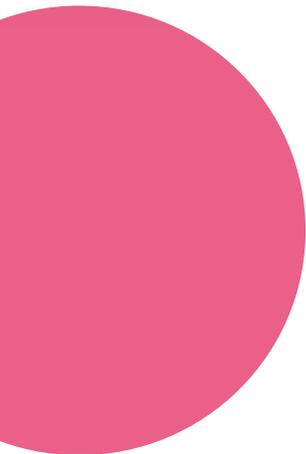
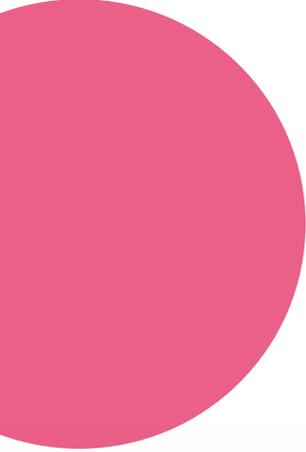
We also actively pursue trademark rights in an effort to maintain and develop confidence in the NSK brand. In January 2018, the registered trademark "NSK" acquired protection in China as a "well-known brand." This is the result of our corporate track record in China and extensive efforts to protect the NSK brand.

### Patents Held by NSK



### Patents by Region





# Quality Assurance

## Creating Quality That Can Be Trusted

Advanced industrial machinery is the backbone of today's increasingly affluent global society. Such machinery and its components must perform safely and reliably. As technology and globalization continue to rapidly advance, companies are expected to support the development of society as a whole. Firms must provide high-quality products and advanced technologies that meet the specific needs of consumers in different countries and regions. The NSK Group closely tracks customer and societal needs and trends so that it can deliver safe, reliable products backed by its foundation in "quality-first manufacturing."

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P.41 Quality Management

# Quality Management

## NSK's Approach

The NSK Group aims to become “No. 1 in Total Quality.” We are working to achieve the industry’s best quality in everything we deliver—not only products and services, but also information and more. We believe that this commitment to quality ensures that our products will satisfy customers worldwide.

To this end, our operations are based on the Three Pillars of NSK Quality Assurance.

### Three Pillars of NSK Quality Assurance

#### 1. NSK Product Development System (NPDS)

To quickly transform new orders into reliable, stable production, we promote initiatives that incorporate quality into individual processes.

#### 2. NSK Quality No. 1 (NQ1) Program

We work hard to realize stable production and ensure zero defects.

#### 3. Human Resources Development

We promote human resource development to build a stronger foundation for quality systems.

### ■ Quality Assurance Vision 2026

NSK also established Quality Assurance Vision 2026 to set clear goals and expectations through 2026, as shown at right. The Vision guides us in implementing total quality management for “NSK Quality”: a standard that instills trust, ensures safety, and provides peace of mind to customers. Specifically, we endeavor to enhance the underlying strengths of our business—the quality of our products, our work, and our people. We aim to deliver this quality, which reflects market and customer needs, as a key point of differentiation in our products. We have also implemented a company-wide total quality management (TQM) system, which we continue working to refine and promote.

## 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

## Management Structure

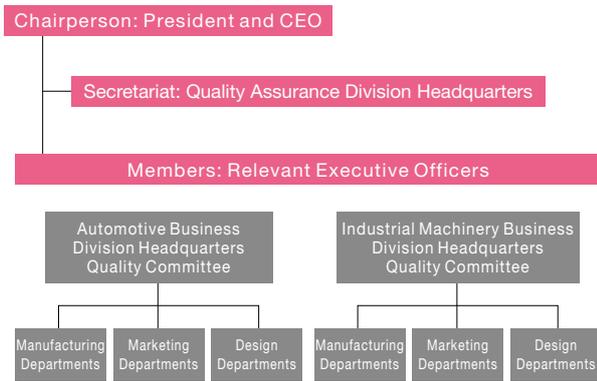
### ■ Quality Assurance Organizations

The NSK Group has established the NSK Quality Committee, chaired by the president, to supervise Group-wide quality management. The president and heads of each business division headquarters meet in the committee three times a year to review the state of quality control and discuss quality issues, necessary initiatives, and related matters. NSK’s Quality Assurance Division Headquarters serves as the global lead for quality management, assisted by quality committees in each business division headquarters. Together, they work to strengthen quality improvement efforts by promoting cooperation among the manufacturing, sales, and design departments. The headquarters also reports the Group-wide status of quality management to senior management at monthly Executive Officers’ Meeting.

We have established regional quality assurance departments in the Americas, Europe, China, ASEAN, and India (In July 2019, the Indian quality assurance department was made independent from the ASEAN quality assurance department), and quality assurance organizations in other areas. These global organizations reinforce quality assurance by providing tailored support designed to meet customer needs in each country and region. Annual global meetings and biannual regional meetings are held to share and discuss quality-related information and to strengthen monitoring, oversight, and the support structure in each region.

■ Quality Management

**NSK Quality Committee**



**Global Quality Assurance Organization**



■ **Quality Management System**

The NSK Group is ISO 9001 and IATF 16949\* -certified for quality management systems at development, design, and manufacturing sites. (See pp. 106-107 for details.)

Additionally, the effectiveness of quality management systems is verified through regular third-party audits and internal audits. When problems are found, we take appropriate corrective actions and continuously improve quality initiatives.

\* IATF 16949 is aligned with ISO 9001, the criteria for quality management systems set by ISO (The International Organization for Standardization) with additional quality system requirements for automotive-related products.

■ **Product Defect Response**

NSK helps customers use its products safely by communicating technical information and handling procedures. We make every effort to ensure quality. However, should a product or service defect occur, a response framework is in place, and customers are notified immediately. Using this framework, relevant departments cooperate closely to promptly resolve the issue and prevent the problem from spreading. We identify the cause of the issue and put measures in place to prevent a recurrence.

## Fifth Mid-Term Management Plan Targets (FY2016 – 2018)

### ■ Safety, Security, and Confidence: Goals in Market and Customer Quality Assessments

NSK strives to realize sustainable growth by creating an environment that allows employees to work vibrantly with a focus on society in order to create products that customers truly appreciate. We will continue working to strengthen our global quality assurance system through the initiatives outlined in our mid-term plan, as shown at right.

### The Fifth Mid-Term Management Plan (FY2016-2018)

1. Fostering quality-first culture and human development
2. Enhancing preventive measures for quality monitoring and audit
3. Establishing a field quality responsibility system
4. Reasserting strict adherence to quality control basic matters
5. Enhancing site control ability based on the 5-GEN Principle\*1

### ■ Initiatives in Fiscal 2018

In fiscal 2018, the NSK Group pursued five key policies in line with the Three Pillars of NSK Quality Assurance. In fiscal 2018, the final year of the Fifth Mid-Term Management Plan, we endeavored to achieve “operational excellence,”\*2 while encouraging our people to “innovate and challenge.” We continue to raise our level of quality management by advancing the Total Quality Management (TQM) system as set out in our Quality Assurance Vision 2026.

With the market and customers demanding ever greater quality, under our new mid-term management plan we will work to address issues that became evident during the period of the Fifth Mid-Term Management Plan through to fiscal 2018. To achieve these goals, we reformed our structure and culture, and identified quality-related priority issues to incorporate into the Sixth Mid-Term Management Plan with the aim of driving action.

### Fiscal 2018 Quality Priority Policies and Evaluation

○ Achieved, △ Partially achieved, × Not achieved

1. Improving efforts to prevent recurrence of problems by pursuing their root causes ..... ○
2. Ensuring quality from market and customer perspectives ..... ○
3. Foreseeing and addressing latent quality risks based on the 5-GEN Principle ..... △
4. Conducting self-assessments/audits that focus on fundamental rules ..... ○
5. Fostering high ethical standards for quality in all areas of the business ..... △

### Priority Quality Policies in the Next Mid-Term Management Plan

- Fully identifying market demands and requirements
- Quality risk management
- Change-point management, recurrence prevention
- Verifying equipment and manufacturing conditions
- Monitoring and auditing supplier quality

\*1 5-GEN Principle: A set of Japanese principles that focus on “GEN-ba,” the ACTUAL frontline; “GEN-butsum,” the ACTUAL item or product; “GEN-jitsu,” the ACTUAL condition or situation; “GEN-ri,” the ACTUAL principle or theory; and “GEN-soku,” the ACTUAL rules or standards.

\*2 Operational excellence: In this report, operational excellence refers to “efforts to enhance front-line capability to increase the competitiveness of the NSK Group’s business.”

## Sixth Mid-Term Management Plan Targets (FY2019 – 2021)

### ■ Market and Customer-Centric Quality that Delivers Safety and Security

NSK has clarified the ideals to which the Company aspires, maintaining a commitment to 100% quality products that put the customer first in its Quality Assurance Vision 2026.

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

To achieve the ideals to which NSK aspires, each department aims to create products with capabilities that deliver customer satisfaction by collaborating throughout the design quality, manufacturing quality, and supplier quality processes. Accordingly, we will continue to improve our global quality assurance organization while acting to achieve the following goals under our Sixth Mid-Term Management Plan.

■ Quality Management

**Quality Assurance: Sixth Mid-Term Management Plan**

- 1. Performance verification within complete grasp of the level and conditions required by the market**  
We will make products that satisfy customers by comprehending fully the conditions used by the customer, reflecting that understanding in our designs, and verifying satisfying quality that meets those conditions has been thoroughly incorporated.
- 2. Identification and review of front-line 4Ms (manpower, machinery, materials and methods) quality risks: Review of good product conditions**  
We will identify latent risk factors on the front lines before problems occur and create a structure that prevents those problems by implementing proposed preemptive countermeasures.
- 3. Establishment of a global quality audit department to strengthen the quality auditing function (design, production, supplier auditing)**  
We will establish a specialized department that can audit our processes and work systems, and will conduct audits and make corrections in-house to ensure stable quality. We will also train auditors who can perform quality audits.
- 4. Establishment of a specialist "procurement quality" department that enhances quality monitoring and guidance/support for suppliers**  
We will establish a department that conducts quality audits to improve and stabilize quality from suppliers.
- 5. Thorough recurrence prevention through pursuit of root causes: Correcting problems in work processes through review and reflection**  
To prevent problems from reoccurring, we will create a structure for avoiding problems by pinpointing the causes of past defects and thoroughly investigating the conditions under which past quality issues occurred and initially went undetected.

**Main Initiatives in Fiscal 2018**

**Quality Improvement Initiatives**

The NSK Group strives to secure and improve quality from four perspectives: in the field, in our design, in our manufacturing, and in our procurement from suppliers.



**[1]**  
Field Quality

**Initiatives to Enhance Field Quality**

As a firm that services the manufacturing sector, the NSK Group aims to achieve a level of quality that meets the expectations of society at large. We strive to satisfy our direct customers, but we also look beyond to grasp the needs of end users who use the products incorporating NSK components. This enables us to both propose and deliver quality products and services that thoroughly fulfill customer and societal needs.

**Gathering Information, Analysis, and Feedback on Market Trends**

To accurately grasp market trends, the NSK Group monitors field quality by gathering and analyzing information, such as data on quality defects. This information is fed back to all relevant departments, including development and design, manufacturing, and sales, in an effort to improve product and service quality and prevent quality problems.

**Evaluation by Customers**

The NSK Group analyzes issues, quality reports, and insights gleaned from frequent customer feedback and internal and external information exchanges. Its sales, distribution, technical, and manufacturing departments cooperate to improve on identified issues.

■ Quality Management

**Customer Management Database**

In order to accurately meet customer requests, the NSK Group provides technical support related to design and expert knowledge on product usage. We have also established a database for storing information such as records of how customer requests were met. The database is used to improve products and services by bringing information together from around the world.

**Highlight**

**Customer Commendations on Quality**

The NSK Group has received letters of appreciation and commendations from customers in recognition of our long-term efforts to increase quality.

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

[2]

Design Quality

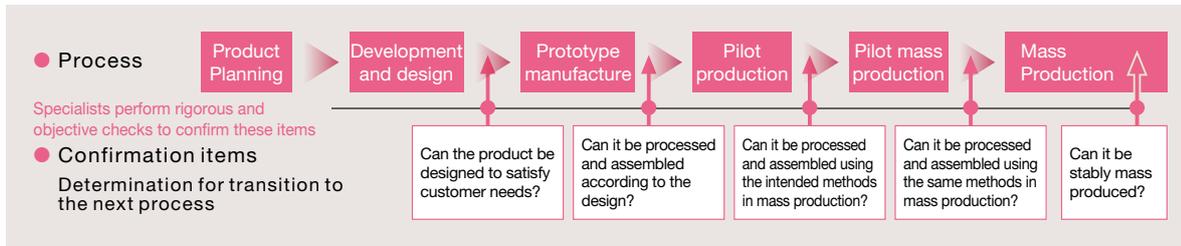
**Initiatives to Enhance Design Quality**

The NSK Group incorporates feedback from customers into its designs to enhance quality in the design stage. We make every effort to design products with a superior level of quality by drawing on our expertise and experience in the market, cultivated over many years. We always strive to meet our own unique quality targets, going above and beyond the core quality that our customers have come to expect.

**NPDS: Building Quality into Each Process**

The NSK Group has globally deployed an innovative quality management system, the NSK Product Development System (NPDS), to respond promptly and reliably to new projects and to mass produce products that satisfy customers. At each stage of the process, from product planning to development/design, prototype manufacturing and mass production, we ensure that any concerns are resolved and strive to improve quality. In addition, even after mass production begins, we conduct thorough management to maintain high quality.

**Outline of NPDS**



**Training of Design Review Experts**

To improve design quality, NSK has a system of experts that perform design reviews (DR) and has implemented worldwide measures to improve DR quality. These DR experts identify issues related to product quality from the design phase and into the mass production phase to prevent problems down the road. In fiscal 2019, DR best practices will be shared, information materials enhanced, and optimal assessments and feedback improved at each DR step Group-wide to take DR expert activities to the next level.

[3]

Manufacturing Quality

**Initiatives to Enhance Manufacturing Quality**

The NSK Group works diligently to deliver a consistently high level of product quality that meets customer needs. We also develop manufacturing processes that focus on the 4Ms (manpower, machinery, materials and methods) to further improve product quality.

## Quality Management

### NQ1 Program for Stable Production with Zero Defects

NSK conducts NSK Quality No.1 (NQ1) activities Group-wide through close cooperation among divisions including production, design and development, manufacturing engineering, quality assurance, sales, and logistics. We aim to optimize the flow of goods and information throughout the whole production process, from procurement to delivery.

As part of the NQ1 program, our “Dantotsu” improvement activities focus on providing the very best quality with zero defects. Each plant chooses initiatives and carries out improvements on a test line with the goal of achieving zero defects. Effective initiatives are quickly rolled out to other lines and manufacturing sites worldwide. Since fiscal 2016 we have been rolling out the program to our main global production sites, starting with China and followed in fiscal 2018 by Indonesia. In fiscal 2019, we began implementing the program in the U.S., Brazil, and Poland.



Working on “Dantotsu” improvement activities

### Highlight

#### Global Self-Audit System for Heat Treatment Processes

The NSK Group has created self-audit systems to prevent product defects. With the globalization of production, we focused on the worldwide rollout of a self-audit system for heat treatment processes. Under the system, staff frequently visit production sites and suppliers to conduct on-site audits. Only personnel with a high level of expertise are designated as in-house auditors.

### Global Rollout of Measures from Best Practice Plants

Every month, NSK monitors the status of quality management at all production sites worldwide. Production sites that produce exceptional results in terms of quality are categorized as “Best Practice Plants.” The characteristics of those plants and their management initiatives are analyzed and rolled out to other production sites.

[4]

Supplier Quality

#### Initiatives to Enhance Supplier Quality

High-quality lubricants, materials, and parts are essential to manufacture high-quality products. At the NSK Group, we engage in a wide range of initiatives to enhance quality based on strong ties with suppliers.

### Quality-Focused Procurement

The NSK Group conducts receiving inspections on parts and raw materials delivered to its business sites in each country and region. We also visit suppliers to verify their quality management. When considering starting business with new suppliers, we not only verify the quality of procured items but also the systems and state of quality management in the design and production stages. Through these steps, we ensure that all our procurement is focused on quality.

### Sharing Issues with Suppliers

The NSK Group provides ongoing education to suppliers, shares issues and engages in cooperative initiatives to increase quality, and regularly holds technical and quality meetings to this end. Each year, we hold procurement policy briefings where executive officers responsible for the Procurement Division Headquarters and Quality Assurance Division Headquarters explain our corporate and procurement policies and ask for supplier cooperation with our socially responsible procurement initiatives.

### Visiting Suppliers

The NSK Group strives to increase the level of quality while deepening mutual understanding with suppliers by sending personnel from the NSK headquarters, regional headquarters, and plants around the world to visit suppliers, audit their processes, and exchange information.

We send a questionnaire to Japanese suppliers of special-spec parts and raw materials that would be difficult to procure in case of a disaster. We ask them to conduct self-assessments to confirm the progress of initiatives such as earthquake response systems and predicted damage and countermeasures. (See “Enhancement of Supply Chain BCP Effectiveness” on p. 54 for details.) We also conduct audits on and provide guidance to suppliers requiring quality improvements.

Since fiscal 2016, we have worked to strengthen supplier audits and train auditors. And since fiscal 2019, we have been improving quality by monitoring and analyzing quality and defect information in the respective business division headquarters and the Quality Assurance Division Headquarters.

Quality Management

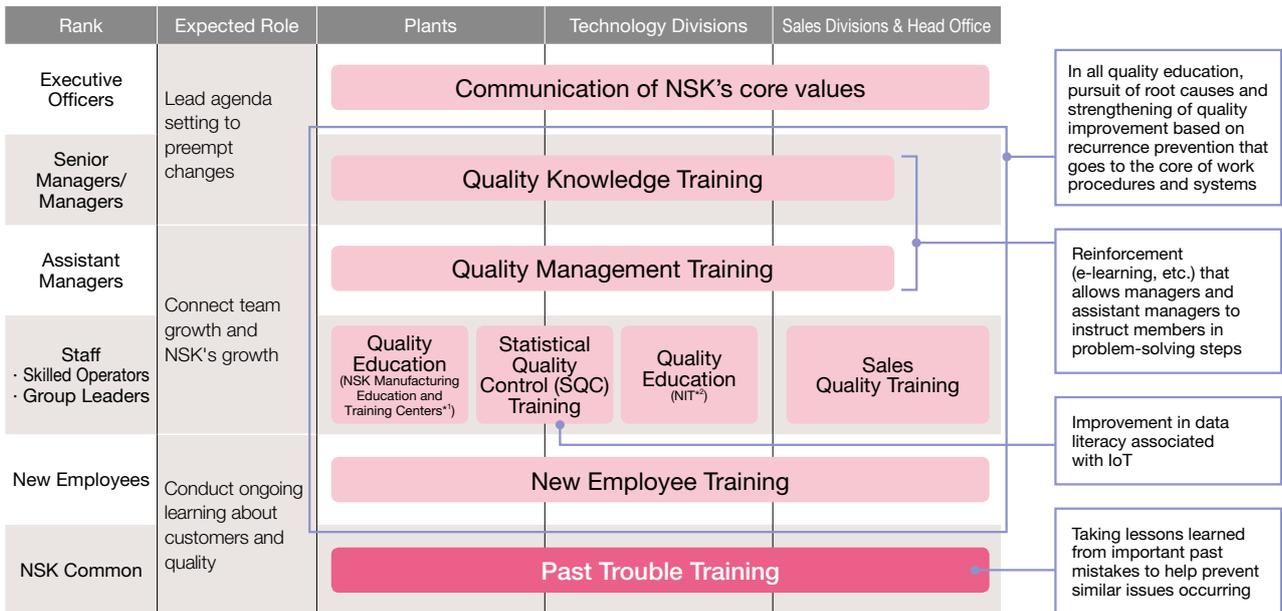
Developing Human Resources: Critical to Superior Quality

The NSK Group provides a range of education and training programs to maintain and develop the human resources needed to ensure high quality manufacturing. All divisions work together to create products and services that deliver ever higher levels of quality and customer satisfaction.

Overview of Quality Education

NSK provides quality education tailored to each employee's rank and department. In fiscal 2016, we began restructuring our quality education systems by introducing quality ethics education and practical education in statistical quality control (SQC). We also adopted quality engineering (Taguchi method) and practical education.

Sixth Mid-Term Management Plan: Function-Based and Rank-Based Education System (in cooperation with NSK Institute of Technology)



\*1 NSK Manufacturing Education and Training Center: See p. 63 for details.

\*2 NSK Institute of Technology (NIT): See pp. 62-63 for details.

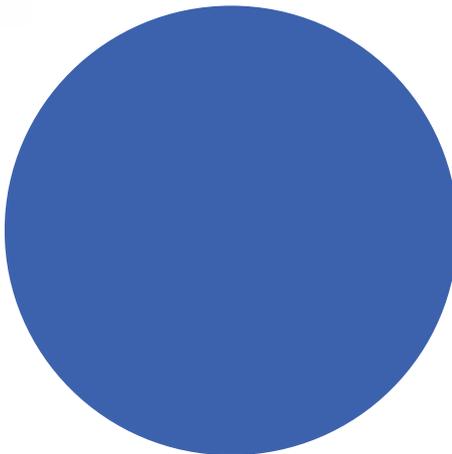
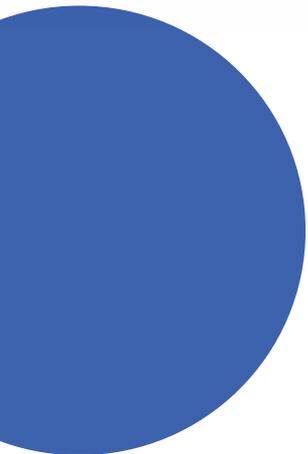
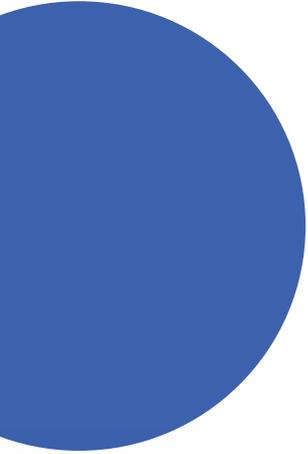
Quality Month

To create products that customers can select with confidence, NSK recognizes that each employee must maintain a high level of quality awareness.

Every November, we celebrate Quality Month by promoting awareness of product quality to realize a range of quality improvements. During Quality Month, employees are encouraged to submit ideas for an NSK quality slogan that captures their concept of quality. The best slogans are then selected for display on posters at all sites. Additionally, we aim to improve quality through priority initiatives set in each plant according to a Group-wide theme determined by the Quality Assurance Division Headquarters.



Quality slogan posters (Japanese)



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# Supply Chain Management

## Practicing Sustainable and Responsible Procurement

The world today is facing a variety of challenges including climate change and energy and human rights issues. To achieve a sustainable society, companies are expected to practice responsible procurement, taking into account environmental and social factors, and to solve these issues across the entire supply chain.

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P.49 Supply Chain Management

# Supply Chain Management

## NSK's Approach

Numerous suppliers support NSK's business operations. NSK considers suppliers to be essential business partners and seeks mutual development while building relationships of trust.

Many issues exist in today's society, such as environmental and human rights problems. To build a sustainable society, companies are expected to help solve these issues. Our corporate philosophy is to contribute to "a safer, smoother society" and "protect the global environment" through our business activities. We recognize that we must share our policies and vision with suppliers and meet societal expectations throughout our supply chain. We have established a basic policy governing procurement in order to ensure fair procurement practices that also take into account the potential impact on society and the environment. We carry out CSR procurement and green procurement globally, and work across the entire supply chain to realize a sustainable society.

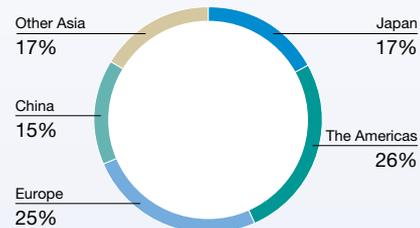
## NSK Group Supply Chain

The NSK Group has transactions with approximately 9,000 suppliers worldwide\* (about 1,500 companies for direct materials and 7,500 companies for indirect materials).

The share of NSK's sales outside Japan is about 63%, while the share of its production outside Japan is roughly 55%, and these figures are expected to continue to grow. As a result, we expect to source more materials and components from outside Japan going forward.

\* Some overlap between regions.

NSK Group Suppliers, by Region  
(based on number of suppliers)



## CSR Procurement Promotion System

In order to fulfill the NSK Group's social responsibility throughout the entire supply chain, the Procurement Division Headquarters, which is directed by a senior vice president, plays a central role in building systems to promote CSR procurement in collaboration with relevant functional headquarters, such as the Global Environment Department, and production, procurement and administrative divisions within the NSK Group.

CSR activity policies and progress on related measures are reviewed at the biannual Global Procurement Conference, with those responsible for procurement in each global region participating.

## Fifth Mid-Term Management Plan Targets (FY2016 – 2018)

### Target

#### ➤ Enhance procurement to increase competitive advantage (Operational Excellence)

##### Three Main Focal Points

#### 1. Collaboration with core suppliers and thorough adherence to the principle of competition

We will work with existing suppliers on continual improvement activities and strive to cultivate and develop new suppliers.

#### 2. Stable procurement

We will develop an initial response system to quickly identify the scale of damage and problems at suppliers in the event of a disaster and facilitate a precisely targeted response in cooperation with suppliers. We will also work to strengthen our supply chain emergency readiness with a focus on production continuity.

#### 3. Enhancement of global procurement base

We will work to enhance the Group's procurement base through work process standardization, human resources development, and organizational restructuring.

#### Initiatives in Fiscal 2018

- We focused on ensuring stable supply in an environment of tight supply and demand for raw materials and parts, through efforts such as expanding international procurement.
- We began visiting supplier locations to inspect their business continuity plans (BCP assessment).
- We fully disseminated our internal Fair Trade Promotion Manual.

## Sixth Mid-Term Management Plan Targets (FY2019 – 2021)

### Target

#### ➤ Ensure stable supply and optimize supplier portfolios

##### Three Main Focal Points

#### 1. Ensure supply flexibility underpinning growth

We will increase supply chain flexibility to respond with agility to changes in the business environment.

#### 2. Increase effectiveness of supply chain BCP

We will build a supply chain that is resilient to disasters by preventing accidents, minimizing damage, and shortening recovery periods.

#### 3. Practice sustainable and responsible procurement

In light of new trends demanding more active responses to sustainability challenges, we will raise the level of CSR management across the supply chain.

## Building Relationships with Suppliers Based on Trust

Recognizing that mutual development with suppliers is important, the NSK Group works at establishing solid long-term cooperative relationships of trust. We share the importance of CSR with suppliers at briefings and other opportunities, pursuing greater understanding through mutual communication.

### Procurement Policy Briefing

We hold procurement policy briefings every year to explain our procurement policy and other policies to major suppliers, asking them to reinforce their efforts to implement CSR activities in pace with the entire supply chain.

At the briefing held at NSK's head office in January 2019, we called attention to cybersecurity and proper employment practices for foreign workers, explained the importance of raising the level of CSR management across the supply chain, and asked suppliers for their understanding and cooperation.



Procurement Policy Briefing

### Whistleblowing System

NSK has established the Compliance Hotline (whistleblowing system) for anyone to anonymously convey their criticisms, opinions, and concerns, enabling issues to be identified at an early stage and corrective measures to be taken. The hotline has two points of contact: one is the Head of the CSR Division Headquarters and the other is an outside attorney. We are careful to ensure that not only internal whistleblowers but also suppliers can use the hotline safely and securely and face no repercussions as a result. In addition, we have distributed leaflets to make the compliance hotline more widely known.

There were no whistleblowing incidents in fiscal 2018.

### Promoting Fair Trade

In September 2016, Japan's Minister of Economy, Trade and Industry released the Basic Policies for Future-oriented Trade Practices. This move aims to promote fair trade and improve added value for both main subcontracting enterprises and subcontractors, as well as to further enhance trade environments across the entire supply chain. In December, the Operational Standards of the Subcontract Act and the Promotion Standards under the Act on the Promotion of Subcontracting Small and Medium-sized Enterprises were revised, and the notice "Method of Payment of Subcontractor Proceeds" was released.

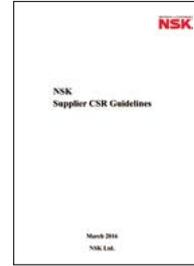
The Japan Automobile Manufacturers Association, Inc. and Japan Auto Parts Industries Association formulated and announced their Voluntary Action Plan to Promote Fair Trade and Increase Productivity and Added Value.

In light of these government and industry trends, in 2017 the NSK Group created an internal manual explaining matters that those involved in procurement should take note of and offering guidelines on conduct that is likely to be viewed with suspicion. The manual has been disseminated, and we continue to work hard to promote fair trade.

■ Supply Chain Management

**NSK Supplier CSR Guidelines**

NSK publishes and distributes the NSK Supplier CSR Guidelines and asks its suppliers to maintain compliance with competition laws and anti-bribery laws, to respect the basic human rights of workers by prohibiting child labor and forced labor and maintaining occupational safety and health, and to make efforts to preserve the environment through activities such as controlling substances of concern.



NSK Supplier CSR Guidelines

**Supply Chain Risk Management**

NSK determines the risk that each supplier presents to its business activities by taking into account the procurement cost and volume, the importance of the procured parts, availability of replacements, and risk of the presence of environmentally harmful substances.

Suppliers estimated to present a high level of risk are placed under critical control, and we assess supplier risk by checking their financial condition, CSR assessment (self-assessment), and other methods, and work together with suppliers to implement necessary measures to reduce risk. We conduct investigations when starting business with new suppliers in an effort to avoid risk by checking their management structure, existence of legal violations including violations of environmental and labor laws, and practices related to quality control and environmental management among other factors.

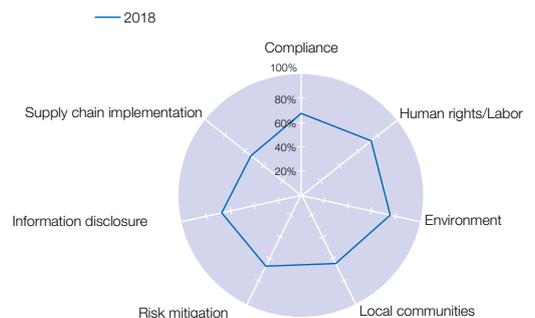
We obtain understanding and agreement to the NSK Supplier CSR Guidelines and NSK Group Green Procurement Standards from all suppliers, and have also strengthened our risk management by incorporating clauses related to environmental, social, and governance (ESG) performance into basic transaction agreements.

**Supplier CSR Assessment**

NSK asks its suppliers to perform CSR assessments (self-assessment) and monitor the state of their operations (every two years). The results of our evaluation of these activities are then fed back to our suppliers.

Previous assessment results (conducted in 2016) showed that improving CSR procurement activities across the entire supply chain, including secondary and tertiary suppliers, was a key issue. As such, we request suppliers to make greater efforts to disseminate information on CSR activities to secondary suppliers and beyond at procurement policy briefings and other forums. In the CSR assessment conducted in Japan and China in 2018, we strengthened initiatives to reduce risk and added assessment items on the status of compliance with labor and environmental laws and the occurrence of environmental pollution accidents and workplace accidents. Furthermore, we started working on an initiative to implement audits conducted by a third-party organization in accordance with Responsible Business Alliance standards. A survey of the current situation has been conducted based on international standards in five areas—labor, ethics, safety and health, the environment, and management systems—and we are encouraging improvements on any findings of non-compliance.

**2018 Supplier CSR Self-Assessment Results  
(Replies from 426 Companies)**



## ■ Supply Chain Management

### Human Rights Initiatives

In recent years, there has been increasing concern about human rights risk in the supply chain, such as child labor and forced labor.

In response to the UK Modern Slavery Act, which was enacted in October 2015, the NSK Group partially revised the NSK Supplier CSR Guidelines in March 2016 to better prevent human rights violations throughout the supply chain. We also posted statements on the website of NSK Europe Ltd., which oversees the European region. (<https://www.nsk europe.com/en/modern-slavery-statement.html>)

### NSK Group Green Procurement Standards

The NSK Group Green Procurement Standards were established in order to promote environmental management in cooperation with suppliers throughout the entire supply chain, starting at the parts and materials stage. The standards set out initiatives such as climate change countermeasures, resource conservation and recycling, and control of environmentally harmful substances. (See pp. 77-78 for green procurement initiatives.)

## Meeting Regulations for Disclosure on Conflict Minerals

### Basic Policy

The NSK Group has a policy of not using conflict minerals and takes care in its procurement activities to avoid benefiting armed groups that violate human rights.

We take steps to avoid using parts or materials that are suspected to be related to armed conflict.

### Action Update

The Disclosure Rule under the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act in the United States requires an annual survey and disclosure of information on the status of use of four conflict minerals (tin, tantalum, tungsten, and gold) originating in the Democratic Republic of the Congo and surrounding countries. Its goal is to cut off the source of funding for armed groups and rebels involved in human rights violations. This rule took effect in January 2013.

NSK is not listed on a U.S. stock exchange and so is not subject to these rules. Nevertheless, we have adopted a policy of avoiding the use of conflict minerals and are working with suppliers on this issue. In 2013, the NSK Supplier CSR Guidelines were revised to unequivocally prohibit the use of conflict minerals, and we have endeavored to raise awareness of the revised guidelines among our suppliers. Since then, we have conducted a conflict mineral survey every year with cooperation from the suppliers of parts and materials used in NSK products. Surveys through 2018 have not identified any case of conflict minerals produced in restricted regions.

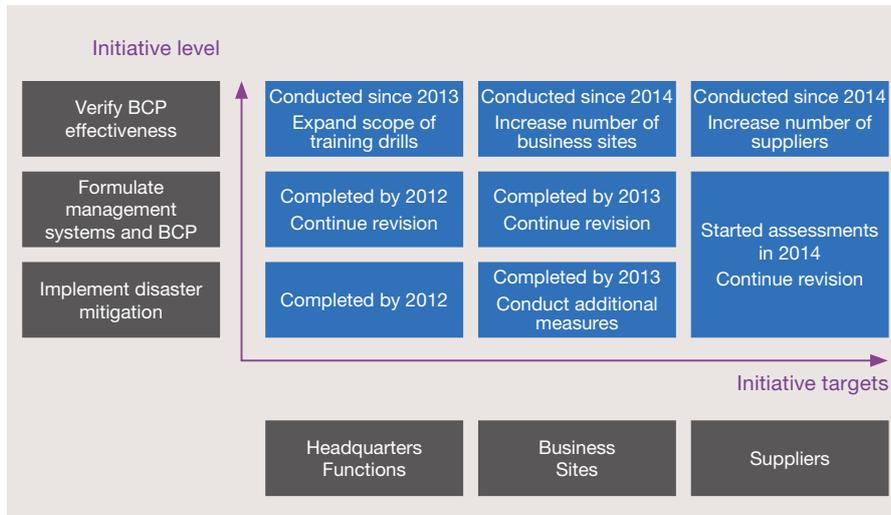
■ Supply Chain Management

## Enhancement of Supply Chain BCP Effectiveness

The NSK Group has built a system that quickly identifies the scale of damage and problems at suppliers in the event of a disaster and facilitates a precisely targeted response in cooperation with suppliers. Drills are conducted regularly to ensure sites properly utilize the Supplier Safety Confirmation System, which is used for emergency contact. We have also asked major suppliers to create their own BCPs and verified their progress in order to strengthen risk management throughout the supply chain.

In fiscal 2018, supplier BCP inspectors visited 33 suppliers, where they inspected the status of BCP initiatives and identified priority concerns. We are determined to build a more disaster-resistant supply chain by continuing to forge cooperative relationships with suppliers.

### BCP Formulation Status





# Good Labor Practices

## Creating a Dynamic Work Environment

As globalization continues its advance, there are more and more opportunities for exchange among people of different nationalities and backgrounds. It has never been more important to work across national borders and regional boundaries to achieve prosperity for all, and the basis of this must be deeper mutual understanding. Companies, for their part, are now expected to work toward the development of safer, more engaging workplaces that respect the cultures and practices of countries and regions worldwide, and that embrace diversity in the workforce.

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- P.56 Initiatives for Human Resource Management
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# Initiatives for Human Resource Management

## NSK's Approach

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

## Policy

The NSK Group's Management Principles clearly state 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 the NSK Group in the future.

### Creating a Dynamic Work Environment



## Global Human Resources

The Human Resource Management Division Headquarters collaborates closely with regional HR departments worldwide on a variety of efforts, all guided by the commitment described above. At the biannual Global Human Resources Committee meetings, HR managers from each region meet to report on their regional initiatives, share about local challenges they face, and engage in global discussions on measures to further improve talent management.

### Structure of the Human Resource Management Division Headquarters



## Fifth Mid-Term Management Plan Targets (FY2016 – 2018)

### ■ Build a Global Talent Management System

- Accelerated leadership development
- Collaborative succession planning
- Developing talent with a diverse range of experience

### ■ Promote Diversity and Inclusion, and Build Safe, Secure, and Inspiring Workplaces

- Recruit high potential candidates from diverse backgrounds
- Create work environments where every member of our diverse team can maximize their strengths and abilities

Under the Fifth Mid-Term Management Plan, NSK worked to build a global talent management system. We also standardized rules and policies across regions and implemented various initiatives aimed at leveraging our talent worldwide.

At NSK, we are committed to promoting diversity and inclusion and to building safe and inspiring workplaces. In order to transform employee mindsets on the value of diversity, we have provided diversity training and e-learning opportunities, and have ensured that diversity is a key topic in messages given by the president. At the same time, to enable our diverse workforce to fully develop their unique skills and abilities, we focused on empowering our people to balance work and family commitments. For example, we began childcare services on national holidays and trialed a flextime system with no core time. Heading into our Sixth Mid-Term Management Plan, we will endeavor to create a work environment that empowers our employees to achieve their full potential by providing flexible work options that give our people more choices.

### ■ Initiatives in Fiscal 2018

In fiscal 2018, the Global Human Resources Committee continued to focus efforts on enhancing developmental management of successor candidates positioned to fill key global positions. The Global Management College, established to develop the next generation of organizational leaders, began its eighth annual program in fiscal 2018. The college has graduated 99 participants over the last eight years, and they have all gone on to contribute to NSK business operations throughout the world.

The NSK Group is committed to diversity and inclusion, and we strive to create workplaces that are motivating for all employees. We are working to deliver on this in four priority areas: promoting a better understanding of diversity and inclusion; supporting working parents and caregivers; promoting the advancement of women in the workplace; and work style reform.

NSK has been recognized externally for its health and wellness initiatives, receiving certification as an Outstanding Health and Productivity Management Organization (White 500) for two consecutive years in 2018 and 2019.

## Sixth Mid-Term Management Plan Targets (FY2019 – 2021)

### Promote maximum engagement\* and create people capable of supporting our next phase of growth

In line with NSK's basic approach and policy on talent management, during the Sixth Mid-Term Management Plan for fiscal 2019 to fiscal 2021, we will implement measures focused on promoting maximum engagement and creating people capable of supporting our next phase of growth. Specifically, we will carry out the following initiatives.

#### ■ Build a global talent management system

#### ■ Promote more diversity and inclusion

#### ■ Support the career advancement of each and every employee

#### ■ Revise HR policies to capitalize on the abilities of a diverse workforce

#### ■ Promote work style reform

#### ■ Promote health and wellness

#### ■ Support operational efficiency and better decision-making through ICT solutions

\*At NSK, engagement indicates a strong connection between company and employee built on mutual trust.

## Dialogue and Respecting Fundamental Rights at Work

### NSK's Approach

Respecting the fundamental rights of employees is one of the most important ways for the NSK Group to fulfill its social responsibility as a corporate citizen and employer operating a global business. As such, we are committed to conducting business in a way that affords equal opportunity and respects the fundamental rights of our employees. (See p. 30 for details.)

### Employment Policy to Preserve the Stability of NSK and Society at Large

As a corporate group committed to high-quality manufacturing, the NSK Group pursues sustainable growth. For this reason, we take a long-term perspective on employment and highly value the ongoing recruitment and development of outstanding human resources to lead our businesses in all the countries and regions where we operate. We have a policy aimed at preventing mass layoffs, and we also engage in appropriate employment practices in accordance with international norms and local laws and ordinances.

### Labor-Management Relations Based on Dialogue

The NSK Group regards sound labor-management relations as critical to sustainable growth. One way in which we respect fundamental rights at work, as pledged in the NSK Code of Corporate Ethics, is by guaranteeing employees the right to communicate openly and directly with management without fear of retaliation, intimidation or harassment. Employees and managers work as partners and strive to communicate at a deeper level, sharing their views on the work environment and business conditions, and discussing and implementing improvement measures. We are committed to creating workplaces where employees can proactively engage in their duties.

As of March 31, 2019, a total of 83% of the Group's eligible employees in Japan belonged to a labor union. Through regular meetings between employee representatives and members of the management team, participants discuss ways of improving the workplace through better working hours and improvements in safety and health.

## Creating an Organization That Embraces Diversity (Diversity and Inclusion)

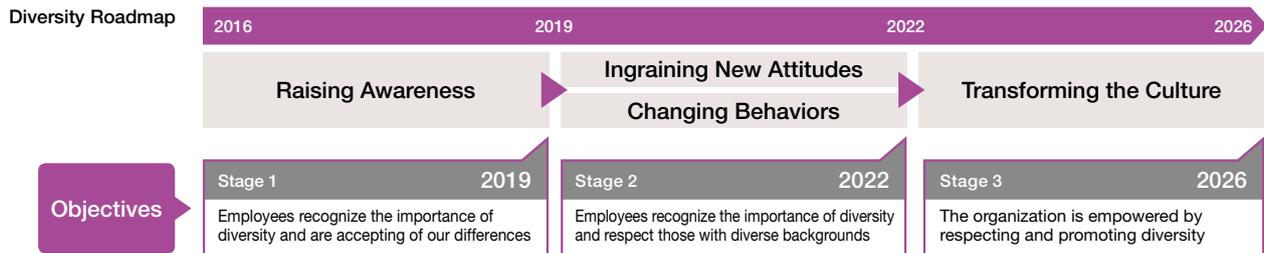
### NSK's Approach

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. This, in turn, will strengthen our competitiveness and capacity to avoid risks. This is why we are working to build a corporate culture that embraces diversity and is inclusive of all people and the values they hold.

### ■ Diversity and Inclusion Roadmap and Priorities for our Mid-Term Management Plan

The NSK Group is promoting diversity and inclusion in a three-phase initiative lasting from 2016 to 2026. From fiscal 2016 to fiscal 2018, we focused on raising awareness, and from fiscal 2019 to fiscal 2021, we are working on ingraining new attitudes and changing behaviors.

■ Initiatives for Human Resource Management ■ Initiatives for Occupational Health and Safety Management



#### FY2016–2018 Mid-Term Management Plan (Priority Areas)

Priority 1 Promote a better understanding of diversity and inclusion

Priority 3 Promote the advancement of women in the workplace

Priority 2 Support working parents and caregivers

Priority 4 Work style reform

During the phase of raising employee awareness, which coincided with the FY2016-2018 Mid-Term Management Plan, we started with a focus on promoting the advancement of women and supporting working parents. We later expanded our support to include family caregivers, making our efforts relevant to more employees, which helped increase awareness and create more support for our initiatives. This also encouraged better understanding of the importance of diversity and inclusion in general.

#### FY2019–2021 Mid-Term Management Plan (Priority Areas)

Priority 1 Promote a better understanding of diversity and inclusion

Priority 3 Promote career advancement for women

Priority 5 Work style reform

Priority 2 Support work-life balance (parenting, caregiving, medical treatment)

Priority 4 Promote the advancement of non-Japanese employees

The Mid-Term Management Plan for fiscal 2019 to fiscal 2021 inherits the priority measures from the previous plan. With this, we will continue to take steps to empower women, which is a key management issue. At the same time, now that the number of women playing central roles in the company has gradually begun to increase, we will expand our initiatives in other areas, working to empower not only women, but also non-Japanese employees and those who identify as LGBT. We are determined to advance all aspects of diversity and inclusion. Accordingly, we have included the empowerment of non-Japanese employees in Japan as a priority under the current Mid-Term Management Plan. We will improve the environment and foster a workplace culture that allows non-Japanese employees to take an active role in advancing their own careers. We also recognize that encouraging diverse employees to play an active role requires that we make progress in creating more flexible work arrangements. This is why we will move forward with work style reform, hand in hand with diversity and inclusion, recognizing that they are critical to one another. In this way, we will work to ingrain new attitudes and change behaviors simultaneously.

#### ■ System for Promoting Diversity

The mission of the Diversity Promotion Office is to support the development of a rewarding corporate culture and a work environment that enables all employees to make the most of their unique mix of strengths and abilities. To make this a reality, the office is rolling out measures in priority areas to accelerate diversity within NSK.

### Main Initiatives in Fiscal 2018

In fiscal 2018, the NSK Group continued to work on raising awareness.

Under Priority 1, we carried out awareness-raising activities company-wide by holding lectures (twice in the year) and providing e-learning on the topic of diversity and inclusion. Under Priority 2, we supported working parents and caregivers by publishing three kinds of support guidebooks on work-life balance support (one for working mothers, another for caregivers, and a third for managers of working parents). We also held seminars to help employees transition back to work after parental leave, as well as seminars on caregiving. Under Priority 3, we worked to support career advancement by offering training courses for women in managerial track positions. Under Priority 4, we offered a telecommuting option on a trial basis to provide more flexible work arrangements. In these and other ways, we have taken a broad approach to mainstream support for diversity.

Furthermore, we have included sexual orientation and gender identity in the NSK Compliance Guidebook (see p. 29) and issued the NSK Guidelines on Creating Accommodating Workplaces for Transgender Employees. In fiscal 2019, we also began initiatives to increase LGBT (SOGI) allies.

■ Initiatives for Human Resource Management ■ Initiatives for Occupational Health and Safety Management

### ■ 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.

\*Competencies: A set of demonstrable characteristics and skills

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

At NSK, we believe that empowering more women to actively demonstrate their abilities in the workplace will encourage diversity and inclusion, enhancing the overall competitiveness of the Company. To achieve this, we have begun making efforts to hire more women and to expand their work options. Our efforts do not stop there, however: as a first step in cultivating diversity in talent and values at the management level, NSK conducts training for women who are managerial candidates to prepare them with the skills and mindset they will need to excel as leaders.

Once every three months, women from sales divisions of regional branch offices get together in working groups to study and propose improvements. These groups enable women to network beyond their immediate workplaces, energizing our organization as a whole.

In technical departments, women at the assistant manager level launched activities to educate the next generation, including planning a reverse engineering program used in a social contribution activity (Riko-challe\*1).

\*1 Riko-challe: An initiative led by the Gender Equality Bureau of Japan's Cabinet Office, the Ministry of Education, Culture, Sports, Science and Technology, and the Japan Business Federation, to support career choices for female students who are interested in STEM fields

#### Female Employee Rate and Female Manager Rate\*2

	FY2017	FY2018
Female employees	10.5%	10.6%
Female managers	1.6%	1.6%

\*2 Includes employees of NSK Ltd. and main group companies in Japan.

### ■ Helping to Support an Aging Society (Japan)

Japan's population is aging rapidly. Due to changes in the public pension system, it has become a societal expectation that companies provide access to employment opportunities even after mandatory retirement. NSK recognizes that the knowledge and skills of experienced senior employees are beneficial in growing its business. Our basic policy is to provide work opportunities to employees willing to continue at NSK after retirement. We have had a rehiring program in place since April 2001.

Upon passage of Japan's Revised Act on Stabilization of Employment of Elderly Persons, which came into effect in April 2013, we revised our rehiring program to improve labor conditions and ensure stability for our senior employees.

#### Number of Rehired Senior Employees\*

	FY2014	FY2015	FY2016	FY2017	FY2018
Senior employee rehiring system	470	505	620	570	592
Other (fixed-term contract, etc.)	28	25	35	54	68
Total	498	530	655	624	660

\* Includes employees of NSK Ltd. and main group companies in Japan.

### ■ Providing Work Opportunities to People with Disabilities (Japan)

At NSK, we believe it is our responsibility to provide employment opportunities for people with disabilities. Special subsidiary NSK Friendly Services Co., Ltd., in particular, provides opportunities for people with intellectual disabilities to work and thrive in our organization. In fiscal 2018, NSK Ltd., major NSK Group companies in Japan and NSK Friendly Services together employed a total of 162 people with disabilities, representing 2.25% of all employees.

#### Employment Rate of People with Disabilities\*

	FY2014	FY2015	FY2016	FY2017	FY2018
Employment rate of people with disabilities	2.09%	2.17%	2.20%	2.09%	2.25%
Legally mandated employment rate	2.0%	2.0%	2.0%	2.0%	2.2%

\* Includes employees of NSK Ltd., main group companies in Japan, and NSK Friendly Services.

## Human Resource Systems and Development Programs That Support Sustainable Business Practices

### NSK's Approach

Amid the ongoing process of globalization, the NSK Group aims to bring out employee potential and maximize talent by providing work environments that enable people to recognize problems faced across all cultures and borders and work together to resolve them.

We have honed in on three central strategies for raising up a diverse talent pool: developing global talent, developing talent with professional expertise, and creating HR systems that embrace diversity.

### Development Programs

#### ■ Human Resource Development Programs

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

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

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

■ Initiatives for Human Resource Management ■ Initiatives for Occupational Health and Safety Management

**Career Development System**

		Pre-Employment	New Employees	2nd Year and Beyond	Assistant Managers	Managers	Senior Managers
Company-Wide Common Training	Rank-based Training	<ul style="list-style-type: none"> <li>● Training before joining company                             <ul style="list-style-type: none"> <li>- English</li> <li>- Business etiquette</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● New employee development                             <ul style="list-style-type: none"> <li>- New employee development (approx. 1 month)</li> <li>- Plant training (approx. 3 months)</li> <li>- Follow-up training (conducted three times during first two years)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Career seminar</li> <li>● New employee development and guidance training</li> </ul>	<ul style="list-style-type: none"> <li>● New assistant manager training</li> </ul>	<ul style="list-style-type: none"> <li>● New manager training</li> <li>● Manager training (for managers)</li> </ul>	<ul style="list-style-type: none"> <li>● Manager training (for senior managers)</li> </ul>
	Self-Improvement		<ul style="list-style-type: none"> <li>● Business skills training (correspondence course, e-learning)</li> <li>● Language training (group lesson, correspondence course, e-learning)</li> </ul>				
	Selective Training				<ul style="list-style-type: none"> <li>● NSK Management College                             <ul style="list-style-type: none"> <li>Manager Course</li> <li>General Manager Course</li> <li>Global Course (NSK Global Management College)</li> </ul> </li> </ul>		
Specialized Training	Production Department Training			<ul style="list-style-type: none"> <li>● NSK Manufacturing Education and Training Center Engineers                             <ul style="list-style-type: none"> <li>Beginner Course</li> <li>Intermediate Course</li> </ul> </li> <li>Skilled Operators                             <ul style="list-style-type: none"> <li>Mid-Career Course</li> <li>Electrical Maintenance Course</li> </ul> </li> </ul>			
	Technical Department Training		<ul style="list-style-type: none"> <li>● NSK Institute of Technology (NIT)                             <ul style="list-style-type: none"> <li>General education, optional/specialized classes (1-3 years)</li> <li>Technical English education</li> </ul> </li> </ul>			<ul style="list-style-type: none"> <li>MOT (Management of Technology) course</li> </ul>	
	Sales division Training			<ul style="list-style-type: none"> <li>● Sales ability enhancement training</li> </ul>			

■ **Language Education**

The NSK Group has selected English as a common language in order to conduct operations smoothly through active communication among employees around the world.

We offer English-language training led by external instructors at our headquarters and a number of plants in Japan. This provides employees with the opportunity to learn practical language skills relevant to their work. In fiscal 2015, we started Language Training Abroad, a new program giving promising language learners the opportunity to study overseas in an English-speaking country. In fiscal 2018, an employee was selected for the program and sent to study abroad.

At NSK Group sites outside of Japan, we are also conducting Japanese and English courses for local employees.

■ **NSK Global Management College**

To develop talent for managerial roles around the world, the NSK Group has been running the Global Management College (GMC) since 2011. During the college's eighth year in fiscal 2018, 13 employees were selected to participate, including representatives from the U.S., Canada, Germany, France, China, Singapore, India, Thailand, South Korea, and Japan. Sessions were held at NSK Group sites in Japan, South Korea, Indonesia, and the U.S. The participants gained knowledge and skills in leadership through an interactive curriculum, which included lectures on business strategy and visits to NSK Group sites and our customers.

The college has already graduated 99 people. These leaders are now driving NSK's business operations in their respective regions.

**Developing Highly Talented Engineers**

■ **NSK Institute of Technology (NIT)**

Established in November 2007, the NSK Institute of Technology (NIT) is a global educational institution that provides opportunities for employees to obtain knowledge on a broad range of market and customer technologies, while gaining specialized expertise by diving deeper into fields of focus at NSK. Going beyond mere technical theory, the institute aims to provide a comprehensive education in our

■ Initiatives for Human Resource Management ■ Initiatives for Occupational Health and Safety Management

technologies, from the application and handling of products to quality management, production methods and cost management. The credit-based curriculum is divided by academic discipline, with classes provided at technology departments in Japan and technology centers around the world. In addition to these standard courses, there are objective-based courses such as English instruction, technology management training, sales engineer training, and quality education that combine textbook knowledge with practical skills and ethics for engineers. Open seminars are also held periodically, where external lecturers introduce new perspectives into the organization. In these programs, NSK goes a step beyond mere technical training in an effort to raise up highly talented engineers who will have a direct impact on strengthening the competitiveness of our businesses.

In fiscal 2018, 451 students were enrolled in standard programs offered at 10 sites in eight countries.

**NIT Education System**

**NIT Standard Course: Three-Year Curriculum Mainly for Newly Graduated Engineers**

	Basic Engineering	Bearing Technology	Steering Technology	Precision Technology	Specialized Training (Liberal Arts Course)	
Third year	Vocational classes	Vocational classes	Vocational classes	Vocational classes	Vocational classes	English education (only in Japan)
	General classes (e.g. critical thinking, communications)					
Second year	Vocational classes	Vocational classes	Vocational classes	Vocational classes	Vocational classes	
	Liberal arts classes					
First year	Vocational classes	Vocational classes	Vocational classes	Vocational classes	Vocational classes	
	Liberal arts classes					

■ **NSK Manufacturing Education and Training Center**

Seeking to develop frontline manufacturing specialists to inherit unique skills and expertise and pass them on to the next generation, NSK established the NSK Manufacturing Education and Training Center at Ishibe Plant in Shiga Prefecture and at Fujisawa Plant in Kanagawa Prefecture. The technical education provided at these facilities, conducted in three courses on grinding/assembly, maintenance, and electrical maintenance, offers training suited to the abilities and experience of each individual employee. Going forward, the centers will continue conducting the education needed to ensure skill transfer among our frontline employees.

**NSK Manufacturing Education and Training Center: Courses and Content**

	Course	Participants	Period	Course Content
Skilled Operators	Skilled operators (grinding/assembly)	Skilled operators	3 months	• Skills knowledge focused on the fundamentals of shop floor management
	Skilled operators (maintenance)	Skilled operators	3 months	• Special skills for repair/maintenance as well as shop floor management
	Electrical maintenance	Candidates for advanced maintenance staff	6 weeks + 2 months (at plant)	• Fundamentals of electrical maintenance (basic theory, programming, troubleshooting) • 2 months of hands-on training at plant
Engineers	Beginner-level engineers	Engineer with 2-3 years (or equivalent) experience	6 weeks	• Fundamentals of being a plant engineer (basic engineering, basic management knowledge)
	Intermediate-level engineers	Engineer with 5-7 years (or equivalent) experience	1 week (held twice)	• Knowledge for shop floor management skills for intermediate-level engineers • <i>Monozukuri</i> knowledge from the Toyota Production System

**Employee Evaluation and Promotion Systems**

■ **Management by Objectives and Performance Agreement Systems**

The NSK Group has elected the Performance Agreement System as a means to align individual goals with departmental and corporate targets, allowing employees to maximize their potential as they grow along with their department and company. Under this system, employees meet regularly with their supervisors to set goals for the fiscal year, verify interim progress, and follow up on results at the end of the year. In order to ensure that evaluations are fair and that managers and their employees are engaging in interactive discussions fairly, we also conduct a survey to determine how satisfied employees are with evaluation feedback from their supervisors. This system is used for all employees, excluding shop floor workers in manufacturing departments. In fiscal 2018, 54% of employees (NSK Ltd. and major NSK Group companies in Japan) were evaluated under this system.

■ Initiatives for Human Resource Management ■ Initiatives for Occupational Health and Safety Management

### ■ Workplace and Career Aspirations Survey

Once a year, NSK gives employees the opportunity to submit feedback directly to the Human Resources Department through the Workplace and Career Aspirations Survey. The survey includes questions on their current workplace environment, the employee's personal aspirations for their future with the Company, and other personal concerns they might like to address. Employees may also request a follow-up interview with the HR Department. Based on the results of these surveys and interviews, we employ strategic personnel transfers to enable our employees to fully develop their unique skills and abilities. A total of 3,173 employees submitted the survey in fiscal 2018 (NSK Ltd. and major NSK Group companies in Japan).

### ■ Internal Job Posting System

NSK posts internal job offerings to promote engagement and help employees proactively develop their careers. Job postings specify qualification requirements and the number of people needed, and anyone interested can submit an application directly to the HR Department. By launching a system that allows employees to proactively seek out new types of work, NSK aims to improve employee motivation and engagement.

## Facilitating Work-Life Balance

### NSK's Approach

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, we strive to better manage employee working hours, to encourage employees to take their annual paid leave, and to provide a variety of work style options to fit their diverse lifestyles. In order to boost job satisfaction, we are also working to change employees' attitudes by promoting work style reform.

### 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 strives to provide support for working parents and caregivers. Our programs to support these employees go above and beyond the legal requirements. We not only provide comprehensive support for working parents and caregivers, but are also making 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 national holidays when regular daycare facilities close down.

We offer seminars to support a smooth transition back to work after parental leave and seminars for caregivers to prevent turnover, enabling them to continue working as they care for family in need. A total of over 5,000 employees have taken these seminars.

We have published and widely distributed three support guidebooks, updated for the first time in ten years, to help ease concern and promote workplace communication about work-life balance—one for working mothers, another for caregivers, and a third for managers of working parents.

In recognition of our efforts to support working parents of small children, the Minister of Health, Labour, and Welfare awarded NSK certification for Kurumin.\*

\*Kurumin: Based on the Act on Advancement of Measures to Support Raising Next-Generation Children, NSK formulated an action plan as a general business operator and received certification from the Minister of Health, Labour and Welfare as a corporation that supports child raising.

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

	NSK	Japanese Law
Parental leave	Through end of April following child's third birthday (first five days are paid)	Up to 2 years 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	

\* Includes employees of NSK Ltd. and main group companies in Japan

### Work Style Reform (Japan)

At NSK, we believe that giving employees more space away from work to develop their personal lives will allow them to be more productive and produce higher quality work on the job. For this reason, in addition to making flextime available to employees, we are striving to better manage working hours and to encourage employees to take their annual paid leave. We know that in order to create a place for our diverse workforce to thrive, we need to offer more flexibility in terms of both hours and location. We are currently working to expand our IT infrastructure and have begun a trial telecommuting program in July 2018, allowing select employees to work from home or a satellite office location. As part of this effort, we supported employees with a long commute by establishing one satellite office last year and two more locations in July 2019.

### Total Working Hours per Employee, and Average Days of Paid Leave Taken Annually\*

	FY2014	FY2015	FY2016	FY2017	FY2018
Total working hours per employee	1,857 hours	1,846 hours	1,865 hours	1,897 hours	1,889 hours
Average days of paid leave taken annually	17.0 days	17.2 days	16.8 days	16.9 days	16.5 days

\* Includes employees of NSK Ltd. and main group companies in Japan (Regular employees except managers)

\* The data was recalculated due to a change in calculation criteria.

### Lifelong Learning Program (Japan)

NSK provides employees with various opportunities to reflect on their health, personal finances, and life in general as they prepare for retirement. The Lifelong Learning Program and seminars on pension and employment insurance are widely attended by our employees.

## Initiatives for Corporate Health Management

### NSK's Approach

At NSK, we see an investment in health as an investment in corporate value, and as such, we are committed to a full range of initiatives to promote the health and wellness of our employees and their families. We have therefore established the NSK Basic Policy on Health and Wellness and have implemented various activities in line with the Three Main Focal Points of NSK Health and Wellness.

## NSK Basic Policy on Health and Wellness (Employee Wellness Declaration)

At the core of NSK's Vision to set the future in motion is a desire to create a brighter tomorrow where we can all lead safe, healthy, and fulfilling lives. It is NSK's firm belief that the health of our employees and their families is foundational to achieving this future.

The health—both of body and mind—of each one of our employees and their families is an invaluable asset to the Group. As such, NSK has established a management structure that prioritizes health and is committed to a full range of activities to promote employee wellness, all with the aim of improving their physical and mental health.

NSK sees an investment in employee wellness as an investment in the future profitability of the NSK Group, and will continue to proactively pursue initiatives in this area.

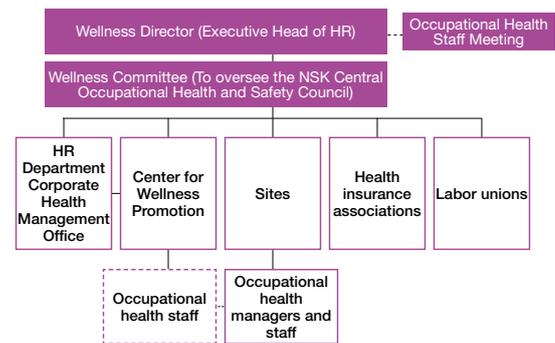
## Three Main Focal Points of NSK Health and Wellness

1. Focus on prevention. Support employees to prevent aggravation of medical conditions.
2. Implement and promote mental wellness strategies to prevent the onset of mental health issues.
3. Prevent damage to health by reducing secondhand smoke risks (through smoking cessation efforts, etc.).

## Corporate Health Management Structure (Japan)

NSK is committed to helping employees maintain and improve their health and wellness. Our collaborative approach involves the HR Department, the Center for Wellness Promotion, labor unions, health insurance associations, onsite labor divisions, and occupational health staff—all under the supervision of the executive head of HR. In April 2019, we established the Corporate Health Management Office within the HR Department to enhance our capacity to achieve our health and wellness objectives. We also built an organization that is more conducive to coordination. The resident occupational physicians in each locality report to the Corporate Health Management Office, and nurses and health specialists also hold concurrent posts in the office. Going forward, we will further advance health management by appointing a manager of occupational safety and health at each site. In addition, by holding regular meetings of occupational health staff and the Wellness Committee—a function established to oversee the activities of the NSK Central Occupational Health and Safety Council—we will continue improving our ability to support the wellness of employees.

## Corporate Health Management Structure



## Health Management Education (Japan)

We are working to spread awareness of the role of corporate health management and are actively encouraging our employees to be more conscious of their health.

### ■ Prevention of Secondhand Smoke and Anti-smoking Campaigns

Smoking areas are completely isolated at NSK workplaces. In fiscal 2018, we held multiple “No Smoking Days” and made efforts to spread the word by putting up posters at all our sites in Japan. Individual sites also carried out their own initiatives, including campaigns to encourage smokers to kick the habit.

### ■ Handbook Distribution

We also distributed the NSK Health and Wellness Initiative 2018 handbook to employees and executives in Japan to encourage everyone to better understand their state of health and lead more fulfilling lives. In addition, we featured employees' own efforts to improve their well-being in the company newsletter and on our intranet site and displayed health-related topics on digital signage set up at each site to grab the attention of employees.



Handbook

## Mental Health (Japan)

### ■ Mental Health Education

Through lectures from specialists and roleplay coaching, new employees are trained in self-care, and managers are educated in “line care,” providing line managers with the skills they need to notice and react to sudden changes in their employees. By learning to identify early signs of stress and gaining new strategies to help avoid it, we equip employees with the skills they need to help them nip mental health problems in the bud.

### ■ Using the Results of Stress Checks

NSK introduced a new indicator in its annual stress checks to measure the correlation between level of stress and degree of work motivation.

Employees are notified of the results of the stress checks so they can conduct their own self-care. Upon request from the individual or at the discretion of an occupational physician, this is then followed up with a personal consultation. Since fiscal 2018, we have been holding feedback meetings at sites in Japan to brief managers on the stress check results within their own departments. By taking new measures to improve the workplace and periodically checking up on our progress, we will work to improve our employee stress levels.

### ■ External EAP

With the help of external specialists, NSK also rolled out an employee assistance program (EAP)\* in fiscal 2012. The program enables employees to seek help for mental illness before it becomes too serious, supports employees as they transition back to work after a leave of absence, and works to combat recurrence of mental health problems. In fiscal 2018, we expanded the number of sites covered by the EAP.

\*Employee assistance program: A program that supports employee mental health

### ■ Mental Health Helplines

NSK has established helplines at each site to provide employees with a safe and easy option for getting help at their workplace. We have also set up a telephone hotline for employees and their families.

## Physical Health (Japan)

### ■ Disease Prevention and Lifestyle Improvements: Putting Checkup Results to Good Use

The prevention and early detection of disease is essential for ensuring that all employees can thrive in the workplace. That is why, every year, when employees have their annual health checkup, those with health concerns are encouraged to have follow-up consultations with a physician who can hear their concerns and recommend lifestyle improvements. Our health insurance associations also play a big role in the health of employees and their families, promoting early detection and prevention of disease progression through the Specific Health Guidance program and periodic cancer screenings.

## Status of Health Management (Japan)

Occupational physicians provide personal consultations and health recommendations to employees with health concerns. Nurses and health specialists at each site as well as outside providers will continue to provide health guidance through the Specific Health Guidance program.

### Status of Three Main Health Focal Points

	FY2016	FY2017	FY2018
Percentage of employees participating in the Specific Health Guidance program	26.1%	25.7%	25.3%
Percentage of employees receiving stress checks	96.7%	93.8%	95.9%
Percentage of employees who smoke	39.6%	39.1%	37.6%

## Outstanding Health and Productivity Management Organization

In fiscal 2019, NSK again earned external recognition for its health and wellness initiatives, receiving certification from Japan’s Ministry of Economy, Trade and Industry as a 2019 Outstanding Health and Productivity Management Organization (White 500) in the large enterprise category.



# Initiatives for Occupational Health and Safety Management

## NSK's Approach

To protect the safety and health of each and every employee, NSK approaches the issues 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."

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

## Organizational Structure for Occupational Health and Safety Management

The NSK Group appreciates the importance of a proactive approach toward safety and health to a sustainable manufacturing process. Accordingly, in fiscal 2016 we established a Safety and Fire-Prevention Enhancement Committee chaired by the president. We also hold periodic meetings on global safety and fire prevention—both for heads of operations in each region and regional fire and safety directors—to discuss global safety issues. Such meetings allow NSK to adopt unified priority issues for initiatives, share best practices among regions, and ultimately to create safe and healthy workplaces for all of our employees.

In the future, we will continue to leverage these meetings to maintain connections among regions and ensure worker safety.

### Global Safety and Fire-Prevention Management System



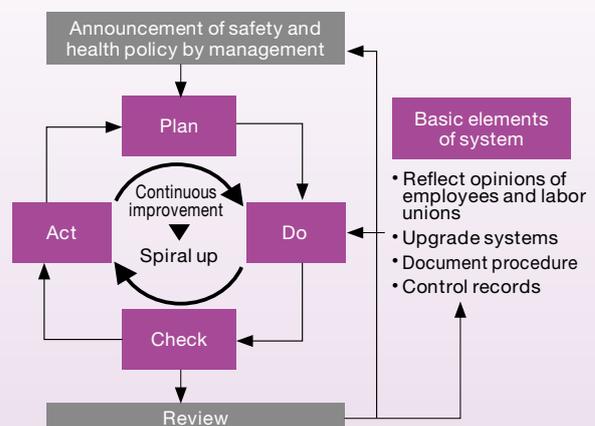
## Occupational Health and Safety Management System

The NSK Group has developed an occupational health and safety management system that complies with OHSAS 18001 and other related regulations. We strive to foster a "safety first" culture that fully engages all employees at each of our sites. We share information on any occupational health and safety incidents that do occur on a global basis and always work to prevent a recurrence of similar incidents by taking effective measures.

We are conducting activities globally with the intention of acquiring certification in the international standard covering occupational health and safety management systems. Following our certification for ISO 45001\* at three production sites in Japan in fiscal 2019, we plan to progressively proceed with certifications going forward. Outside Japan, a production site in India has already obtained certification. We will place a high priority on ensuring that each of our production sites around the world obtains certification. (See pp. 106-107, "Certification for Quality, Environmental, and Occupational Health and Safety Management Systems," for details.)

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

### Occupational Health and Safety Management System



## Fifth Mid-Term Management Plan Targets (FY2016 – 2018)

### Target

➤ In order to establish safe, secure, and comfortable workplaces, NSK will concentrate on the following three focal points.

#### Three Main Focal Points of the Fifth Mid-Term Management Plan

1. Correcting unsafe behaviors
2. Standardization, commonalization and sharing
3. Improving unsafe facilities

### ■ Initiatives in Fiscal 2018

In fiscal 2018, NSK again set the goal of zero major accidents. Accordingly, we strengthened measures for high-risk facilities and procedures and reinforced safety management of external contractors. We also started to encourage employees to work on raising safety awareness under the slogan “Look Across.”\*

\*“Look Across”: The act of seeing accidents at other sites as relevant to one’s own work or workplace and identifying risks and making improvements to prevent similar incidents

#### Three Main Focal Points

##### 1. Correcting unsafe behaviors

We rolled out initiatives to prevent major accidents globally, provided managers with safety education, and instituted a time for all employees to talk about safety every day.

##### 2. Standardization, commonalization and sharing

We standardized safety management of external contractors, revised fire prevention management rules, and trained fire prevention auditors in Japan.

##### 3. Improving unsafe facilities

We worked on facility risk assessments.

#### Lost-Time Accident Occurrence Rate

	FY2016	FY2017	FY2018
Japan	0.28	0.23	0.30
Outside Japan	0.89	0.79	0.41
Globally	0.68	0.59	0.37
Japan’s manufacturing industry (average)	1.15	1.02	1.20

\*Lost-time accident occurrence rate = Number of work accidents resulting in one or more days of work absence / total actual working hours × 1,000,000.

## Sixth Mid-Term Management Plan Targets (FY2019 – 2021)

### Three Main Focal Points

#### 1. Prevention of major accidents

- We will equip each production site to work through the PDCA cycle on its own to identify and improve dangerous spots that could lead to major occupational accidents including fatal accidents. We will enhance safety management of external contractors.

#### 2. Increasing safety awareness

- We will encourage behaviors that increase safety awareness, including Kiken Yochi (hazard prediction) Training (KYT) and the safety practice of pointing and calling.
- We will enhance safety management by seeking to acquire additional certifications in ISO 45001, the international standard for occupational health and safety management systems.
- We will establish a system for training safety auditors.
- We will establish a safety and fire prevention training center and foster a greater culture of safety.

#### 3. Prevention of recurrent accidents

- We will expand the “Look Across” efforts to frontline workers.
- We will identify risks using risk assessments for facilities and work procedures and implement countermeasures for those risks.

## Occupational Safety Measures

### Organizational Improvements

NSK established the Safety and Fire-Prevention Enhancement Committee—chaired by the president—to formulate policy and manage progress on objectives on a group-wide basis.

The committee meets four times a year to discuss issues and make decisions related to safety and fire prevention. In addition, we hold periodic meetings on global safety, and fire prevention and representatives from each regional headquarters\* also meet periodically to share best practices and discuss new fire and safety initiatives.

At global meetings held in 2018, regional safety directors shared improvement cases from their production sites. Later, they reflected these best practices in efforts to improve occupational safety at their respective production sites in each region.

\*Japan and South Korea, the Americas, Europe, China, ASEAN, and India.

### Standardization of Safety Education

NSK compiled a manual of procedures used in its Safety Dojo\* in fiscal 2018 for use in this training, which is currently being implemented at a limited number of plants and will be rolled out to production sites in countries around the world.

We have also created a safety and fire prevention portal on our internal intranet site to communicate accident information and safety resources that can be accessed by employees through easy-to-understand videos and photos.

\*Safety Dojo: Training site in the plant designed to help employees gain awareness of safety hazards and the importance of work rules by experiencing simulated accidents for themselves



Super Safety Dojo at the NSK Fukushima Plant (Japan)

### Initiatives for Intrinsic Safety

NSK incorporates safety measures into its equipment from the design stage and then conducts evaluations to raise the level of equipment safety, striving to prevent occupational accidents due to human error or machinery malfunction.

We are developing safety assessors who are highly knowledgeable about safety in our equipment development departments.

We also perform risk assessments on existing equipment at production sites to raise the level of safety in our facilities.

#### Total Number of Safety Assessors (Including Safety Sub-Assessors)

	FY2016	FY2017	FY2018
Design	51	78	115
Manufacturing sites	106	266	344
Group companies	65	140	160
Total	222	484	619



# Environment

## Protecting the Global Environment

Concern is growing over global environmental problems caused by human activities in pursuit of wealth. The depletion of resources, advance of global warming and climate change, chemical pollution of air and water, and declining biodiversity are all serious issues. All of humanity shares in the challenge of building sustainable societies while protecting the environment. The NSK Group has established and operates an environmental management system that ensures our decision-making reflects society's expectations. With this groundwork, we practice low-impact operations and strive to develop products and services that help reduce environmental impacts.

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# Environmental Management

## NSK's Approach

As outlined in NSK's mission statement, we adhere to the principle that global environmental protection must be an ever-present concern in all our business activities. Accordingly, our Environmental Policy states that environmental management forms the basis of our existence and pursuits. We use the PDCA cycle (Plan, Do, Check, Act) to apply countermeasures against global warming and environmental risks, to promote resource conservation and recycling, and to reduce the use of environmentally harmful substances. We also use PDCA to ensure compliance and create environmentally friendly products. In these ways, we are working to raise the environmental awareness of all our employees.

In fiscal 2018, we added the environment as one of NSK's core values and established a mid-term environmental action plan through fiscal 2021 as well as the 2026 NSK Environmental Action Plan, which are based on our vision for 2050. Additionally, in May 2019, we established NSK's SDGs Declaration (see p. 9), clarifying our determination to reduce environmental impact through operational, product, and service innovations as well as our intent to contribute to the following SDGs: 7. Affordable and clean energy, 12. Responsible consumption and production, and 13. Climate action. The NSK Group is determined to keep increasing its corporate value and help build a sustainable society by practicing environmental management.

## 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 actions, aiming to establish recycling-oriented societies.

### 1. Prevention of Global Warming

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

### 2. Reduction of 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 Code of Conduct

1. To promote the development of manufacturing technologies through the use of our Tribology (friction control and lubrication technologies) in order to create environmentally-oriented products.
2. To ensure energy and resource conservation within all spheres of our business operations.
3. To reform environmental management organizations by improving operational systems and clarifying chains of responsibility.
4. To more aggressively tackle environmental protection by setting and adhering to high internal standards, in addition to complying with laws, ordinances, and agreements.
5. To reduce environmental impact by promoting the switch from chemical substances that adversely affect the environment to environmentally friendly alternative substances, waste reduction, and recycling.
6. To encourage employees to understand our environmental policies and to ensure an environmental mindset in the company through education and internal communications.
7. To contribute to societies by conducting social environmental activities and addressing issues related to the preservation of ecosystems and human health.
8. To actively communicate with environmental authorities and local communities in order to receive insightful and constructive opinions, and to disclose the ongoing status of our environmental management activities to the public.

Established: December 12, 1997, Revised June 25, 2015



Reference data is available on our website.

[www.nsk.com](http://www.nsk.com) → Investors → IR Library →

Mid-Term Management Plan

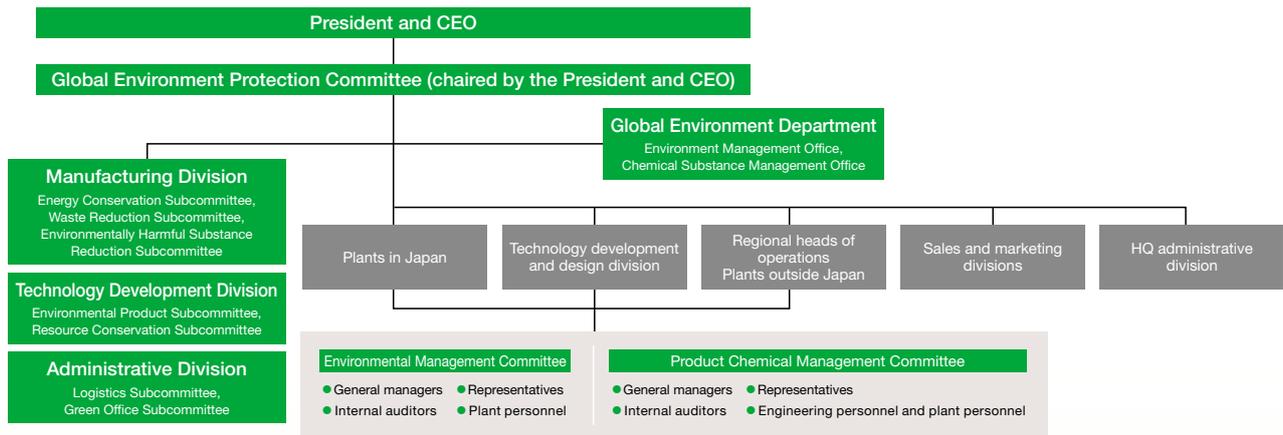
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## NSK Group Environmental Management Structure

NSK’s Global Environment Protection Committee is the top decision-making body for environmental management. The committee is chaired by the president and made up of 10 relevant officers, including the heads of each business division headquarters, the Technology Development Division Headquarters, and the CSR Division Headquarters. They are joined by key members from the Global Environment Department and other related departments. The committee meets three times a year to discuss mid- to long-term environmental action plans and environmental initiatives. Important matters discussed in the Global Environment Protection Committee are referred to the Board of Directors after their deliberation in the Operating Committee. Based on the Global Environment Protection Committee’s decisions, theme-based specialized subcommittees—which include the energy conservation, resource conservation, and environmental product subcommittees—along with the Head Office’s Global Environment Department, play a central role in promoting activities across the Group. Each site operates an environmental management system such as ISO 14001 and carries out daily environmental protection activities in accordance with Group policy and the policies of each subcommittee. Under the leadership of regional headquarters in Japan, Europe, the Americas, and China, top management at each site and executives at affiliates are responsible for environmental management and the administration of chemical substances. In this way, we are using PDCA cycles to improve environmental management throughout the Group. We aim to achieve environmental action plan targets globally by holding regular environmental meetings that focus on specific issues or regions, sharing issues and best practices, tracking progress, and following up repeatedly.

For fiscal 2018 initiatives and evaluations, see pp. 15-16, “Fiscal 2018 CSR Activity Targets and Performance.”

### Environmental Management System Organizational Structure



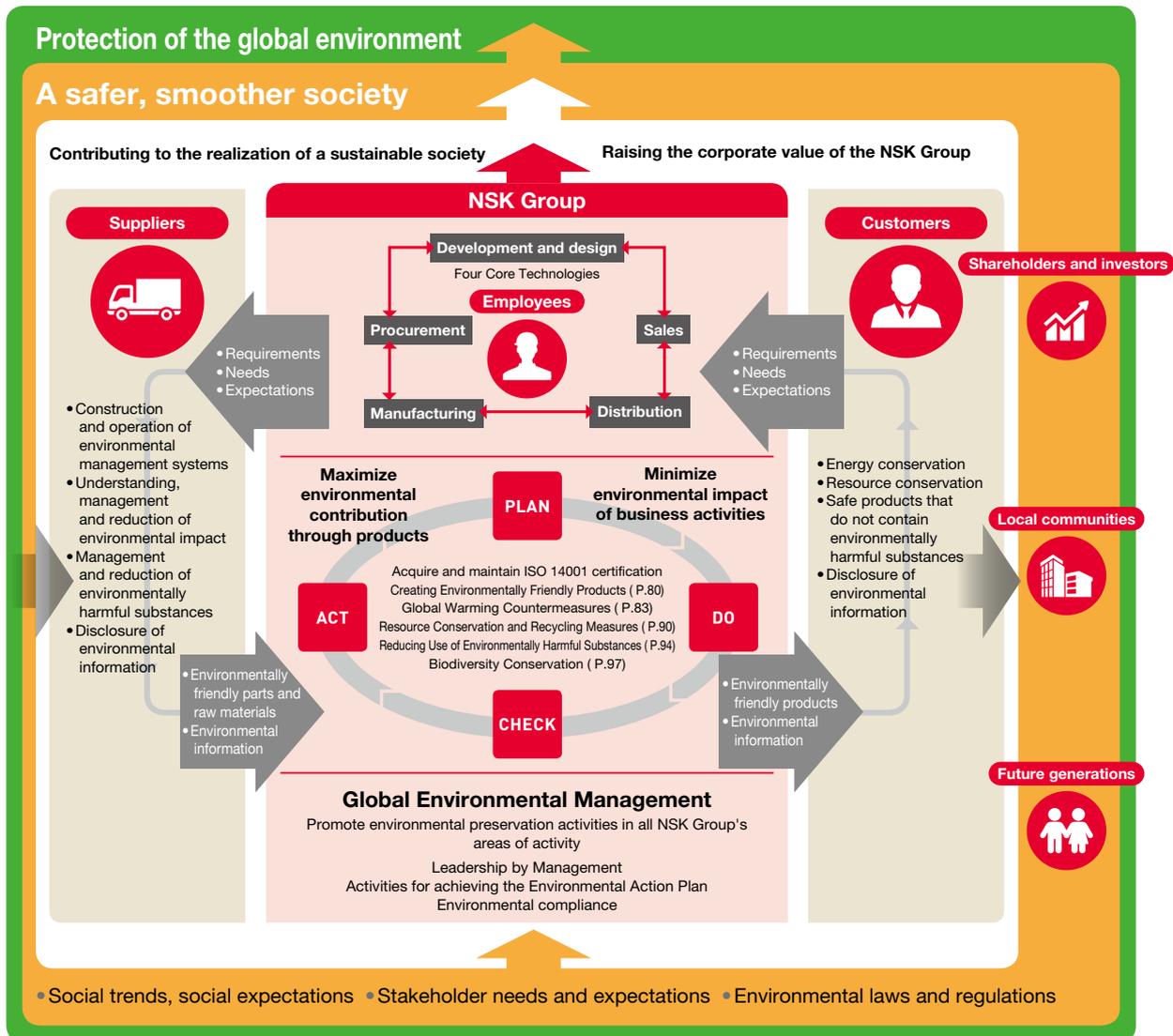
Specialized subcommittee	Scope of responsibility	
Manufacturing Division	Energy Conservation Subcommittee	Policymaking and progress confirmation for energy conservation activities and promotion of greenhouse gas reduction
	Waste Reduction Subcommittee	Promotion of 3Rs (reduce, reuse, and recycle) and appropriate disposal of waste
	Environmentally Harmful Substance Reduction Subcommittee	Promotion of reduction of environmentally harmful substances used in manufacturing processes
Technology Development Division	Environmental Product Subcommittee	Promotion of development and design of products that contribute to energy and resource conservation
	Resource Conservation Subcommittee	Promotion of reduction of resource consumption through efficient use of direct and indirect materials
Administrative Division	Logistics Subcommittee	Monitoring and promotion of reduction of energy during transportation
	Green Office Subcommittee	Promotion of energy and resource conservation and waste management in offices

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### Operating with a Keen Understanding of Environmental Risks and Opportunities

The international community has accelerated its efforts to build a sustainable world with the COP 21 Paris Agreement and the Sustainable Development Goals (SDGs). In response to this trend, new regulations and incentives are being introduced by country and region. These developments will very likely impact NSK’s business operations. For example, tighter regulations on CO<sub>2</sub> emissions from plants and stricter standards for air and water quality control could lead to increases in capital investment and administrative expenses. Many NSK products are used in automobiles, and these too are changing in response to environmental trends. The greater diversity of power sources, now in the process of shifting from gasoline and diesel to electricity (EV) and hydrogen (FCV), changes the functions and performance required of our products. This can be viewed as a risk in the short term, entailing increased R&D and capital investment, but it can also be seen in the long term as an opportunity to take advantage of expanding demand for environmentally friendly products. It is also possible the future will see increased risk of wind, flood or other damage to customers, suppliers, and the NSK Group’s sites, as well as greater risk of restrictions on water usage, as climate change becomes more serious.

We seek to respond appropriately while envisioning environmental risks and opportunities from both short-term and long-term perspectives. (See “Representative Risks Deemed of High Importance” on pp. 104-105 for details.) As such, we secure a solid understanding of environmental laws and regulations in each country and region, stay abreast of trends in environment-related technology development, and monitor the prevalence of wind and flood damage. We use this knowledge to define priority issues and incorporate the needed risk reduction measures into our environmental action plan. Under this environmental action plan, we are lowering the environmental impact of our business activities by reducing greenhouse gas (GHG) emissions, promoting resource conservation and recycling, and preventing environmental pollution. We are also steadily promoting activities with an awareness of the entire value chain, including the development of products and technologies that will help spread renewable energy, the development of environmentally friendly products that help conserve energy in customers’ machinery and automobiles, and the promotion of green procurement.



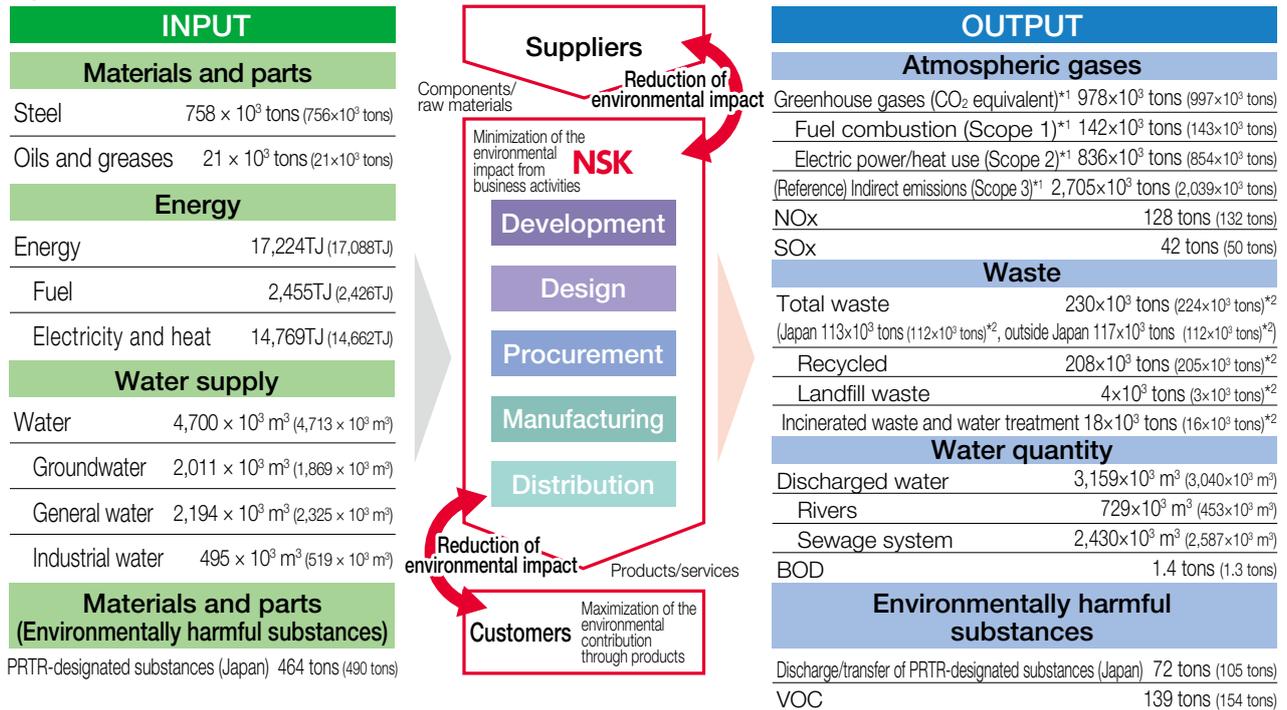
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## Material and Energy Balance (Understanding Environmental Impacts)

The NSK Group works with suppliers to reduce environmental impact via green procurement and other initiatives. We also strive to reduce the environmental impact of our customers and of society as whole by providing environmentally friendly products. We work hard to continually reduce the NSK Group's own environmental impact and to use energy and resources in the most effective manner. We do this by quantitatively tracking the input of resources used in business activities and the output of greenhouse gases (GHGs), waste, and other emissions. We classify our emissions under the Three Scopes of the Greenhouse Gas Protocol and strive to reduce emissions throughout the value chain. We have also expanded the scope of data we aggregate on substances that impact the environment, such as emission of air and water pollutants and amount of PRTR-designated substances handled.

### Input and Output of Global Business Activities (FY2017 and 2018)

Figures within parentheses indicate fiscal 2017 results



\*1 The amount of greenhouse gas emissions is multiplied by each region's global warming potential. In Japan, calculated in conformity with the Ministry of the Environment and the Ministry of Economy, Trade and Industry's Greenhouse Gas Emission Calculation and Reporting Manual. Outside Japan, calculated in conformity with the International Energy Agency's CO<sub>2</sub> Emissions from Fuel Combustion. The amount of greenhouse gas emissions for Scope 1 to Scope 3 are calculated based on the GHG Protocol calculation standards. Scope 1 is the amount of emissions from a company's own fuel use; Scope 2 is the amount of emissions from power plants, etc., due to the supply of electric power and heat from outside (consumed by a company); and Scope 3 is the amount of indirect emissions, such as emissions from supplier manufacturing processes for procured components and raw materials.

\*2 Fiscal 2017 waste figures are for production sites only.

## Environmental Information Management System

The NSK Group has established and operates an information management system including all production sites worldwide. This system attempts to streamline the collection of environmental impact data and to increase accuracy through data consolidation. By visualizing data such as production output, energy and water use, and waste emissions, we can more effectively manage targets and reduce our impact. We check the status of target achievement on a monthly basis and analyze the data. We have also expanded the scope of data we aggregate on air pollutants, water pollutants, and other harmful substances.

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## Fifth Mid-Term Management Plan Targets (FY2016–2018)

In the environmental action plan (see “Fiscal 2018 CSR Activity Targets and Performance” on pp. 15-16) for fiscal 2016 through 2018, NSK has been working to contribute even more to the environment through its products, and to minimize the environmental impact of its business activities. We seek to globally enhance our environmental management across the entire Group in order to help build a society that has a low carbon footprint, is committed to recycling, and deeply respects the natural environment.

### ■ Initiatives in Fiscal 2018

Fiscal 2018 was the final year of our Fifth Mid-Term Management Plan. We compiled our achievements and shortcomings and reflected them in the challenges addressed in our Sixth Mid-Term Management Plan.

#### Main Achievements and Shortcomings for FY2016–2018

○ Achieved △ Partially achieved

Category	Evaluation	Achievements and shortcomings
Environmental management	△	<ul style="list-style-type: none"> <li>● Finished updating environmental management system to be compliant with 2015 edition of ISO 14001</li> <li>● Had no serious environmental accidents or violations, but had instances of exceeding wastewater discharge standards</li> </ul>
Creating environmentally friendly products	○	<ul style="list-style-type: none"> <li>● Continued to make advancements in developing environmentally friendly products</li> <li>● Established standards to calculate CO<sub>2</sub> emissions avoided at the product use stage</li> </ul>
Global warming countermeasures	△	<ul style="list-style-type: none"> <li>● Achieved target for CO<sub>2</sub> emissions per production unit in Japan (manufacturing) but not outside Japan</li> <li>● Did not achieve overall CO<sub>2</sub> emissions target in Japan (manufacturing)</li> </ul>
Effective utilization of resources	△	<ul style="list-style-type: none"> <li>● Achieved recycling rate target in Japan (manufacturing)</li> <li>● Did not achieve recycling rate target outside Japan (manufacturing)</li> </ul>
Proper management of environmentally harmful substances	○	<ul style="list-style-type: none"> <li>● Conducted management of environmentally harmful substances and green procurement as planned</li> </ul>
Biodiversity conservation	○	<ul style="list-style-type: none"> <li>● Expanded biodiversity conservation activities</li> </ul>

## Sixth Mid-Term Management Plan Targets (FY2019–2021) and Long-Term Targets

The NSK Group has established mid-term targets (FY2019–2021) and long-term targets. Previously, we had carried out initiatives with the target of improving CO<sub>2</sub> emissions per production unit in production and technology divisions by 1% per year. With our new Mid-Term Management Plan, we changed the indicator from emissions per production unit to total emissions. Giving consideration to international trends such as the Paris Agreement, TCFD<sup>\*1</sup>, and SBT<sup>\*2</sup>, we also established long-term targets for reducing our overall global CO<sub>2</sub> emissions (Scope 1 + 2) by 60% from FY2017 to 2050.

We also established CO<sub>2</sub> emissions avoided at the product use stage as a new category, in order to offset CO<sub>2</sub> emissions through environmentally friendly products. Our aim is to contribute to society by ensuring that CO<sub>2</sub> emissions avoided through NSK products exceed the emissions generated by our business activities.

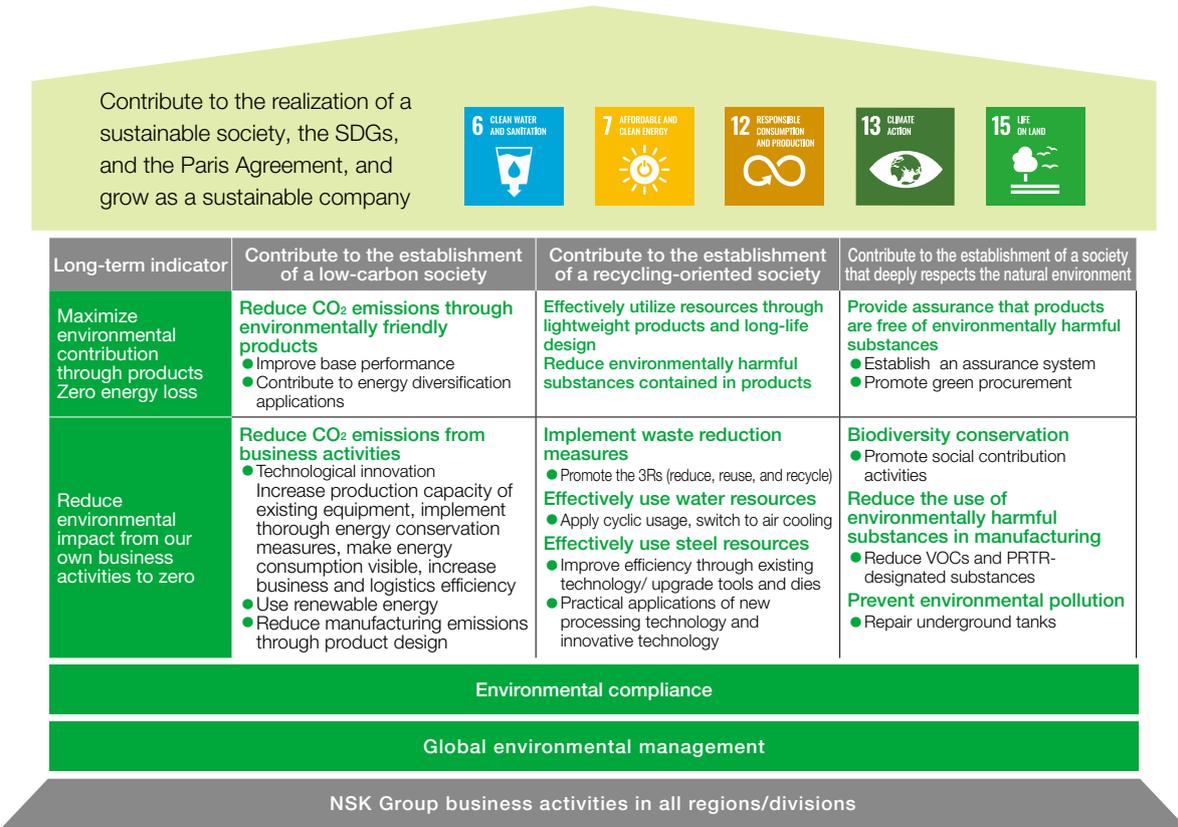
\*1 TCFD: Task Force on Climate-related Financial Disclosures. A task force established by the Financial Stability Board, which published a report in June 2017 recommending the disclosure of climate-related information that has an impact on finances. \*2 SBT: Science Based Targets

### ■ Sixth Mid-Term Management Plan Targets (FY2019–2021) and Long-Term CO<sub>2</sub> Emissions Reduction Targets (Overview)

Category	Indicator	Base year	Target				
			FY2021	FY2026	FY2030	FY2050	
Contribution to a low-carbon society	Product (design and development)	CO <sub>2</sub> emissions avoided at the product use stage	—	2 million t-CO <sub>2</sub> or more	—	—	—
	Manufacturing, offices, technical centers	CO <sub>2</sub> emissions	FY2017	7% reduction	16% reduction	25% reduction	60% reduction
	Distribution (Japan)	CO <sub>2</sub> emissions per transportation volume	FY2017	Japan: 4% reduction	—	—	—
Contribution to a recycling-oriented society	Development and design, manufacturing	Product steel waste	—	Continue reduction initiatives	—	—	—
	Manufacturing	Recycling rate	—	99%	—	—	—
		Industrial waste per production unit	FY2017	4% reduction	—	—	—
		Water withdrawal per production unit	FY2017	4% reduction	—	—	—
Distribution (Japan)	Industrial waste per production unit	FY2017	15% reduction	—	—	—	
Contribution to a society that deeply respects the natural environment	Social contribution initiatives	—	Continue expansion	—	—	—	

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**NSK Group Environmental Action Plan (Sixth Mid-Term Management Plan)**



**Main Initiatives in Fiscal 2018**

**Acquiring and Maintaining Environmental Management Certification**

The NSK Group implements the PDCA cycle for environmental management at all sites. We give special attention to environmental initiatives at sites involved in development, design, manufacturing, and distribution because these processes have a large environmental impact. We require these sites to obtain external ISO 14001 certification—the international standard for environmental management systems—within three years of full-scale operation, such as the start of mass production. We increase the effectiveness of our management system by obtaining certifications for each site and undergoing regular reviews by third-party organizations.

As of October 2019, all sites subject to external certification had obtained or maintained ISO 14001 certification. Moreover, the shift to the 2015 edition of ISO 14001 was completed at all certified sites by September 2018. (See pp. 106–107 for details.) Around 98% of GHG emissions, 98% of water consumption, and 99% of waste emissions generated by the NSK Group come from sites that have obtained ISO 14001 certification. Offices and other sites use environmentally responsible practices based on NSK’s policies.

**Green Procurement**

To reduce the environmental impact of the entire value chain, the NSK Group is strengthening efforts to preserve the environment in cooperation with suppliers. We seek to procure environmentally friendly parts and raw materials. To fully spread the NSK Group Green Procurement Standards throughout our global operations, we hold supplier briefings worldwide to raise local awareness and request that suppliers submit agreements to cooperate with environmental initiatives. We also verify the ability and willingness of supplier candidates to comply with the content of the NSK Group Green Procurement Standards before starting any business with them. By March 31, 2019, we had received agreement forms from 99% of the suppliers subject to green procurement in Japan and from 96% of key suppliers outside Japan.

In May 2019, we revised the NSK Group Green Procurement Standards and the List of NSK Environmentally Harmful Substances (see p. 95 for details) to comply with the revision of the EU’s RoHS2 Directive\*, which increased the number of



NSK Group Green Procurement Standards

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prohibited substances from six to ten. We will continue to comply with the directive and strengthen our green procurement initiatives.

\* EU's RoHS2 Directive: The EU's RoHS Directive, which restricts the use of harmful substances in electric and electronic devices, was revised in 2011 and is now called the RoHS2 Directive.

## Environmental Audits

Regular internal audits and third-party audits are conducted at each site around the world in accordance with ISO 14001. Additionally, the NSK Head Office's environment-related divisions and regional headquarters conduct audits designed to prevent oil leakages and spills, ensure compliance with environmental laws, and properly manage waste and environmentally harmful substances. In China, audits by external organizations are also conducted.

All audits conducted in fiscal 2018 found no serious problems, and minor findings were corrected.

See pp. 94–95 for details about audits of the management of environmentally harmful substances.

## Environmental Education and Training

To further strengthen and increase the effectiveness of environmental protection initiatives, each employee must have the proper awareness to implement measures based on sound knowledge. The NSK Group conducts ongoing initiatives to raise employees' environmental awareness and provides rank-based training to deepen knowledge. In fiscal 2018, we conducted 463 training sessions in Japan, and 17,776 employees attended. We also continually conducted e-learning. We routinely conduct training for emergency situations, such as oil leakages and spills, and verify response procedures and communication systems.

### Fiscal 2018 Environmental Education Courses and Participants (Japan)

Training course type	Number of participants	Number of sessions
(1) Compliance with environmental laws and regulations	2,398	125
(2) Raising environmental awareness	14,326	274
(3) Acquisition of environmental qualifications	131	34
(4) Environmentally friendly design, green purchasing and procurement	921	30
Total	17,776	463



Emergency response training

## Compliance and Countermeasures for Environmental Risks

The NSK Group goes beyond just complying with environment-related laws. We carry out initiatives in line with policies for preventing environmental pollution and reducing environmental impact by establishing rigorous internal standards for measures such as air and water cleanliness that go beyond legal obligations. Moreover, in the event of an environmental accident or legal violation, we report the matter to administrative bodies, investigate the cause, and promptly implement countermeasures.

In recent years, environmental regulations in China have rapidly tightened. As in the previous year, in fiscal 2018, NSK's Head Office conducted environmental audits of all 11 plants in China, and an external Chinese environmental organization also conducted an audit to ensure thorough compliance with laws and regulations. All of our plants in China release non-industrial wastewater to sewage systems, and three plants have now installed septic tanks to comply with tighter regulations.

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### ■ Remediating Soil and Groundwater Pollution

The NSK Group completely eliminated the use of chlorinated organic solvents by fiscal 2003. However, we are continuing to clean up five sites where past use has left traces of contamination in soil and groundwater. We regularly monitor groundwater and report our progress to agencies.

### ■ Reducing the Risk of Oil Spills

Since tanks and piping buried underground cannot be viewed directly, it could take a while to discover any oil spills or leaks. To prevent soil and groundwater from getting contaminated by oil used in manufacturing, all sites in the NSK Group are ending processes that use oil, moving underground tanks above ground, and making tanks double-walled.

We are also strengthening initiatives to prevent the runoff of oil from plants. At all sites around the world, we ensure that proper response procedures are in place by conducting periodic training based on oil leak scenarios. In addition to installing oil-water separator tanks near rainwater drainage outlets, we have been installing oil film detectors to prevent even the slightest oil runoff. As of fiscal 2018, 17 detectors have been installed at plants in Japan. We plan to finish installing the remaining two detectors in fiscal 2019. We also plan to begin installing oil film detectors at production plants in China in fiscal 2019.

### ■ Status of Compliance with Environmental Laws

In fiscal 2018, there were no serious legal violations or environmental pollution accidents that had a significant impact on the external environment. However, there were a total of three cases of cafeteria drainage exceeding wastewater discharge standards at sites in Japan and the ASEAN region. Countermeasures were implemented in each case.

# Creating Environmentally Friendly Products

## NSK's Approach

The products of the future must perform better than current products to help reduce the impact that human societies have on the natural environment. At NSK, we aim to contribute to a safer, smoother society and to help protect the global environment as spelled out by our Corporate Philosophy. As such, we are working hard to accurately determine the needs of our customers and of the broader society, as well as to develop environmentally friendly products and technologies that make the most of the Company's Four Core Technologies (tribology, materials, numerical simulation, and mechatronics), with the "plus One" of manufacturing engineering. In this way, we aim to contribute to the establishment of a low-carbon society and to pursue sustainable growth for NSK.

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

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

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

## Fifth Mid-Term Management Plan Targets (FY2016–2018)

The NSK Group is creating even more environmentally friendly products and technologies based on the NSK Environmental Policy and the Basic Policy for the Development of Environmentally Friendly Products. We also employ NSK Eco-efficiency Indicators (Neco) when developing products.

### ■ Initiatives in Fiscal 2018

The NSK Group developed two new environmentally friendly products\* that help customers conserve energy and resources in fiscal 2018. Since 2002, we have developed 226 such products. We also established guidelines we use to calculate how much CO<sub>2</sub> our products help to reduce when customers use our products.

\* Products with a Neco score of 1.2 or higher

## Sixth Mid-Term Management Plan Targets (FY2019–2021)

We established "CO<sub>2</sub> emissions avoided at the product use stage" as a new target category, in order to offset CO<sub>2</sub> emissions through environmentally friendly products. Our aim is to contribute to society by ensuring that CO<sub>2</sub> emissions avoided through NSK products exceed the emissions generated by our business activities.

### ■ Sixth Mid-Term Management Plan Targets (FY2019–2021)

- Reduce two million tons or more of CO<sub>2</sub> emissions at the stage of use of NSK's products by improving base performance and contributing to energy diversification applications
- Create environmentally friendly products with a Neco score of 1.2 or higher (ongoing target)

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## Main Initiatives in Fiscal 2018

### Development of Two New Environmentally Friendly Products

In fiscal 2018, the NSK Group developed two new environmentally friendly products that help customers conserve energy and resources. Since 2002, we have developed 226 such products.

#### Environmentally Friendly Products Developed in Fiscal 2018

Products	Technology Developed by NSK	Benefits for Customers	Neco
<b>High-Efficiency Motor Bearings</b> 	<ul style="list-style-type: none"> <li>● <b>Loss reduction</b> The application of an appropriate amount of specialized grease, developed by NSK, reduces stirring resistance and cuts loss by 60%</li> <li>● <b>Extending product life</b> Specialized grease curtails friction in the bearing interior and extends product life (by 2.7 times or more)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Energy savings</b> Lower motor power consumption for industrial machinery</li> <li>● <b>Resource conservation</b> Reduction of resource consumption by extending product lifespan</li> </ul>	2.5
<a href="https://www.nsk.com/company/news/2018/1025b.html">https://www.nsk.com/company/news/2018/1025b.html</a>			
<b>High-Durability Precision Ball Screws for high-accuracy machine tools</b> 	<ul style="list-style-type: none"> <li>● <b>Extending bearing accuracy lifespan</b> 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</li> <li>● <b>Reducing frictional torque* during low-speed running</b> Frictional torque is reduced as an oil film is formed during low-speed running that causes severe conditions</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Improved reliability</b> Prevention of deterioration in machining accuracy for highly accurate machine tools</li> <li>● <b>Maintenance cycle extension</b> Lower maintenance frequency</li> <li>● <b>Energy savings</b> Lower frictional torque contributes to energy savings</li> </ul>	1.5
<a href="https://www.nsk.com/company/news/2018/1030a.html">https://www.nsk.com/company/news/2018/1030a.html</a>			

\* Reducing frictional torque: Friction is reduced during rotations, making lighter power rotations possible

### Highlight

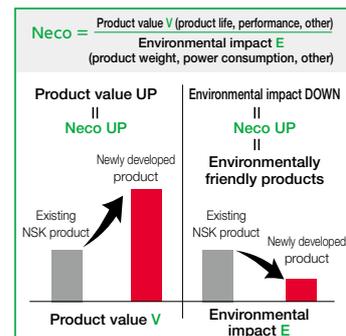
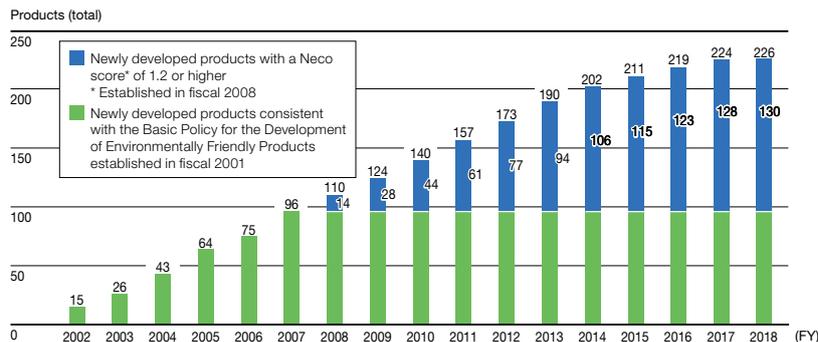
#### Assessment Indicators for Environmentally Friendly Products (Neco)

The development of environmentally friendly products requires a balance of diverse performance improvements to save energy and resources. Ideal performance factors, such as higher efficiency, lower friction loss, smaller size/less weight, and longer life, are often at odds. Accordingly, we introduced NSK Eco-efficiency Indicators (Neco) as a yardstick to fully assess how a developing product fares in terms of 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. We are working to develop new products with a Neco score of 1.2 or higher.

#### Number of Environmentally Friendly Products Developed



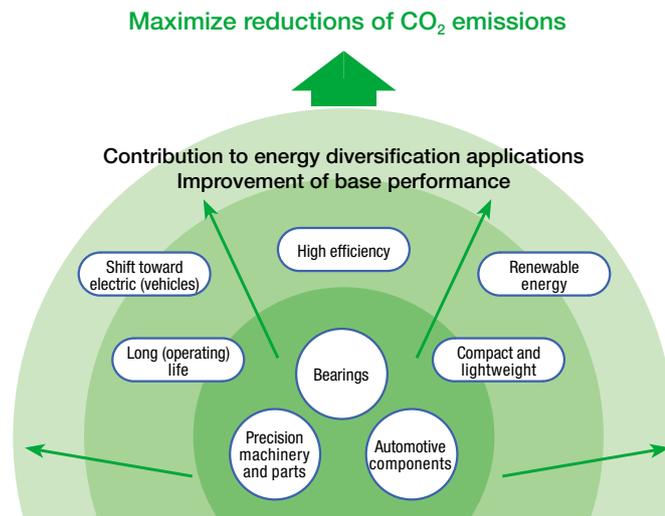
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## Initiatives to Maximize CO<sub>2</sub> Emissions Reduction through Our Products

NSK aims to accelerate its contributions to the environment through its products, and has formulated guidelines in order to calculate CO<sub>2</sub> emissions avoided at the customer use stage.

Our work to improve upon the bearings and other products we produce 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 we formulated guidelines that take into account two different perspectives with regard to calculating CO<sub>2</sub> emissions avoided, namely improving base performance of products, and contributing to energy diversification applications. As a result of the calculations, in fiscal 2018 CO<sub>2</sub> emissions avoided through NSK products amounted to 1.39 million tons, exceeding the 980 thousand tons\* in emissions produced from our business activities. We are working to improve upon these efforts and aim to avoid CO<sub>2</sub> 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)



### Concept of Products Helping to Avoid CO<sub>2</sub> Emissions at the Use Stage

Contribution category	Contribution example
Contribution by improving base performance (improving the performance of NSK's products)	<ul style="list-style-type: none"> <li>● Reducing friction loss</li> <li>● Downsizing through longer life</li> <li>● Smaller size and less weight</li> </ul>
Contribution to energy diversification applications (coping with new technical fields)	<ul style="list-style-type: none"> <li>● Coping with the shift from hydraulics to electrification</li> <li>● Coping with the spread of renewable energies</li> <li>● Coping with newly developed environmentally friendly products</li> </ul>

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- Reducing Use of Environmentally Harmful Substances
- Biodiversity Conservation

# Global Warming Countermeasures

## NSK's Approach

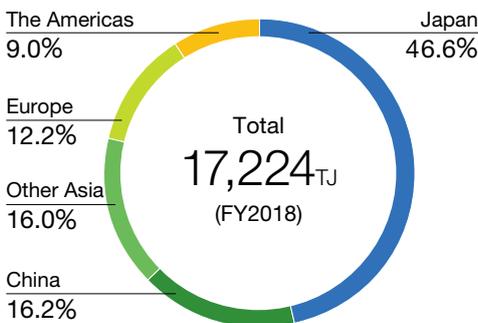
There are concerns that climate change will continue to worsen in the coming years, resulting in damage from typhoons and heavy rains as well as more serious shortages of water. Under the Paris Agreement, the international community is accelerating efforts to expand the use of renewable energy and to pursue advances in energy saving technology, in order to mitigate climate change.

NSK is focusing on developing and popularizing environmentally friendly products with the aim of maximizing its contribution to the reduction of CO<sub>2</sub> emissions at the customer use stage. We are also being more efficient in our own energy usage and adopting clean energy to reduce CO<sub>2</sub> emissions from our business activities. (See “Environmentally Friendly Products” on p. 80.)

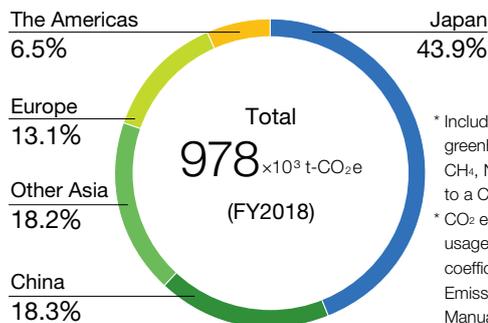
## Main Initiatives in Each Process

Manufacturing	Distribution	Office/Sales
		
<ul style="list-style-type: none"> <li>● Improvement of production efficiency</li> <li>● Development and introduction of new technology</li> <li>● Introduction of high-efficiency, energy-saving equipment</li> <li>● Visualizing energy use</li> <li>● Switching to cleaner energies</li> <li>● Introduction of renewable energies</li> </ul>	<ul style="list-style-type: none"> <li>● Improvement of loading efficiency</li> <li>● Improvement of transportation routes</li> <li>● Joint transport</li> <li>● Modal shift</li> <li>● Switching to eco-cars</li> <li>● Switching to electric forklifts</li> <li>● Conversion to LED lighting at warehouses</li> </ul>	<ul style="list-style-type: none"> <li>● Reduction of power consumption through improved business processes</li> <li>● Using energy-saving air conditioning and lighting equipment</li> <li>● Using renewable energy</li> <li>● Using videoconferencing and phone conferences</li> <li>● Switching to eco-cars</li> </ul>

Energy Used by Region



Total GHG Emissions by Region



\* Includes approximately 2,200 tons of greenhouse gases other than CO<sub>2</sub> (i.e., CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>) converted to a CO<sub>2</sub> basis.

\* CO<sub>2</sub> emissions associated with electricity usage are calculated using the emission coefficient given in the Greenhouse Gas Emission Calculation and Reporting Manual of the Ministry of the Environment and the Ministry of Economy, Trade and Industry.

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## Fifth Mid-Term Management Plan Targets (FY2016–2018)

The NSK Group is striving to reduce energy consumption and CO<sub>2</sub> emissions at its production divisions by improving manufacturing technology, introducing new technology, using high-efficiency energy-saving equipment, conducting overhauls of existing facilities to incorporate the latest energy-saving technologies, visualizing energy usage, and promoting conversion to clean energies.

Under NSK's Environmental Logistics Policy, distribution divisions aim to reduce the environmental impact of transportation through improved loading efficiency. This is achieved by combining product distribution and procured component or material distribution, making transportation routes shorter, and by shifting to modes of transport with a lower environmental footprint.

The Head Office and sales divisions have also conducted energy-saving initiatives, including controlling air-conditioning temperatures, updating air conditioners, and switching to LED lighting.

### ■ Initiatives in Fiscal 2018

#### Targets and Performance FY2016–2018

○ Achieved    △ Partially achieved    × Not achieved

▶ Manufacturing			▶ Offices			▶ Distribution
	In Japan:		Outside Japan:		In Japan:	
Target	CO <sub>2</sub> emissions per unit	CO <sub>2</sub> emissions	CO <sub>2</sub> emissions per unit	CO <sub>2</sub> emissions per unit	CO <sub>2</sub> emissions per unit	CO <sub>2</sub> emissions per unit
	<b>11.1% reduction</b> from FY2011	<b>Below FY2011</b>	<b>35.2% reduction</b> from FY2011	<b>24.5% reduction</b> from FY2011	<b>6.9% reduction</b> from FY2011	<b>12.2% reduction</b> from FY2011
Result	<b>13.8% reduction</b>	<b>19 × 10<sup>3</sup>t increased</b>	<b>21.7% reduction</b>	<b>19.2% reduction</b>	<b>21.1% reduction</b>	<b>12.5% reduction</b>
Evaluation	△		×	△		○

CO<sub>2</sub> emissions per unit:

Manufacturing: CO<sub>2</sub> emissions/Value-added production output

Distribution: CO<sub>2</sub> emissions/Transportation volume

Offices: CO<sub>2</sub> emissions/Floor space

CO<sub>2</sub> emissions:

Manufacturing: The total emitted directly from NSK Group business operations (Scope 1) and the amount emitted indirectly by power companies, etc., that supply electricity used by the NSK Group (Scope 2)

Distribution: Total CO<sub>2</sub> emissions are calculated by multiplying total transport volume (ton-kilometers) by CO<sub>2</sub> emission factors by mode for each type of transport (truck, ship, etc.)

Since fiscal 2011, manufacturing divisions in Japan have reduced CO<sub>2</sub> emissions per value-added production unit by 13.8%, achieving the target 11.1% reduction. However, reduction efforts did not offset the increase in total CO<sub>2</sub> emissions due to increased production volume, and as a result we fell short of our goal of lowering total emissions compared to fiscal 2011 levels. Our plants outside Japan improved production efficiency, installed energy-saving equipment, and converted to clean energy among other initiatives. Nevertheless, the impact of a decline in production due to economic slowdown in China and the ASEAN region outweighed the effect of measures taken. CO<sub>2</sub> emissions per production unit were down 21.7% from fiscal 2011 levels, missing the target 35.2% reduction. Distribution divisions in Japan achieved the target 12.2% reduction from fiscal 2011 levels with measures to improve efficiency by streamlining distribution routes. Office sites in Japan did not achieve their targets due to increasing A/C use in the summer to prevent heat stroke, while those outside Japan did achieve their targets. For fiscal 2016–2018 overall, targets were not achieved in several categories due to the inability of measures to offset trends in production and a performance drop caused by changes in the types of products manufactured.

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## Sixth Mid-Term Management Plan Targets (FY2019–2021) and Long-Term Targets

Until fiscal 2018, NSK set reduction targets for CO<sub>2</sub> emissions on a per production unit basis. With our new mid-term plan, we have changed to a target for total CO<sub>2</sub> emissions. We have also changed from the conventional fixed coefficient for CO<sub>2</sub> emissions from electricity to a variable one, in order to incorporate reduction effects from the use of electricity with a small CO<sub>2</sub> emissions coefficient.

Our target is a 7% reduction in fiscal 2021 compared to fiscal 2017 for total CO<sub>2</sub> emissions from the entire Group (all production, technology, and office divisions worldwide). For distribution in Japan, we continued with a target for CO<sub>2</sub> emissions per transportation volume and set a target 4% reduction in fiscal 2021 compared to fiscal 2017.

### ■ Sixth Mid-Term Management Plan Targets (FY2019–2021) and Long-Term Targets

▶ Manufacturing, technology, office				▶ Distribution
Global:				In Japan:
FY2021 CO <sub>2</sub> emissions* <sup>1</sup>	FY2026 CO <sub>2</sub> emissions* <sup>1</sup>	FY2030 CO <sub>2</sub> emissions* <sup>1</sup>	FY2050 CO <sub>2</sub> emissions* <sup>1</sup>	FY2021 CO <sub>2</sub> emissions per transportation volume
<b>7% reduction</b>	<b>16% reduction</b>	<b>25% reduction</b>	<b>60% reduction</b>	<b>4% reduction</b>
from FY2017* <sup>2</sup>				

\*1 The emissions coefficients for electricity are the variable market standards. The emissions coefficients, which change every year, are published by power companies with which we have contracts.

\*2 The electricity emissions coefficients for the base year are the market standards for 2016. They are the emissions coefficients published by power companies based on the performance for fiscal 2016.

### ■ Strategy for Reducing Total CO<sub>2</sub> Emissions in Production

The NSK Group aims to achieve the targets for its new mid-term plan through the following initiatives.

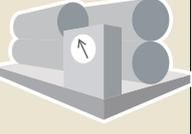
1. Production technology innovation; promotion of energy savings and fuel conversion
2. Reduction of CO<sub>2</sub> emissions from production stage through product design innovation
3. Expanded adoption of renewable energy
4. Consideration of the adoption of mechanisms to promote measures (internal carbon pricing\*<sup>3</sup>, etc.)

\*3 A measure aimed at reducing emissions of CO<sub>2</sub> and other GHGs by a company voluntarily putting a price on them.

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## Main Initiatives in Fiscal 2018

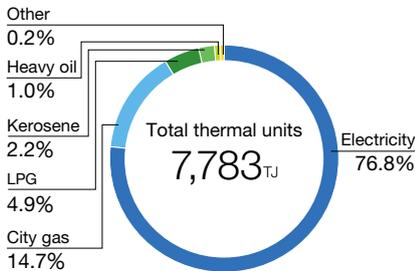
### Main Initiatives in Manufacturing

	Heat treatment	Production equipment	Compressors	Air conditioning	Lighting
					
<b>Power</b> ● Expanding use of renewable energy	<ul style="list-style-type: none"> <li>● Optimization of operating conditions</li> <li>● Improvement of thermal insulation performance</li> </ul>	<ul style="list-style-type: none"> <li>● Inverter of motor, pump, etc.</li> <li>● Equipment miniaturization and power saving</li> <li>● Next generation of production lines and production efficiency improvement</li> <li>● Retrofit*</li> <li>● Reduction of standby power</li> </ul>	<ul style="list-style-type: none"> <li>● Upgrade to high-efficiency equipment</li> <li>● Optimization of operating conditions</li> <li>● Miniaturization</li> <li>● Reduction of compressed air consumption</li> <li>● Fixing air leaks</li> </ul>	<ul style="list-style-type: none"> <li>● Selection of model suited to conditions</li> <li>● Optimization of operating conditions</li> <li>● Upgrade to high-efficiency equipment</li> <li>● Inverter</li> </ul>	<ul style="list-style-type: none"> <li>● Conversion to LED lighting</li> <li>● Lighting optimization</li> <li>● Frequent turning off of lights</li> <li>● Lighting that turns on/off automatically</li> <li>● Installation of motion detectors</li> </ul>
<b>Fuel</b> ● Switching to cleaner energies	<ul style="list-style-type: none"> <li>● Switching to cleaner energies</li> <li>● Improvement of combustion efficiency</li> <li>● Improvement of thermal insulation performance</li> <li>● Optimization of operating conditions</li> <li>● Shift to high-frequency heating</li> </ul>			<ul style="list-style-type: none"> <li>● Shift to cleaner energies</li> <li>● Selection of model suited to conditions</li> <li>● Optimization of operating conditions</li> <li>● Use of co-generation</li> </ul>	

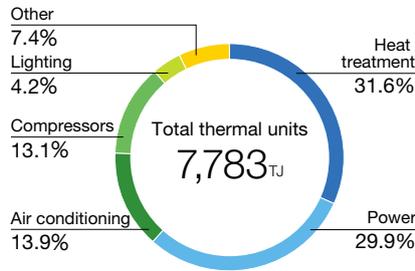
\*Retrofit: Upgrading old equipment by adding new technology

### Breakdown of Energy Used in Fiscal 2018 by Type and Application (Japan/Production)

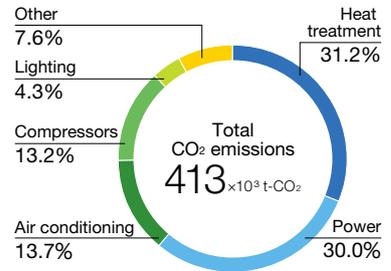
Energy Used by Type (in Thermal Units)



Energy Used by Application (in Thermal Units)

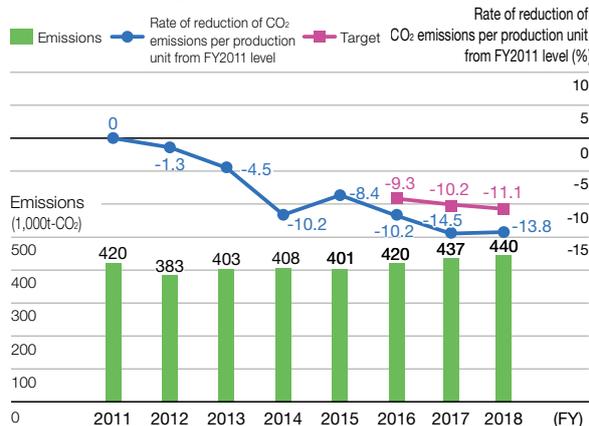


CO<sub>2</sub> Emissions by Application

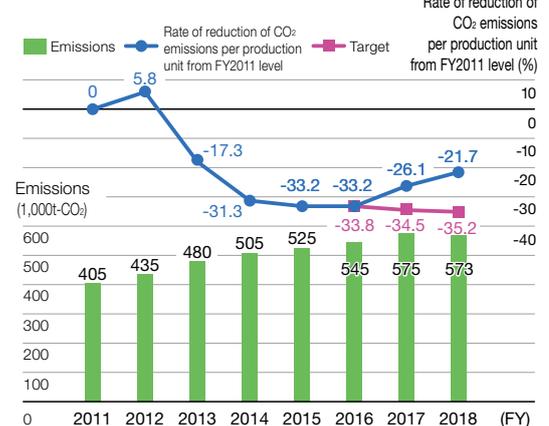


\* CO<sub>2</sub> emissions associated with electricity usage are calculated using the emission coefficient given in the Greenhouse Gas Emission Calculation and Reporting Manual of the Ministry of the Environment and the Ministry of Economy, Trade and Industry.

CO<sub>2</sub> Emissions from Manufacturing in Japan: Total Volume and per Production Unit



CO<sub>2</sub> Emissions from Manufacturing Outside Japan: Total Volume and per Production Unit



\* CO<sub>2</sub> emissions associated with electricity usage are calculated using a fixed emission coefficient.



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■ **Manufacturing 5 Switching to Cleaner Energies for Heat Sources of Air Conditioning**

The NSK Group is converting heat sources for air conditioning from heavy oil and kerosene to gas and electricity generated with low CO<sub>2</sub> emissions. When we must use existing fuels, we upgrade to the latest air conditioners to increase energy efficiency.

NSK Kyushu Co., Ltd. converted from heavy oil to electricity, reducing CO<sub>2</sub> emissions from air conditioning by 873 tons, equivalent to 45%, for the three years from fiscal 2016 to 2018. This also resulted in a reduction of heavy oil, which contains PRTR-designated substances. The company received a commendation from the Heat Pump & Thermal Storage Technology Center of Japan for this initiative.

Similarly, the Soja Plant (Akagi) of NSK Steering Systems Co., Ltd. converted from kerosene to electricity for air conditioning, reducing CO<sub>2</sub> emissions by 368 tons per year. This also meant that an underground kerosene tank could be done away with, reducing the risk of soil or groundwater pollution from leakage.

Inoue Jikuuke Kogyo Co., Ltd. changed the heat source for its heat pumps from LPG to electricity, eliminating 11 tons of CO<sub>2</sub> emissions per year.

The Saitama Precision Machinery Plant of NSK Ltd. upgraded to the latest municipal gas-fired absorption heater chiller. Although the fuel used is the same as before, improved operational efficiency led to a CO<sub>2</sub> emissions reduction of 70 tons per year.

Shenyang NSK Precision Co., Ltd. in China converted from steam-driven heating to an electric heat pump, reducing its CO<sub>2</sub> emissions by 200 tons per year.

■ **Manufacturing 6 Initiatives to Adopt Renewable Energy**

The NSK Group covers about 18,000 MWh/year, or 1.2% of its total power consumption, with renewable energy.

Solar panels have been installed at 13 sites worldwide, including the Cheonan Plant of NSK Korea Co., Ltd., the Global Training Center in Japan, NSK Bearings Manufacturing Mexico S.A. de C.V., and NSK Steering Systems Dongguan Co., Ltd. in China, generating a total of about 4,800 MWh/year of solar and wind power (all used in-house).

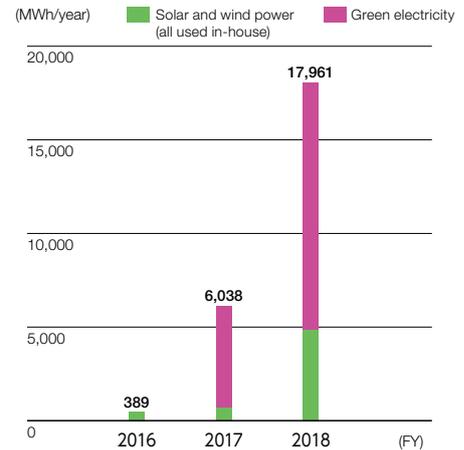
The Munderkingen Plant of Neuweg Fertigung GmbH in Germany and NSK Steering Systems Europe (Polska) Sp. Z O.O. in Poland have switched the entire power requirement for their plants, which is about 13,200 MWh/year, over to renewable energy-derived electricity. Hefei NSK Co., Ltd. in China covers about 17% of the power requirement for its plant with renewable energy-derived electricity. The Kielce Plant of NSK Bearings Polska S.A. in Poland is also planning to make a switchover in fiscal 2019.

■ **Manufacturing 7 Efforts to Reduce Lighting Energy**

The NSK Group is adopting LED lighting at its plants worldwide.

In fiscal 2018, we reduced CO<sub>2</sub> emissions by 310 tons per year in Japan and by 1,278 tons per year outside Japan, mainly at the Kielce Plant of NSK Bearings Polska S.A., PT. NSK Bearings Manufacturing Indonesia, and Shenyang NSK Precision Co., Ltd. and Hefei NSK Co., Ltd. in China.

**Adoption of Renewable Energy (Solar and Wind Power)**



Solar power generation at Cheonan Plant, NSK Korea Co., Ltd.

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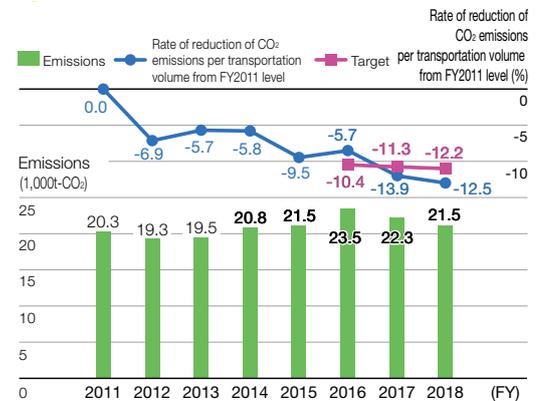
## Initiatives in Distribution

### ■ Improving Distribution Efficiency (Japan)

In fiscal 2018, the consolidation of warehouses in Eastern Japan increased the transport distance from some plants. However, switching to marine transport for moving products from Fukuoka Prefecture (Kyushu region) to Chiba Prefecture (Tokyo Metropolitan region) reduced CO<sub>2</sub> emissions per transportation volume by 12.5% from the fiscal 2011 level, achieving the 12.2% target.

Going forward, we will continue working on reducing the environmental impact of distribution. We will do this by optimizing distribution by combining product distribution and procured component and material distribution throughout the NSK Group, by shifting to modes of transport with lower impact such as transportation by rail and ship, and by promoting joint transport with other companies.

### CO<sub>2</sub> Emissions from Distribution in Japan: Total Volume and per Transportation Volume



\* In fiscal 2016, we revised the method for calculating per-unit CO<sub>2</sub> emissions. Until fiscal 2015, we used a per-unit denominator of transportation volume (tons) × transportation distance (kilometers), but have switched to just transportation volume (tons). This change brought out the effect of the shortening of transportation distances.

\* Retroactively corrected to improve accuracy.

## Energy-Saving Initiatives in Offices and Sales Divisions

The Head Office and sales divisions have made efforts to save energy, including controlling air-conditioning temperatures, turning off lights when not in use, and switching to LED lighting. The overall energy-saving target for offices was a 24.5% reduction in CO<sub>2</sub> emissions by floor space from the fiscal 2011 level, and we missed the target with a 19.2% reduction. This was due to an increase in energy usage resulting primarily from longer A/C use due to fierce summer heat and as a countermeasure to heatstroke.

Moreover, we encourage offices to switch to the latest environmentally-friendly vehicles when updating their fleets. By fiscal 2018, around 71% of our vehicles were hybrid, electric, or equipped with small displacement engines.

## Indirect CO<sub>2</sub> Emissions (Scope 3)

NSK calculates the amount of CO<sub>2</sub> emitted indirectly (Scope 3) as a result of activities in the supply chain up through the purchase of parts and raw materials used in manufacturing by the NSK Group, and as a result of the procurement of capital goods such as production equipment.

### NSK Group's (Global) Scope 3 Emissions in FY2018

Category	CO <sub>2</sub> emissions (kilotons-CO <sub>2</sub> )	Percentage
1 Purchased goods and services	1,985	73.4%
2 Capital goods	259	9.6%
3 Fuel- and energy-related activities (Not included in Scope 1 and 2)	215	8.0%
4 Upstream transportation and distribution	143	5.3%
5 Waste generated in operations	44	1.6%
6 Business travel	5	0.2%
7 Employee commuting	17	0.6%
8 Upstream leased assets	0	0.0%
9 Downstream transportation and distribution	—	—
10 Processing of sold products	—	—
11 Use of sold products	—	—
12 End-of-life treatment of sold products	12	0.4%
13 Downstream leased assets	1	0.0%
14 Franchises	0	0.0%
15 Investments	24	0.9%
16 Upstream other	—	—
17 Downstream other	—	—
<b>Total</b>	<b>2,705</b>	<b>100%</b>

\*Categories 9 (Downstream transportation and distribution), 10 (Processing of sold products), and 11 (Use of sold products) are not included due to the infeasibility of calculating them at present.

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# Resource Conservation and Recycling Measures

## NSK's Approach

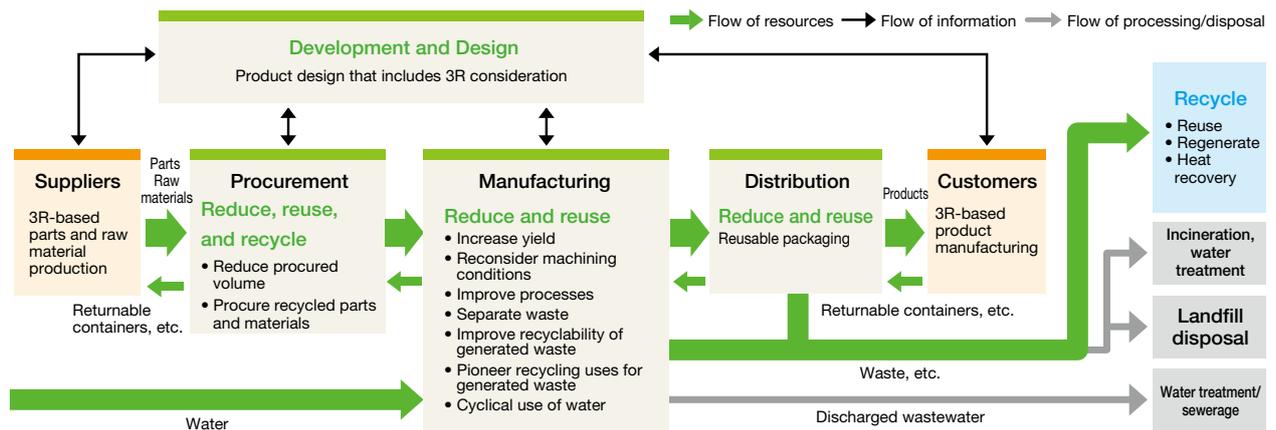
The NSK Group aims to efficiently use raw materials and other required resources through reducing, reusing, and recycling (the 3Rs). In this way, we strive to do our part in building a recycling-oriented society. Our development and design divisions seek to develop easily recyclable products that can be produced with the fewest raw materials. To reduce environmental impact, manufacturing and distribution divisions do their utmost to reduce, reuse, and recycle, with the goal of eliminating waste sent to landfills.

To ensure the proper disposal of waste, we regularly audit contracted industrial waste processors and strive to enhance management using information systems.

To avoid plastic and other used packaging materials from ending up in the ocean, we promote tight management to prevent illegal dumping and have enacted closed-loop recycling of plastic containers. (See p. 93 for details.)

We have also examined our water needs and are currently unlikely to be impacted by water shortages, in light of the locations of our business sites and the volume of water we use. Still, we remain committed to improving water management and efficiently using water to prepare for any serious global shortages in the future.

### Building Recycling-Oriented Societies with the 3Rs



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## Fifth Mid-Term Management Plan Targets (FY2016–2018)

We will strengthen initiatives to achieve the rigorous goals we set to effectively utilize resources, improve our recycling rate, reduce disposal in landfills, and lower water withdrawal. Through efforts like these, we constantly pursue better performance on the 3Rs. Manufacturing sites in Japan will work to maintain “zero emissions” status with a 100% recycling rate. Manufacturing sites outside Japan aim for a 97.5% or higher recycling rate for waste. Additionally, we set the following reduction targets for packaging material waste per production unit in distribution and water withdrawal per production unit.

### Initiatives in Fiscal 2018

Targets and Performance FY2016–2018

○ Achieved △ Partially achieved × Not achieved

Development and design, manufacturing				Distribution			
Target	In Japan:		Outside Japan:		In Japan:		
	Reduce waste of materials by changing processing methods	Achieve a 100% recycling rate*1 for waste and maintain zero emissions*2	Industrial waste per production unit*3 <b>29.6% reduction</b> from FY2011	Water withdrawal per production unit*4 <b>23.1% reduction</b> from FY2011	Achieve a waste recycling rate*1 of at least <b>97.5%</b>	Water withdrawal per production unit*4 <b>31.0% reduction</b> from FY2011	Packaging material waste per production unit*5 <b>20.7% reduction</b> from FY2007
Result	Reduced waste of materials as planned	Recycling rate 100% Maintained zero emissions	<b>29.2% reduction</b>	<b>29.6% reduction</b>	<b>96.9%</b>	<b>34.0% reduction</b>	<b>65.7% reduction</b>
Evaluation	○	○	×	○	×	○	○

\*1 Recycling rate = Recycled amount / (Total waste amount - reduction amount) × 100 \*2 Defined as “zero landfill disposal.”

\*3 Industrial waste per production unit = Industrial waste / Value-added production output

\*4 Water withdrawal per production unit = Amt. of water consumption / Value-added production output

\*5 Packaging material waste per production unit = Packaging material waste / Production output

NSK has steadily reduced steel material waste by optimizing the shapes of forged parts.

Our plants in Japan achieved a waste recycling rate of 100%, or “zero landfill disposal,” by thoroughly sorting waste and expanding recycling routes. Plants outside Japan managed a recycling rate of 96.9%, missing the target of 97.5% due to difficulty in finding a use for recycled grinding dust in China.

Plants in Japan reduced industrial waste per production unit by 29.2%, falling just short of the 29.6% reduction from fiscal 2011. This is primarily because some plants made production transfers and could not temporarily treat disposed waste in-house.

However, plants reduced packaging material waste per production unit by 65.7%, exceeding the target of 20.7% reduction from fiscal 2007.

Compared with fiscal 2011 levels, we sought to reduce water withdrawal per production unit by 23.1% at plants in Japan and by 31.0% outside Japan. We exceeded these goals, achieving a 29.6% reduction at plants in Japan and a 34.0% reduction outside Japan. According to a fiscal 2018 survey, out of 64 plants worldwide, two plants in India and one plant in Thailand are in regions with a high water risk, but we determined that we are unlikely to be impacted. Even so, one plant in India is promoting the use of recycled water. (See “Water Withdrawal and Discharged Water Amounts [by Region and Country, Production Sites]” on p. 112.)

## Sixth Mid-Term Management Plan Targets (FY2019–2021)

### Sixth Mid-Term Management Plan Targets (FY2019–2021)

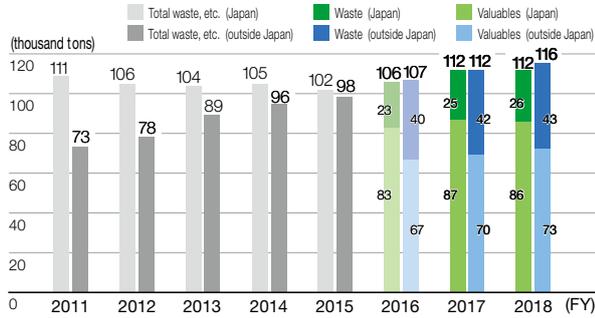
Development and design, manufacturing				Distribution
Global:				In Japan:
Continue to reduce steel waste	Recycling rate*1 for waste <b>99%</b>	Waste per unit*6 <b>4% reduction</b> from FY2017	Water withdrawal per unit*7 <b>4% reduction</b> from FY2017	Packaging material waste per unit*6 <b>15% reduction</b> from FY2017

\*6 Unit = Waste amount/net sales \*7 Unit = Water withdrawal/net sales

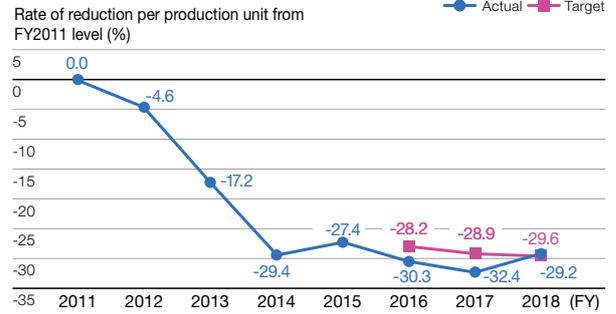
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## Total Waste and Recycling Rate

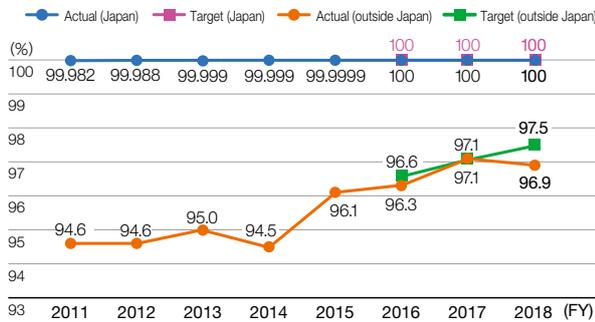
### Waste and Valuables (Manufacturing)



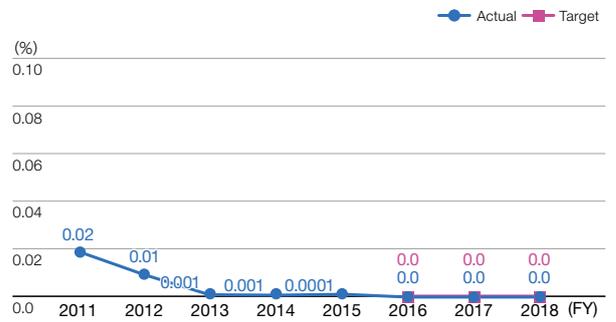
### Industrial Waste per Production Unit (Plants in Japan)



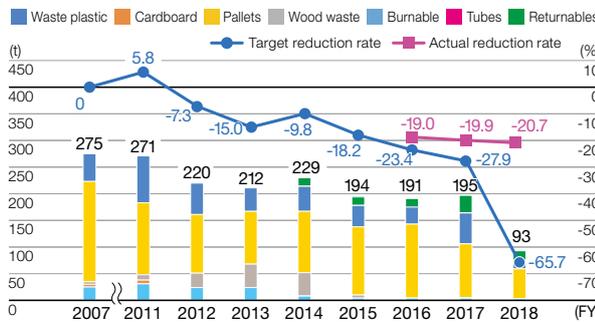
### Recycling Rate (Manufacturing)



### Landfill Disposal Rate (Plants in Japan)

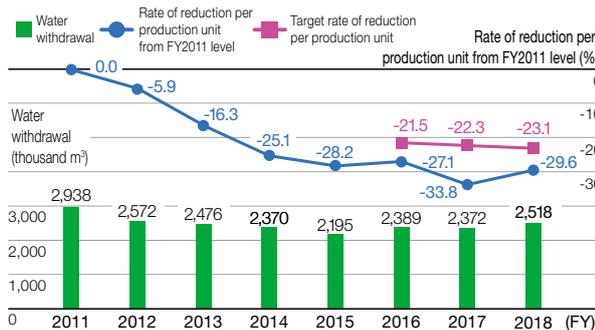


### Amount of Packaging Material Waste per Production Unit (Distribution in Japan)

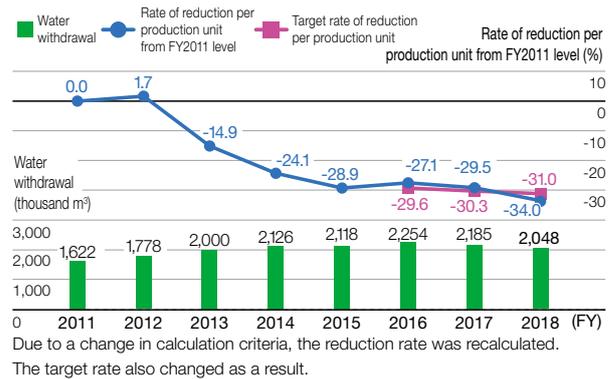


## Water Consumption

### Water Withdrawal per Production Unit (Plants in Japan)



### Water Withdrawal per Production Unit (Plants outside Japan)



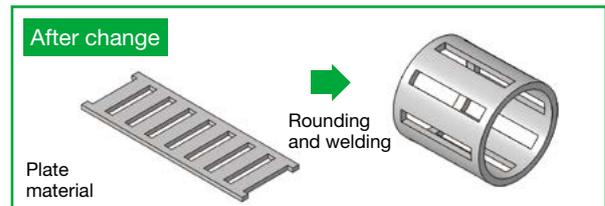
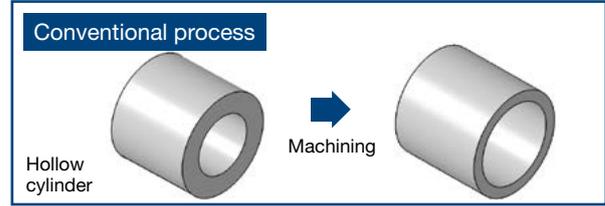
- Environmental Management
- Creating Environmentally Friendly Products
- Global Warming Countermeasures
- Resource Conservation and Recycling Measures
- Reducing Use of Environmentally Harmful Substances
- Biodiversity Conservation

## Main Initiatives in Fiscal 2018

### ■ Manufacturing

#### 50% Reduction in Steel Used for Hollow Cylinders

To make effective use of steel resources, we changed our manufacturing process and the shape of spacers used in finished cage and roller assemblies for automotive transmissions. Before, we machined hollow cylinders, but now we round and weld plate material after press working. This reduces the amount of steel material used by 50%.



### ■ Manufacturing Using a High-Performance Concentration/Drying Machine to Reduce Grinding Waste Liquid

The NSK Group's largest amount of waste comes from waste liquid, accounting for around 40% of the total. The Kirihara branch of the Fujisawa Plant is anticipating a future increase in emulsified waste due to the transfer of grinding equipment. In fiscal 2018, the plant acquired a high-performance concentration/drying machine using a heated disk to quickly and efficiently dry liquid. This reduced emulsified waste by 160 tons per year.

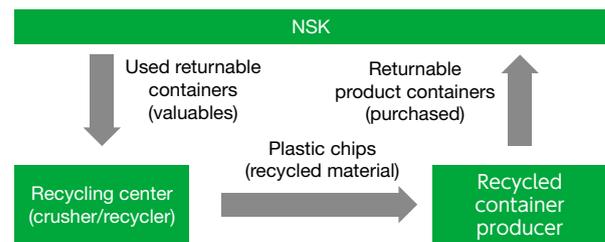


High-performance concentration/drying machine

### ■ Distribution Closed-Loop Plastic Recycling

Plastic accounts for only a small percentage of the NSK Group's waste. Nonetheless, we have practiced closed-loop recycling of plastic containers (returnable containers) that are no longer usable. Since durability decreases when plastic is shaped repeatedly, we maintain strength by performing sandwich molding, using recycled material for about 20% of each container. In fiscal 2018, we recycled 283 tons of plastic.

#### Closed-Loop Recycling System



Plastic container (returnable container) made with 20% recycled plastic

- Environmental Management
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- Reducing Use of Environmentally Harmful Substances
- Biodiversity Conservation

# Reducing Use of Environmentally Harmful Substances

## NSK's Approach

The NSK Group strives to create products that use no environmentally harmful substances. We aim to exceed discretionary standards and to stay ahead of worldwide laws and regulations. We use the List of NSK Environmentally Harmful Substances to tightly control environmentally harmful substances in each stage of development and design, procurement, manufacturing, and distribution to ensure that our customers receive safe products. In addition, we press suppliers to practice rigorous management based on the NSK Group Green Procurement Standards. We also set and adhere to discretionary standards for that are more rigorous than regulations for safeguarding air and water quality.

## Fifth Mid-Term Management Plan Targets (FY2016–2018)

The NSK Group is committed to providing safe products. This is why we are reinforcing our global management of environmentally harmful substances. The development and design, procurement, and production departments will work together to reduce environmentally harmful substances and promote the creation of a system that ensures no such substances are contained in products. To achieve our goals, we are enhancing the development and design processes and rolling out green procurement to our global production sites. We will also aim to reduce or eliminate environmentally harmful substances used during design, development, and production. We use the latest List of NSK Environmentally Harmful Substances to survey the inclusion of these substances in parts and auxiliary materials. This list reflects current laws in each country and region as well as customer requests. Furthermore, we will establish a global framework to ensure that environmentally harmful substances are managed effectively.

### Management of Environmentally Harmful Substances



### Initiatives in Fiscal 2018

Targets and Performance FY2016–2018

	Development and design	Procurement	Manufacturing
<b>Target</b>	Establish a development and design management system that ensures environmentally harmful substances are not contained in products	Complete rollout of NSK green procurement to key suppliers	Complete an environmentally harmful substances control system for products
<b>Result</b>	Revised the List of NSK Environmentally Harmful Substances and strengthened their management	Completed rollout	Promoted the improvement of self-audit systems
<b>Evaluation</b>	○	○	○

In Japan:

**Handling of PRTR-designated substances per production unit**  
**26.6% reduction**  
 from FY2011

In fiscal 2018, the NSK Group continued to revise the List of NSK Environmentally Harmful Substances in response to revised regulations in Europe and strengthened management of these substances.

We conduct a survey of parts and auxiliary materials containing environmentally harmful substances at production sites worldwide and every year reconfirm that substances prohibited by NSK are not used in products. We also made efforts to replace fuels that contain substances designated by the Pollutant Release and Transfer Register (PRTR) Law in Japan and reduced volumes handled.

- Environmental Management
- Creating Environmentally Friendly Products
- Global Warming Countermeasures
- Resource Conservation and Recycling Measures
- Reducing Use of Environmentally Harmful Substances
- Biodiversity Conservation

## Sixth Mid-Term Management Plan Targets (FY2019–2021)

NSK will continue pushing suppliers to consent to its Green Procurement Standards, and will continue surveys of the inclusion of environmentally harmful substances. We will also push for a full response to the prohibition on the use of 10 substances, in order to comply with the EU's revised RoHS Directive (RoHS2 Directive).

### ■ Sixth Mid-Term Management Plan Targets (FY2019–2021)

Development and design, procurement, manufacturing	Procurement		Response rate for the NSK Survey of Environmentally Harmful Substance Inclusion		Manufacturing
<b>Environmentally harmful substance management</b> Global: <b>Full response to 10 substances of EU RoHS2</b>	<b>Obtain consent to its Green Procurement Standards</b> In Japan: <b>Maintain 99% or higher</b>	Outside Japan: <b>99% or higher</b> (FY2019: 95%)	In Japan: <b>Maintain 100%</b>	Outside Japan: <b>100%</b> (FY2019: 95%)	<b>Reducing handling of PRTR-designated substances per production unit</b> In Japan: <b>1% reduction year on year</b>

## Main Initiatives in Fiscal 2018

### ■ Chemical Management System

Efforts are being made to ensure that prohibited substances are not included in or adhered to our products in manufacturing sites worldwide, and the NSK Group strives to strengthen chemical management by monitoring the situation.

In fiscal 2018, audits were conducted at five plants in the Americas, three plants in Europe, nine plants in China, five plants in the ASEAN region, and one plant in South Korea. These audits identified problems and points requiring further attention. Furthermore, we worked on the training of environmentally harmful substance auditors to ensure that each plant can autonomously conduct self-audits and supplier audits. In fiscal 2018, we upgraded the auditor-training curriculum, to raise auditors' skills to the next level. We also trained 23 new auditors in Japan and 25 outside Japan, bringing the total up to 427.

### ■ Design, Procurement, and Manufacturing

#### Managing Chemicals Based on the List of NSK Environmentally Harmful Substances (Global)

NSK manages environmentally harmful substances appropriately with the help of the List of NSK Environmentally Harmful Substances. We have registered nearly 5,500 chemical substances on this list as "prohibited," "reduced," or under "observation." "Prohibited" substances must not be present in or on parts or sub-materials. We examine and select substitutes for "reduced" substances. Finally, where "observation" substances are used, the amounts and parts are closely monitored. We start this management in design and development to ensure that harmful substances do not make it into our products. Each plant in the NSK Group manages parts and auxiliary materials based on this list in an effort to reduce risks related to environmentally harmful substances throughout the entire product lifecycle. The List of NSK Environmentally Harmful Substances is reviewed in a timely manner to keep it up-to-date with new and revised chemical substance regulations worldwide, including the EU's REACH\*1 regulation. Substances of Very High Concern (SVHC\*2) are added to REACH about every six months. As of June 2019, the regulation contained 197 substances (the existing 191 + 6 new). These additional substances are now included in NSK's list.

In fiscal 2018, we audited our suppliers of parts and auxiliary materials—244 companies in Japan and 237 companies outside Japan—based on the latest version of the List of NSK Environmentally Harmful Substances to reconfirm that substances prohibited by NSK are not included in our products. Based on the results, we made a list of all components that are free of the prohibited substances. Design departments use this list to check that products under development contain no harmful substances, while production departments use it to ensure procured parts are free of harmful substances.

\*1 EU's REACH: Registration, Evaluation, Authorization, and Restriction of Chemicals. A comprehensive chemical substance regulation system that came into force in the EU in June 2007.

\*2 SVHC: Substances of Very High Concern, which are candidates for inclusion under REACH.



List of NSK Environmentally Harmful Substances

- Environmental Management
- Creating Environmentally Friendly Products
- Global Warming Countermeasures
- Resource Conservation and Recycling Measures
- Reducing Use of Environmentally Harmful Substances
- Biodiversity Conservation

### NSK Group's Main Initiatives to Reduce Environmentally Harmful Substances

FY	Action
1994	Completely eliminated cleaning CFCs Completely eliminated trichloroethylene
1999	Phased out in-house incinerators (a measure against dioxins)
2003	Completely eliminated chlorinated organic solvents

FY	Action
2006	Came into full compliance with the EU's RoHS Directive*1 and ELV Directive*2 Reinforced chemical management system for compliance with the EU's REACH regulation
2015	Phased out machining oil with chlorine-based extreme pressure additives (a measure against dioxins)

\*1 RoHS Directive: An EU directive that restricts the use of harmful substances in electric and electronic devices

\*2 EU's ELV Directive: An EU directive that prohibits lead, mercury, cadmium, and hexavalent chromium in automotive parts and materials, in order to promote the recycling of end of life vehicles

#### ■ Procurement Promoting Improvement with Local Supplier Audits

The NSK Group periodically audits suppliers who deliver parts and secondary materials that are highly likely to have environmentally harmful substances present in or on them. In-house auditors qualified in environmentally harmful substances visit and conduct audits using NSK's audit check sheet to strengthen the entire supply chain. In fiscal 2018, we conducted on-site audits of 38 suppliers in Japan and 13 suppliers outside Japan. We are following up on issues found in the audit through collaborative improvements with suppliers.

#### ■ Manufacturing 1 Complying with Japan's Law Concerning the Discharge and Control of Fluorocarbons\*

Proper management is required to ensure that the fluorocarbons used in air conditioners and other equipment are not leaked. Japan amended its Law Concerning the Discharge and Control of Fluorocarbons in 2015. The law requires regular inspections, proper equipment repairs, and recordkeeping regarding leakage amounts. A report must be submitted to the national government when leaks total 1,000 t-CO<sub>2</sub>e or more per year. In fiscal 2018, NSK inspections found fluorocarbon leaks to total 15.5kg-CO<sub>2</sub>e.

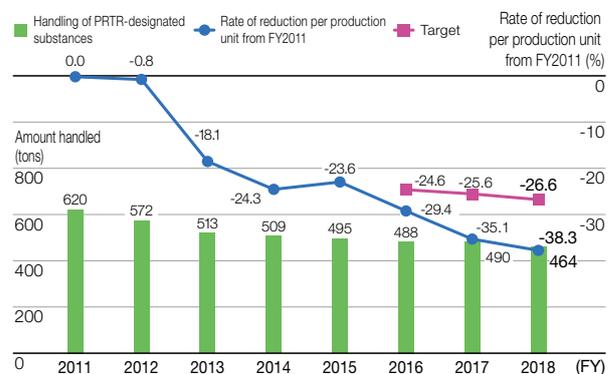
\*Law Concerning the Discharge and Control of Fluorocarbons: Act on Rationalized Use and Proper Management. Japan's law establishing comprehensive measures covering the entire lifecycle of fluorocarbons, from manufacture to disposal, to reduce their effect on ozone layer destruction and global warming.

#### ■ Manufacturing 2 Reducing Handling of PRTR\*-Designated Substances per Production Unit (Japan)

In Japan, the NSK Group targeted a 26.6% reduction from the fiscal 2011 level in the handling of PRTR-designated substances used in fluids and fuels during manufacturing processes, under the Mid-Term Management Plan through fiscal 2018. In fiscal 2018, we surpassed the goal with a 38.3% reduction, thanks to measures such as switching the fuel used for air conditioning and improving flocculants used in wastewater treatment. Our target for 2018 to fiscal 2021 is a year-on-year 1% reduction each year.

\*Law Concerning Pollutant Release and Transfer Register (PRTR): Act on Confirmation, etc., of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof. A Japanese law intended to facilitate improved chemical substance management by ensuring that amounts released into the environment are understood and reported to authorities.

#### Handling of PRTR-Designated Substances (Plants in Japan)

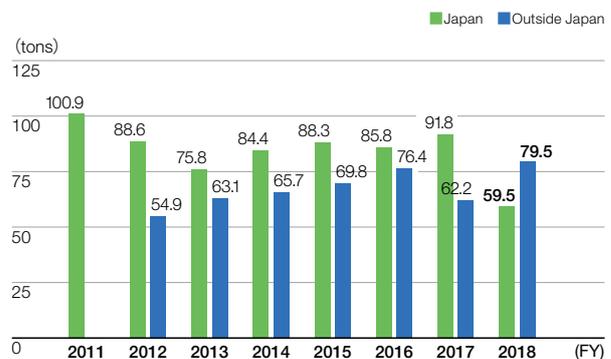


\* Retroactively corrected to improve accuracy.

#### ■ Manufacturing 3 Reduction of Emissions of VOCs

The NSK Group is making efforts to reduce emissions of volatile organic compounds (VOCs) contained in cleaning agents used in production processes. In fiscal 2018, the installation of more deodorization equipment on production lines in Japan resulted in a 41.1% reduction from the fiscal 2011 level to 59.5 tons. Outside Japan, the use of target VOCs increased with an expanding number of plants, resulting in higher emissions in fiscal 2018.

#### Emissions of Volatile Organic Compounds (VOCs) at Plants



\*The calculation criteria were expanded in fiscal 2017 to include data outside Japan. As a result, past data were recalculated.

# Biodiversity Conservation

## NSK's Approach

Although NSK's business operations have a comparatively minor direct impact on biodiversity, we place a strong focus on areas such as energy conservation and air and water quality management. When opening new business sites, we strive to determine and understand their effects on the local ecosystem. The materials we procure also have an indirect impact on biodiversity when traced back through the supply chain. We are steadfast in our commitment to conserving biodiversity by identifying the direct and indirect impacts of our business, and using the findings to improve our operations and enhance our social contributions.

## ■ NSK Biodiversity Guidelines

### Basic Policy

The NSK Group recognizes the importance of biodiversity, and understands the relationship between our business activities and the ecosystem. We aim to reduce our impact on the environment by creating systems and initiatives that ensure biodiversity is conserved.

## Action Agenda

### 1. Research and Development

We will contribute to the conservation of biodiversity by developing products that save energy and resources.

### 2. Procurement and Purchasing

We will contribute to the conservation of biodiversity throughout the supply chain when procuring main materials, sub-materials, and packaging/packaging materials. We will promote the purchase of the environmentally-friendly products, and consider the conservation of biodiversity in product selection criteria.

### 3. Manufacturing and Logistics

We will minimize the impact of our production on biodiversity by reducing consumption of energy and resources, and emission of environmentally harmful substances.

### 4. Plant and Office Grounds

We will consider the impact on the ecosystem when acquiring land for our places of business and during greening initiatives.

### 5. Social Contribution Activities

We will perform social contribution initiatives as a member of international society, and value our collaboration with public and private institutions.

### 6. Communications

We will actively disclose information on biodiversity-related initiatives to persons both inside and outside the company. We will heighten employee awareness of biodiversity-related issues, and constantly work to improve the quality and efficiency of initiatives.

Established October 5, 2010 NSK Ltd.

- Environmental Management
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- **Biodiversity Conservation**

## Fifth Mid-Term Management Plan Targets (FY2016–2018)

Under the Mid-Term Plan, the NSK Group will implement education on biodiversity and make social contributions that reduce our impact.

### ■ Initiatives in Fiscal 2018

The NSK Group identifies the factors among its operations that could potentially have a negative impact on biodiversity and conducts education to raise the awareness of its employees. We foster this kind of mindfulness through social contribution initiatives at business sites in and outside Japan.

#### Targets and Performance FY2016–2018

Between fiscal 2016 and fiscal 2018, we started three new initiatives, including preservation of the native habitat of the waterwheel plant (*Aldrovanda vesiculosa*), a protected species, in Saitama Prefecture, and preservation of *satoyama* (woodland areas near human settlements) as forms of environmental protection through social contribution activities. In so doing, we achieved our Mid-Term Management Plan targets. We also achieved our Mid-Term Management Plan targets for biodiversity education by providing training to employees at all sites.

## Sixth Mid-Term Management Plan Targets (FY2019–2021)

The NSK Group will acknowledge distinct local ecosystems in the areas in which it operates, identify factors in its business activities that impact biodiversity, conduct preservation initiatives, continually raise the awareness of its employees through education, and work with local governments, residents, and NPOs around the world to implement and expand social contribution initiatives.

## Main Initiatives in Fiscal 2018

### Surveying Biodiversity on Plant Premises (Fukushima and Kanagawa, Japan)

We continued to protect precious wildlife at our sites, such as the wild grey-headed lapwings\*1 that live at NSK's Fukushima Plant, and the Golden Orchids\*2 that grow at the Kirihara Precision Machinery Plant.



\*1 Class I endangered species on the Fukushima Red List.

\*2 Class II endangered species on the Ministry of Environment Red List and Class II endangered species on the Kanagawa Prefecture Red List.

### Fishing Tournament to Remove Invasive Fish (Shiga, Japan)

As part of our biodiversity conservation activities, since 2014 NSK's Ohtsu Plant has held fishing tournaments to catch and remove invasive fish species from Lake Biwa. There are many species that only live in Lake Biwa, but invaders such as bluegill and black bass are threatening the survival of these unique endemic species. Fifty-three people, including employees and their families, participated in the June 2018 tournament and removed 33 fish.



### Preservation of Protected Species (Saitama, Japan)

Since fiscal 2016, the NSK Saitama Plant and Saitama Precision Machinery Plant have conserved biodiversity by working to preserve the native habitat of the waterwheel plant (*Aldrovanda vesiculosa*), a nationally designated protected species, in Houzouji-numa in Hanyu City, Saitama Prefecture. In June 2018, 20 participants, including employees and their families, received an explanation of the waterwheel plant, which is a perennial aquatic plant, from Hanyu City staff and cut reeds, which lead to the formation of land, as an activity to preserve the waterwheel plant's natural habitat.



### Satoyama Nature Viewing and Preservation Workshops (Kanagawa, Japan)

Since 2015, NSK's Fujisawa Plant, Fujisawa Technology Center, and Kirihara Precision Machinery Plant, together with the Fujisawa Plant of NSK Micro Precision Co., Ltd., and AKS East Japan Co., Ltd. have held *satoyama* conservation activities and nature viewing workshops in special green zones in conjunction with Fujisawa City and the NPO Fujisawa Green Staff no Kai. In May and November 2018, 80 people including employees and their families participated.



- Environmental Management
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### Maintenance Activities in the NSK Gunma Future Forest (Gunma, Japan)

The NSK Group's sites in Gunma Prefecture (Takasaki Plant and Haruna Plant of NSK Ltd., NSK Steering Systems Co., Ltd., NSK Steering & Actuator Technology Center, and the Gunma site of NSK Logistics Co., Ltd.) have contributed to conservation efforts in the NSK Gunma Future Forest since 2015. In October, 50 people, including NSK Group employees and their families, helped maintain the forest by cutting (thinning) and mowing.



### Conservation Activities in Lake Biwa's Water Source Forest (Shiga, Japan)

In fiscal 2018, as part of its biodiversity conservation activities, the NSK Ishibe Plant entered a five-year contract, witnessed by Shiga Prefecture and Konan City, where the Ishibe Plant is located, with a local forest owners' cooperative to conduct forestry development on 27 ha of Lake Biwa's water source forest. In March 2019, 30 employees conducted tree planting activities.



### Preservation of Satoyama Forest Areas (Fukushima, Japan)

In fiscal 2018, as part of its biodiversity conservation initiatives, the NSK Fukushima Plant entered into an agreement with Fukushima Prefecture and Tanagura Town, where the Fukushima Plant is located, to maintain and develop forest area on about 6 ha of land over a period of five years. In November, about 20 people helped cut grass and shrub on the site.



### Mangrove Planting (Thailand)

Siam NSK Steering Systems Co., Ltd. in Thailand engages in annual mangrove planting as part of its CSR efforts. "Mangrove" is the generic name for a plant that grows in tropical and subtropical regions, and is said to help control global warming due to its ability to absorb and store significant amounts of CO<sub>2</sub>. The mangrove serves as a home for many organisms and plays a role as a "green breakwater" that protects people and ecosystems from natural disasters, such as storm surges and tsunamis. In fiscal 2018, a total of 135 executives, employees, and family members helped to plant trees in a mangrove forest in eastern Thailand.



### Tree Planting with the Local Community (India)

In June 2018, NSK Bearings India Private Ltd. conducted a tree-planting event in a neighboring village. Twenty-five employees together with an equal number of residents planted 100 trees in a public area. They also donated 200 saplings so that each household could also plant trees. Fifty trees were also planted on the grounds of the plant.



### Beach Cleanup (Malaysia)

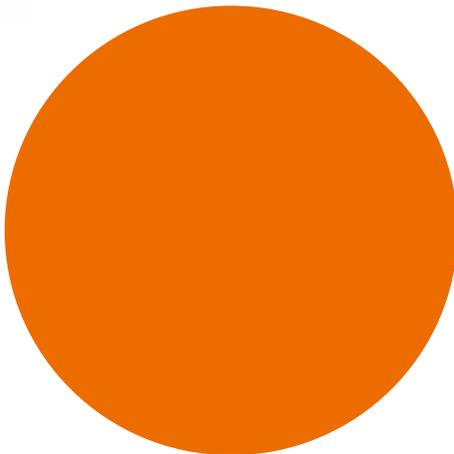
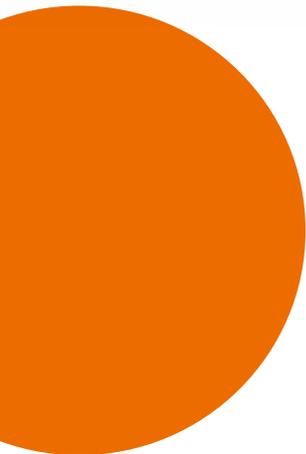
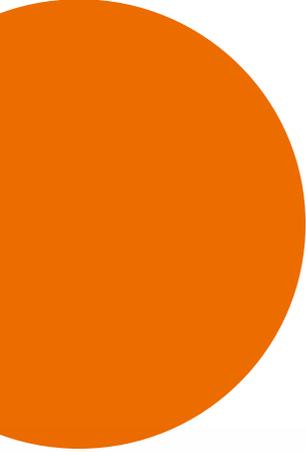
Since 2007, NSK Micro Precision (M) Sdn. Bhd. in Malaysia has conducted a cleanup on Klebang Beach, a tourist area, in order to protect the marine ecosystem. In November 2018, 30 participants, including employees and their families, joined the cleanup.



### Beach Cleanup (Malaysia)

ISC Micro Precision Sdn. Bhd. in Malaysia places importance on environmental protection and building a positive relationship with the local community. In April 2018, it held a beach cleanup event in Lumut, Perak with the participation of 90 people, including employees and their families.





# Working with Local Communities

## Social Contributions Targeting Community Development

The world is facing a variety of challenges today. While the circumstances and specific problems faced differ by country and region, in order to create sustainable societies, it is crucial for companies to actively address these challenges and to conduct their business activities with an awareness of local community development.

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■ Social Contribution Initiatives

# Social Contribution Initiatives

## NSK's Approach

The NSK Group strives to understand the needs of each country and region, and it trains personnel, develops technology, and promotes community-based activities accordingly. Seeking to contribute to sustainable development and continue being a company that is needed, trusted, and considered a valued member of each community, we conduct social contribution activities in the three priority areas of “promoting science and technology,” “development of the next generation,” and “mutual harmony and benefit with communities.”

## Priority Areas for NSK's Social Contribution Initiatives

Promoting science and technology that supports the prosperity of society

### Promotion of science and technology

The NSK Group contributes to the development of industry, not only through its technology and products, but also through a broad range of unique initiatives that support the promotion of science and technology.



Fostering the development of the next generation

### Development of the next generation

The NSK Group is committed to supporting the education of children and young adults long into the future.



Engaging in activities designed to build mutual harmony and benefit with communities

### Mutual harmony and benefit with communities

The NSK Group values communication with local communities in the countries and regions where it does business, and aims to ensure mutual prosperity as an upstanding corporate citizen.



Examples of initiatives in the three priority areas are: (1) providing aid to research institutions, under promotion of science and technology; (2) providing scholarships, offering students work experience opportunities, and holding classes about bearings, under development of the next generation; and (3) cooperating in community events and welfare programs, under mutual harmony and benefit with communities. We also value communication with community members and strive to build better relationships so that we can accurately assess and respond to community needs.

Additionally, by compiling social contribution activities undertaken at each site and sharing them group-wide, we aim to foster a corporate culture in which each and every employee is aware of and can engage in community development.

## Establishment of Social Contribution Action Period

Taking the opportunity of our 100th anniversary to further enhance social contribution initiatives, we have designated the months of, before, and after NSK's founding (October through December) as the Social Contribution Action Period, starting in fiscal 2016. During this period, we will work to strengthen our social contribution initiatives Group-wide, making the most of the unique features of each region.

Social Contribution Initiatives

## Example Social Contribution Actions in Fiscal 2018

### NSK Steering Systems Co., Ltd.

#### Donated Children's Books to Elementary Schools



Participants in welfare fund activities at the Soja and Akagi plants donated children's books to local elementary schools as part of their social contribution actions.



### NSK Micro Precision Co., Ltd.

#### Held a Plant Tour for Parents and Children



The company held a plant tour for the children and parents of NSK Group employees. The tour, which was held for the ninth time, is an experiential program designed to spark children's interest in science.



### NSK Americas, Inc.

#### Supported Improvement of the Residential Environment



As part of its social contribution actions, the company supported repairs and maintenance of the residential environment for families facing financial challenges so that they can live in safety. This action also contributed to development of the local community.



### NSK (China) Investment Co., Ltd.

#### Donated Desk Lamps for Reading



The company donated desk lamps for reading to a school in a mountainous area to improve the educational environment.



### NSK (China) Investment Co., Ltd.

#### Supported Renovation of a Local Kindergarten



As part of its community contribution, the company subsidized the cost of renovating a local kindergarten.



Before renovation



After renovation

### NSK (China) Investment Co., Ltd.

#### Charity Work for the Local Community



In 2016, the company established a fund for investing in public welfare and charity work as part of its community contribution. In fiscal 2018, it provided assistance to local families needing economic support and put funds to use in environmental protection activities.



Donation certificates from Kunshan City

### NSK Asia Pacific Technology Centre (Thailand) Co., Ltd.

#### Provided Bearings to Students Free of Charge



The NSK Asia Pacific Technology Centre (Thailand Technology Center) provided competition vehicle bearings free of charge to local universities to contribute to the promotion of science and technology and to the training of the next generation of engineers who are interested in automobiles.



### PT. NSK Indonesia

#### Supported Renovation of a Local Kindergarten



As part of its community contribution, the company supported the renovation of a local kindergarten. It also donated materials that the children need.



Before renovation



After renovation

Social contribution activities including nature conservation are also introduced in the "Biodiversity Conservation" section of this report.

(See pp. 97-99 for details.)



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# Appendix

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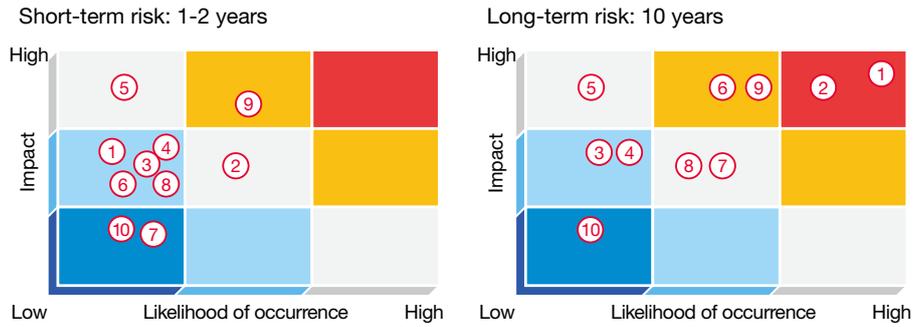
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## Representative Risks Deemed of High Importance

The risks that NSK addresses with risk management are wide-ranging. Those deemed of high importance are described below.

### Risk Heat Map



### Representative Risks and Mitigation Measures

Risk Types	Details of Representative Risks	Risk Mitigation Measures
<p><b>1</b> Risk associated with changes to technology innovation, and the market or competitive landscape</p>	<ul style="list-style-type: none"> <li>● Risk of delay in responding to market changes, as well as to customers' technology demands and technological innovation as with CASE and IoT</li> <li>● Risk of being unable to respond to an increasingly competitive market populated by rival companies and new market entrants</li> </ul> <p><b>Opportunity</b> 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)</p>	<ul style="list-style-type: none"> <li>● Understand the needs through close relationships with a broad range of customers</li> <li>● Pursue the Four Core Technologies plus One, and utilization of digital technology</li> <li>● Leverage open innovation and alliances</li> </ul> <p>▶ Related Information: Research and Development pp. 34-38</p>
<p><b>2</b> Risk related to local situations and dependency on specific region</p>	<ul style="list-style-type: none"> <li>● 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</li> <li>● Risk associated with halt in operations on account of deteriorating public order, outbreak of riots or terrorism</li> <li>● Risk associated with business continuity in the event the supply chain breaks down</li> <li>● Risk of overemphasis on Asia, particularly China</li> </ul> <p><b>Opportunity</b> Business expansion in important regions other than China, such as ASEAN, Europe, others</p>	<ul style="list-style-type: none"> <li>● Expand and enhance a balanced presence in other regions</li> <li>● Get an early grasp of information on dangers by strengthening ability to gather information from each region</li> <li>● Leverage our global network that has the principle of local production, local procurement</li> <li>● Obtain advice from the China Advisory Board</li> </ul>
<p><b>3</b> Risk concerning safety, fire prevention and disaster</p>	<ul style="list-style-type: none"> <li>● Risk of major industrial accident occurring</li> <li>● Risk of halt in operations due to lack of labor management</li> <li>● Risk of halt in operations due to mistaken BCP measures to address fires or natural disasters</li> <li>● Risk of being unable to secure a comfortable and safe working environment in neighboring regions, or for employees</li> </ul>	<ul style="list-style-type: none"> <li>● Strengthen and nurture safety awareness as a core value, thoroughly educate and enlighten</li> <li>● Share case studies from other locations introducing what went right, and what went wrong</li> <li>● Audit and evaluation of various levels from management to operation staff as well as processes and systems, through implementation of countermeasures</li> <li>● Conduct simulations of anticipated scenarios, prepare disaster countermeasures, formulate a business continuity plan</li> </ul> <p>▶ Related Information: Initiatives for Occupational Health and Safety Management, Good Labor Practices pp. 68-70, Responding to Disaster Risk p. 33</p>
<p><b>4</b> Risk associated with quality</p>	<ul style="list-style-type: none"> <li>● Risk of compensation claims due to significant quality defects</li> <li>● Risk associated with insufficient response due to improper quality assurance system or quality control management</li> <li>● Risk of spoofed, falsified quality data</li> </ul>	<ul style="list-style-type: none"> <li>● Secure high quality through process management that leverages the NSK Product Development System (NPDS)</li> <li>● Realize zero defects by utilizing NSK Quality No. 1 (NQ1) activities</li> <li>● Conduct auditing and monitoring based in the internal control system, strengthen support systems</li> </ul> <p>▶ Related Information: Quality Assurance pp. 40-47</p>
<p><b>5</b> Risk with regard to compliance</p>	<ul style="list-style-type: none"> <li>● Risk of violation of relevant laws and regulations</li> <li>● Risk of further losing the trust of society due to bearing responsibility for criminal, civil and administrative acts associated with the above</li> </ul>	<ul style="list-style-type: none"> <li>● Undertake education on strict adherence to laws and regulations, create a corporate culture and atmosphere interwoven with morals and manners</li> <li>● Review to strengthen and improve compliance systems, policies, and related rules on an as needed basis</li> <li>● Promote specific measures related to strengthening compliance, follow up to confirm on status of implementation</li> </ul> <p>▶ Related Information: Compliance pp. 25-30</p>

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Risk Types	Details of Representative Risks	Risk Mitigation Measures
<p><b>6</b> Risk concerning the environment</p>	<ul style="list-style-type: none"> <li>● Risk of not progressing toward attaining reduction in CO<sub>2</sub> emissions (60% reduction in emissions in 2050) and other specific goals related to the environment</li> <li>● Risk of being unable to respond to changes in environment-related laws and systems, or to evolving environment-related technologies and market needs</li> <li>● <b>Opportunity</b> Expand sales of environmentally friendly products</li> </ul>	<ul style="list-style-type: none"> <li>● The Global Environment Protection Committee formulates environmental policy and environmental action plans</li> <li>● Understand information, and determine and implement specific response measures in order to conform to environment-related laws and systems</li> <li>● 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</li> <li>▶ Related Information: Environment pp. 71-99</li> </ul>
<p><b>7</b> Risk associated with human resources and labor</p>	<ul style="list-style-type: none"> <li>● Risk of being unable to secure globally competent human resources, consequently hindering business expansion and execution of strategy</li> <li>● Risk of impact on operations due to insufficient workforce</li> <li>● Risk of impact on operations due to deteriorating labor relations</li> </ul>	<ul style="list-style-type: none"> <li>● Engrain a basic policy of making the most of diverse human resources (realization of diversity and inclusion, facilitating a work-life balance), creating environments where employees can work with vitality (respect of fundamental rights, creating secure, safe, and comfortable workplaces, consideration to health), and providing opportunities for growth (realization of talent management, offer education and training opportunities)</li> <li>● Undertake measures to bolster engagement and systems, including support for females, seniors and people with disabilities to play an active role, conduct employee awareness surveys and Employee Relations (ER)</li> <li>▶ Related Information: Initiatives for Human Resource Management, Good Labor Practices pp. 56-67</li> </ul>
<p><b>8</b> Risk with regard to procurement</p>	<ul style="list-style-type: none"> <li>● Risk of dependency on specific source of supply, occurrence of quality problems, and impact on the supply of raw materials or components due to partners' insufficient production capacity</li> <li>● Risk of impact from rising costs for raw materials or components</li> <li>● Risk of supply-related problems occurring with regard to new technology or new products</li> <li>● Risk of not proceeding with initiatives related to CSR procurement</li> </ul>	<ul style="list-style-type: none"> <li>● 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</li> <li>● Cultivate and educate new suppliers based on high and increasingly sophisticated assessed purchasing capabilities</li> <li>● 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</li> <li>▶ Related Information: Supply Chain Management pp. 49-54</li> </ul>
<p><b>9</b> Risk associated with information and communication technology (ICT)</p>	<ul style="list-style-type: none"> <li>● Risk of decline in competitiveness due to lagging sophistication of IT systems</li> <li>● Risk of decline in business efficiency due to loss of stability in IT system that underpins business operations</li> <li>● 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</li> </ul>	<ul style="list-style-type: none"> <li>● Maintain and raise technology level by pursuing new IT system technology and field trial deployment</li> <li>● Ensure stability through backup and redundancy of IT system platform, and standardize system support</li> <li>● 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</li> <li>▶ Related Information: Information Security Management, Risk Management p. 32</li> </ul>
<p><b>10</b> Risk related to finance</p>	<ul style="list-style-type: none"> <li>● Risk relating to the collection of accounts receivable due to sales destination trust problems</li> <li>● Risk of cost burden from problems that arise related to quality, litigation concerning business activities</li> <li>● Risk of procurement of necessary funds, cash flow</li> <li>● Risk related to mistakes in accounting procedures</li> </ul>	<ul style="list-style-type: none"> <li>● Gain an early understanding through the risk reporting system, conduct swift reaction to address through close collaboration with relevant divisions</li> <li>● Perform Group management and strengthen effectiveness based on the internal control system</li> </ul>

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## Certification for Quality, Environmental, and Occupational Health and Safety Management Systems

(As of October 2019)

Region	Country	Site Name	Quality Management System	Environmental and Energy Management System	Occupational Health and Safety Management System
Japan	Japan	NSK Ltd., Fujisawa Plant / Fujisawa Plant Kirihara branch / Fujisawa Technology Center	ISO 9001, EN/JISQ/AS 9100, ISO/TS 22163	ISO 14001	
		NSK Ltd., Ohtsu Plant	IATF 16949	ISO 14001	
		NSK Ltd., Ishibe Plant	IATF 16949	ISO 14001	
		NSK Ltd., Saitama Plant	IATF 16949	ISO 14001	
		NSK Ltd., Saitama Precision Machinery Plant	ISO 9001	ISO 14001	
		NSK Ltd., Kirihara Precision Machinery Plant	ISO 9001	ISO 14001	
		NSK Ltd., Fukushima Plant	ISO 9001	ISO 14001	
		NSK Ltd., Takasaki Plant	IATF 16949	ISO 14001	
		NSK Ltd., Haruna Plant	IATF 16949	ISO 14001	
		NSK Ltd., Steering Technology Center	IATF 16949	ISO 14001	
		NSK Steering Systems Co., Ltd., Soja Plant (Soja)	IATF 16949	ISO 14001	
		NSK Steering Systems Co., Ltd., Soja Plant (Akagi)	IATF 16949	ISO 14001	
		NSK Micro Precision Co., Ltd., Fujisawa Plant	ISO 9001	ISO 14001	
		NSK Micro Precision Co., Ltd., Matsukawa Plant	ISO 9001	ISO 14001	
		NSK Kyushu Co., Ltd.	ISO 9001	ISO 14001	
		Asahi Seiki Co., Ltd.	ISO 9001	ISO 14001	
		Amatsuji Steel Ball Mfg. Co., Ltd., Main Works	IATF 16949	ISO 14001	OHSAS 18001
		Amatsuji Steel Ball Mfg. Co., Ltd., Shiga Works	IATF 16949	ISO 14001	OHSAS 18001
		AKS East Japan Co., Ltd.	IATF 16949	ISO 14001	
		NSK Toyama Co., Ltd., Head Office & Factory		ISO 14001	
		NSK Toyama Co., Ltd., Yatsuo Factory		ISO 14001	
		Shinwa Seiko Co., Ltd., Shin-asahi Plant	ISO 9001	ISO 14001	
		Shinwa Seiko Co., Ltd., Kutsuki Plant	ISO 9001	ISO 14001	
		Kuribayashi Seisakusho Co., Ltd.	ISO 9001	ISO 14001	
		NSK Machinery Co., Ltd.	ISO 9001	ISO 14001	
		NSK Logistics Co., Ltd. (headquarters; import and export control group; each site in East Japan, Gunma, Central Japan, and West Japan)	IATF 16949	ISO 14001	
		Inoue Jikuuke Kogyo Co., Ltd.	ISO 9001, IATF 16949	ISO 14001	
NSK-Warner K.K.	ISO 9001, IATF 16949	ISO 14001			
Chitose Sangyo Co., Ltd.	ISO 9001	ISO 14001			
The Americas	U.S.A.	NSK Corporation (administration, technology)	ISO 9001	ISO 14001	
		NSK Corporation, Clarinda Plant	ISO 9001, IATF 16949	ISO 14001	
		NSK Corporation, Franklin Plant	IATF 16949	ISO 14001	
		NSK Corporation, Liberty Plant	IATF 16949	ISO 14001	
		NSK Precision America, Inc.	ISO 9001	ISO 14001	
		NSK Steering Systems America, Inc., Bennington Plant	IATF 16949	ISO 14001	
		NSK Steering Systems America, Inc., Dyersburg Plant	IATF 16949	ISO 14001	
		NSK-AKS Precision Ball Company	IATF 16949	ISO 14001	
	Canada	NSK Canada Inc.	ISO 9001		
	Mexico	NSK Rodamientos Mexicana, S.A. de C.V.	ISO 9001		
NSK Bearings Manufacturing Mexico S.A. de C.V.		IATF 16949	ISO 14001		
NSK-Warner Mexico S.A. de C.V.			ISO 14001 (expected in 2020)		

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The Americas	Brazil	NSK Brasil Ltda.	ISO 9001			
		NSK Brasil Ltda., Suzano Plant	IATF 16949	ISO 14001		
Europe	U.K.	NSK Europe Ltd. (administration, technology, sales, distribution)	ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
		NSK Bearings Europe Ltd., Newark Plant	ISO 9001	ISO 14001	OHSAS 18001	
		NSK Bearings Europe Ltd., Peterlee Plant	ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
		NSK Steering System Europe (England)	ISO 9001			
		NSK Precision UK Ltd.	ISO 9001	ISO 14001	OHSAS 18001	
		AKS Precision Ball Europe Ltd.	ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
	Germany	Neuweg Fertigung GmbH, Munderkingen Plant	ISO 9001	ISO 14001 ISO 50001	OHSAS 18001	
	Netherlands	NSK European Distribution Centre B.V.	ISO 9001, IATF 16949		OHSAS 18001	
	Poland	NSK Bearings Polska S.A., Kielce Plant	ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
		NSK Needle Bearing Poland Sp. z o.o.	IATF 16949	ISO 14001		
		NSK Steering Systems Europe (Polska) Sp. z o.o.	IATF 16949	ISO 14001	OHSAS 18001	
		AKS Precision Ball Polska Sp. z o.o.	IATF 16949	ISO 14001		
	Africa	South Africa	NSK South Africa (Pty) Ltd.	ISO 9001	ISO 14001	
	China	China	Kunshan NSK Co., Ltd.	ISO 9001, IATF 16949	ISO 14001	
Changshu NSK Needle Bearing Co., Ltd.			IATF 16949	ISO 14001		
NSK Steering Systems Dongguan Co., Ltd.			IATF 16949	ISO 14001		
Zhangjiagang NSK Precision Machinery Co., Ltd.			ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
Suzhou NSK Bearings Co., Ltd.			IATF 16949	ISO 14001		
AKS Precision Ball (Hangzhou) Co., Ltd.			ISO 9001, IATF 16949	ISO 14001		
NSK-Warner (Shanghai) Co., Ltd.			IATF 16949	ISO 14001		
NSK Hangzhou Automotive Components Co., Ltd.			IATF 16949	ISO 14001		
Shenyang NSK Precision Co., Ltd.			ISO 9001	ISO 14001		
Shenyang NSK Co., Ltd.			ISO 9001	ISO 14001		
Hefei NSK Co., Ltd.			ISO 9001, IATF 16949	ISO 14001		
South Korea	South Korea	NSK Korea Co., Ltd., Cheonan Plant	IATF 16949	ISO 14001 (expected in FY2019)		
		NSK Korea Co., Ltd., Changwon Plant	ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
ASEAN	Indonesia	PT. NSK Bearings Manufacturing Indonesia	IATF 16949	ISO 14001		
		PT. AKS Precision Ball Indonesia	ISO 9001, IATF 16949	ISO 14001		
		PT. NSK-Warner Indonesia		ISO 14001		
	Thailand	NSK Bearings Manufacturing (Thailand) Co., Ltd.	IATF 16949	ISO 14001	OHSAS 18001	
		Siam NSK Steering Systems Co., Ltd.	IATF 16949	ISO 14001	OHSAS 18001	
	Malaysia	NSK Micro Precision (M) Sdn. Bhd.	ISO 9001	ISO 14001	OHSAS 18001	
ISC Micro Precision Sdn. Bhd.		ISO 9001	ISO 14001	OHSAS 18001		
India	India	NSK Bearings India Private Ltd., Chennai Plant	ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
		Rane NSK Steering Systems Ltd., Chennai Plant	ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
		Rane NSK Steering Systems Ltd., Bawal Plant	ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
		Rane NSK Steering Systems Ltd., Pantnagar Plant	ISO 9001, IATF 16949	ISO 14001	OHSAS 18001	
		Rane NSK Steering Systems Ltd., Gujarat Plant		ISO 14001	ISO 45001	

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## Scope of Environmental Management

In order to increase coverage and reliability, the Global Environment Department at NSK headquarters and each Group site confirm environmental information and data. The NSK Group decides which information and data is to be disclosed by taking into account relevant laws and regulations, guidelines, social concerns and materiality.

Category		Scope	
Environmental Management	Input	Steel	Procurement volume from main suppliers
		Oils and greases	
		Energy	NSK Group
		Water	
	Output	Environmentally harmful substances	Sites with ISO14001 certification in Japan
		Atmospheric gases	NSK Group
		Waste	Sites with ISO14001 certification (Production)
		Water quantity	NSK Group
		Environmentally harmful substances	Sites with ISO14001 certification in Japan (Sites with ISO14001 certification for VOCs)
	p. 75: Input and Output of Global Business Activities		
p. 78: Fiscal 2018 Environmental Education Courses and Participants (Japan)		NSK group companies in Japan	
Creating Environmentally Friendly Products	p. 81: Number of Environmentally Friendly Products Developed p. 81: Table: Environmentally Friendly Products Developed in Fiscal 2018	NSK Group (Products development divisions)	
Global Warming Countermeasures	p. 83: Figure: Energy Used by Region Figure: Total GHG Emissions by Region	NSK Group	
	p. 86: Energy Used by Type (in Thermal Units) Energy Used by Application (in Thermal Units) CO <sub>2</sub> Emissions by Application	Sites with ISO14001 certification (Production)	
	p. 86: Figure: CO <sub>2</sub> Emissions from Manufacturing in Japan: Total Volume and per Production Unit Figure: CO <sub>2</sub> Emissions from Manufacturing Outside Japan: Total Volume and per Production Unit		
	p. 111: Energy Consumption and CO <sub>2</sub> Emissions (by Region and Country, Production Sites)		
	p. 89: Figure: CO <sub>2</sub> Emissions from Distribution in Japan: Total Volume and per Transportation Volume	NSK Logistics Co., Ltd., and main distribution contractors	
	p. 89: Energy-Saving Initiatives in Offices and Sales Divisions	NSK Group sites in Japan (Headquarters, branch offices and sales offices)	
	p. 89: NSK Group's (Global) Scope 3 Emissions in FY2018	NSK Group (Headquarters, branch offices, sales offices, production and technical divisions)	

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	Category	Scope
Resource Conservation and Recycling Measures	p. 92: Figure: Recycling Rate (Manufacturing)	Sites with ISO14001 certification (Production)
	p. 92: Figure: Landfill Disposal Rate (Plants in Japan)	
	p. 92: Figure: Waste and Valuables (Manufacturing)	
	p. 92: Figure: Industrial Waste per Production Unit (Plants in Japan)	
	p. 92: Figure: Amount of Packaging Material Waste per Production Unit (Distribution in Japan)	
	p. 92: Figure: Water Withdrawal per Production Unit (Plants in Japan) Figure: Water Withdrawal per Production Unit (Plants outside Japan)	
	p. 111: Total Waste, Landfill Disposal Volume and Recycling Rate (by Region and Country, Production Sites)	
	p. 112: Water Withdrawal and Discharged Water Amounts (by Region and Country, Production Sites)	
Reducing Use of Environmentally Harmful Substances	p. 96: Figure: Handling of PRTR-Designated Substances (Plants in Japan)	Sites with ISO14001 certification in Japan (Production)
	p. 96: Emissions of Volatile Organic Compounds (VOCs) at Plants	Sites with ISO14001 certification (Production)
Appendix	p. 110: Environmental Accounting	NSK Ltd. (Headquarters, plants and technical divisions) NSK Steering Systems Co., Ltd. NSK-Warner K.K. NSK Kyushu Co., Ltd. NSK Machinery Co., Ltd. Inoue Jikuuke Kogyo Co., Ltd. NSK Micro Precision Co., Ltd., Fujisawa Plant NSK Micro Precision Co., Ltd., Matsukawa Plant Amatsuji Steel Ball Mfg. Co., Ltd. AKS East Japan Co., Ltd. Asahi Seiki Co., Ltd. Shinwa Seiko Co., Ltd. Kuribayashi Seisakusho Co., Ltd.
Third-Party Comments	p. 114: Independent Verification Report	NSK Group (Headquarters, branch offices, sales offices, production and technical divisions)

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## Environmental Accounting

The NSK Group has disclosed the results of environmental accounting, a tool for quantitatively ascertaining and evaluating the costs and results of environmental protection activities. The Group also has introduced environmental accounting as an information tool to broaden people's understanding of the Group's activities. The environmental conservation cost (table 1) in fiscal 2018 included approximately 3.9 billion yen in investments and about 15.1 billion yen in expenses. The economic benefits (table 2) came to roughly 1.8 billion yen.

The NSK Group seeks to ensure that its products contribute to environmental preservation. As a result, approximately 68% of environmental conservation costs comprised R&D costs for environmentally friendly products and environmental conservation technologies.

**Table1: Environmental Conservation Cost**

Category	Investment			Cost		
	FY2017	FY2018		FY2017	FY2018	
	Millions of yen	Millions of yen	(%)	Millions of yen	Millions of yen	(%)
<b>Business area costs</b>						
Pollution prevention costs	475.9	292.5	7.5	574.4	572.7	3.8
Global environment conservation costs	1,282.8	1,320.4	33.9	1,180.4	1,330.0	8.8
Resource circulation costs	426.0	578.2	14.8	1,012.4	917.2	6.1
<b>Subtotal</b>	<b>2,184.7</b>	<b>2,191.1</b>	<b>56.2</b>	<b>2,767.2</b>	<b>2,819.9</b>	<b>18.7</b>
<b>Upstream and downstream costs</b>	0.0	0.0	0.0	524.2	398.1	2.7
<b>Administration costs</b>	17.3	6.3	0.2	543.5	563.6	3.7
<b>Research and development costs</b>	1,527.5	1,696.2	43.5	11,179.2	11,167.2	74.0
<b>Social activity costs</b>	0.0	0.0	0.0	48.9	119.7	0.8
<b>Environmental remediation costs</b>	0.0	5.1	0.1	29.4	18.4	0.1
<b>Total</b>	<b>3,729.5</b>	<b>3,898.7</b>	<b>100.0</b>	<b>15,092.4</b>	<b>15,086.9</b>	<b>100.0</b>

Category	Key activities
<b>Business area costs</b>	
Pollution prevention costs	<ul style="list-style-type: none"> <li>• Repaired underground tanks and pipes</li> <li>• Maintained and inspected dust collectors and smoke removal units</li> </ul>
Global environment conservation costs	<ul style="list-style-type: none"> <li>• Upgraded to equipment with high energy efficiency and installed photovoltaic facilities</li> </ul>
Resource circulation costs	<ul style="list-style-type: none"> <li>• Installed waste liquid reducing equipment</li> <li>• Took countermeasures to reduce and recycle waste material</li> </ul>
<b>Upstream and downstream costs</b>	<ul style="list-style-type: none"> <li>• Practiced green procurement (low-polluting vehicles, paper, uniforms, and office equipment and supplies)</li> </ul>
<b>Administration costs</b>	<ul style="list-style-type: none"> <li>• Maintained and followed procedures for ISO 14001</li> <li>• Measured and analyzed environmental impact</li> </ul>
<b>Research and development costs</b>	<ul style="list-style-type: none"> <li>• Conducted research and development with the main goal of environmental protection for new product development</li> </ul>
<b>Social activity costs</b>	<ul style="list-style-type: none"> <li>• Participated in and donated to the Keidanren Nature Conservation Fund</li> </ul>
<b>Environmental remediation costs</b>	<ul style="list-style-type: none"> <li>• Maintained discharge treatment facilities</li> </ul>

**Table 2: Economic Benefits Associated with Environmental Conservation Activities**

Category	FY2017	FY2018
	Millions of yen	Millions of yen
Reductions in energy costs through energy conservation activities	129	94
Reductions in waste disposal costs through waste reduction activities	40	16
Sales of recyclable waste material	1,421	1,714
<b>Total</b>	<b>1,590</b>	<b>1,824</b>

**Table 3: Physical Benefits Associated with Environmental Conservation Activities**

Area	Indicators	FY2017	FY2018
<b>Plants</b>	CO <sub>2</sub> emissions / production unit	4.6% improvement	0.8% deterioration
	Water withdrawal / production unit	9.2% improvement	6.4% deterioration
	Landfill waste disposal ratio*1	No change	No change
	Waste recycling ratio*2	No change	No change
<b>Distribution</b>	CO <sub>2</sub> emissions / transportation volume	8.7% improvement	1.6% deterioration

\*1 A 0% landfill disposal ratio has been maintained since fiscal 2016.

\*2 A 100% recycling ratio has been maintained since fiscal 2016.

### Method of Calculation

#### ● Criteria for environmental protection costs

Environmental costs and expenses are determined in accord with the *Environmental Accounting Guidelines 2005* issued by the Ministry of the Environment in Japan. Depreciation is entered as a cost using the 5-year straight-line depreciation method. Compound costs are divided in proportion to the relevant environmental objective. Costs incurred through green procurement are entered as full amounts and not as differential amounts.

#### ● Criteria for environmental protection benefits

Includes economic benefits (in monetary units) calculated from tangible evidence and physical benefits gained from environmental policies. Does not include imputed benefits (risk avoidance benefits, estimated profit contribution benefits, etc.).

### Boundary

NSK Ltd., NSK Steering System Co., Ltd., NSK-Warner K.K., NSK Kyushu Co., Ltd., NSK Machinery Co., Ltd., Inoue Jikuuke Kogyo Co., Ltd., Fujisawa Plant and Matsukawa Plant of NSK Micro Precision Co., Ltd., Amatsuji Steel Ball Mfg. Co., Ltd., AKS East Japan Co., Ltd., Asahi Seiki Co., Ltd., Shinwa Seiko Co., Ltd., and Kuribayashi Seisakusho Co., Ltd.

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## Environmental Data by Country and Region

### Energy Consumption and CO<sub>2</sub> Emissions\*<sup>1</sup> (by Region and Country,\*<sup>2</sup> Production Sites)

Region	Country	FY2014		FY2015		FY2016		FY2017			FY2018		
		Energy Consumption (TJ)	CO <sub>2</sub> Emissions (1000t-CO <sub>2</sub> )	Energy Consumption (TJ)	CO <sub>2</sub> Emissions (1000t-CO <sub>2</sub> )	Energy Consumption (TJ)	CO <sub>2</sub> Emissions (1000t-CO <sub>2</sub> )	Energy Consumption (TJ)	CO <sub>2</sub> Emissions (1000t-CO <sub>2</sub> )	CO <sub>2</sub> Emissions* <sup>3</sup> (1000t-CO <sub>2</sub> )	Energy Consumption (TJ)	CO <sub>2</sub> Emissions (1000t-CO <sub>2</sub> )	CO <sub>2</sub> Emissions* <sup>3</sup> (1000t-CO <sub>2</sub> )
Japan	Japan	7,203	408	7,079	401	7,372	420	7,705	438	412	7,783	440	413
The Americas	U.S.A.	1,206	60	1,121	56	1,093	55	1,072	54	51	1,131	56	51
	Mexico	41	2	60	3	71	3	60	3	3	88	4	4
	Brazil	226	4	214	4	201	4	263	5	5	244	5	4
	The Americas subtotal	1,474	67	1,395	63	1,364	62	1,395	62	59	1,463	65	59
Europe	U.K.	613	27	661	29	650	28	598	26	23	589	26	19
	Germany	36	2	36	2	33	2	32	2	2	32	2	2
	Poland	1,253	96	1,329	102	1,405	108	1,501	115	112	1,412	108	104
	Europe subtotal	1,903	125	2,026	133	2,088	138	2,132	143	137	2,033	136	125
Asia	Indonesia	956	72	966	73	977	74	1,007	76	76	1,002	76	75
	Thailand	363	20	371	20	378	21	368	20	19	375	20	18
	Malaysia	467	32	478	33	447	30	468	32	33	436	30	29
	China	2,230	155	2,363	165	2,542	177	2,783	194	187	2,735	190	176
	South Korea	417	22	442	23	488	26	493	26	26	660	35	35
	India	147	12	187	15	211	17	253	21	20	245	20	18
	Asia subtotal	4,580	313	4,808	329	5,042	345	5,371	369	361	5,453	371	351
NSK Group total	15,160	912	15,307	925	15,867	964	16,603	1,012	969	16,732	1,012	948	

### Total Waste, Landfill Disposal Volume and Recycling Rate (by Region and Country,\*<sup>4</sup> Production Sites)

Region	Country	FY2014			FY2015			FY2016		
		Total Waste (1000-t)	Landfill Disposal Volume (t)	Recycling Rate (%)	Total Waste (1000-t)	Landfill Disposal Volume (t)	Recycling Rate (%)	Total Waste (1000-t)	Landfill Disposal Volume (t)	Recycling Rate (%)
Japan	Japan	105.1	1	99.999	101.8	0	99.9999	105.5	0	100.0
The Americas	U.S.A.	16.9	1,292	92.3	17.0	779	95.4	16.9	889	94.8
	Mexico	—	—	—	0.5	54	80.9	0.6	12	94.0
	Brazil	3.6	60	98.3	3.1	55	98.2	3.5	42	98.8
	The Americas subtotal	20.5	1,352	93.4	20.6	888	95.6	21.0	943	95.4
Europe	U.K.	6.2	1,483	72.9	7.0	1,412	77.3	6.9	1,463	75.9
	Germany	1.3	0	100.0	1.3	0	100.0	0.9	0	100.0
	Poland	19.6	77	99.6	20.5	75	99.6	24.5	130	99.5
	Europe subtotal	27.1	1,560	93.9	28.8	1,487	94.6	32.3	1,593	94.8
Asia	Indonesia	8.6	120	98.6	8.3	30	99.6	9.5	29	99.7
	Thailand	5.2	148	97.0	5.2	118	97.6	4.9	29	99.4
	Malaysia	2.4	46	98.1	1.9	41	97.9	2.1	20	99.1
	China	27.5	1,647	93.4	28.9	1,083	95.6	31.9	1,000	96.3
	South Korea	3.6	23	99.2	3.6	23	99.3	3.9	28	99.2
	India	0.7	75	90.0	0.8	65	92.3	1.1	22	98.0
	Asia subtotal	48.0	2,059	95.4	48.7	1,360	96.9	53.4	1,128	97.6
NSK Group total	200.7	4,972	97.4	199.9	3,735	98.0	212.2	3,664	98.2	

Region	Country	FY2017			FY2018		
		Total Waste (1000-t)	Landfill Disposal Volume (t)	Recycling Rate (%)	Total Waste (1000-t)	Landfill Disposal Volume (t)	Recycling Rate (%)
Japan	Japan	111.5	0	100.0	112.4	0	100.0
The Americas	U.S.A.	16.3	718	95.6	14.6	453	96.9
	Mexico	0.5	21	87.7	0.9	30	96.7
	Brazil	3.3	59	98.2	2.8	95	96.6
	The Americas subtotal	20.1	798	95.9	18.3	578	96.8
Europe	U.K.	7.2	1,308	79.3	8.3	1,565	78.3
	Germany	1.0	0	100.0	1.1	0	100.0
	Poland	24.2	101	99.6	23.1	82	99.6
	Europe subtotal	32.4	1,409	95.4	32.5	1,647	94.6
Asia	Indonesia	9.8	16	99.8	9.9	2	100.0
	Thailand	4.6	14	99.7	4.7	9	99.8
	Malaysia	2.9	0	100.0	2.8	0	100.0
	China	36.4	719	97.6	40.9	938	97.3
	South Korea	3.8	27	99.2	4.2	179	95.0
	India	2.0	28	98.6	2.1	0	100.0
Asia subtotal	59.5	804	98.5	64.6	1,128	98.1	
NSK Group total	223.5	3,011	98.6	227.8	3,353	98.4	

\*1 Including CO<sub>2</sub> emitted from production sites by combusting fuel and CO<sub>2</sub> emitted from power plants regarded as generated by the user of electricity (sum of scope 1 and scope 2).

\*2 Adding the actual values of all in-scope production sites by each country and region.

\*3 Scope 2 figures since fiscal 2017 have been calculated based on location-based fluctuation standard where production site operates (in fiscal 2017 and 2018, CO<sub>2</sub> emissions calculated based on fixed and variable standards are listed).

\*4 Adding the actual values of all in-scope production sites by each country and region.

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### Water Withdrawal and Discharged Water Amounts (by Region and Country,\*<sup>1</sup> Production Sites)

Region	Country	FY2014		FY2015		FY2016		FY2017		FY2018	
		Water Withdrawal (1000-m <sup>3</sup> )	Discharged Water (1000-m <sup>3</sup> )	Water Withdrawal (1000-m <sup>3</sup> )	Discharged Water (1000-m <sup>3</sup> )	Water Withdrawal (1000-m <sup>3</sup> )	Discharged Water (1000-m <sup>3</sup> )	Water Withdrawal (1000-m <sup>3</sup> )	Discharged Water (1000-m <sup>3</sup> )	Water Withdrawal (1000-m <sup>3</sup> )	Discharged Water (1000-m <sup>3</sup> )
Japan	Japan	2,369.9	1,417.1	2,195.0	1,191.6	2,388.5	1,202.2	2,372.3	1,288.4	2,518.0	1,496.9
The Americas	U.S.A.	105.8	79.9	98.4	51.9	99.0	56.1	111.1	87.0	110.5	85.8
	Mexico	10.7	10.7	12.9	12.9	16.6	0.0	17.5	7.0	24.7	9.4
	Brazil	33.5	13.0	30.9	14.4	36.9	13.1	37.1	15.6	37.1	11.5
	The Americas subtotal	150.0	103.6	142.2	79.2	152.5	69.2	165.7	109.6	172.3	106.7
Europe	U.K.	73.6	73.6	76.1	64.2	75.7	64.4	68.5	56.7	67.7	53.5
	Germany	2.9	2.9	4.2	3.3	3.8	3.1	2.8	2.0	2.6	1.7
	Poland	227.9	122.1	247.5	135.2	267.5	146.6	260.7	144.4	266.1	142.7
	Europe subtotal	304.4	198.6	327.8	202.7	347.0	214.1	332.0	203.1	336.4	197.9
Asia	Indonesia	241.5	214.6	270.0	243.3	279.9	256.3	308.1	277.3	280.5	252.5
	Thailand	109.1	87.3	146.1	101.8	154.7	106.8	128.8	111.0	132.6	118.8
	Malaysia	46.4	46.4	125.0	69.8	120.2	9.4	137.0	36.5	96.0	35.5
	China	1,156.8	865.0	1,009.9	801.1	1,091.8	848.7	987.5	800.5	896.6	687.4
	South Korea	56.6	23.3	60.0	41.7	72.1	50.2	75.5	75.5	88.9	68.5
	India	61.3	5.5	36.7	8.1	36.1	7.0	50.3	23.3	44.5	17.4
	Asia subtotal	1,671.7	1,242.1	1,647.7	1,265.8	1,754.8	1,278.4	1,687.2	1,324.1	1,539.1	1,180.1
<b>NSK Group total</b>		<b>4,496.0</b>	<b>2,961.4</b>	<b>4,312.7</b>	<b>2,739.3</b>	<b>4,642.8</b>	<b>2,763.9</b>	<b>4,557.2</b>	<b>2,925.2</b>	<b>4,565.8<sup>*2</sup></b>	<b>2,981.6</b>

\*1 Adding the actual values of all in-scope production sites by each country and region.

\*2 Water consumption in water-stressed regions was 83,300 m<sup>3</sup> (at two plants in India, and one plant in Thailand).

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## Employee Data (As of March 31, 2019)

### Employee Composition by Employment Status

	FY2014	FY2015	FY2016	FY2017	FY2018
Regular employees	8,100	7,867	9,192	9,391	9,501
Non-regular employees	753	721	1,203	1,174	1,159
<b>Total</b>	<b>8,853</b>	<b>8,588</b>	<b>10,395</b>	<b>10,565</b>	<b>10,660</b>

\* NSK Ltd. and main group companies in Japan.

### Employee Composition by Region

	FY2014	FY2015	FY2016	FY2017	FY2018
Japan	11,036	11,291	11,291	11,607	11,755
The Americas	3,294	3,229	3,065	3,080	3,093
Europe	3,563	3,531	3,667	3,908	4,259
Asia (excluded Japan)	13,195	13,536	13,478	13,266	12,377
<b>Total</b>	<b>31,088</b>	<b>31,587</b>	<b>31,501</b>	<b>31,861</b>	<b>31,484</b>

\* NSK Ltd. and consolidated group companies worldwide.

### Employee Composition by Gender

	FY2014	FY2015	FY2016	FY2017	FY2018
Men	7,555	7,317	8,395	8,570	8,667
Women	545	550	797	821	834
<b>Total</b>	<b>8,100</b>	<b>7,867</b>	<b>9,192</b>	<b>9,391</b>	<b>9,501</b>

\* Includes regular employees of NSK Ltd. and main group companies in Japan.

### Average Years of Employment

	FY2014	FY2015	FY2016	FY2017	FY2018
Men	19	19	17	17	17
Women	14	14	10	10	11
<b>Total</b>	<b>18</b>	<b>19</b>	<b>15</b>	<b>16</b>	<b>16</b>

\* NSK Ltd. and main group companies in Japan.

### Average age

	FY2014	FY2015	FY2016	FY2017	FY2018
Men (age)	42	42	42	42	42
Women (age)	36	37	36	37	37
<b>Total (age)</b>	<b>41</b>	<b>42</b>	<b>41</b>	<b>41</b>	<b>41</b>

\* NSK Ltd. and main group companies in Japan.

### Percentage of Directors and Management Positions Held by Women

	FY2014	FY2015	FY2016	FY2017	FY2018
Director (%)	0.00	0.00	0.00	0.00	4.55
Senior manager rank (%)	0.44	0.88	0.82	0.83	0.40
Manager rank (%)	1.20	1.20	1.34	1.83	1.90

\* NSK Ltd. and main group companies in Japan.

\* Retroactively corrected to improve accuracy.

### Number of New Graduates Hired

	April 2015	April 2016	April 2017	April 2018	April 2019
Men	66	68	100	89	99
Women	8	11	18	13	16

\* Includes employees of NSK Ltd. and main group companies in Japan. (only corporate staff)

### Retention Status of Employees

	FY2014	FY2015	FY2016	FY2017	FY2018
Turnover rate (%)	1.19	2.54	1.36	1.88	1.64

\* NSK Ltd. and main group companies in Japan.

\* Turnover rate: Percentage of employees at the end of the previous year who have retired as of the end of the current year.

### Number of Employees Who Took Childcare Leave

	FY2014	FY2015	FY2016	FY2017	FY2018
Men	13	25	34	40	73
Women	17	26	41	29	36

\* NSK Ltd. and main group companies in Japan.

### Number of Employees Who Took Nursing Care Leave

	FY2014	FY2015	FY2016	FY2017	FY2018
Men	2	2	3	1	2
Women	0	1	1	2	1

\* NSK Ltd. and main group companies in Japan.

### Number of labor-management consultations

	FY2014	FY2015	FY2016	FY2017	FY2018
Number of times Central Management Council meetings held	8	6	6	7	7

\* NSK Ltd. and main group companies in Japan.

### Rate of Labor Union Participation

	FY2014	FY2015	FY2016	FY2017	FY2018
Non-management employees (%)	100	100	100	100	100
All employees including management (%)	81	82	81	82	83

\* NSK Ltd. and main group companies in Japan.

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## Independent Verification Report



No.1811003635

### Independent Verification Report

To: NSK Ltd.

#### 1. Objective and Scope

Japan Quality Assurance Organization (hereafter "JQA") was engaged by NSK Ltd. (hereafter "the Company") to provide an independent verification on "FY2018\* NSK Group GHG emission calculation report", "FY2018 NSK Group Water withdrawal calculation report", "FY2018 NSK Group Waste and valuable resources calculation reports" and "FY2018 NSK Group VOC emission calculation report" (hereafter "the Reports"). The content of our verification was to express our conclusion, based on our verification procedures, on whether the statement of information regarding GHG emissions, Energy Use, Water withdrawal, Industrial waste and valuables, and VOC emissions in the Reports was correctly measured and calculated, in accordance with the "NSK Group GHG emission calculation standard (Scope 1 and 2) (Ver. 02-05)", "NSK Group GHG emission calculation standard (Scope 3) (Ver. 01-03)", "NSK Group Water withdrawal calculation standard (Ver. 01-02)" and "NSK Group Total waste of industrial waste and valuables, and Recycling rate, calculation standard (Ver. 01-02)" and "NSK Group VOC emission calculation standard (Ver.01-02)" (hereafter "the Rules"). The purpose of the verification is to evaluate the Reports objectively and to enhance the credibility of the Reports.

\*The fiscal year 2018 of the Company ended on March 31, 2019.

#### 2. Procedures Performed

JQA conducted verification in accordance with "ISO 14064-3" for GHG emissions and Energy use, and with "ISAE3000" for Water withdrawal, Industrial waste and valuables and VOC emissions, respectively. The scope of this verification assignment covers Scope 1, 2 and Scope 3 as GHG emissions, Energy Use, Water withdrawal, Industrial waste and valuables, and VOC emissions. The verification was conducted to a limited level of assurance and quantitative materiality was set at 5 percent each of the total emissions and total amount of Water withdrawal in the Reports. The organizational boundaries of this verification cover all NSK Group sites in Japan and overseas, including production sites, technology centers and non-production sites of NSK Ltd., NSK equity affiliates\* and NSK brand producing companies.

\*NSK equity affiliates which 50 percent or more of the voting stock is owned by NSK.

Our verification procedures included:

- For on-site verification except for Scope 3, visiting four domestic sites: NSK Steering Systems Co., Ltd. Soja Plant, Akagi Manufacturing Department, AKS East Japan Co. Ltd., NSK MICRO PRECISION Co., Ltd.(Nagano) and NSK Ltd. Hiroshima Nissei Bldg., selected by the Company.
- On-site assessment to check the report scope and boundaries; monitoring points of activity data; monitoring and calculation system; and activity data. The number and location of sampling sites for on-site assessment were selected by the Company.
- Visiting the Company's Head Office for validation of the Rules and verification of Scope 3. Checking calculation scenario and allocation method for Scope 3; monitoring and calculation system; and emission data.

#### 3. Conclusion

Based on the procedures described above, nothing has come to our attention that caused us to believe that the statement of the information regarding the Company's FY2018 GHG emissions, Energy Use, Water withdrawal, Industrial waste and valuables, and VOC emissions in the Report is not materially correct, or has not been prepared in accordance with the Rules.

#### 4. Consideration

The Company was responsible for preparing the Reports, and JQA's responsibility was to conduct verification of GHG emissions, Energy Use, Water withdrawal, Industrial waste and valuables, and VOC emissions in the Reports only. There is no conflict of interest between the Company and JQA.

Sumio Asada, Board Director

For and on behalf of Japan Quality Assurance Organization

1-25, Kandasudacho, Chiyoda-ku, Tokyo, Japan

July 9, 2019

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## Independent Assurance Statement



### Independent Assurance Statement

September 4, 2019

Mr. Toshihiro Uchiyama  
President & CEO  
NSK Ltd.

#### 1. Purpose

We, Sustainability Accounting Co., Ltd., have been engaged by NSK Ltd. (“the Company”) to provide limited assurance on the Company's Lost-Worktime Injury Rates for FY 2018 which were 0.30 in Japan, 0.41 outside Japan, and 0.37 globally (“the performance data”). The purpose of this process is to express our conclusion on whether the performance data were calculated in accordance with the Company's standards. The Company's management is responsible for calculating the performance data. Our responsibility is to independently carry out a limited assurance engagement and to express our assurance conclusion.

#### 2. Procedures Performed

Our assurance engagement has been planned and performed in accordance with International Standard on Assurance Engagement 3000 (ISAE3000).

The key procedures we carried out included:

- Interviewing the Company's responsible personnel to understand the Company's standards
- Reviewing the Company's standards
- Performing cross-checks on a sample basis and performing a recalculation to determine whether the performance data were calculated in accordance with the Company's standards.

#### 3. Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the performance data have not been calculated, in all material respects, in accordance with the Company's standards.

We have no conflict of interest relationships with the Company.

Takashi Fukushima  
Representative Director  
Sustainability Accounting Co., Ltd.

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## GRI Content Index

This report refers to GRI Sustainability Reporting Standards (GRI Standards) 2016/2018. The relevant information is described as follows.

### GRI 102: General Disclosures 2016

		Indicator	Report Page
<b>1. Organizational profile</b>			
102-1	Name of the organization	a. Name of the organization.	p. 3
102-2	Activities, brands, products, and services	a. A description of the organization's activities. b. Primary brands, products, and services, including an explanation of any products or services that are banned in certain markets.	pp. 3-4
102-3	Location of headquarters	a. Location of the organization's headquarters.	p. 3
102-4	Location of operations	a. Number of countries where the organization operates, and the names of countries where it has significant operations and/or that are relevant to the topics covered in the report.	p. 5
102-5	Ownership and legal form	a. Nature of ownership and legal form.	p. 3
102-6	Markets served	a. Markets served, including: i. geographic locations where products and services are offered; ii. sectors served; iii. types of customers and beneficiaries.	pp. 3-5 NSK Report 2019 pp. 38-41
102-7	Scale of the organization	a. Scale of the organization, including: i. total number of employees; ii. total number of operations; iii. net sales (for private sector organizations) or net revenues (for public sector organizations); iv. total capitalization (for private sector organizations) broken down in terms of debt and equity; v. quantity of products or services provided.	pp. 3, 5
102-8	Information on employees and other workers	a. Total number of employees by employment contract (permanent and temporary), by gender. b. Total number of employees by employment contract (permanent and temporary), by region. c. Total number of employees by employment type (full-time and part-time), by gender. d. Whether a significant portion of the organization's activities are performed by workers who are not employees. If applicable, a description of the nature and scale of work performed by workers who are not employees. e. Any significant variations in the numbers reported in Disclosures 102-8-a, 102-8-b, and 102-8-c (such as seasonal variations in the tourism or agricultural industries). f. An explanation of how the data have been compiled, including any assumptions made.	pp. 3, 113
102-9	Supply chain	a. A description of the organization's supply chain, including its main elements as they relate to the organization's activities, primary brands, products, and services.	pp. 49-54
102-10	Significant changes to the organization and its supply chain	a. Significant changes to the organization's size, structure, ownership, or supply chain, including: i. Changes in the location of, or changes in, operations, including facility openings, closings, and expansions; ii. Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations); iii. Changes in the location of suppliers, the structure of the supply chain, or relationships with suppliers, including selection and termination.	No change
102-11	Precautionary Principle or approach	a. Whether and how the organization applies the Precautionary Principle or approach.	pp. 94-96
102-12	External initiatives	a. A list of externally-developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes, or which it endorses.	p. 30
102-13	Membership of associations	a. A list of the main memberships of industry or other associations, and national or international advocacy organizations.	web: Related Association
<b>2. Strategy</b>			
102-14	Statement from senior decision-maker	a. A statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy for addressing sustainability.	pp. 12-14
102-15	Key impacts, risks, and opportunities	a. A description of key impacts, risks, and opportunities.	pp. 9, 12-14, 104-105
<b>3. Ethics and integrity</b>			
102-16	Values, principles, standards, and norms of behavior	a. A description of the organization's values, principles, standards, and norms of behavior.	p. 7
102-17	Mechanisms for advice and concerns about ethics	a. A description of internal and external mechanisms for: i. seeking advice about ethical and lawful behavior, and organizational integrity; ii. reporting concerns about unethical or unlawful behavior, and organizational integrity.	pp. 25-27, 51
<b>4. Governance</b>			
102-18	Governance structure	a. Governance structure of the organization, including committees of the highest governance body. b. Committees responsible for decision-making on economic, environmental, and social topics.	pp. 11, 19, 73
102-19	Delegating authority	a. Process for delegating authority for economic, environmental, and social topics from the highest governance body to senior executives and other employees.	pp. 11, 19, 73
102-20	Executive-level responsibility for economic, environmental, and social topics	a. Whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental, and social topics. b. Whether post holders report directly to the highest governance body.	pp. 11, 19, 73
102-21	Consulting stakeholders on economic, environmental, and social topics	a. Processes for consultation between stakeholders and the highest governance body on economic, environmental, and social topics. b. If consultation is delegated, describe to whom it is delegated and how the resulting feedback is provided to the highest governance body.	pp. 11, 19, 73-74

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Indicator			Report Page
102-22	Composition of the highest governance body and its committees	a. Composition of the highest governance body and its committees by: i. executive or non-executive; ii. independence; iii. tenure on the governance body; iv. number of each individual's other significant positions and commitments, and the nature of the commitments; v. gender; vi. membership of under-represented social groups; vii. competencies relating to economic, environmental, and social topics; viii. stakeholder representation.	pp. 19-24
102-23	Chair of the highest governance body	a. Whether the chair of the highest governance body is also an executive officer in the organization. b. If the chair is also an executive officer, describe his or her function within the organization's management and the reasons for this arrangement.	pp. 19-20, 22-24
102-24	Nominating and selecting the highest governance body	a. Nomination and selection processes for the highest governance body and its committees. b. Criteria used for nominating and selecting highest governance body members, including whether and how: i. stakeholders (including shareholders) are involved; ii. diversity is considered; iii. independence is considered; iv. expertise and experience relating to economic, environmental, and social topics are considered.	p. 21
102-25	Conflicts of interest	a. Processes for the highest governance body to ensure conflicts of interest are avoided and managed. b. Whether conflicts of interest are disclosed to stakeholders, including, as a minimum: i. Cross-board membership; ii. Cross-shareholding with suppliers and other stakeholders; iii. Existence of controlling shareholder; iv. Related party disclosures.	p. 21
102-26	Role of highest governance body in setting purpose, values, and strategy	a. Highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental, and social topics.	pp. 19-24
102-27	Collective knowledge of highest governance body	a. Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental, and social topics.	p. 21
102-28	Evaluating the highest governance body's performance	a. Processes for evaluating the highest governance body's performance with respect to governance of economic, environmental, and social topics. b. Whether such evaluation is independent or not, and its frequency. c. Whether such evaluation is a self-assessment. d. Actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental, and social topics, including, as a minimum, changes in membership and organizational practice.	pp. 19-23
102-29	Identifying and managing economic, environmental, and social impacts	a. Highest governance body's role in identifying and managing economic, environmental, and social topics and their impacts, risks, and opportunities – including its role in the implementation of due diligence processes. b. Whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental, and social topics and their impacts, risks, and opportunities.	pp. 19-24
102-30	Effectiveness of risk management processes	a. Highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental, and social topics.	pp. 19, 31-33
102-31	Review of economic, environmental, and social topics	a. Frequency of the highest governance body's review of economic, environmental, and social topics and their impacts, risks, and opportunities.	p. 33
102-32	Highest governance body's role in sustainability reporting	a. The highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material topics are covered.	—
102-33	Communicating critical concerns	a. Process for communicating critical concerns to the highest governance body.	pp. 11, 23, 25-33
102-34	Nature and total number of critical concerns	a. Total number and nature of critical concerns that were communicated to the highest governance body. b. Mechanism(s) used to address and resolve critical concerns.	—
102-35	Remuneration policies	a. Remuneration policies for the highest governance body and senior executives for the following types of remuneration: i. Fixed pay and variable pay, including performance-based pay, equity-based pay, bonuses, and deferred or vested shares; ii. Sign-on bonuses or recruitment incentive payments; iii. Termination payments; iv. Clawbacks; v. Retirement benefits, including the difference between benefit schemes and contribution rates for the highest governance body, senior executives, and all other employees. b. How performance criteria in the remuneration policies relate to the highest governance body's and senior executives' objectives for economic, environmental, and social topics.	pp. 23-24
102-36	Process for determining remuneration	a. Process for determining remuneration. b. Whether remuneration consultants are involved in determining remuneration and whether they are independent of management. c. Any other relationships that the remuneration consultants have with the organization.	pp. 23-24
102-37	Stakeholders' involvement in remuneration	a. How stakeholders' views are sought and taken into account regarding remuneration. b. If applicable, the results of votes on remuneration policies and proposals.	—
102-38	Annual total compensation ratio	a. Ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country.	—

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102-39	Percentage increase in annual total compensation ratio	a. Ratio of the percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country.	—
<b>5. Stakeholder engagement</b>			
102-40	List of stakeholder groups	a. A list of stakeholder groups engaged by the organization.	p. 74 NSK Report 2019 pp. 34-35
102-41	Collective bargaining agreements	a. Percentage of total employees covered by collective bargaining agreements.	p. 58
102-42	Identifying and selecting stakeholders	a. The basis for identifying and selecting stakeholders with whom to engage.	NSK Report 2019 pp. 34-35
102-43	Approach to stakeholder engagement	a. The organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	p. 74 NSK Report 2019 pp.34-35
102-44	Key topics and concerns raised	a. Key topics and concerns that have been raised through stakeholder engagement, including: i. how the organization has responded to those key topics and concerns, including through its reporting; ii. the stakeholder groups that raised each of the key topics and concerns.	pp. 11, 27, 29, 43-47, 51-52
<b>6. Reporting practice</b>			
102-45	Entities included in the consolidated financial statements	a. A list of all entities included in the organization's consolidated financial statements or equivalent documents. b. Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	The Securities Report (158th term, Japanese only) pp. 8-12
102-46	Defining report content and topic Boundaries	a. An explanation of the process for defining the report content and the topic Boundaries. b. An explanation of how the organization has implemented the Reporting Principles for defining report content.	p. 1
102-47	List of material topics	a. A list of the material topics identified in the process for defining report content.	pp. 9-11
102-48	Restatements of information	a. The effect of any restatements of information given in previous reports, and the reasons for such restatements.	pp. 15-16, 65, 89, 92, 96, 111, 113
102-49	Changes in reporting	a. Significant changes from previous reporting periods in the list of material topics and topic Boundaries.	No change
102-50	Reporting period	a. Reporting period for the information provided.	p. 1
102-51	Date of most recent report	a. If applicable, the date of the most recent previous report.	Back Cover
102-52	Reporting cycle	a. Reporting cycle.	Back Cover
102-53	Contact point for questions regarding the report	a. The contact point for questions regarding the report or its contents.	Back Cover
102-54	Claims of reporting in accordance with the GRI Standards	a. The claim made by the organization, if it has prepared a report in accordance with the GRI Standards, either: i. 'This report has been prepared in accordance with the GRI Standards: Core option'; ii. 'This report has been prepared in accordance with the GRI Standards: Comprehensive option'.	pp. 116-128
102-55	GRI content index	a. The GRI content index, which specifies each of the GRI Standards used and lists all disclosures included in the report. b. For each disclosure, the content index shall include: i. the number of the disclosure (for disclosures covered by the GRI Standards); ii. the page number(s) or URL(s) where the information can be found, either within the report or in other published materials; iii. if applicable, and where permitted, the reason(s) for omission when a required disclosure cannot be made.	pp. 116-128
102-56	External assurance	a. A description of the organization's policy and current practice with regard to seeking external assurance for the report. b. If the report has been externally assured: i. A reference to the external assurance report, statements, or opinions. If not included in the assurance report accompanying the sustainability report, a description of what has and what has not been assured and on what basis, including the assurance standards used, the level of assurance obtained, and any limitations of the assurance process; ii. The relationship between the organization and the assurance provider; iii. Whether and how the highest governance body or senior executives are involved in seeking external assurance for the organization's sustainability report.	pp. 114-115

### GRI 103: Management Approach 2016

		Indicator	Report Page
<b>GRI- 103: Management Approach</b>			
103-1	Explanation of the material topic and its Boundary	a. An explanation of why the topic is material. b. The Boundary for the material topic, which includes a description of: i. where the impacts occur; ii. the organization's involvement with the impacts. For example, whether the organization has caused or contributed to the impacts, or is directly linked to the impacts through its business relationships. c. Any specific limitation regarding the topic Boundary.	pp. 9-11, 15-17, 19, 25-27, 31-33, 35-36, 41-42, 49, 56-59, 65-70, 72-73, 80, 90, 101

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103-2	The management approach and its components	pp. 9-11, 15-17, 19, 25-27, 31-33, 35-36, 41-42, 49, 56-59, 65-70, 72-73, 80, 90, 101
103-3	Evaluation of the management approach	pp. 9-11, 15-17, 19, 25-27, 31-33, 35-36, 41-42, 49, 56-59, 65-70, 72-73, 80, 90, 101

### GRI 200: Economic topics 2016

Indicator		Report Page
<b>GRI- 201: Economic Performance</b>		
201-1	Direct economic value generated and distributed	NSK Report 2019 pp. 12-13
201-2	Financial implications and other risks and opportunities due to climate change	pp. 74, 80-89, 104-105, 110 NSK Report 2019 pp. 6-11
201-3	Defined benefit plan obligations and other retirement plans	The Securities Report (158th term, Japanese only) pp. 23, 102-107
201-4	Financial assistance received from government	—
<b>GRI- 202: Market Presence</b>		
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	—

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Indicator		Report Page	
202-2	Proportion of senior management hired from the local community	a. Percentage of senior management at significant locations of operation that are hired from the local community. b. The definition used for 'senior management'. c. The organization's geographical definition of 'local'. d. The definition used for 'significant locations of operation'.	—
<b>GRI- 203: Indirect Economic Impacts</b>			
203-1	Infrastructure investments and services supported	a. Extent of development of significant infrastructure investments and services supported. b. Current or expected impacts on communities and local economies, including positive and negative impacts where relevant. c. Whether these investments and services are commercial, in-kind, or pro bono engagements.	—
203-2	Significant indirect economic impacts	a. Examples of significant identified indirect economic impacts of the organization, including positive and negative impacts. b. Significance of the indirect economic impacts in the context of external benchmarks and stakeholder priorities, such as national and international standards, protocols, and policy agendas.	—
<b>GRI- 204: Procurement Practices</b>			
204-1	Proportion of spending on local suppliers	a. Percentage of the procurement budget used for significant locations of operation that is spent on suppliers local to that operation (such as percentage of products and services purchased locally). b. The organization's geographical definition of 'local'. c. The definition used for 'significant locations of operation'.	—
<b>GRI- 205: Anti-corruption</b>			
205-1	Operations assessed for risks related to corruption	a. Total number and percentage of operations assessed for risks related to corruption. b. Significant risks related to corruption identified through the risk assessment.	—
205-2	Communication and training about anti-corruption policies and procedures	a. Total number and percentage of governance body members that the organization's anti-corruption policies and procedures have been communicated to, broken down by region. b. Total number and percentage of employees that the organization's anti-corruption policies and procedures have been communicated to, broken down by employee category and region. c. Total number and percentage of business partners that the organization's anti-corruption policies and procedures have been communicated to, broken down by type of business partner and region. Describe if the organization's anti-corruption policies and procedures have been communicated to any other persons or organizations. d. Total number and percentage of governance body members that have received training on anti-corruption, broken down by region. e. Total number and percentage of employees that have received training on anti-corruption, broken down by employee category and region.	pp. 28-29, 49-54
205-3	Confirmed incidents of corruption and actions taken	a. Total number and nature of confirmed incidents of corruption. b. Total number of confirmed incidents in which employees were dismissed or disciplined for corruption. c. Total number of confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption. d. Public legal cases regarding corruption brought against the organization or its employees during the reporting period and the outcomes of such cases.	—
<b>GRI- 206: Anti-competitive Behavior</b>			
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	a. Number of legal actions pending or completed during the reporting period regarding anti-competitive behavior and violations of anti-trust and monopoly legislation in which the organization has been identified as a participant. b. Main outcomes of completed legal actions, including any decisions or judgments.	NA

### GRI 300: Environmental topics

Indicator		Report Page	
<b>GRI- 301: Materials 2016</b>			
301-1	Materials used by weight or volume	a. Total weight or volume of materials that are used to produce and package the organization's primary products and services during the reporting period, by: i. non-renewable materials used; ii. renewable materials used.	p. 75
301-2	Recycled input materials used	a. Percentage of recycled input materials used to manufacture the organization's primary products and services.	—
301-3	Reclaimed products and their packaging materials	a. Percentage of reclaimed products and their packaging materials for each product category. b. How the data for this disclosure have been collected.	p. 92

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<b>GRI- 302: Energy 2016</b>		
302-1	Energy consumption within the organization	<ul style="list-style-type: none"> <li>a. Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used.</li> <li>b. Total fuel consumption within the organization from renewable sources, in joules or multiples, and including fuel types used.</li> <li>c. In joules, watt-hours or multiples, the total:                             <ul style="list-style-type: none"> <li>i. electricity consumption</li> <li>ii. heating consumption</li> <li>iii. cooling consumption</li> <li>iv. steam consumption</li> </ul> </li> <li>d. In joules, watt-hours or multiples, the total:                             <ul style="list-style-type: none"> <li>i. electricity sold</li> <li>ii. heating sold</li> <li>iii. cooling sold</li> <li>iv. steam sold</li> </ul> </li> <li>e. Total energy consumption within the organization, in joules or multiples.</li> <li>f. Standards, methodologies, assumptions, and/or calculation tools used.</li> <li>g. Source of the conversion factors used.</li> </ul>
302-2	Energy consumption outside of the organization	<ul style="list-style-type: none"> <li>a. Energy consumption outside of the organization, in joules or multiples.</li> <li>b. Standards, methodologies, assumptions, and/or calculation tools used.</li> <li>c. Source of the conversion factors used.</li> </ul>
302-3	Energy intensity	<ul style="list-style-type: none"> <li>a. Energy intensity ratio for the organization.</li> <li>b. Organization-specific metric (the denominator) chosen to calculate the ratio.</li> <li>c. Types of energy included in the intensity ratio; whether fuel, electricity, heating, cooling, steam, or all.</li> <li>d. Whether the ratio uses energy consumption within the organization, outside of it, or both.</li> </ul>
302-4	Reduction of energy consumption	<ul style="list-style-type: none"> <li>a. Amount of reductions in energy consumption achieved as a direct result of conservation and efficiency initiatives, in joules or multiples.</li> <li>b. Types of energy included in the reductions; whether fuel, electricity, heating, cooling, steam, or all.</li> <li>c. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it.</li> <li>d. Standards, methodologies, assumptions, and/or calculation tools used.</li> </ul>
302-5	Reductions in energy requirements of products and services	<ul style="list-style-type: none"> <li>a. Reductions in energy requirements of sold products and services achieved during the reporting period, in joules or multiples.</li> <li>b. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it.</li> <li>c. Standards, methodologies, assumptions, and/or calculation tools used.</li> </ul>
<b>GRI- 303: Water and Effluents 2018</b>		
303-1	Interactions with water as a shared resource	<ul style="list-style-type: none"> <li>a. A description of how the organization interacts with water, including how and where water is withdrawn, consumed, and discharged, and the water-related impacts caused or contributed to, or directly linked to the organization's activities, products or services by a business relationship (e.g., impacts caused by runoff).</li> <li>b. A description of the approach used to identify water-related impacts, including the scope of assessments, their timeframe, and any tools or methodologies used.</li> <li>c. A description of how water-related impacts are addressed, including how the organization works with stakeholders to steward water as a shared resource, and how it engages with suppliers or customers with significant water-related impacts.</li> <li>d. An explanation of the process for setting any water-related goals and targets that are part of the organization's management approach, and how they relate to public policy and the local context of each area with water stress.</li> </ul>
303-2	Management of water discharge-related impacts	<ul style="list-style-type: none"> <li>a. A description of any minimum standards set for the quality of effluent discharge, and how these minimum standards were determined, including:                             <ul style="list-style-type: none"> <li>i. how standards for facilities operating in locations with no local discharge requirements were determined;</li> <li>ii. any internally developed water quality standards or guidelines;</li> <li>iii. any sector-specific standards considered;</li> <li>iv. whether the profile of the receiving waterbody was considered.</li> </ul> </li> </ul>
303-3	Water withdrawal	<ul style="list-style-type: none"> <li>a. Total water withdrawal from all areas in megaliters, and a breakdown of this total by the following sources, if applicable:                             <ul style="list-style-type: none"> <li>i. Surface water;</li> <li>ii. Groundwater;</li> <li>iii. Seawater;</li> <li>iv. Produced water;</li> <li>v. Third-party water.</li> </ul> </li> <li>b. Total water withdrawal from all areas with water stress in megaliters, and a breakdown of this total by the following sources, if applicable:                             <ul style="list-style-type: none"> <li>i. Surface water;</li> <li>ii. Groundwater;</li> <li>iii. Seawater;</li> <li>iv. Produced water;</li> <li>v. Third-party water, and a breakdown of this total by the withdrawal sources listed in i-iv.</li> </ul> </li> <li>c. A breakdown of total water withdrawal from each of the sources listed in Disclosures 303-3-a and 303-3-b in megaliters by the following categories:                             <ul style="list-style-type: none"> <li>i. Freshwater (<math>\leq 1,000</math> mg/L Total Dissolved Solids);</li> <li>ii. Other water (<math>&gt; 1,000</math> mg/L Total Dissolved Solids).</li> </ul> </li> <li>d. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.</li> </ul>

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303-4	Water discharge	pp. 75, 112
303-5	Water consumption	pp. 75, 92, 112
<b>GRI- 304: Biodiversity 2016</b>		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	pp. 97-99
304-2	Significant impacts of activities, products, and services on biodiversity	—
304-3	Habitats protected or restored	pp. 97-99
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	p. 98

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<b>GRI- 305: Emissions 2016</b>			
305-1	Direct (Scope 1) GHG emissions	<p>a. Gross direct (Scope 1) GHG emissions in metric tons of CO<sub>2</sub> equivalent.</p> <p>b. Gases included in the calculation; whether CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, or all.</p> <p>c. Biogenic CO<sub>2</sub> emissions in metric tons of CO<sub>2</sub> equivalent.</p> <p>d. Base year for the calculation, if applicable, including:</p> <ol style="list-style-type: none"> <li>i. the rationale for choosing it;</li> <li>ii. emissions in the base year;</li> <li>iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.</li> </ol> <p>e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.</p> <p>f. Consolidation approach for emissions; whether equity share, financial control, or operational control.</p> <p>g. Standards, methodologies, assumptions, and/or calculation tools used.</p>	pp. 75, 83
305-2	Energy indirect (Scope 2) GHG emissions	<p>a. Gross location-based energy indirect (Scope 2) GHG emissions in metric tons of CO<sub>2</sub> equivalent.</p> <p>b. If applicable, gross market-based energy indirect (Scope 2) GHG emissions in metric tons of CO<sub>2</sub> equivalent.</p> <p>c. If available, the gases included in the calculation; whether CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, or all.</p> <p>d. Base year for the calculation, if applicable, including:</p> <ol style="list-style-type: none"> <li>i. the rationale for choosing it;</li> <li>ii. emissions in the base year;</li> <li>iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.</li> </ol> <p>e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.</p> <p>f. Consolidation approach for emissions; whether equity share, financial control, or operational control.</p> <p>g. Standards, methodologies, assumptions, and/or calculation tools used.</p>	pp. 75, 83
305-3	Other indirect (Scope 3) GHG emissions	<p>a. Gross other indirect (Scope 3) GHG emissions in metric tons of CO<sub>2</sub> equivalent.</p> <p>b. If available, the gases included in the calculation; whether CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, or all.</p> <p>c. Biogenic CO<sub>2</sub> emissions in metric tons of CO<sub>2</sub> equivalent.</p> <p>d. Other indirect (Scope 3) GHG emissions categories and activities included in the calculation.</p> <p>e. Base year for the calculation, if applicable, including:</p> <ol style="list-style-type: none"> <li>i. the rationale for choosing it;</li> <li>ii. emissions in the base year;</li> <li>iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.</li> </ol> <p>f. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.</p> <p>g. Standards, methodologies, assumptions, and/or calculation tools used.</p>	pp. 75, 89
305-4	GHG emissions intensity	<p>a. GHG emissions intensity ratio for the organization.</p> <p>b. Organization-specific metric (the denominator) chosen to calculate the ratio.</p> <p>c. Types of GHG emissions included in the intensity ratio; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3).</p> <p>d. Gases included in the calculation; whether CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, or all.</p>	pp. 86, 89
305-5	Reduction of GHG emissions	<p>a. GHG emissions reduced as a direct result of reduction initiatives, in metric tons of CO<sub>2</sub> equivalent.</p> <p>b. Gases included in the calculation; whether CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>, or all.</p> <p>c. Base year or baseline, including the rationale for choosing it.</p> <p>d. Scopes in which reductions took place; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3).</p> <p>e. Standards, methodologies, assumptions, and/or calculation tools used.</p>	pp. 86, 111
305-6	Emissions of ozone-depleting substances (ODS)	<p>a. Production, imports, and exports of ODS in metric tons of CFC-11 (trichlorofluoromethane) equivalent.</p> <p>b. Substances included in the calculation.</p> <p>c. Source of the emission factors used.</p> <p>d. Standards, methodologies, assumptions, and/or calculation tools used.</p>	—
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	<p>a. Significant air emissions, in kilograms or multiples, for each of the following:</p> <ol style="list-style-type: none"> <li>i. NOx</li> <li>ii. SOx</li> <li>iii. Persistent organic pollutants (POP)</li> <li>iv. Volatile organic compounds (VOC)</li> <li>v. Hazardous air pollutants (HAP)</li> <li>vi. Particulate matter (PM)</li> <li>vii. Other standard categories of air emissions identified in relevant regulations</li> </ol> <p>b. Source of the emission factors used.</p> <p>c. Standards, methodologies, assumptions, and/or calculation tools used.</p>	pp. 75, 96
<b>GRI- 306: Effluents and Waste 2016</b>			
306-1	Water discharge by quality and destination	<p>a. Total volume of planned and unplanned water discharges by:</p> <ol style="list-style-type: none"> <li>i. destination;</li> <li>ii. quality of the water, including treatment method;</li> <li>iii. whether the water was reused by another organization.</li> </ol> <p>b. Standards, methodologies, and assumptions used.</p>	pp. 75, 112

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306-2	Waste by type and disposal method	<p>a. Total weight of hazardous waste, with a breakdown by the following disposal methods where applicable:</p> <ul style="list-style-type: none"> <li>i. Reuse</li> <li>ii. Recycling</li> <li>iii. Composting</li> <li>iv. Recovery, including energy recovery</li> <li>v. Incineration (mass burn)</li> <li>vi. Deep well injection</li> <li>vii. Landfill</li> <li>viii. On-site storage</li> <li>ix. Other (to be specified by the organization)</li> </ul> <p>b. Total weight of non-hazardous waste, with a breakdown by the following disposal methods where applicable:</p> <ul style="list-style-type: none"> <li>i. Reuse</li> <li>ii. Recycling</li> <li>iii. Composting</li> <li>iv. Recovery, including energy recovery</li> <li>v. Incineration (mass burn)</li> <li>vi. Deep well injection</li> <li>vii. Landfill</li> <li>viii. On-site storage</li> <li>ix. Other (to be specified by the organization)</li> </ul> <p>c. How the waste disposal method has been determined:</p> <ul style="list-style-type: none"> <li>i. Disposed of directly by the organization, or otherwise directly confirmed</li> <li>ii. Information provided by the waste disposal contractor</li> <li>iii. Organizational defaults of the waste disposal contractor</li> </ul>	pp. 75, 92, 111 Independent Verification Report: p. 114
306-3	Significant spills	<p>a. Total number and total volume of recorded significant spills.</p> <p>b. The following additional information for each spill that was reported in the organization's financial statements:</p> <ul style="list-style-type: none"> <li>i. Location of spill;</li> <li>ii. Volume of spill;</li> <li>iii. Material of spill, categorized by: oil spills (soil or water surfaces), fuel spills (soil or water surfaces), spills of wastes (soil or water surfaces), spills of chemicals (mostly soil or water surfaces), and other (to be specified by the organization).</li> </ul> <p>c. Impacts of significant spills.</p>	p. 79
306-4	Transport of hazardous waste	<p>a. Total weight for each of the following:</p> <ul style="list-style-type: none"> <li>i. Hazardous waste transported</li> <li>ii. Hazardous waste imported</li> <li>iii. Hazardous waste exported</li> <li>iv. Hazardous waste treated</li> </ul> <p>b. Percentage of hazardous waste shipped internationally.</p> <p>c. Standards, methodologies, and assumptions used.</p>	—
306-5	Water bodies affected by water discharges and/or runoff	<p>a. Water bodies and related habitats that are significantly affected by water discharges and/or runoff, including information on:</p> <ul style="list-style-type: none"> <li>i. the size of the water body and related habitat;</li> <li>ii. whether the water body and related habitat is designated as a nationally or internationally protected area;</li> <li>iii. the biodiversity value, such as total number of protected species.</li> </ul>	—
<b>GRI- 307: Environmental Compliance 2016</b>			
307-1	Non-compliance with environmental laws and regulations	<p>a. Significant fines and non-monetary sanctions for non-compliance with environmental laws and/or regulations in terms of:</p> <ul style="list-style-type: none"> <li>i. total monetary value of significant fines;</li> <li>ii. total number of non-monetary sanctions;</li> <li>iii. cases brought through dispute resolution mechanisms.</li> </ul> <p>b. If the organization has not identified any non-compliance with environmental laws and/or regulations, a brief statement of this fact is sufficient.</p>	p. 79
<b>GRI- 308: Supplier Environmental Assessment 2016</b>			
308-1	New suppliers that were screened using environmental criteria	<p>a. Percentage of new suppliers that were screened using environmental criteria.</p>	pp. 51-53, 96
308-2	Negative environmental impacts in the supply chain and actions taken	<p>a. Number of suppliers assessed for environmental impacts.</p> <p>b. Number of suppliers identified as having significant actual and potential negative environmental impacts.</p> <p>c. Significant actual and potential negative environmental impacts identified in the supply chain.</p> <p>d. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment.</p> <p>e. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment, and why.</p>	pp. 52-53, 96

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### GRI 400: Social topics

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<b>GRI- 401: Employment 2016</b>			
401-1	New employee hires and employee turnover	a. Total number and rate of new employee hires during the reporting period, by age group, gender and region. b. Total number and rate of employee turnover during the reporting period, by age group, gender and region.	p. 113
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	a. Benefits which are standard for full-time employees of the organization but are not provided to temporary or part-time employees, by significant locations of operation. These include, as a minimum: i. life insurance; ii. health care; iii. disability and invalidity coverage; iv. parental leave; v. retirement provision; vi. stock ownership; vii. others. b. The definition used for 'significant locations of operation'.	p. 65
401-3	Parental leave	a. Total number of employees that were entitled to parental leave, by gender. b. Total number of employees that took parental leave, by gender. c. Total number of employees that returned to work in the reporting period after parental leave ended, by gender. d. Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work, by gender. e. Return to work and retention rates of employees that took parental leave, by gender.	p. 113
<b>GRI- 402: Labor/Management Relations 2016</b>			
402-1	Minimum notice periods regarding operational changes	a. Minimum number of weeks' notice typically provided to employees and their representatives prior to the implementation of significant operational changes that could substantially affect them. b. For organizations with collective bargaining agreements, report whether the notice period and provisions for consultation and negotiation are specified in collective agreements.	—
<b>GRI- 403: Occupational Health and Safety 2018</b>			
403-1	Occupational health and safety management system	a. A statement of whether an occupational health and safety management system has been implemented, including whether: i. the system has been implemented because of legal requirements and, if so, a list of the requirements; ii. the system has been implemented based on recognized risk management and/or management system standards/guidelines and, if so, a list of the standards/guidelines. b. A description of the scope of workers, activities, and workplaces covered by the occupational health and safety management system, and an explanation of whether and, if so, why any workers, activities, or workplaces are not covered.	p. 68
403-2	Hazard identification, risk assessment, and incident investigation	A description of the processes used to identify work-related hazards and assess risks on a routine and non-routine basis, and to apply the hierarchy of controls in order to eliminate hazards and minimize risks, including: i. how the organization ensures the quality of these processes, including the competency of persons who carry them out; ii. how the results of these processes are used to evaluate and continually improve the occupational health and safety management system. b. A description of the processes for workers to report work-related hazards and hazardous situations, and an explanation of how workers are protected against reprisals. c. A description of the policies and processes for workers to remove themselves from work situations that they believe could cause injury or ill health, and an explanation of how workers are protected against reprisals. d. A description of the processes used to investigate work-related incidents, including the processes to identify hazards and assess risks relating to the incidents, to determine corrective actions using the hierarchy of controls, and to determine improvements needed in the occupational health and safety management system.	pp. 68-70
403-3	Occupational health services	a. A description of the occupational health services' functions that contribute to the identification and elimination of hazards and minimization of risks, and an explanation of how the organization ensures the quality of these services and facilitates workers' access to them.	p. 70
403-4	Worker participation, consultation, and communication on occupational health and safety	a. A description of the processes for worker participation and consultation in the development, implementation, and evaluation of the occupational health and safety management system, and for providing access to and communicating relevant information on occupational health and safety to workers. b. Where formal joint management-worker health and safety committees exist, a description of their responsibilities, meeting frequency, decision-making authority, and whether and, if so, why any workers are not represented by these committees.	pp. 68-70
403-5	Worker training on occupational health and safety	a. A description of any occupational health and safety training provided to workers, including generic training as well as training on specific work-related hazards, hazardous activities, or hazardous situations.	p. 70
403-6	Promotion of worker health	a. An explanation of how the organization facilitates workers' access to non-occupational medical and healthcare services, and the scope of access provided. b. A description of any voluntary health promotion services and programs offered to workers to address major non-work-related health risks, including the specific health risks addressed, and how the organization facilitates workers' access to these services and programs.	pp. 65-67

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403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	a. A description of the organization's approach to preventing or mitigating significant negative occupational health and safety impacts that are directly linked to its operations, products or services by its business relationships, and the related hazards and risks.	—
403-8	Workers covered by an occupational health and safety management system	a. If the organization has implemented an occupational health and safety management system based on legal requirements and/or recognized standards/guidelines: <ol style="list-style-type: none"> <li>i. the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system;</li> <li>ii. the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system that has been internally audited;</li> <li>iii. the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system that has been audited or certified by an external party.</li> </ol> b. Whether and, if so, why any workers have been excluded from this disclosure, including the types of worker excluded. c. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.	p. 68
403-9	Work-related injuries	a. For all employees: <ol style="list-style-type: none"> <li>i. The number and rate of fatalities as a result of work-related injury;</li> <li>ii. The number and rate of high-consequence work-related injuries (excluding fatalities);</li> <li>iii. The number and rate of recordable work-related injuries;</li> <li>iv. The main types of work-related injury;</li> <li>v. The number of hours worked.</li> </ol> b. For all workers who are not employees but whose work and/or workplace is controlled by the organization: <ol style="list-style-type: none"> <li>i. The number and rate of fatalities as a result of work-related injury;</li> <li>ii. The number and rate of high-consequence work-related injuries (excluding fatalities);</li> <li>iii. The number and rate of recordable work-related injuries;</li> <li>iv. The main types of work-related injury;</li> <li>v. The number of hours worked.</li> </ol> c. The work-related hazards that pose a risk of high-consequence injury, including: <ol style="list-style-type: none"> <li>i. how these hazards have been determined;</li> <li>ii. which of these hazards have caused or contributed to high-consequence injuries during the reporting period;</li> <li>iii. actions taken or underway to eliminate these hazards and minimize risks using the hierarchy of controls.</li> </ol> d. Any actions taken or underway to eliminate other work-related hazards and minimize risks using the hierarchy of controls. e. Whether the rates have been calculated based on 200,000 or 1,000,000 hours worked. f. Whether and, if so, why any workers have been excluded from this disclosure, including the types of worker excluded. g. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.	pp. 65, 69
403-10	Work-related ill health	a. For all employees: <ol style="list-style-type: none"> <li>i. The number of fatalities as a result of work-related ill health;</li> <li>ii. The number of cases of recordable work-related ill health;</li> <li>iii. The main types of work-related ill health.</li> </ol> b. For all workers who are not employees but whose work and/or workplace is controlled by the organization: <ol style="list-style-type: none"> <li>i. The number of fatalities as a result of work-related ill health;</li> <li>ii. The number of cases of recordable work-related ill health;</li> <li>iii. The main types of work-related ill health.</li> </ol> c. The work-related hazards that pose a risk of ill health, including: <ol style="list-style-type: none"> <li>i. how these hazards have been determined;</li> <li>ii. which of these hazards have caused or contributed to cases of ill health during the reporting period;</li> <li>iii. actions taken or underway to eliminate these hazards and minimize risks using the hierarchy of controls.</li> </ol> d. Whether and, if so, why any workers have been excluded from this disclosure, including the types of worker excluded. e. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.	—
<b>GRI- 404: Training and Education 2016</b>			
404-1	Average hours of training per year per employee	a. Average hours of training that the organization's employees have undertaken during the reporting period, by: <ol style="list-style-type: none"> <li>i. gender;</li> <li>ii. employee category.</li> </ol>	—
404-2	Programs for upgrading employee skills and transition assistance programs	a. Type and scope of programs implemented and assistance provided to upgrade employee skills. b. Transition assistance programs provided to facilitate continued employability and the management of career endings resulting from retirement or termination of employment.	pp. 61-63
404-3	Percentage of employees receiving regular performance and career development reviews	a. Percentage of total employees by gender and by employee category who received a regular performance and career development review during the reporting period.	p. 63

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<b>GRI- 405: Diversity and Equal Opportunity 2016</b>			
405-1	Diversity of governance bodies and employees	a. Percentage of individuals within the organization's governance bodies in each of the following diversity categories: i. Gender; ii. Age group: under 30 years old, 30-50 years old, over 50 years old; iii. Other indicators of diversity where relevant (such as minority or vulnerable groups). b. Percentage of employees per employee category in each of the following diversity categories: i. Gender; ii. Age group: under 30 years old, 30-50 years old, over 50 years old; iii. Other indicators of diversity where relevant (such as minority or vulnerable groups).	pp. 20, 60, 113 NSK Report 2019 pp. 19, 50
405-2	Ratio of basic salary and remuneration of women to men	a. Ratio of the basic salary and remuneration of women to men for each employee category, by significant locations of operation. b. The definition used for 'significant locations of operation'.	—
<b>GRI- 406: Non-discrimination 2016</b>			
406-1	Incidents of discrimination and corrective actions taken	a. Total number of incidents of discrimination during the reporting period. b. Status of the incidents and actions taken with reference to the following: i. Incident reviewed by the organization; ii. Remediation plans being implemented; iii. Remediation plans that have been implemented, with results reviewed through routine internal management review processes; iv. Incident no longer subject to action.	—
<b>GRI- 407: Freedom of Association and Collective Bargaining 2016</b>			
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	a. Operations and suppliers in which workers' rights to exercise freedom of association or collective bargaining may be violated or at significant risk either in terms of: i. type of operation (such as manufacturing plant) and supplier; ii. countries or geographic areas with operations and suppliers considered at risk. b. Measures taken by the organization in the reporting period intended to support rights to exercise freedom of association and collective bargaining.	—
<b>GRI- 408: Child Labor 2016</b>			
408-1	Operations and suppliers at significant risk for incidents of child labor	a. Operations and suppliers considered to have significant risk for incidents of: i. child labor; ii. young workers exposed to hazardous work. b. Operations and suppliers considered to have significant risk for incidents of child labor either in terms of: i. type of operation (such as manufacturing plant) and supplier; ii. countries or geographic areas with operations and suppliers considered at risk. c. Measures taken by the organization in the reporting period intended to contribute to the effective abolition of child labor.	—
<b>GRI- 409: Forced or Compulsory Labor 2016</b>			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	a. Operations and suppliers considered to have significant risk for incidents of forced or compulsory labor either in terms of: i. type of operation (such as manufacturing plant) and supplier; ii. countries or geographic areas with operations and suppliers considered at risk. b. Measures taken by the organization in the reporting period intended to contribute to the elimination of all forms of forced or compulsory labor.	—
<b>GRI- 410: Security Practices 2016</b>			
410-1	Security personnel trained in human rights policies or procedures	a. Percentage of security personnel who have received formal training in the organization's human rights policies or specific procedures and their application to security. b. Whether training requirements also apply to third-party organizations providing security personnel.	—
<b>GRI- 411: Rights of Indigenous Peoples 2016</b>			
411-1	Incidents of violations involving rights of indigenous peoples	a. Total number of identified incidents of violations involving the rights of indigenous peoples during the reporting period. b. Status of the incidents and actions taken with reference to the following: i. Incident reviewed by the organization; ii. Remediation plans being implemented; iii. Remediation plans that have been implemented, with results reviewed through routine internal management review processes; iv. Incident no longer subject to action.	—
<b>GRI- 412: Human Rights Assessment 2016</b>			
412-1	Operations that have been subject to human rights reviews or impact assessments	a. Total number and percentage of operations that have been subject to human rights reviews or human rights impact assessments, by country.	—
412-2	Employee training on human rights policies or procedures	a. Total number of hours in the reporting period devoted to training on human rights policies or procedures concerning aspects of human rights that are relevant to operations. b. Percentage of employees trained during the reporting period in human rights policies or procedures concerning aspects of human rights that are relevant to operations.	pp. 30, 58
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	a. Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening. b. The definition used for 'significant investment agreements'.	—

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<b>GRI- 413: Local Communities 2016</b>			
413-1	Operations with local community engagement, impact assessments, and development programs	a. Percentage of operations with implemented local community engagement, impact assessments, and/or development programs, including the use of: i. social impact assessments, including gender impact assessments, based on participatory processes; ii. environmental impact assessments and ongoing monitoring; iii. public disclosure of results of environmental and social impact assessments; iv. local community development programs based on local communities' needs; v. stakeholder engagement plans based on stakeholder mapping; vi. broad based local community consultation committees and processes that include vulnerable groups; vii. works councils, occupational health and safety committees and other worker representation bodies to deal with impacts; viii. formal local community grievance processes.	pp. 101-102
413-2	Operations with significant actual and potential negative impacts on local communities	a. Operations with significant actual and potential negative impacts on local communities, including: i. the location of the operations; ii. the significant actual and potential negative impacts of operations.	—
<b>GRI- 414: Supplier Social Assessment 2016</b>			
414-1	New suppliers that were screened using social criteria	a. Percentage of new suppliers that were screened using social criteria.	p. 52
414-2	Negative social impacts in the supply chain and actions taken	a. Number of suppliers assessed for social impacts. b. Number of suppliers identified as having significant actual and potential negative social impacts. c. Significant actual and potential negative social impacts identified in the supply chain. d. Percentage of suppliers identified as having significant actual and potential negative social impacts with which improvements were agreed upon as a result of assessment. e. Percentage of suppliers identified as having significant actual and potential negative social impacts with which relationships were terminated as a result of assessment, and why.	—
<b>GRI- 415: Public Policy 2016</b>			
415-1	Political contributions	a. Total monetary value of financial and in-kind political contributions made directly and indirectly by the organization by country and recipient/beneficiary. b. If applicable, how the monetary value of in-kind contributions was estimated.	—
<b>GRI- 416: Customer Health and Safety 2016</b>			
416-1	Assessment of the health and safety impacts of product and service categories	a. Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	—
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services within the reporting period, by: i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. b. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.	—
<b>GRI- 417: Marketing and Labeling 2016</b>			
417-1	Requirements for product and service information and labeling	a. Whether each of the following types of information is required by the organization's procedures for product and service information and labeling: i. The sourcing of components of the product or service; ii. Content, particularly with regard to substances that might produce an environmental or social impact; iii. Safe use of the product or service; iv. Disposal of the product and environmental or social impacts; v. Other (explain). b. Percentage of significant product or service categories covered by and assessed for compliance with such procedures.	—
417-2	Incidents of non-compliance concerning product and service information and labeling	a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning product and service information and labeling, by: i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. b. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.	—
417-3	Incidents of non-compliance concerning marketing communications	a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by: i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. b. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.	—

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<b>GRI- 418: Customer Privacy 2016</b>			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	a. Total number of substantiated complaints received concerning breaches of customer privacy, categorized by: <ul style="list-style-type: none"> <li>i. complaints received from outside parties and substantiated by the organization;</li> <li>ii. complaints from regulatory bodies.</li> </ul> b. Total number of identified leaks, thefts, or losses of customer data. c. If the organization has not identified any substantiated complaints, a brief statement of this fact is sufficient.	—
<b>GRI- 419: Socioeconomic Compliance 2016</b>			
419-1	Non-compliance with laws and regulations in the social and economic area	a. Significant fines and non-monetary sanctions for non-compliance with laws and/or regulations in the social and economic area in terms of: <ul style="list-style-type: none"> <li>i. total monetary value of significant fines;</li> <li>ii. total number of non-monetary sanctions;</li> <li>iii. cases brought through dispute resolution mechanisms.</li> </ul> b. If the organization has not identified any non-compliance with laws and/or regulations, a brief statement of this fact is sufficient. c. The context against which significant fines and non-monetary sanctions were incurred.	NA

## Third-Party Comment



As in fiscal 2018, NSK again this year asked Professor Emeritus Yoshinao Kozuma of Sophia University's Faculty of Economics to provide a third-party comment on this report.

### Yoshinao Kozuma

Professor Emeritus,  
Faculty of Economics,  
Sophia University, Japan

After earning credits in the latter half of the doctoral program at Sophia University Graduate School of Economics, Professor Kozuma worked as a research assistant at the Nagoya Institute of Technology, a visiting researcher at the Limperg Institute in the Netherlands, an associate professor at the University of Shizuoka, and as an associate professor, then professor, in the Faculty of Economics at Sophia University, before taking up his current position. He has held successive positions as the chair or member of various CSR or environment-related advisory panels, study groups, and research conferences for the Ministry of the Environment; the Ministry of Economy, Trade and Industry; the Ministry of Land, Infrastructure and Transport; the Ministry of Agriculture, Forestry and Fisheries; the Cabinet Office; and the Japanese Institute of Certified Public Accountants. A specialist in environmental accounting, he chaired the Japanese Ministry of the Environment's Review Panel for Production of a Handbook on the Environmental Reporting Guidelines (2018) [provisional translation]. His recent work includes *Carbon Labeling to Visualize CO<sub>2</sub>* (Chukeizai-sha, Inc., in Japanese).

### 1. Strategy for Adapting to a Sustainable World

The Sixth Mid-Term Management Plan, which started in April 2019, is premised on NSK's vision for 2026, which calls for the establishment of a corporate foundation for sustainable growth and the provision of value through the evolution of MOTION & CONTROL™, specifying three management tasks including ESG management. This is clearly a strategy for adapting to a sustainable world. The positioning of this sixth management plan as the second phase of that strategy made it clear that the company is committed to switching to a sustainable business model and articulated the relationship of that shift to mid-term business plans.

With this, the position of the NSK Vision 2026, which was established on the company's centennial, became clearer as the long-term vision designed to address the trend toward a sustainable world. It also clarified the course the NSK Group is pursuing with its sustainability management.

### 2. Long-Term Goals of Global Warming Countermeasures

The company has presented a "vision" in the area of the environment, as well. With the Sixth Mid-Term Management Plan, NSK responded to international trends such as the Paris Agreement by changing the targets for its global warming countermeasures, which had been set in terms of CO<sub>2</sub> emissions per production unit, to total CO<sub>2</sub> emissions. In addition to aiming for absolute reductions, the company also established long-term targets for fiscal 2026, fiscal 2030, and fiscal 2050.

Whether or not the 2050 target of a 60% reduction compared to fiscal 2017 is appropriate requires separate verification, but NSK's commitment to a long-term target based on total CO<sub>2</sub> emissions is deserving of recognition, and I have high expectations for ongoing progress in this area.

### 3. Enhancement of Risk Management Information

The detailed disclosure of risk management information is another point of significant progress this year. Considering the development of international regulatory trends related to human rights due diligence, I believe that due diligence will become an overall feature of ESG management in the future. Accordingly, I would like to applaud the disclosure of the actual condition of risk management, which is a central tool in due diligence, as an advanced initiative.

### 4. Organizational Response to Transgender Issues

In the area of diversity promotion, the company has started an organizational response to transgender issues with initiatives to increase LGBT allies by including sexual orientation, etc., in the NSK Compliance Guidebook and issuing the NSK Guidelines on Creating Accommodating Workplaces for Transgender Employees. This initiative shows exceptional insight as a global corporation.

### 5. Future Challenges

A number of environmental issues require more work, going forward. One of these is Scope 3 emissions of greenhouse gases. The company has measured and reported Scope 3 emissions nearly three times the volume of Scope 1 + 2 emissions, yet it appears that it is doing nothing to manage them. Emissions in category 1 of Scope 3 (purchased goods and services) are particularly high and, moreover, are increasing. Thus, I would recommend that the company put countermeasures in place as part of its supply chain management. As a global company, water resource management in water-stressed regions is also an important issue. I hope to see more information disclosure related to water resources at production sites in areas where there is water stress.

## Response to Prof. Kozuma's Comments

**Tamami Murata** Vice President, Head of CSR Division HQ

Thank you very much for your acknowledgement of our initiatives, including our strategy for adapting to a sustainable world, our global warming countermeasures, and our enhancement of risk management information. NSK aims both to contribute solutions to social issues and to pursue sustainable growth as a company. This is why we ensured that our Sixth Mid-Term Management Plan, launched this year, prominently reflected environmental and social initiatives. We will take your comments as encouragement as we continue moving forward.

This time, you raised the point that measures to reduce emissions in category 1 of Scope 3—CO<sub>2</sub>—is an issue to address going forward. Recognizing the growing importance of environmental initiatives across the supply chain amid demands for a shift to a low-carbon society, we will enhance our efforts to work together closely with our valued suppliers. We will also consider the issue of information disclosure regarding water resource management, to further enhance our reporting.





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**Date of Issue**

January 2020 (Published annually; previous report, *CSR Report 2018*, issued February 2019)

