

CSR Report 2013



The NSK Group and Company Overview

Industrial Machinery Business

Industrial Machinery Bearings

Bearings reduce friction in the rotating parts of machinery and enable smooth rotation. NSK's bearings are used in a range of products and machines, including home appliances such as vacuum cleaners, railway vehicles such as bullet trains, steelmaking equipment, wind turbines for power generation, large industrial machinery, airplanes, and satellites.



NSK HPS spherical roller bearings



Bearings for home appliances

Precision Machinery and Parts

The NSK Group's precision machinery and parts are the core components in the machine tools and industrial robots used to manufacture automobiles, personal computers, and other products. They are also found in equipment used to produce semiconductors and in injection molding machines. The NSK Group's precision machinery and parts play a crucial role on the front-line of manufacturing.



Double-nut cooling ball screw



Megatorque Motor™ PX Series

Automotive Business

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.



Hub unit bearing with high-reliability seal



High-efficiency shell needle bearings for automatic transmissions

Automotive Parts

The NSK Group's automotive parts include many important components that control 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. The Group's products also contribute to automobile safety, comfort, and environmental performance.



Column type electric power steering (EPS) systems



Tandem one-way clutch for hybrid transmission oil pump

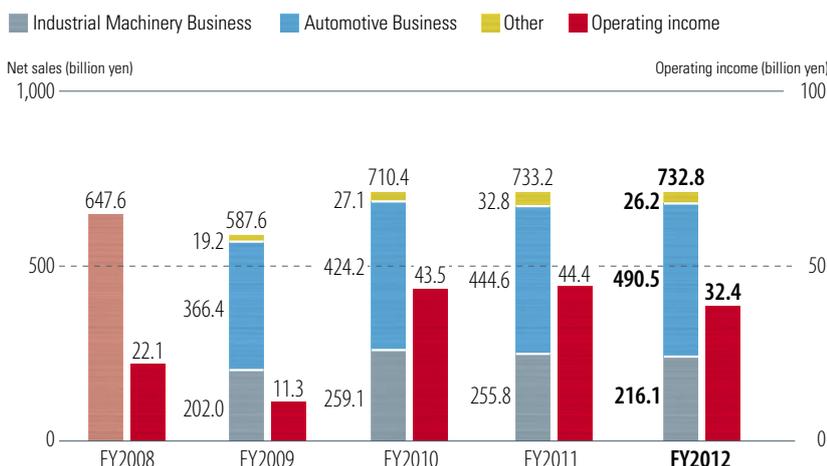
Corporate Information (as of March 31, 2013)

Company name	NSK Ltd.	Capital	67.2 billion yen
Head office	Nissei Bldg., 1-6-3 Ohsaki, Shinagawa-ku, Tokyo 141-8560, Japan	Group companies	Within Japan: 21 Outside Japan: 71
Established	November 8, 1916	Shareholders	23,899

Financial Data

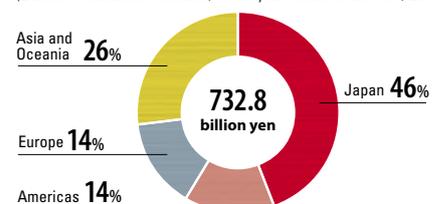
Net Sales / Operating Income (Consolidated)

*The figures for FY2008 are total. The change to accounting segments was made in FY2009.



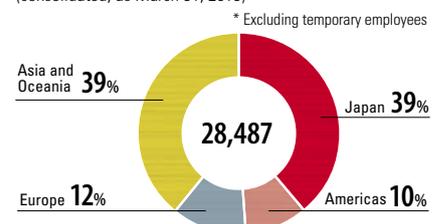
Breakdown of Net Sales, by Region

(Based on customer location; fiscal year ended March 31, 2013)



Breakdown of Employees, by Region

(consolidated, as March 31, 2013)



Special Feature Power of Technology



Humanity has many challenges to resolve on the path to a sustainable society. This Special Feature highlights stories from product developers and shows how the NSK Group is making the most of its technological strengths to help solve social issues.

About This Report

The aim of this publication is to help as many stakeholders as possible to gain a deeper understanding of the activities of the NSK Group. In editing this report, priority is placed on presenting information that is considered of most interest to stakeholders or that is deeply connected to the NSK Group's business.

An effort has been made to present a clear picture of each activity and the Group's progress in those activities by presenting content including policies, goals, and performance on initiatives, examples of activities in fiscal 2012, and data that show progress in activities for each activity item.

Reference Data Published on NSK's Website

More information and reference data are published on NSK's website. For more information and reference data related to topics on pages with a  icon in this report, please visit the following site:

www.nsk.com > Sustainability > CSR Reports.

Period of Coverage

April 2012 to March 2013.

Activities conducted outside this period are indicated with the inclusion of a date.

Referenced Guidelines

Sustainability Reporting Guidelines (third edition) by the Global Reporting Initiative (GRI)
ISO 26000:2010 Guidance on social responsibility by International Organization for Standardization (ISO)

Environmental Reporting Guidelines (2012 edition) by the Ministry of the Environment of Japan

Scope of Coverage

The report covers all NSK Group sites and plants, both in and outside Japan. For data and information that differs from the scope of coverage above, the scope is separately defined.

Contents

Message from the President 2

CSR Management

The NSK Group's CSR 4

Fiscal 2012 CSR Activity Performance and
Fiscal 2013 and Mid-term (Fiscal 2015) Targets 6

Special Feature

Power of Technology 8

Governance

Corporate Governance 14

Social Report

Quality Assurance 18

Good Work Practices 22

Working with Local Communities 28

Environmental Report

Environmental Management 32

Creating Environmentally Friendly Products 34

Global Warming Countermeasures 36

Measures for Resource
Conservation and Recycling 39

Reducing Use of Environmentally
Harmful Substances 42

Biodiversity Preservation 45

Relationship with Shareholders and Investors 46

Third-Party Comments 47

NSK Group Sites Worldwide (as of March 31, 2013)

Production sites: 64 in 12 countries Sales sites: 121 in 28 countries Technology centers: 14 in 9 countries

● Headquarters ■ Production site ◆ Sales site ◆ Technology center ● Representative office

Europe and Africa

England	1	4	2	1	
Germany	1	3	1	2	
France		1			
Italy		1			
Spain		1			
Poland	4	3	1		
Russia		1			
Norway					1
Turkey		1			
United Arab Emirates		1			
South Africa		1			

Asia and Oceania

Thailand	2	3	1		
Singapore	1	2			
Indonesia	3	2			
Malaysia	2	4			
Philippines				1	
Vietnam	1	1			
India	1	4	7		
Australia		4			
New Zealand		1			
Japan	1	22	36	6	
China	1	12	18	1	1
Korea	2	2	1		
Taiwan		6			

Americas

United States	1	7	9	1	
Canada		3			
Mexico		1		1	
Brazil	1	5	1		
Peru		1			
Argentina		1			

“We are committed to building a solid business foundation and growing as a company that contributes to society.”



Norio Otsuka
President and
Chief Executive Officer,
NSK Ltd.

A handwritten signature in black ink, appearing to read 'N. Otsuka', located below the printed name and title.

Looking Back on Our Mid-Term Plan through Fiscal 2012 *Performance Review*

With the Third Mid-Term Plan (FY2009–2012) completed, since April 2013, NSK has been implementing its Fourth Mid-Term Plan (FY2013–2015) to achieve further growth.

During the period of the Third Mid-Term Plan, the business environment changed rapidly. The global economy was impacted by various events around the world, including natural disasters such as the Great East Japan Earthquake and major flooding in Thailand, the influence of sovereign risk in Europe, rapid yen appreciation, and slowdown in the growth of emerging countries, and worsening political relations between Japan and China.

We regret that we were unable to meet the targets for net sales in the plan's final year, fiscal 2012, due to the effects of the rapid yen appreciation and other factors. We did, however, make good progress on our efforts to take advantage of the expansion of emerging markets and technological innovation typified by automotive electrification, which were themes under our mid-term plan.

In China, we established a production system to locally manufacture our full product lineup, including bearings, precision machinery and parts, and automotive components, while also expanding existing production sites, and we made progress toward building an autonomous management system. This strengthened our business foundation in China, and we are poised to make a greater contribution to the growth of China by producing products optimally suited to local needs at the point of demand.

In addition, our electric power steering business, which improves automotive fuel economy and increases safety and comfort, expanded globally at a pace exceeding the assumptions of the mid-term plan.

Meanwhile, we adopted a policy of responding to the tight supply of energy at our plants in Japan caused by the shutdown

of nuclear power plants following the 2011 earthquake without increasing our CO₂ emissions. By installing cogeneration systems and taking other measures we were able to meet our targets for CO₂ emissions reduction while maintaining stable operations.

Pursuing Sustainable Growth as a Socially Responsible Company

Mid-Term Plan through Fiscal 2015

NSK will mark its 100th anniversary in November 2016. In our Fourth Mid-Term Plan (FY2013–2015), we set a vision of “establishment of corporate fundamentals appropriate for a company with net sales of ¥1 trillion” in order to improve management quality, preparing to reach that goal in fiscal 2016. To achieve this, we have assigned the highest priority to “safety, quality, and compliance” while further promoting our ongoing objective of deploying growth strategies and strengthening corporate fundamentals. (See pp.14–21, NSK’s 2013 annual report for details.)

As economic globalization continues in the future, it is presumed that environmental problems such as energy and climate change will grow more serious. I also believe that companies will face greater expectations and play larger roles in social development and the resolution of the challenges facing the world.

At the NSK Group, we are determined to continue winning trust around the world and achieving sustainable growth as a global company. We realize how important it is to understand the different cultures in each country and region and to leverage our technology and experience to produce and supply products optimally suited to each region.

This is why the NSK Group will work harder than ever to meticulously reflect the expectations of its customers and other stakeholders in its business operations from here forward. This also relates to our other commitments: to develop human resources in each country who understand NSK’s technology and culture; to enable all employees to work with enthusiasm; to ensure that each department increases its capabilities autonomously; and to maximize the Group’s capacities in areas including technology development, production, and sales.

Looking Ahead to the Next 100 Years

We have grown our business to date by leveraging our accumulated technologies across a range of products and proactively expanding outside Japan. In the 100 years following our 100th anniversary, we will continue to contribute as a corporation by manufacturing innovative products and supplying them to the world. People’s needs continue to increase and diversify. The demand for NSK’s products and services is also likely to become more complex. Based on our fundamental business field of

“MOTION & CONTROL,” as a manufacturer of core components for machinery we are supporting rotational and linear motion applications, leveraging technologies that control such motion during product development. By doing so, we provide highly efficient products with low loss of energy, contributing to the preservation of the global environment.

Also, in line with our mission to “improve relationships between people throughout the world,” as set out in our Mission Statement, we will continue to conduct our business operations as a good corporate citizen with roots in local communities.

Strengthening Compliance

In February 2013, NSK, its former officers and a former employee were found guilty of charges of violating the Antimonopoly Act of Japan regarding sales of bearing products in a judgment by the Tokyo District Court; furthermore, in March of the same year, the Company received a cease-and-desist order and administrative surcharge payment order, based on the Antimonopoly Act of Japan, from the Japan Fair Trade Commission. Additionally, in September 2013 NSK and its subsidiaries agreed to plead guilty and to pay a total fine of US\$68.2 million for participating in activities that violated the U.S. antitrust laws in relation to sales of bearing products.

I express my most sincere apologies for the great deal of concern this matter has caused our customers, shareholders, investors and other stakeholders. The Company regards this situation with the utmost solemnity and sincerity; accordingly, to restore stakeholder trust as soon as possible, we established organizations which include the Compliance Committee and the Compliance Enhancement Office. We also established and improved our internal rules, such as the new Rules for Compliance with Competition Law and the Compliance Rules. In addition to that, we distributed the NSK Compliance Guidebook, which clearly describes relevant laws and internal rules to all officers and employees. We will also ensure that we prevent any reoccurrence by developing and continuously implementing compliance training in the form of lectures and e-learning through the Internet (see pages 15 and 17 for details).

To Our Stakeholders

The NSK Group publishes this report with the aim of fostering communication with its stakeholders by clearly conveying to everyone its progress and performance. I invite you to share with us your impressions of the report and your opinions of the NSK Group’s business.

CSR Management

The NSK Group's CSR

Mission Statement

NSK aims to contribute to the well-being and safety of society and to protect the global environment through its innovative technology integrating MOTION & CONTROL. We are guided by our vision of NSK as a truly international enterprise and are working across national boundaries to improve relationships between people throughout the world.

Management Principles

1. To serve our customers through innovative and responsive solutions, taking advantage of our world-leading technologies.
2. To provide challenges and opportunities to our employees, channeling their skills and fostering their creativity and individuality.
3. To identify the needs of the times and of the future and to use all of NSK's resources to meet those needs by being versatile, responsive and dynamic.
4. To work together with our employees and contribute to the communities in which we operate.
5. To manage our business from an international perspective and to develop a strong presence throughout the world.

Corporate Message

**Responsive and Creative
MOTION & CONTROL™**

Corporate Slogan

Beyond Limits, Beyond Today

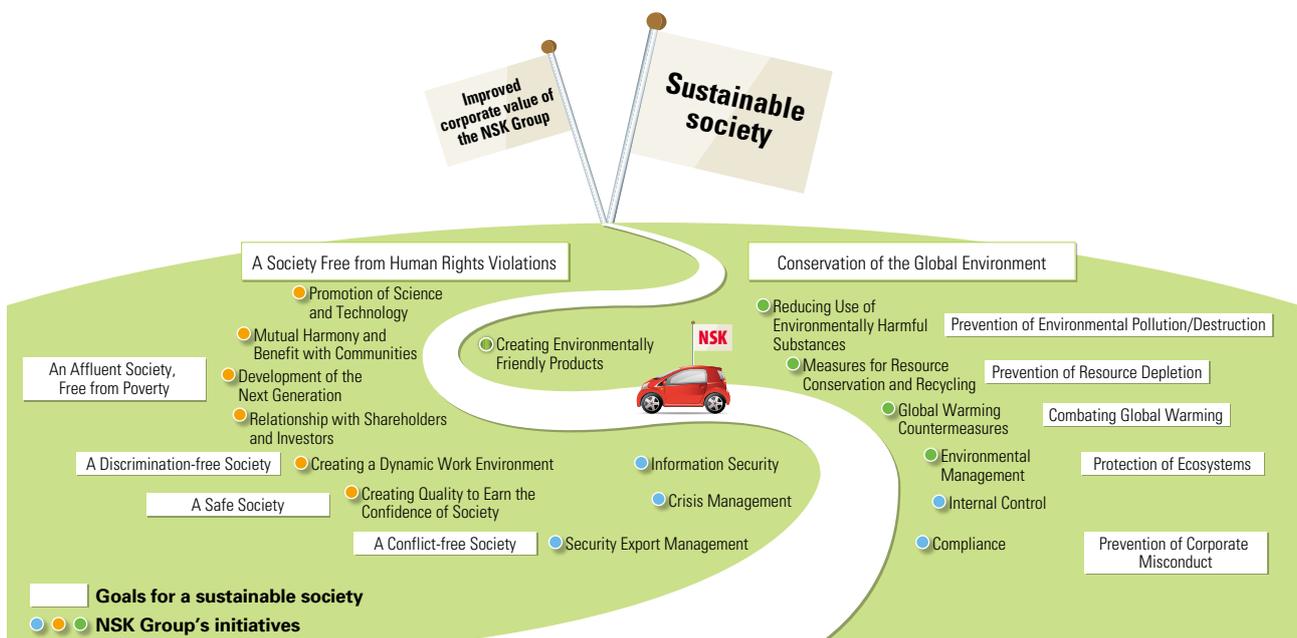
Beyond Frontiers
Beyond Individuals
Beyond Imagination
Beyond Perceptions
Challenging the Future

The NSK Group's View of CSR

NSK's Mission Statement makes clear the Group's commitment to contributing to the development of society and to the protection of the global environment, and its Management Principles set the course to realizing these goals.

The NSK Group's products have the special characteristic of aiding the smooth functioning of a wide range of machinery, and they support the reliability, safety, and energy efficiency of the machines into which they are incorporated. The NSK Group regards its fundamental corporate activity as contributing to

smoothly running, safe societies, protection of the global environment, and the realization of sustainable societies through the supply of those products—that is, through the Group's main business. The NSK Group aims to achieve greater corporate value and sustainable growth by ensuring that all directors and employees are firmly committed to the Group's purpose and by making sincere efforts to contribute to business growth and society by taking the perspective of customers and other stakeholders.



The NSK Group's Stakeholders

The NSK Group's business is built on the trust of a variety of stakeholders. The NSK Group believes that active communication is the key to building better relationships with its stakeholders. The Group is also striving to build a corporate culture in which

each site, each department, and each and every officer and employee recognizes the needs of stakeholders and the broader society and can reflect those needs in their own everyday work.



Customers

The NSK Group's customers are companies that purchase NSK's products and also the end users of the devices and machines that incorporate NSK's products. The Group aims to develop and provide high-quality, safe, reliable products that meet customer needs, and seeks customer input through technology exchanges and everyday sales contacts.

Employees

Employees, who create NSK's superior technology, services, and high-quality products and who support the Group's business success, are an important asset of the Group—the foundation of its business success. The Group believes that the source of its business growth is employees who engage enthusiastically in their work and enjoy high job satisfaction. While fostering communication between all parties concerned, the Group aims to create workplaces that enable all employees to reach their full potential.

Suppliers

The NSK Group's business is dependent upon numerous suppliers. The Group aims to ensure mutual growth by communicating with suppliers about the needs of customers and other stakeholders and by pursuing joint technical development, quality, CSR and other activities.

Future Generations

The NSK Group sees children and students, the torchbearers of the future, as important stakeholders. The Group is working to one day hand over a rich environment and safe society to the next generation and to help build a more sustainable society by supporting the growth of future generations through programs such as science classes and internships.

Local Communities

The NSK Group has developed a global business with nearly 200 business sites around the world. The Group aims to be valued as a member of local communities by fostering good communication with the members of the communities in which it does business, understanding their needs, and contributing to their development.

Shareholders and Investors

Shareholders and investors are important stakeholders, and they expect the NSK Group to keep growing. The NSK Group seeks to obtain their understanding by disclosing business and financial information in a timely and appropriate manner to shareholders and investors. To ensure sustainable growth and increase corporate value, the Group seeks to increase the transparency and soundness of management and to practice business that is well-balanced in terms of the society and environment.



Reference data is available on NSK's website.
www.nsk.com > Company

• Vision & Philosophy

CSR Management

Fiscal 2012 CSR Activity Performance and Fiscal 2013 and

Category	FY2012 target	Performance in FY2012
Management Structure Supporting Sustainable Growth		
Corporate Governance	Continue to revise and to accelerate the dissemination of NSK Group rules	Revised rules as planned. Continued to disseminate NSK Group rules
Compliance	Continue to provide training on topics such as compliance for all employees	Educated about 4,500 people over 145 sessions in Japan and about 900 people over 39 sessions outside Japan. Provided e-learning to officers and employees
	Roll out NSK Supplier CSR Guidelines to suppliers in Americas and ASEAN	Cancelled rollout and considered revision of guidelines to reflect conflict mineral information disclosure rules
	In Japan: Provide feedback to suppliers on results of CSR self-assessment Additional target: Conduct conflict minerals survey with some suppliers	<ul style="list-style-type: none"> • Provided feedback on assessment results at a procurement policy briefing • Conducted a conflict minerals survey with about 80 suppliers
	Strengthen security export screening structure for transfer of technology	Strengthened security export screening for transfer of technology related to equipment
Risk management	Enhance the internal audit structure at sites outside Japan and make and implement internal audit plans in each region	<ul style="list-style-type: none"> • Established a regional internal audit office in Europe and ASEAN and conducted internal audits of finance based on risk assessment • Conducted self-inspections and assessments of compliance in all regions
	Standardize and streamline evaluation of internal control over financial reporting	<ul style="list-style-type: none"> • Developed evaluation procedures for each evaluation area • Established and started operating a J-SOX intranet • Standardized controls in the Americas and Europe
	In Japan: Take measures to prevent ducts from falling down and racks from falling over in an earthquake	<ul style="list-style-type: none"> • Completed measures to prevent racks from falling over • According to plan, completed 80% of total ducts to prevent ductwork from falling
	Risk countermeasures in the supply chain Ascertain suppliers' earthquake risk and reflect in BCPs	<ul style="list-style-type: none"> • Conducted survey and identified parts that are difficult to replace with alternatives • Started developing replacements and considering alternative suppliers
Creating Quality to Earn the Confidence of Society		
Quality	Continue to certify special process auditors outside Japan	<ul style="list-style-type: none"> • Certified special process auditors in regions outside Japan • Held an auditor training session in Japan
Customer satisfaction	Continue enhancing educational tools for users	Created display kits used to explain types and structure of bearings
	New target: Globally roll out sales quality education	Started education in the U.S., China, and ASEAN
Creating a Dynamic Work Environment		
Basic labor rights	Expand human rights training sessions	Continued providing human rights training through e-learning
Safe and healthy workplaces	Expand model lines for risk assessment	In Japan: Finished expanding all model lines for risk assessment
Self-motivated employees	Continue NSK Global Management College	Held the 2nd NSK Global Management College
Working with Local Communities		
Social contributions targeting community development	Continue awareness building efforts in priority areas for social contribution	Made awareness building efforts through training sessions
	Continue to share information on initiatives among business sites	Distributed <i>NSK Group Social Action Program</i> intranet booklet (Japanese/English) to all business sites
Relationship with Shareholders and Investors		
Information disclosure	Hold briefings for individual investors	Held briefings for individual investors
Environmental Voluntary Action Plan		
System for promoting environmental protection initiatives	<ul style="list-style-type: none"> • Maintain ISO 14001 certification at all subject sites • Obtain certification within three years of starting full-scale operations at three sites 	<ul style="list-style-type: none"> • Maintained certification at all 58 subject sites • One site obtained certification
	Zero instances in which emissions standards are exceeded	Two instances occurred in which sewage effluent standards were exceeded (one in Japan and one in Thailand)
	Zero instances of oil and other leakage-related environmental accidents	Had zero instances of oil and other leakage-related environmental accidents
Environmentally friendly products and services	Create environmentally friendly products and technologies	Created 16 environmentally friendly products
	Calculate contribution to CO ₂ emissions reduction	Calculated contribution for EPS systems and ball screws for injection molding machines
Initiatives for saving energy and controlling CO ₂ emissions	Manufacturing In Japan: Reduce CO ₂ emissions per production unit by 12.2% (base year: FY1999) Outside Japan: Reduce CO ₂ emissions per production unit by 4% (base year: FY2008)	In Japan: Reduced CO ₂ emissions per production unit by 13.5% (base year: FY1999) Outside Japan: Reduced CO ₂ emissions per production unit by 16.4% (base year: FY2008)
	In Japan: Reduce CO ₂ emissions to no more than FY2006 level	Reduced CO ₂ emissions by 15.5% (base year: FY2006)
	Distribution In Japan: Reduce energy consumed per ton-kilometer by 10% (base year: FY2006)	Reduced energy consumed per ton-kilometer by 10.7% (base year: FY2006)
Initiatives for optimal use of resources	Development/Design/Manufacturing In Japan: Continue to reduce waste of resources by changing machining processes	In Japan: Reduced material waste for relevant parts
	Manufacturing In Japan: Maintain zero emissions (landfill disposal rate no more than 0.05%)	Maintained zero emissions (landfill disposal rate was 0.012%)
	In Japan: Achieve a waste recycling rate of 99.5% or more Outside Japan: Achieve a waste recycling rate 92% or more	In Japan: Recycling rate was 99.7% Outside Japan: Recycling rate was 91.0%
	Distribution In Japan: Reduce packaging material waste per production unit by 5% (base year: FY2007)	Reduced packaging material waste per production unit by 8.3% (base year: FY2007)
System for optimal management of environmentally harmful substances	Procurement In Japan: Conduct on-site audits at key suppliers Investigate status of NSK Environmentally Harmful Substances at suppliers Outside Japan: Hold briefings for key suppliers Investigate status of NSK Environmentally Harmful Substances at key suppliers	In Japan: Conducted on-site audits at key suppliers Investigated status of NSK Environmentally Harmful Substances at suppliers Outside Japan: Held briefings for key suppliers (ASEAN, Europe, and South Korea) Investigated status of NSK Environmentally Harmful Substances at key suppliers (ASEAN, China, and South Korea)
	Manufacturing In Japan: Reduce handling of PRTR-designated substances per production unit by 5% from FY2010	Handling of PRTR-designated substances per production unit increased by 3.2% from FY2010
	In/outside Japan: Completely phase out use of machining fluids containing chlorine additives	In Japan: Four fluids remaining Outside Japan: Replaced one fluid; two fluids remaining
Biodiversity preservation	Manufacturing In Japan: Conduct a current situation survey at NSK's plants	Conducted a current situation survey at plants and sites of NSK and its Group companies

Mid-term (Fiscal 2015) Targets

 Achieved
  Partially achieved
  Not achieved

Evaluation	FY2013 target	FY2015 target	Page
	Enhance and accelerate dissemination of NSK Group rules	Strengthen corporate governance (increase management transparency and soundness)	p.14 – p.17
	Continue to provide rank-based training on compliance	In/outside Japan: Expand categories of who receives compliance training and enhance training content	
	Revise guidelines to reflect conflict mineral information disclosure rules	Continue to make the NSK Supplier CSR Guidelines widely known to gain understanding of suppliers	
	In Japan: Conduct survey based on CSR Self-Assessment Check-Sheets Reply to customers' and supply chain survey requests concerning use of conflict minerals	<ul style="list-style-type: none"> Boost efforts using the NSK Supplier CSR Guidelines and Self-Assessment Check-Sheets Develop standard system for replying to customer's conflict mineral surveys 	
	Improve security export control related to transfer of equipment	Adopt a trade security export screening structure that uses an IT system	
	<ul style="list-style-type: none"> Establish an internal audit office in the Americas and China Conduct internal audits of finance and compliance based on regional risk assessment in the Americas, Europe, China, and ASEAN 	Internal audit office of each region to conduct regional risk assessments and monitoring as well as internal audits of finance and compliance in cooperation with the Internal Audit Department	
	<ul style="list-style-type: none"> Respond to changes in mission-critical tasks system in Japan, North America, and Europe Develop Group task standards related to internal audits and internal controls evaluation tasks 	Implement global standardization of risk assessment techniques and internal audit tasks	
	Enhance BCPs and take preparatory measures	In/outside Japan: Take risk countermeasures Outside Japan: Develop crisis management system and consider BCPs	
	<ul style="list-style-type: none"> Push development of replacements for parts that are difficult to replace with alternatives Conduct supply chain surveys two degrees further upstream and follow up on supplier BCP countermeasures 	<ul style="list-style-type: none"> Develop supply chain disaster response system Visualize global supply chain data 	
	Globally roll out a self-audit system for heat treatment processes	Start operating self-audit systems for special processes besides heat treatment	
	Educate employees who can act as technical supporters for customers	Enhance education for employees who can act as technical supporters for customers	
	Provide sales quality education in more regions	Expand education aimed at strengthening sales capabilities	
	Continue providing human rights training through e-learning	Enhance human rights training	p.22 – p.27
	In Japan: Expand risk assessment lines beside model lines	Globally strengthen safety and health initiatives	
	Continue holding the NSK Global Management College	Strengthen development of regional management personnel and global human resources	
	Continue awareness building efforts in priority areas for social contribution	Continue awareness building efforts in priority areas for social contribution	p.28 – p.31
	Continue to share information on initiatives among business sites	Continue to share information on initiatives among business sites	
	<ul style="list-style-type: none"> Encourage understanding of the 4th mid-term plan among investors and analysts Strengthen IR initiatives for individual investors 	<ul style="list-style-type: none"> Understanding of progress and the level of achievement of the mid-term plan Diversify in shareholder distribution 	p.46
	<ul style="list-style-type: none"> Maintain ISO 14001 certification at all subject sites Obtain certification within three years of starting full-scale operations at two sites 	<ul style="list-style-type: none"> Maintain ISO 14001 certification at all subject sites Obtain certification within three years of starting full-scale operations at a site 	p.32 – p.33
	Zero instances in which emissions standards are exceeded	Zero instances in which emissions standards are exceeded	
	Zero instances of oil and other leakage-related environmental accidents	Zero instances of oil and other leakage-related environmental accidents	p.34 – p.35
	Create environmentally friendly products and technologies	Create environmentally friendly products and technologies	
	Calculate contribution to CO ₂ emissions reduction	Calculate contribution to CO ₂ emissions reduction	
	In/outside Japan: Reduce CO ₂ emissions per production unit by 2% (base year: FY2011)	In/outside Japan: Reduce CO ₂ emissions per production unit by 4% (base year: FY2011)	p.36 – p.38
	In Japan: Reduce CO ₂ emissions to no more than FY2011 level	In Japan: Reduce CO ₂ emissions to no more than FY2011 level	
	In Japan: Reduce CO ₂ emissions per ton-kilometer by 2% (base year: FY2011)	In Japan: Reduce CO ₂ emissions per ton-kilometer by 4% (base year: FY2011)	p.39 – p.41
	In Japan: Continue to reduce waste of resources by changing machining processes	In Japan: Continue to reduce waste of resources by changing machining processes	
	In Japan: Maintain zero emissions (landfill disposal rate no more than 0.01%)	In Japan: Maintain zero emissions (landfill disposal rate no more than 0.01%)	
	In Japan: Achieve a waste recycling rate of 99.99% or more Outside Japan: Achieve a waste recycling rate 96.4% or more In/outside Japan: Reduce water usage per production unit by 2% (base year: FY2011)	In Japan: Achieve a waste recycling rate of 99.99% or more Outside Japan: Achieve a waste recycling rate 99% or more In/outside Japan: Reduce water usage per production unit by 4% (base year: FY2011)	
	In Japan: Reduce packaging material waste per production unit by 6% (base year: FY2007)	In Japan: Reduce packaging material waste per production unit by 8% (base year: FY2007)	p.42 – p.44
	In Japan: Conduct on-site audits at key suppliers Investigate status of NSK Environmentally Harmful Substances at suppliers Outside Japan: Conduct on-site audits at key suppliers Investigate status of NSK Environmentally Harmful Substances at suppliers	In Japan: Conduct on-site audits at key suppliers Investigate status of NSK Environmentally Harmful Substances at suppliers Outside Japan: Conduct on-site audits at key suppliers Investigate status of NSK Environmentally Harmful Substances at suppliers	
	In Japan: Reduce handling of PRTR-designated substances per production unit by 4% from FY2011	In Japan: Reduce handling of PRTR-designated substances per production unit by 6% from FY2011	
	In/outside Japan: Reduce use of machining fluids containing chlorine additives		p.45
	In Japan: Conduct a current situation survey of Group companies	Implement initiatives to preserve biodiversity	

Special Feature Power of



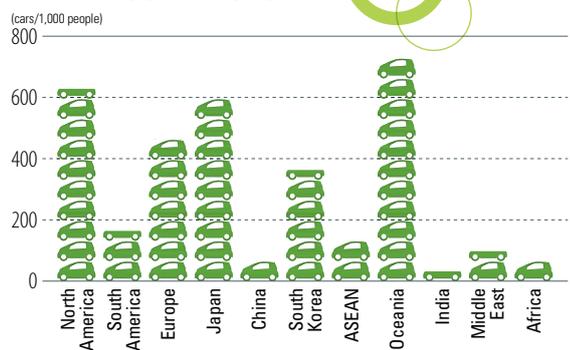
NSK and a Sustainable Global Society

The earth does not belong only to certain countries, nor only to the people of the current generation. A sustainable global society is one in which the people of all countries and regions worldwide can live in prosperity, safety, comfort, and freedom while also passing the world's limited resources and the bounty of nature on to future generations. The NSK Group aims to contribute to the well-being and safety of human society and to protect the global environment by making the most of its innovative Motion & Control™ technology. Building on this foundation, NSK also aims to help build a more sustainable global society by constantly pursuing the possibilities of technology.

A World in Which All Countries and Regions Can Prosper

All people yearn for a prosperous, safe, and comfortable life. In terms of economics and information, the gap between advanced and emerging countries is narrowing—the world is becoming flatter. In emerging countries there is an intense drive to enrich lifestyles by developing and locally producing a range of products that meet local needs. The globalization of manufacturing is necessary to create a world in which the lives of people in many countries become more convenient and comfortable.

Car ownership per 1,000 people



Source: Prepared by NSK based on data from Japan's Ministry of Land, Infrastructure, Transport and Tourism and from WHO

A Global Society in Which All People Can Live Comfortably

The idea that all people deserve to live in reasonable comfort is gaining ground, and thus there is a need to create a universal society in which everyone can live comfortably and with security. It is vital to think about and then create the building blocks for a global society where everyone can live in comfort and with peace of mind while mutually accepting the characteristics and diversity of each individual.

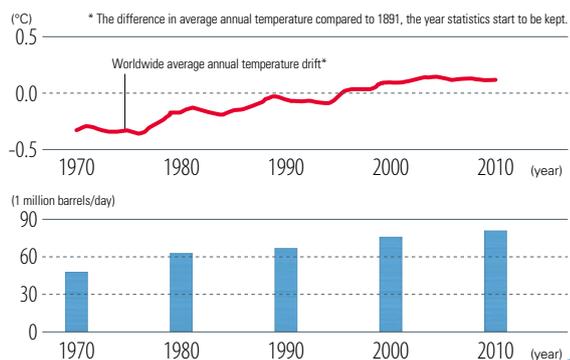


NSK—Leveraging technological strengths to build a sustainable global society

A Global Society in Which People and the Earth Exist in Harmony

Effective utilization of resources is essential for the creation of a sustainable global society. How can a balance be struck between protecting the global environment and creating a safe and comfortable society, while the number of automobiles in the world increases? Next-generation eco-cars, including electric cars, are potential solutions to this challenge. The advancement and spread of technology in the future can have a great impact in supporting an optimal society in which the number of cars could be increased without adverse effects.

World crude oil production and average annual temperature drift



Source: Prepared by NSK based on Japan's Energy White Paper 2013 and data from the Japan Meteorological Agency

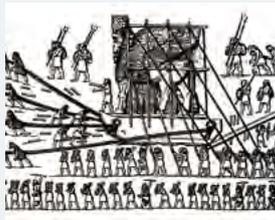
Technology

NSK's Four Core Technologies

NSK's products are created based on four core technologies: tribology, material engineering, analysis technology, and mechatronics. NSK's product development places the highest priority on using these technologies to resolve social challenges and meet customer needs.

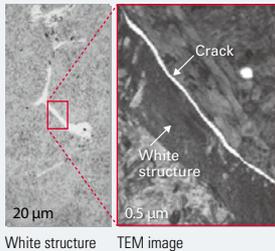
Tribology

Tribology is a technology that controls friction and wear of sliding surfaces in relative motion. This is one of the key technologies for bearings that support rotational or linear motion applications. The principle of bearings traces its origin to ancient Mesopotamia, where gigantic stones were transported with relative ease by placing logs underneath them.



Material Engineering

Materials play a key role in heightening the performance and durability of bearings subjected to extreme usage conditions. Aiming to develop products with even greater durability and reliability, NSK uses a wide variety of performance assessments and analytical technologies to develop new materials with optimal compositions and new heat treatment processes with optimal conditions. Moreover, the Company develops technologies that use new materials, such as ceramics and high polymeric materials.



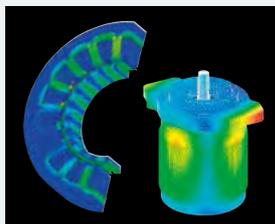
Analysis Technology

NSK uses computer simulations to test and assess the performance of bearings in virtual environments. Taking advantage of advanced analysis technology enables the Company to assess performance in extreme conditions, under which testing in actual machinery is difficult. This helps to speed up the creation of optimal designs and product development for bearings.



Mechatronics

NSK has highly sophisticated mechatronics, which combines electronics with mechanical technologies the Company has fostered through product development and at production sites. In a broad spectrum of areas—including motors, control, and sensors—mechatronics creates new products exemplifying NSK's initiatives to integrate MOTION & CONTROL.



Creating products with quality trusted around the world

1

NSK is growing together with local communities by establishing local production systems and providing technical instruction in emerging nations.

→ P.10



Helping ensure everyone can realize a convenient and comfortable life

2

NSK is contributing through technology development in new fields to the creation of a global society in which more and more people can live in freedom and comfort.

→ P.12



Developing technology for the future

3

NSK is contributing to the creation of a sustainable automobile society by establishing new technologies for future generations.

→ P.13



Creating products with quality trusted around the world



Social Issues and Needs

In order for the entire world to become prosperous, industry in each part of the world must be able to achieve autonomous growth. Toward that end, the entire value chain must be localized—not just production. Companies are expected to contribute to growth as a responsible member of each community by engaging in meaningful dialogue and transmitting their technologies and manufacturing expertise.

Tapered Roller Bearings for Emerging Nations

The quality of steel and parts influences the longevity of a bearing. NSK has developed tapered roller bearings that can be produced locally using local materials and local parts. NSK ensures they have world-class quality by sharing its approach to manufacturing with suppliers, ensuring they understand the technologies and quality control systems that NSK has developed, and then carrying out optimal manufacturing locally.

Shigeki Hizuka

Group Manager,
Drive Train Bearing Technology Department,
Automotive Bearing Technology Center,
NSK Ltd.



Developer's Voice



Obtaining Understanding of NSK's Approach to Manufacturing

Good relationships with local suppliers are essential to carry out production in different parts of the world. While respecting suppliers' ideas, it is also important that we clearly convey and obtain understanding of NSK's unique approaches. We must not only inform suppliers about the specs that NSK requires in materials and parts, but also explain why those specs are necessary and what kind of product we wish to make. It is also challenging to develop staff on NSK's own production line in places with cultures very different from Japan. I want to remove technical barriers

with production sites outside Japan by sharing the knowledge and experience we have built up while also ensuring that they understand our Japanese approach to manufacturing. I hope to create a range of opportunities for exchange, such as practical training in Japan and technical instruction.

Aiming to Make the World Go Round, in Every Industry

Not every important thing in life is visible to the naked eye. This is certainly true with NSK's products, which play an essential role in virtually every industry, but operate quietly, smoothly, and behind the scenes. Bearings were created to reduce friction between various moving objects and to improve efficiency. I want to contribute to making the world "turn" for industry more efficiently by pushing NSK's technical development even further ahead.

Highlights

Delivering Value through Communication and Global Expansion

NSK is not only operating its business globally, but also striving to deepen its cooperative relationships with customers and suppliers in each local community and to ensure they fully appreciate NSK's technologies and quality control.

For Suppliers

The quality of NSK's products is affected not only by the quality of raw materials but also by quality control during the production processes for parts. In order to carry out local procurement and local production, NSK must not only convey specifications but also obtain understanding of why NSK's unique technologies and quality control methods must be used. The Group also works on this issue in the belief that it can contribute to the growth of local suppliers by conducting quality assessments and audits.

Percentage of locally procured materials and parts



For Customers

Bearings, which are NSK's leading products, can deliver the desired performance only if the most suitable style and size are selected when designing the machinery into which they will be incorporated and if appropriate maintenance is performed when the machinery is in use. Care must also be taken to replace bearings that have reached the end of their service life. That is why NSK holds workshops and practical training sessions around the world to provide technical instruction to engineers engaged in the design of customers' machinery and technicians involved in equipment management and maintenance.

For example, NSK's technology centers in large countries such as China and Brazil, use mobile showrooms to provide

technical support and display products to customers.

Customers appreciate this system as it allows local staff members who usually cannot attend exhibitions to view the displays. Through initiatives like these, the NSK Group aims to establish relationships of trust by increasing mutual understanding with customers.



Introducing products to a greater range of customers

Initiative using a mobile showroom in China

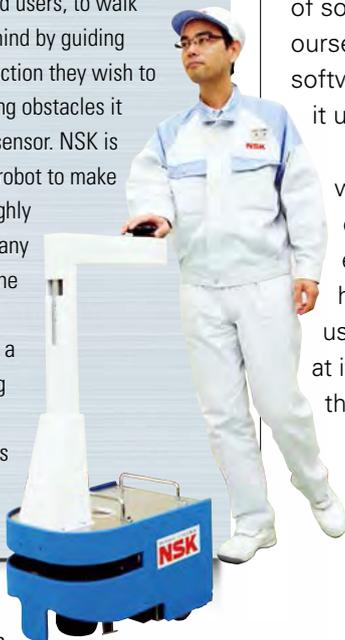
Helping ensure everyone can realize a convenient and comfortable life

Social Issues and Needs

Since 2004, NSK has been engaged in the research and development of human-assisting robots that help people in their daily lives, aiming to help build a society in which all people can live safely, comfortably, and with freedom. Going forward, NSK will employ its cutting-edge mechatronics technology to provide autonomous mobile robots that increase freedom of mobility for all kinds of people.

Guide Robot with Obstacle Avoidance Capabilities

This robot will help people, even visually impaired users, to walk with peace of mind by guiding them in the direction they wish to go while avoiding obstacles it detects with a sensor. NSK is developing the robot to make it lighter and highly safe. The Company aspires to see the product put to practical use as a human-assisting robot at indoor facilities such as hospitals.



Developer's Voice

Providing Practical Solutions to Social Needs

We started by considering what new ideas we could create by applying NSK's unique technologies. Based on this theme, we began to develop a robot that can recognize stairs and objects and move autonomously. When we asked ourselves during the development process how this robot could help to address social problems, we arrived at the idea of human assistance. Since we were starting from zero, we gathered information from a range of sources, designed the machine ourselves, and developed the software step by step. Of course, it uses many NSK bearings.

Many hurdles remain, but we are motivated by the voices of visually impaired people at exhibitions who share their hopes with us and encourage us with comments like, "Keep at it. I really want you to make this thing work in real life."

I recall one time when I felt so happy to have developed this robot. A visually impaired child tried

Kazuteru Tobita

Manager, Development Department 1,
Future Technology Development Center,
NSK Ltd.



it and exclaimed with pure joy: "It's amazing!"

Discovering the Fascination of Science Can Open Doors to the Future

I sometimes have an opportunity to introduce this robot at the science classes that NSK holds for children. The children show great interest when they see a robot. How will school studies benefit their future? I think that coming into contact with technology like this at a science class motivates them to study, because it allows them to realize how fun science can be. I hope to use our human-assisting robot to inspire children about the fun of science and technology and how meaningful it is to help make the world a better place.

Developing technology for the future

Social Issues and Needs

As people's lives become more and more convenient, the challenge will be to build a society that is safe while avoiding environmental problems such as global warming and depletion of resources. To achieve this, the development of electric vehicles (EVs), which make mobility comfortable and do not emit CO₂ when driven, is a very promising avenue. Many challenges remain to achieve widespread usage of EVs, such as the development of infrastructure and new power units. One key technology expected to contribute to the car of the future is the wheel hub motor.



Wheel Hub Motor

By equipping all four wheels of a car with their own motors and controlling the driving power and braking force of each individually, greater maneuverability and safety can be achieved than ever before. Equipped with two motors and a transmission, the wheel hub motor developed by NSK is a one-of-a-kind component that achieves high performance despite its compact size and low weight.

Developer's Voice



Unique Design Differentiates NSK from the Competition

We created this wheel hub motor when looking for ways to utilize our control and mechatronics technologies—NSK's areas of expertise—in a field that is anticipated to grow in the future.

We started development from scratch based on the concept of creating a totally unique design. Since there were no precedents we could refer to and not even any standards for evaluating the new technology and prototypes, we proceeded with the development freely, fearlessly, and without the impediments of convention. Many challenges remain, but we look forward to overcoming them one by one.

Pursuing Development of Future Technologies

I believe the popularization of EVs that use wheel hub motors in cities in the future can create an entirely new, sustainable form of automotive society. For instance, if people can car share using small electric vehicles, which can be driven around town with about the same carefree feeling as riding a bicycle, it would help ease traffic. Plus, since electric vehicles don't emit CO₂, they would help in the fight against global warming, even with a lot of cars on the road. Within ten or fifteen years, I envision a world full of small, environmentally friendly electric cars zipping from place to place—that is what I imagine as we develop the technology the future needs.

Yasuyuki Matsuda

Manager, Development Department 2,
Future Technology Development Center,
NSK Ltd.



Corporate Governance

Management Structure Supporting Sustainable Growth

Related Stakeholders	Customers	Employees
	Suppliers	Future Generations
	Local Communities	Shareholders and Investors

The international community must cooperate to overcome a range of challenges including environmental problems in order to realize a sustainable world. As corporate activities expand globally, companies are expected to do their part to help solve the challenges of their respective countries and regions. They are called upon to contribute to the global community by providing helpful products and services through ethical business activities and by respect for local cultures and customs.

NSK's Approach

Achieving Sustainable Growth by Increasing Management Transparency and Soundness

The NSK Group has established a corporate governance framework and follows a policy of transparent and sound management in order to achieve sustainable growth as a company while meeting the expectations of society.

NSK defines corporate governance as "a system in which operational organizations can carry out efficient and fair management under the supervision of the board of directors." NSK endeavors to strengthen corporate governance based on the following principles:

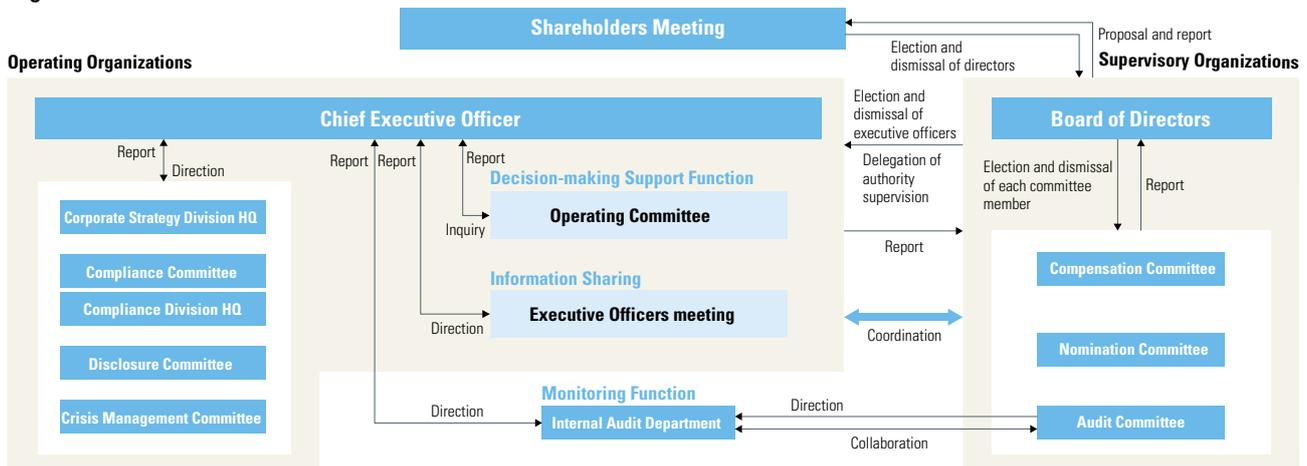
- (1) Improve management efficiency and mobility by delegating authority from the board of directors to operational organizations;
- (2) Ensure that supervisory organizations provide proper oversight of operational organizations by separating supervisory organizations and operational organizations;
- (3) Strengthen supervisory organizations' oversight of operational organizations through coordination between supervisory organizations and operational organizations; and
- (4) Improve the fairness of management by strengthening the compliance system.

Corporate Governance System

NSK has strengthened its governance structure by adopting a "Company with Committees" structure. It is increasing management transparency and soundness through a system in which the following types of operational and supervisory functions are clearly defined (see Figure 1).

- Operating Organizations: Executive officers appointed by board of directors execute business operations under the directions of the chief executive officer (CEO), according to the procedures defined by the board of directors.
- Supervisory Organizations: The board of directors is defined as the organization that makes decisions regarding important management matters, such as basic management policies, and serves as a supervisory body for the operating organizations. In order to strengthen this supervisory function, an Audit Committee, Compensation Committee, and Nomination Committee are established, comprised of a majority of independent directors.

Figure 1: Governance Structure



Goals and Performance

Mid-term Goal (FY2013-FY2015)

The NSK Group has set the vision of the new mid-term management plan, "establishment of corporate fundamentals appropriate for a company with net sales of ¥1 trillion." Aiming to achieve growth with focus on profitability and the development of management capabilities to handle ¥1 trillion in sales volume, the Group is committed to reinforcing the foundation for its sustainable growth by increasing management transparency and soundness based on "safety, quality, and compliance."

FY2012 Activities

The NSK Group published and distributed a guidebook and expanded training sessions to increase awareness and ensure thorough compliance on the part of all employees. It also made efforts to strengthen plant safety measures to lessen the risks from large-scale earthquakes.

Pages 14–17 of this report describe initiatives for increasing management transparency and soundness. Pages 18–46 cover the status of initiatives aimed at ensuring the sustainable growth of the NSK Group.

Compliance

Basic Approach

The NSK Group specifies the universal philosophy that all officers and employees should adhere to in the NSK Code of Corporate Ethics. The Group aims to continue growing as a company that earns the trust of the international and local communities by following relevant laws and regulations in all of its corporate activities and acting with high ethical standards as a good corporate citizen.

FY2012 Highlight 1 Distributing a Compliance Guidebook

To ensure thorough compliance throughout the Group, NSK published a compliance guidebook that explains the NSK Code of Corporate Ethics in detail and distributed it to all officers and employees of the NSK Group in Japan. Moreover, each and every officer and employee submitted a written oath declaring that they understood the guidebook and would abide by laws and ordinances and company rules. In 2013, the group conducted e-learning using this guidebook.

Going forward, NSK will continue to provide education and training to further increase each and every officer's and employee's awareness of compliance.



Photo 1: Compliance guidebook

FY2012 Highlight 2 CSR Procurement: Giving Due Consideration to Human Rights through Procurement

In January 2013, the Conflict Minerals Disclosure Rule under the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act came into effect in the United States, requiring 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.

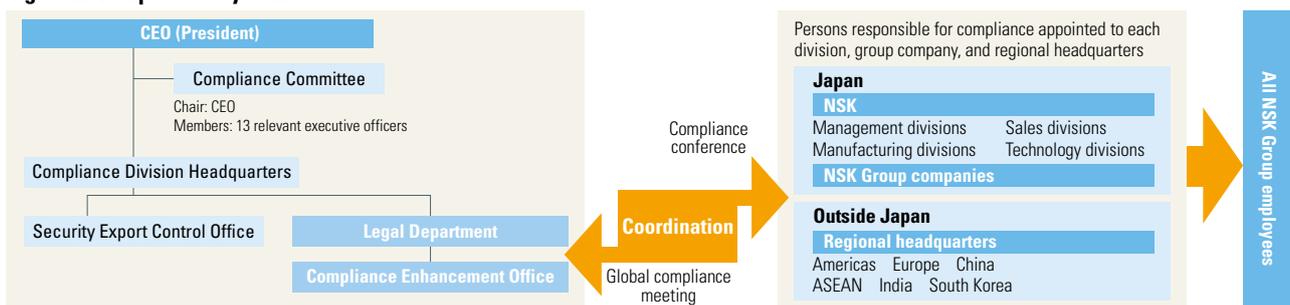
NSK is not listed on a U.S. stock exchange and so is not subject to these rules. Nevertheless, NSK has adopted a policy of avoiding the use of conflict minerals and is working with its suppliers on this issue. No use of conflict minerals was identified in a preliminary survey covering about 80 suppliers conducted in fiscal 2012. NSK will survey a greater range of suppliers in fiscal 2013.

FY2012 Highlight 3 Security Export Control Initiatives

The NSK Group has strengthened its system of controls for preventing the export of products and leakage of technology related to the development, manufacture, and use of weapons, based on Japan's Foreign Exchange and Foreign Trade Act.

In fiscal 2012, NSK conducted a fact-finding survey relating to the transfer, maintenance inspection, repair, and technical instruction for regulated high-performance machine tools exported from Japan to manufacturing subsidiaries. Efforts were made to strengthen the review system for identified issues.

Figure 2: Compliance System



WEB Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

- In-House Education (compliance) • NSK Code of Corporate Ethics (full text)
- Basic Procurement Policy • NSK Supplier CSR Guidelines



Risk Management

Basic Approach

The NSK Group classifies and organizes potential risks into operating risks, hazard risks, compliance risks, and financial reporting risks. It designates responsible departments that supervise the prevention of risks and countermeasures in the event a risk event unfolds. Additionally, each site and group company carries out activities aimed at reducing risk under the supervision of responsible departments.

Risk Management System

The Internal Audit Department strives to reduce risks. It develops and implements internal auditing plans based on regular risk assessments and validates the risk management system for the entire Group through monitoring based on risk reports gathered every month from around the world.

The permanent Crisis Management Committee acts to prevent risks and minimize damage in the case of a risk event by developing and strengthening management systems for natural disasters, outbreaks of infectious disease, and major accidents. It also works at establishing and implementing business continuity plans (BCP).

In the event of a crisis or disaster, a disaster response task force is set up at the head office and a local response headquarters established at the site of the crisis or disaster, and relevant departments cooperate to handle the situation quickly and accurately according to the circumstances.

FY2012 Highlight 1 Enhancing Global Internal Auditing

As part of its effort to establish corporate fundamentals appropriate for a company with net sales of ¥1 trillion, NSK established local internal audit offices in its regional headquarters. In August 2013, NSK upgraded the Internal Audit Office to the Internal Audit Department, in order to oversee the establishment and enhancement of a global internal auditing base (Figure 1).

The Internal Audit Department is working on four important issues in the mid-term plan established in fiscal 2012: (1) strengthening compliance; (2) strengthening monitoring; (3) increasing the effectiveness of audits; and (4) promoting the efficiency of operations.

FY2012 Highlight 2 Strengthening Business Continuity Planning

The NSK Group has long focused on disaster reduction as business continuity measures for disaster risks. Through the experience of the Great East Japan Earthquake, however, NSK was reminded of the importance of having a finely detailed BCP, and it has revised its plan accordingly. In fiscal 2012, it worked on creating a detailed plan covering organization and personnel structure, roles, procedures, information management, and tools to arrange beforehand, with the purpose of maintaining the head office's group supervisory function and the Group's product supply function. In fiscal 2013, NSK plans to roll out these details to each site and group company based on this plan.

NSK Action

Strengthening Internal Controls in the Americas

In 2008, the Governance and Compliance Department was created at NSK Corporation and tasked with developing an internal control framework for the Americas. Since the initial implementation, the team has been working diligently to streamline ongoing financial compliance activities in close cooperation with headquarters in Japan and an independent auditor.

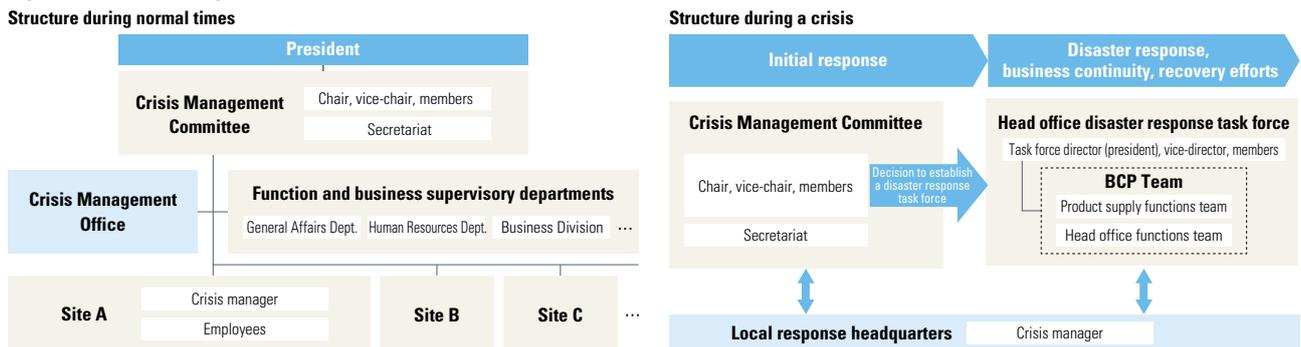
In fiscal 2012, a similar internal control framework was introduced at NSK Americas Steering Systems, Inc. A detailed risk analysis was performed and improvements were made to address the issues that were revealed. As a result, the company successfully completed its first year audit with only two minor findings.

In order to further strengthen NSK Group governance in the Americas, in fiscal 2013, the Board of Directors of NSK Americas plans to establish an Compliance and Ethics Committee to monitor and direct ethics and compliance initiatives.



NSK Americas, Inc. Internal Audit Department members:
From left to right: **Mary Keefer, Dana Mowrer, and Jeff Lickteig**

Figure 3: Crisis Management Structure for Disaster Risks



Making NSK More Resilient against Disasters

In fiscal 2011, NSK took steps to prevent production equipment and shelving from falling over or moving during a disaster. In fiscal 2012, NSK worked at over 10,000 locations at all plants in Japan to make them even safer, including measures to prevent air ducts and fluorescent lighting from falling from the ceiling. It also took measures that place the highest priority on ensuring employee safety, including marking dangerous locations on evacuation route maps, conducting drills based on the scenario of a disaster striking at night, and increasing the installation of speakers for broadcasting early earthquake warnings throughout its plants.

Reducing Risk throughout the Supply Chain

In fiscal 2012, NSK updated information on suppliers in Japan and developed a system for sharing supplier information, in order to reduce the risk of product supply coming to an end if parts and raw materials cannot be procured stably due to a fire or a natural disaster such as an earthquake or typhoon. Plants outside Japan also began surveying the supply chain.

In fiscal 2013, the Group will enhance its global supply chain information and roll out systems for sharing information to plants outside Japan.

Initiatives to Strengthen the Compliance Structure

In June 2012, NSK Ltd., certain former officers and a former employee were prosecuted for a violation of the Antimonopoly Act of Japan regarding sales of bearing products by the Tokyo District Public Prosecutors Office. In February 2013, the Company received a penalty of ¥380 million and the former officers and employee received suspended prison sentences in a judgment by the Tokyo District Court. Also, in March 2013 the Company was subject to a cease-and-desist order and an administrative surcharge payment of ¥5.6 billion, based on the Antimonopoly Act, issued by the Japan Fair Trade Commission. Additionally, in September 2013, NSK Ltd. and its subsidiaries agreed to plead guilty and to pay a total fine of US\$68.2 million (approximately ¥6.8 billion) for participating in activities that violated the U.S. antitrust laws in relation to sales of bearings.

We would like to apologize deeply for the considerable anxiety these incidents have caused to our stockholders, customers, and other stakeholders.

Strengthening of the Compliance System

NSK regards this matter with the utmost solemnity and sincerity, and while seeking to ascertain the causes the Company is promptly implementing a range of measures to further strengthen its compliance system.

NSK has formulated policies for strengthening its compliance system. Under the policy, it is carrying out measures to strengthen compliance and has established a Compliance Committee as an organization to verify progress. It also established a Compliance Enhancement Office 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 Group has appointed persons responsible for compliance in each department, site, and NSK Group company in Japan as well as each headquarters outside Japan to serve as key contact points for all information related to compliance and conduct risk management.

Compliance Education

The NSK Group is reinforcing the compliance education it provides, including e-learning and lecture-based training at sites in and outside Japan on topics such as compliance, CSR, information security, and internal controls. This training is given to all officers and employees to raise their awareness of compliance.

In fiscal 2012, NSK provided lecture-based compliance training with more detailed content for all officers and employees in Japan. Additionally, each site of every sales department actively provides compliance education, routinely revises the handbook summarizing sales knowledge, and holds monthly discussions about how compliance intersects with every person's job. Employees are showing increased awareness that they are the key to strengthening compliance at NSK.

Under its new compliance system, the NSK Group is determined to make even greater group-wide efforts to ensure compliance with laws and regulations. The Group is committed to exercising social responsibility across all of its business operations.



Table 1: NSK Group's Initiatives

Date	Action taken	Date	Action taken
August 2011	President issues message calling on officers and employees to ensure thorough compliance and to cooperate with the Japan Fair Trade Commission's investigation Started an internal system to consider and decide in advance on the advisability of whether employees should participate in meetings at which competitors will be present	July	Established Compliance Enhancement Office in the Legal Department to promote measures aimed at strengthening compliance
January 2012	Started e-learning program on the topic of compliance, including compliance with the Antimonopoly Act (competition law)	August	Distributed guidebook on the Antimonopoly Act (competition law) to officers and employees and received submissions of written oaths regarding compliance with competition law and other laws Assembled persons responsible for compliance outside Japan at a global compliance meeting to discuss measures for strengthening compliance
February	Started lecture-based training on the topic of compliance, including compliance with the Antimonopoly Act (competition law)	December	Assembled persons responsible for compliance in Japan at a compliance conference to discuss measures for strengthening compliance
March	Established Compliance Committee (chaired by CEO with 12 officers as members) for management to deliberate policies to strengthen compliance	February 2013	Held a global compliance meeting with persons responsible for compliance in the Americas and Europe
April	Revised the item relating to compliance with competition law in the NSK Code of Corporate Ethics Established the Rules for Compliance with the Competition Law in the NSK Group Rules Held first Compliance Committee meeting (later held in May, August, and November)	March	Distributed the NSK Compliance Guidebook to officers and employees in Japan
May	Revised the Compliance Rules in the NSK Group Rules Revised the Rules of Employment, clarifying employees' obligation to comply with the law and the disciplinary action for illegal acts	April	Held a global compliance meeting with persons responsible for compliance in China
		May	Started fiscal 2013 training sessions on the Antimonopoly Act of Japan for sales departments
		July	Implemented fiscal 2013 compliance e-learning for all employees

Quality Assurance

Creating Quality to Earn the Confidence of Society



Industrial products that support today's affluent lifestyles must perform their prescribed functions safely and reliably. As the advance of technology and globalization continues to accelerate, companies are expected to contribute to the growth of the broader society by providing high-quality products and advanced technologies that meet the specific needs of consumers across a range of countries and regions.

NSK's Approach

No. 1 in Total Quality

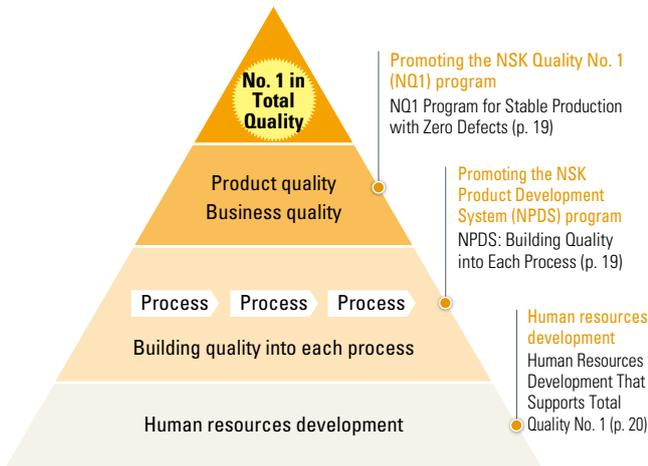
The NSK Group aims to become "No. 1 in Total Quality." In other words, the Group is working to achieve the industry's best quality in everything it delivers—not only products and services, but also information. The Group believes that this commitment to quality ensures that its products will satisfy customers all over the world (see Figure 1).

Organization: Quality Board Meeting

To strengthen Group-wide initiatives NSK Group management checks the status of quality control and directs the needed initiatives in a top-down manner at the Quality Board Meeting, which is chaired by the president and composed of directors in charge of each business division headquarters.

NSK has also established quality committees in the Automotive Business Division Headquarters and the Industrial Machinery Business Division Headquarters and is working to strengthen quality improvement efforts through cooperation among the manufacturing, sales, and design departments (see Figure 2).

Figure 1: Quality-Building Initiatives



Goals and Performance

Mid-term Goal: Quality Creation That Ensures Customer Satisfaction

While continually reinforcing its global quality assurance system, the NSK Group carries out the three initiatives described below to enable employees to work with enthusiasm, to make products that customers enjoy using, and to ensure that the Company grows sustainably.

1. NSK Product Development System (NPDS)

In order to quickly transform new orders into reliable, stable production, the NSK Group is promoting initiatives that build quality into each process.

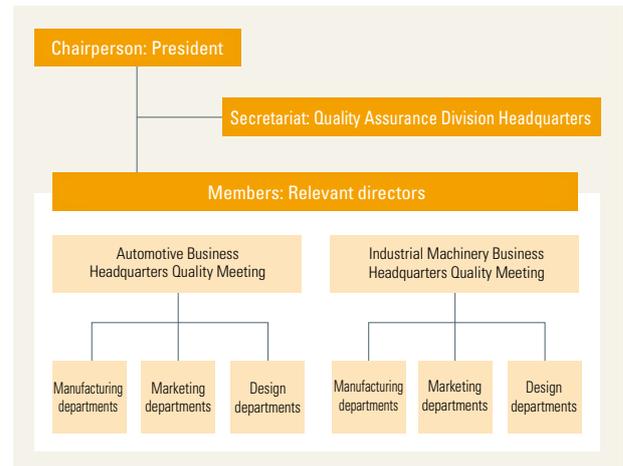
2. NSK Quality No. 1 (NQ1) Program

The NSK Group is promoting initiatives to realize stable production and ensure near-zero defects.

3. Human Resources Development

The Group is promoting human resources development in order to build a stronger foundation for quality creation.

Figure 2: Quality Board Meeting



FY2012 Activities

In fiscal 2012, the Group implemented detailed product design reviews and expanded training provided to technology departments to increase the effectiveness of the Quick DRs (design reviews) it adopted in fiscal 2011. It also moved forward with plans for training and enhancing the abilities of auditors for special processes.

To improve sales practices, including customer support on technical issues and quality, the Group enhanced its educational curriculum for sales departments and also rolled out the sales quality training it began in fiscal 2010 to the ASEAN region in fiscal 2012.

Initiatives to Achieve Higher Quality

Basic Approach: Create High-Quality Products

The NSK Group develops, designs, manufactures, and markets products with a superior level of quality by meeting its own unique quality targets over and above the basic quality that customers have come to expect. This approach ensures that the Group contributes to its customers' development while achieving its own growth.

FY2012 Highlight 1 NPDS: Building Quality into Each Process

The NSK Group has deployed its unique NSK Product Development System (NPDS) globally since fiscal 2007 to satisfy customer expectations by responding to new customer orders with speed and reliability. Under the NPDS, at each process—from product planning to development and design, prototype manufacture, and mass production—confirmation is made that all issues are resolved before moving on to the next process, thus ensuring the efficient mass production of high-quality products.

In fiscal 2012, the NSK Group enhanced its design review training sessions for technology department staff members and section and department managers in order to widely roll out the Quick DRs it adopted in fiscal 2011 for small-scale design changes. As of the

end of fiscal 2012, the three courses, from introductory to advanced, had been attended by a total of about 400 people (see Figure 3).



Photo 1: Quick DR training session

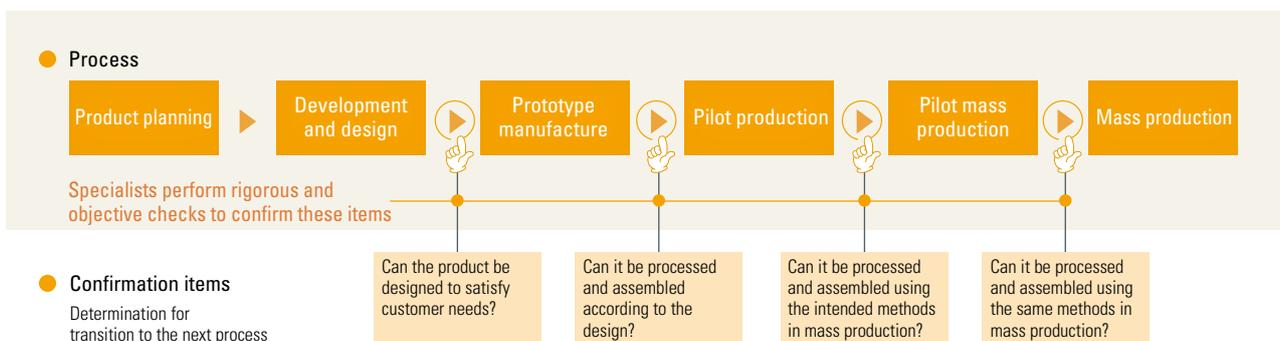
FY2012 Highlight 2 NQ1 Program for Stable Production with Zero Defects

As part of its NQ1 program, NSK is working to create processes that are far and away the best in the industry, with zero defects. Each plant in Japan decides initiative themes and carries out various improvements targeting zero defects on a test line, while communicating to employees the significance of the initiatives and increasing their awareness. Additionally, study sessions bringing personnel from each plant together help to deepen understanding of case studies from other plants and further enhance initiatives. Initiatives that were effective on the test lines are quickly rolled out to other lines to reduce defects efficiently.



Photo 2: Site tour at the Saitama Plant

Figure 3: Outline of the NPDS



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

- Global Quality Assurance Organization
- Certification for Quality Management Systems



FY2012 Highlight 3 **Developing Human Resources Who Can Create Superior Quality**

The NSK Group provides a range of education and training sessions to develop the human resources needed to ensure manufacturing of superior quality.

In fiscal 2012, NSK enhanced training aimed at increasing problem-solving abilities and the development of leadership skills by having mid-career staff members work with production floor staff on solving challenges. The curriculum calls for members chosen from each plant to visit each other's worksites and practice creating training sessions that increase knowledge and awareness, roll out initiatives from other plants to one's own plant, and create management systems in which improvement progress is identifiable at a glance. In addition to increased problem-solving abilities and better leadership, the training also stimulated communication across worksites.



Photo 3: Study session while visiting a worksite

Global Roll-out of Quality Knowledge Education (Outside Japan)

The NSK Group believes that increasing all employees' knowledge of quality will result in higher quality work as well as higher quality products. Accordingly, the Group has rolled out its Quality Knowledge Education to sites worldwide.

In fiscal 2012, it trained a total of 15 Indonesian and Thai instructors to deliver the education contents across the ASEAN region. These instructors then led the effort region-wide.



Photo 4: Training instructors in Indonesia

Global Roll-out of Quality Instruction and Audits (Outside Japan)

The NSK Group conducts strict quality control of key processes for the stable production of high-quality products, such as heat treatment processes, which it designates as special processes.

It certifies auditors who rigorously check processes to ensure the same exacting level of control is implemented at worksites worldwide. In addition to the Group's own sites, the auditors also visit suppliers and check their processes in an effort to ensure strict control throughout the supply chain.

From fiscal 2012, the Group is striving to further increase the level of audits. It also held an auditor-training session to ensure there is no variability in the results produced by different auditors. During the training, the auditors conducted a mock audit with one another to align their understanding of check items and level of judgment.



Photo 5: Auditor training

FY2012 Highlight 4 **Initiatives with Suppliers to Raise Quality**

Procurement departments within the NSK Group work directly with suppliers to raise quality. In fiscal 2012, the Group in Japan held 42 quality meetings on approaches to technical challenges in development projects. It visited and audited suppliers' sites on 35 occasions as part of efforts to decrease defects, increase production efficiency, and prevent flaws in components and materials.

To expand local and international procurement, the NSK Group strives to support quality control by having local worksites around the world audit their suppliers' processes. Going forward, the Group will work even harder to improve quality.

FY2012 Highlight 5 **Obtaining Quality Assurance Management System Certification**

Each site in the NSK Group has obtained at least one of the following quality assurance management system certifications: ISO 9001, the international standard for quality management systems, ISO/TS 16949, the quality system for automotive production and relevant service part organizations, and AS 9100 certification, the quality system for the aerospace industry. They all attempt to maintain and improve their efforts by carrying out internal audits and receiving audits by third parties.

As of March 31, 2013, all 54 product manufacturing sites in the NSK Group had obtained one or more of these certifications.

Efforts to Increase Customer Satisfaction

Basic Approach: Develop Human Resources Who Can Help Build the NSK Brand

The NSK Group is determined to strengthen its relationships of trust with customers by developing human resources who possess advanced sales knowledge. The Group aims to foster human resources competent not only in the strong points of conventional sales approaches, but who can reconsider conventional ways of thinking and methods, seeking to strengthen sales knowledge to improve the way it does business.

FY2012 Highlight 1 Education to Increase Technical Support Capabilities

The NSK Group carries out initiatives around the world aimed at increasing its ability to provide technical support to customers.

The Group produces practical training tools that enable customers to experience the use of actual bearings, giving them a deeper understanding of NSK products. Using these tools, they can experience the installation and removal of bearings from machinery. This helps customers with design and maintenance.

The Group also uses long-distance education to train the employees who provide technical support. Trainees first improve their knowledge through e-learning and lectures from local educators. Later, a training advisor assigned to each trainee sends out a test via e-mail to check the level of learning. The advisor provides feedback containing appropriate hints so that the trainee can become aware of where mistakes were made on incorrectly answered questions. Testing and feedback are repeated until each trainee can answer all the questions correctly to ensure they conquer areas of weakness. More than 80 employees have completed the training through fiscal 2012.

FY2012 Highlight 2 Education to Increase Customer Satisfaction (Japan)

In June 2012, NSK conducted a customer service survey using questionnaires with the cooperation of approximately 300 customers.

When customers provided criticism, NSK listed the issues for each department, including the sales and technology departments. The Company will steadily make improvements, including increasing the number of technical presentations given and inviting

customers to come and see the NSK Group's plants and technical centers. It is also conducting internal education using a handbook that summarizes knowledge that sales staff should master in order to further improve service. The Company is also conducting training sessions to improve communication skills with customers.

In fiscal 2012, the Mid-Japan Automotive Department held study sessions on topics such as the system for operational improvement efforts and the U.S. rule on conflict mineral disclosures with the aim of more accurately understanding and responding to customer requests.

FY2012 Highlight 3 Quality Training for Sales Departments (Outside Japan)

Since fiscal 2010, the NSK Group has implemented sales quality training sessions intended to raise the level of customer satisfaction by increasing employee awareness of quality in sales departments, which are the point of contact with customers.

The Group started holding these training sessions in the U.S., China, and the ASEAN region in fiscal 2012. In the training, employees acquire practical abilities through lecture-based sessions and e-learning. During lectures, instructors who received special training in Japan use a textbook summarizing basic knowledge to clearly explain in the local language quality control and problem-solving methods that can be used in sales work.

In fiscal 2012, more than 400 employees took this training. The trainees are now using the knowledge they acquired to improve communication with customers.

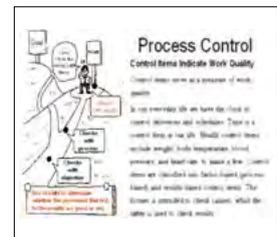


Photo 6: English textbook



Photo 7: Training session in the NSK Representative Office in the Philippines held in October 2013

Good Work Practices

Creating a Dynamic Work Environment

As globalization advances, there are more and more opportunities for exchange among different peoples and nationalities. It has never been more important to work together to achieve harmony and mutual benefit for all countries and regions, and the basis of this must be deeper mutual understanding. Companies, for their part, must create workplaces where employees respect the diverse cultures and practices of different countries and regions, embrace diversity in the workforce, and can work safely, with vitality, and with sensitivity to the unique characteristics of the local area.



NSK's Approach

Creating Workplaces Where Employees Feel Job Satisfaction

The NSK Group's Management Principles clearly state that the Group seeks "to provide challenges and opportunities to our employees, channeling their skills and fostering their creativity and individuality." The Group sees human resources as the foundation of its business. This is why the Group strives to create work environments where employees can work enthusiastically and enjoy ever-increasing job satisfaction. The Group also works constantly to globally develop human resources who will lead the Group in the future (see Figure 1).

- **Creating environments where employees can work with vitality**
 - Respect of fundamental rights at work
 - Creating safe and healthy workplaces
- **Making the most of diverse human resources**
 - Respecting diversity
 - Facilitating work-life balance
- **Providing opportunities and workplaces that foster the growth of self-motivated employees**
 - Providing opportunities for growth
 - Providing workplaces that foster self development

Figure 1: Creating Dynamic Work Environments



Goals and Performance

Mid-term Goal: Develop the Work Environment and Employee Base Needed to Support a Global Management Structure

Global expansion of business activities begins in workplaces where employees with diverse values can play an active role and select from among a variety of working styles. The NSK Group, aiming to make the most of its diverse human resources, strives to develop globally minded human resources, to foster a professional workforce, and to build a personnel system that embraces diversity. The Group is also building a worldwide education system to enable continuity when handing over technology and skills within the development and design, production, and other departments.

FY2012 Activities

The NSK Group regularly holds the Global Human Resources Meeting, at which managers from local human resources departments discuss common global issues in order to share information and confirm that their human resources policies are appropriate (see Figure 2).

Figure 2: Organization of the Global Human Resources Meeting



In fiscal 2012, the Group launched the ASEAN Human Resources Meeting, attended by human resources managers, to further strengthen human resources functions in the ASEAN and Oceania region. Information on human resources systems, human resources development, HR risk management and other topics was shared at the meeting.

In addition, the NSK Global Management College, launched in fiscal 2011 to develop human resources who can lead the NSK Group worldwide, was held for a second year, and featured enhanced content.

Respect of Fundamental Rights at Work

Basic Approach: Prohibiting Discrimination and Respecting Fundamental Rights at Work

As specified in the Group's Management Principles, the NSK Group has committed itself to providing "challenges and opportunities to our employees, channeling their skills and fostering their creativity and individuality." Moreover, the NSK Code of Corporate Ethics clearly states that the NSK Group prohibits discrimination and respects fundamental rights at work.

Accordingly, the Group prohibits discrimination on the basis of race, appearance, belief, gender, religion, lineage, ethnicity, nationality, age or physical ability. It also prohibits harassment, forced labor, and child labor. In this way it creates workplaces where diverse human resources can work enthusiastically.

Through awareness-building activities, NSK strives to share the same awareness Group-wide and ensure these principles are followed.

The Group also works hard to provide equal opportunity in recruitment, job assignment, evaluation, and other employment issues.

FY2012 Highlight 1 Human Rights Training Provided Worldwide

Throughout its history, the NSK Group has built awareness of human rights by revising and disseminating its Code of Corporate Ethics to accommodate evolving social expectations. NSK is taking new initiatives to instill the respect of fundamental rights at work (prohibition of discrimination, child labor, forced labor, etc.) as specified in the Code of Corporate Ethics. It expanded the scope of training sessions that had been provided in Japan and made it available to managers of business sites worldwide through e-learning.

In fiscal 2012, more than 8,600 people took those courses. Going forward, NSK will keep providing training sessions and conducting even broader awareness-building activities.

Creating Safe and Healthy Workplaces

Basic Approach: Creating Workplaces Where Everyone Feels Secure and Helps to Build a Culture of Safety

In order to protect the safety and health of each and every employee, NSK undertakes initiatives with the following basic philosophy: "Safety is the first and foremost priority. Workplaces should ensure employees can work safely, no matter the level of output demand."

It is important to raise the awareness of each and every employee in order to ensure safety in the workplace. This is why NSK is fostering a culture of safety awareness where employees watch out for each other and never overlook an unsafe action or condition.

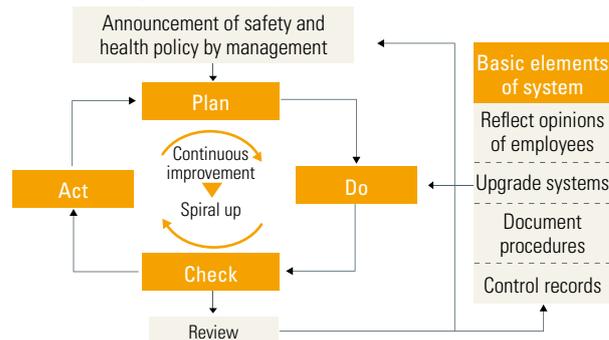
Management System: Occupational Safety and Health Management System

The NSK Group realizes how important it is to be proactive about safety and health in the workplace, which forms the heart of manufacturing. This is the key to providing an environment in which employees can reach their full potential. Based on this conviction, NSK regularly convenes the NSK Central Occupational Health and Safety Council, which involves both labor and management, to set the course for labor issues for the entire Group. Following the course determined by the council, the NSK Group builds occupational safety management systems and strives to foster a "safety first" corporate culture that fully engages all employees (see Figure 3 and 4).

Figure 3: Occupational Safety Structure



Figure 4: Occupational Safety and Health Management System



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

- Global Human Resources Strategy
- Workplace Safety & Health and Healthcare Measures



FY2012 Highlight 1 Safety Training Initiatives
Improving the "Safety Dojo"

The Ishibe Plant established a "Safety Dojo" in 2009 and began more practical training with the aim achieving zero accidents. In the Safety Dojo, each and every employee experiences a simulation of the horror of being the victim of an accident. The goal is to impress upon them the significance of safe behavior and ensure they understand how important it is to recognize dangerous tasks and follow work rules.

Recently, the plant moved the location of the Safety Dojo, enhanced the equipment, and refurbished the educational program in order to provide more effective safety training. The training starts with checking clothing and protective equipment and includes methods for handling problems that occur while machinery is running automatically, precautions when using stairs, and the correct way to use pushcarts. Employees also reaffirm the

importance of safe behavior through a simulation of being caught in a chain drive and experiencing the power of a press first-hand.

All plant employees, including those in administrative support roles, go through one of the dojo's 14 simulation modules every other month, in workplace teams. Moreover, a test is given every year to check understanding after the training and followed up until everyone passes.

The number of accidents has dropped significantly since training in the Safety Dojo started, but the plant is still midway toward reaching its goal of zero accidents. The Ishibe Plant is determined to continue its efforts until all employees master the basics of safety and can apply safe work practices in any situation (see Table 1 and 2).



Photo 1: Safety Dojo at the Ishibe Plant

Providing Opportunities and Workplaces That Foster the Growth of Self-motivated Employees

Basic Approach:
Creating Personnel Systems Suited to Globalization and Developing Human Resources

The NSK Group believes that as the globalization of business advances, it is difficult for employees to show their abilities without a workplace environment in which they can recognize and solve common challenges, spanning national borders and cultural barriers. That is why the Group designs and uses personnel systems that support business, creates training programs that bring out employees' true ability, and creates fair personnel and evaluation systems.

Assigning human resources at each location who know the local region well and creating personnel systems where employees with the ability to support a global management structure can play an active role are urgent tasks for expanding NSK's business sustainably throughout the world. The Group will also enhance training programs which support the growth of individuals, including not only knowledge required for work, but also problem-solving skills, communication abilities, and leadership. In this way, the Group aims to create workplaces where employees and organizations grow together (see Table 3 and Figure 5).

FY2012 Highlight 1 Global Management College

The NSK Group offers a Global Management College program for executive candidates being developed for leadership roles around the world.

In fiscal 2012, the college's second year, 11 employees were selected from Europe, the Americas, China, ASEAN, South Korea, and Japan. They visited NSK Group sites in Japan, China, Singapore, Thailand, and Germany, sharing the Group's mission statement and business strategies and building relationships with employees in each region. During the final session, the participants made proposals to top management on how the NSK Group can develop as a "Global Excellent Company."



Photo 2: Global Management College

Table 1: Number of On-the-Job Accidents*1

	FY2009	FY 2010	FY 2011	FY 2012
Accidents not resulting in absence from work	19	26	12	12
Accidents resulting in absence from work	4	3	1	1
Total	23	29	13	13

Table 2: Accident Rate and Lost-Worktime Injury Rate*1

	FY2009	FY 2010	FY 2011	FY 2012
Accident rate*2	0.006	0.001	0.008	0.000
Lost-worktime injury rate*3	0.25	0.17	0.06	0.08

*1 NSK and main group companies in Japan, including the number of accidents involving temporary employees.

*2 Accident rate = Total number of days absent from work / Total actual working hours × 1,000.

*3 Lost-worktime injury rate = Number of persons absent from work due to occupational accidents / Total actual working hours × 1,000,000.

Table 3: Personnel Systems and Human Resources Development for Sustainable Business

Responding to business globalization	Creating personnel systems	<ul style="list-style-type: none"> Assigning local human resources who know the region well Appoint global human resources, regardless of nationality Fair evaluation system
	Transmission of manufacturing	Developing human resources

FY2012 Highlight 2

**Strengthening Development of Human Resources—
The Foundation of Manufacturing**

In 2005, the NSK Group established the NSK Manufacturing Education and Training Center to develop manufacturing experts and human resources who can teach and pass on skills. From its inception to the end of fiscal 2012, the center trained a total of about 630 people, including those from outside Japan.

Since its establishment, the center has continued to expand and enhance its curriculum, which is offered mostly by company instructors. The education of technicians, provided in four courses on grinding, assembly, maintenance, and electrical maintenance, is aimed at enhancing on-site capabilities by passing on skills and developing maintenance staff. The education of engineers, which now features an intermediate course in addition to the elementary course, aims to develop personnel who can think and act independently at worksites worldwide.

Going forward, the Group will carry out the education needed to pass on manufacturing skills and improve on-site capabilities according to the needs of each site (see Table 4).

FY2012 Highlight 3

Promotion of Language Education

The NSK Group uses English as its common language in order to conduct operations smoothly through active communication between employees around the world. In fiscal 2011, the Group adopted English and Chinese e-learning programs to provide Japanese employees in and outside of Japan with the opportunity to improve their language skills. So far, 650 people have taken the English program and 120 the Chinese program. NSK plans to enhance the content of its language education programs to include languages other than English and Chinese (see Table 4).

Respecting Diversity

**Basic Approach:
Human Resource Diversity That Reflects
NSK's Global Business**

The NSK Group believes that local communities and the NSK Group can grow together if the Group develops businesses worldwide and creates stable employment. That is why the Group assigns talented human resources in each region with a good understanding of the local region, regardless of nationality, peoples, or gender. By enhancing educational and training programs that encourage understanding of NSK's corporate culture, the Group is also aiming to enable diverse human resources to share NSK's values, work with enthusiasm, and feel that they are growing personally with the NSK Group (see Table 5 on page 26).

FY2012 Highlight 1

ASEAN Human Resources Meeting

NSK launched the ASEAN Human Resources Meeting, which is attended by human resources managers from group companies in the ASEAN and Oceania region. Human resources managers in Singapore, Thailand, Indonesia, Malaysia, and Australia discussed labor considerations and common issues and exchanged information on situations across the region, with its great variety of cultures, customs, and languages. Going forward, the Group will continue to hold this meeting regularly to strengthen human resources functions in the region.

Figure 5: NSK Group's Human Resources Development System

	▶Pre-employment	▶New employees	▶Two years after joining company	▶Age: 30	▶Age: 35	▶Age: 40	▶Age: 50
Training by rank	<ul style="list-style-type: none"> Pre-employment education OA software English Business writing 	<p>New employee development</p> <p>OJT</p> <ul style="list-style-type: none"> Introductory training (one week) Plant working experience (3-6 months) <p>OFF-JT</p> <ul style="list-style-type: none"> Follow-up training Conducted three times during first two years 	<ul style="list-style-type: none"> Career seminar 				<ul style="list-style-type: none"> Financial Planning Seminar Retirement plan seminar
Training by role				<ul style="list-style-type: none"> Mentor training 	<ul style="list-style-type: none"> New manager training 		<ul style="list-style-type: none"> Management training
Next-generation leader education				<ul style="list-style-type: none"> NSK Management College Manager Course General Manager Course 			<ul style="list-style-type: none"> Global Management College

Table 4: Number of Participants in Education and Training Programs in Fiscal 2012*4

Content	Participants
Headquarters' training	950
<ul style="list-style-type: none"> New employee training Language training, etc. 	
Technology divisions' training	215
<ul style="list-style-type: none"> NIT 	
Specialized training (headquarters)	117
<ul style="list-style-type: none"> Manufacturing Education and Training Center Sales quality training, etc. 	
Plant training (conducted by plants)	4,276
<ul style="list-style-type: none"> Quality education Safety education ISO-related education, etc. 	
Other	
<ul style="list-style-type: none"> Retirement plan seminar, etc. 	690
Total: 6,248	

*4 The total number of participants who took training programs conducted by the NSK Group.



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

- Personnel System to Support Career Advancement
- Human Resources Development



FY2012 Highlight 2 Making the Most of Diverse Human Resources

Diverse human resources play active roles in many areas of operations within the NSK Group. Employees from regions outside Japan,

for example, are contributing to the Group's global business by applying their expertise in R&D and various business divisions in Japan.

Making a Difference for NSK in Japan

While I was a masters-degree student in India, I did a two-month internship at NSK's Fujisawa Technology Center. The workplace atmosphere and the technical level were far above my expectations, and I wanted to continue working at NSK after the internship. After returning to India and finishing graduate school, I started my career at the Fujisawa Technology Center in 2012. Aside from applying my experience and technical skills, I am able to learn many things through my work every day, from the latest technology to general principles of corporate organization. As an engineer, this is a great chance to broaden my horizons. Although my Japanese language skills still need work, with the support of my superiors and colleagues I am growing as an engineer and am enjoying my job at NSK very much.



Rajeesh Kavumkunnath Ravindran
Basic Technology Research Center,
Corporate Research &
Development Center, NSK Ltd.

In August 2010, eager to learn, I applied for a transfer from Korea to NSK in Japan, and I am now working at the head office in Tokyo. Through my work in Japan, I was struck again by the fact that NSK is a leading global company. I am proud to be a part of the NSK Group. I also feel that this experience has honed my business skills. Although I am sometimes perplexed by the differences in work practices in Japan and Korea, I hope to continue contributing to the business by gaining a deeper understanding of the two work cultures and combining them to facilitate the evolution of a new global NSK culture.



Jae-il Wang
Automotive Bearings Division
Headquarters, Automotive Business
Division Headquarters, NSK Ltd.
(Currently, NSK Korea Co., Ltd.)

**Older Workers:
Utilization of Human Resources
in an Aging Society (Japan)**

Japan's population is aging rapidly. In light of changes in the public pension system, it has become a social challenge to enable workers to have 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. The Company's basic policy is to provide work opportunities to healthy persons willing to work after retirement. The Company has had a reemployment program since April 2001.

The Company recently revised its reemployment program, including working conditions, to ensure stability in life, augmenting the basic policy in light of Japan's Revised Law Concerning Stabilization of Employment of Older Persons, which came into effect in April 2013 (see Table 6).

Table 5: Related Employee Data*5

	FY2008	FY2009	FY2010	FY2011	FY2012
Average years of employment	17	17	18	18	18
Average age	40	41	41	41	41
Proportion of female employees	5.5%	6.6%	6.5%	6.7%	6.5%
Rate of childcare leave taken*6	94%	93%	100%	100%	100%

*5 NSK and main group companies in Japan.

*6 Excluding short-term childcare leave taken.

Table 6: Number of Re-employed Persons (over 60 years of age)*5

	FY2008	FY2009	FY2010	FY2011	FY2012
A Seniors (former union members)	156	185	223	271	318
M Seniors (former managers)	35	42	49	54	65
Others (part-time employees, etc.)	77	42	42	34	29
Total	268	269	314	359	412

**Persons with Disabilities:
Providing Work Opportunities to Persons
with Disabilities (Japan)**

NSK believes that one role it should perform is providing suitable work opportunities to persons with disabilities who are willing to work. An NSK special subsidiary called NSK Friendly Services Co., Ltd., in particular, provides employment opportunities where persons with intellectual disabilities can work with enthusiasm.

In fiscal 2012, NSK, its main group companies, and NSK Friendly Services together employed a total of 112 persons with disabilities, for a rate of employment of persons with disabilities of 1.99% (see Table 7).

The Group is promoting measures to comply with the new statutory rate of employment of persons with disabilities, which was raised in April 2013. In October 2013, the rate at the NSK Group is 2.01%.

Table 7: Rate of Employment of Persons with Disabilities*5

	FY2008	FY2009	FY2010	FY2011	FY2012
Rate of employment of persons with disabilities	1.66%	1.83%	1.85%	1.97%	1.99%

Table 8: Childcare and Nursing Care Support System at NSK Ltd.

Childcare leave	Japan law	Up to 18 months (non-paid)
	NSK	Through the end of April when child is 3 years old (the first five days paid)
Shorter working hours for childcare	Japan law	Up to 3 years old
	NSK*7	Through the end of March in the third year of elementary school
Nursing care leave	Japan law	Up to 90 days
	NSK	Up to 1 year
Shorter working hours for nursing care	Japan law	Up to 90 days
	NSK	Up to 1 year
Elimination of half-day holiday restriction	Usually, 12 times per year; but when providing nursing care, unlimited.	

*7 Offered since fiscal 2012

Employment

Basic Approach: Employment That Preserves the Stability of Both Society and NSK

As a manufacturer that is committed to quality, and as a sustainable company, the NSK Group approaches employment from a long-term perspective. That is why the Group believes it is

essential to continually recruit and develop outstanding human resources who can carry the business forward.

The Group also engages in appropriate employment practices in accordance with the laws and ordinances of each country and region where a business site is located.

Labor-Management Relations

Basic Approach: Labor-Management Relations Based on Dialogue

The NSK Group regards sound labor-management relations as critical to the sustainable growth of the Company. One way in which the Group respects 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 are becoming better partners as they build trust by working to communicate more deeply, share views on the workplace environment and business conditions, and discuss and implement improvement measures. The NSK Group is committed to creating workplaces where employees can work vigorously.

Facilitating Work-Life Balance

Basic Approach: Developing a Workplace Environment Where Employees Are Enthusiastic and Active

The NSK Group believes that ensuring that employees sincerely enjoy both their work and their private lives, and can be enthusiastic and active, is the key to making its business even more successful.

That is why the Group's basic policy is to develop an ideal working environment for all employees, regardless of gender or age, in terms of both facilities and support programs. The Group always strives to be sensitive to employee needs and social changes.

In Japan, NSK recognizes that it is important to work harder than ever to accelerate support for work-life balance in order to cope with the social challenges presented by a rapidly aging society

with a low birth rate. Such efforts include enhancing programs to support employees' childcare and nursing care obligations and healthy time management.

FY2012 Highlight 1 Supporting Work-Life Balance (Japan)

In Japan, NSK enhanced its program to support employees providing childcare in fiscal 2012 by lengthening the period of time that employees are eligible for shortened work hours for this purpose. It also further accelerated efforts to support work-life balance by means such as improving work efficiency through enhanced communication in the workplace and encouraging employees to take annual paid leave (see Table 8).

NSK Action

Precious Time Spent with My Children

I took nearly two months of childcare leave when my first daughter—my second child—was born. In addition to being face-to-face with my daughter all day, I learned a lot of valuable lessons while doing the housework for my wife, who was recovering after giving birth. Now I better appreciate the joys and difficulties of childcare as well as my wife's day-to-day hardships. I was also able to interact more with people in the neighborhood when dropping off and picking up my son at the local childcare community. Most of all, the limited precious time I spent with my young children through the childcare leave program is a blessing I would not trade for anything. On top of just having the program available, it was the understanding and cooperation I felt in the workplace that really allowed me to take childcare leave. I appreciate everyone's support at work and hope for an environment that makes it even easier for others to take leave if they want to.



Makoto Koyama
Advanced Mechatronics Product Development
Department, Mechatronics Technology
Development Center, NSK Ltd.



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

• Labor and Management Cooperate to Develop Better Working Environment

Working with Local Communities

Social Contribution Activities Targeting Community Development



People the world round now expect companies to consider how they can help build a sustainable world. They favor companies which are proactive about solving social, environmental, and economic issues. The companies who do this best are those who build good relationships with local communities, recognizing that their business depends on it. Today's ideal is that companies and communities help each other grow.

NSK's Approach

Establishing Good Relationships with Communities through Community-based Activities

The NSK Group recognizes that its business depends on maintaining good relationships with community members. The Group focuses its efforts on the following three priority areas and respects the needs of each country and region and their differing circumstances.

Priority Areas for NSK's Social Contribution Initiatives

1. Promoting science and technology that supports the prosperity of society
2. Fostering the development of the next generation
3. Engaging in activities designed to build mutual harmony and benefit with communities

NSK's promotion of science and technology includes grants to research institutions. Its support for the development of the next generation includes scholarships, internships, and classes about bearings. Its efforts to build mutual harmony and benefit with communities include support for local events and welfare programs.

Goals and Performance

Mid-term Goals

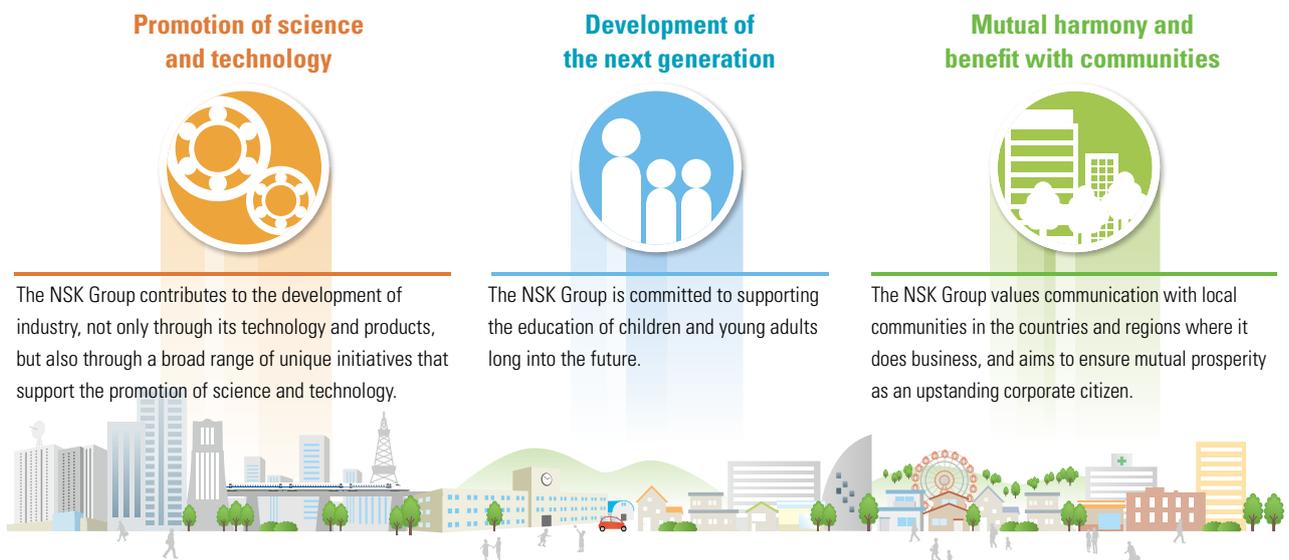
The NSK Group's social contribution initiatives aim to promote the growth of the local communities where the Group does business.

The Group values communication with community members and seeks to develop better relationships with them in order to ascertain and respond to their needs. Information on these initiatives is shared among the Group's business sites to foster a corporate culture of community engagement and heighten awareness of community development among all employees.

FY2012 Activities

As in fiscal 2011, the NSK Group Social Action Program intranet booklet was produced again in fiscal 2012. Featuring social contribution activities from around the NSK Group, the booklet was distributed widely throughout the Group. Additionally, NSK engaged in positive communication with local communities by offering classes about bearings for students and contributing to "green curtain" heat mitigation programs and community welfare projects.

Figure 1: Priority Areas for NSK's Social Contribution Initiatives



Fiscal 2012 Highlights

Europe and Americas

UK: **Sharing the Community's Focus on the Future**

The Peterlee Plant of NSK Bearings Europe Ltd. conducts CSR activities based on an annual plan. In fiscal 2012, three priority projects were carried out including extending partnerships with local educational institutions. The aim was to increase NSK's technical capabilities and productivity while contributing to the local community. The



At a career fair

With career education participants

Peterlee Plant participated in career fairs at academies*¹ and further education colleges,*² providing students with information on careers and the types of knowledge and the skills the company is looking for.

The plant also participated in a career education competition for students in the local county of Durham, serving as an advisor for a team of eight students (aged 12 and 13) from Easington Academy. By inviting them to join factory tours and events, the students received additional support during the six-month competition.

*¹ Academy: A type of public school providing secondary education.

*² Further education colleges: Colleges that provide post-compulsory education that is distinct from the education offered in universities.

USA: **Supporting Local Kids**

In cooperation with its business partners, NSK Latin America, Inc. in the US is providing support for sports and education. Its support is based on the idea that assisting children in various ways helps to develop the broader community.

Together with local distributors, in May 2012 the company visited two classrooms in a Venezuelan hospital to support the social education of children with illnesses. The representatives gave the youngsters school supplies and spent an enjoyable time with them. In return, the representatives received smiles from the children as gifts.



Face painting



Debbie Figueroa (Left), Janett Foucault (Right)

USA: **A Day for Life and Smiles**

As a company doing business across the United States, NSK believes it is important to contribute to community health and welfare nationwide.

NSK Americas Inc. and its subsidiaries in the US support the Relay for Life by making donations and participating in local events. Getting involved in these one-day events and being a part of the fight against cancer has given NSK employees plenty of reasons to smile.



All smiles



Mexico: **Growing Together with the Next Generation**

At the invitation of a local polytechnic institute, NSK Rodamientos Mexicana, S.A. de C.V. conducted a workshop in October 2012 for students of mechanical engineering, robotics, and automotive systems.

While learning about NSK products across four days of three-hour workshops, the participants were able to experience hands-on bearing applications.

We received many questions from students and faculty even after the workshop, showing their enthusiastic response to the event.



Working hard



Rodrigo Rivera

Brazil: **Fostering the Next Generation**

NSK Brasil LTDA. aims to grow with the local community by promoting social action to meet local needs in cooperation with community members and organizations.

In order to support local schools, each year the company provides plant tours to students as part of its social contribution efforts. The students learn about workplace safety, ethics and environmental awareness, and they also undergo firefighting training. They get to see the bearing manufacturing process in the plant and try their hands at bearing assembly. In fiscal 2012, local students aged 14 and 15 toured the plant.



Checking bearing structure



Enthusiastic instruction



Fiscal 2012 Highlights

Asia/ASEAN



South Korea: Giving Back to the Community Is Our Responsibility

NSK Korea Co., Ltd., offers scholarships and donates a portion of profits to a variety of welfare institutions in order to fulfill its corporate social responsibility and contribute to the stability and development of society as a member of the local community.

In December 2012, the company made donations to a facility for persons with disabilities and a nursing home. In fiscal 2013 it will continue these efforts.



Visiting a nursing home



China: Elderly People Living in Nursing Homes Are Also Family

Once a year, Suzhou NSK Bearings Co., Ltd., sends employees to visit a nursing home as part of the company's social contribution initiatives.

In February 2013, staff visited a nursing home in Nanxun District, Huzhou, where they interacted cordially and brought cheer to the residents. The goal was to give back to the society that supports the company.



Elderly people enjoying the visit



Malaysia: Planting Forests and Fostering a Love of Community

Forest conservation is an issue being tackled not just in Malaysia, but around the world.

In July 2012, ISC Micro Precision Sdn. Bhd. held a tree-planting hike. The company saw it as an opportunity to help protect the environment while building even stronger relationships with the local community. The participating employees were able to deepen their understanding of social contribution through environmental protection.



Working to preserve forests



Singapore: Walking for Children

Children are a nation's future. Enabling children to lead happy lives and follow their dreams is an important issue in any country. Efforts must be made to reach out to those who are less fortunate.

NSK International (Singapore) Pte Ltd. and NSK Singapore (Private) Ltd. have been supporting the "Walk for our Children" by offering donations and staff support for the purchase of coupons that can be used at the carnival after the walk. In July 2012, the two companies once again participated in this annual walkathon.



Bringing smiles to the faces of the children



Indonesia: For the Development of Future Technology and NSK

Each year P.T. NSK Bearings Manufacturing Indonesia sends staff to universities to give guest lectures on quality control, bearing technology, and other topics. Our aim is to increase student understanding of industry and technology while making the NSK brand even more widely known in the academic world. In May 2012, we gave a lecture to metallurgy students in the Faculty of Engineering at the University of Indonesia.

We also took the opportunity to inform students that NSK offers internships at its Technology Department in Japan, as one of its efforts to foster the next generation of engineers.



Azhari Sastranegara



Studying the history of bearings



Malaysia: Sharing a Meal with the Local Community

NSK Micro Precision (M) Sdn. Bhd. is undertaking social contribution activities as part of its yearly events.

To celebrate the feast month of Shawwāl, NSK MP organized a dinner for all the neighboring residents in early September 2012. This kind of activity is helping to strengthen ties with the local community.



Inviting community members

Japan

Contributing to the Community and Supporting Post-Disaster Reconstruction



At the Fukushima Plant, which is surrounded by lush greenery, employee awareness of the need to contribute to the local community is being raised through activities such as neighborhood cleanups.

In November 2012, the plant put up a display at a local festival held in its host town of Tanagura. In fiscal 2012, the theme of the festival was "connecting the first year of reconstruction to a bright future." The Fukushima Plant communicated to visitors that the plant has gradually recovered from the 2011 earthquake while supporting reconstruction and contributing to the community.



From left: Kohei Tsuruta, Katsuhiro Konuma, Takahiro Saitou, Eiichi Matsumoto



A visitor tries her hand at bearing assembly

Manufacturing to Support the Community's Future



NSK Needle Bearing Ltd. aspires to make a major social impact and support a brighter future by helping to achieve harmonious coexistence between people and the environment.

The company displayed handmade automatons that children and adults alike could enjoy at the 5th Gunma Ingenious Automatons Exhibition held in June 2012. Many visitors experienced the wonder of these automatons, which convey the fun of manufacturing.



How is my luck today? (Welcome Roulette)



From Left: Takahiro Kawanabe, Tatsuya Suzuki, Tomohiro Horikoshi, Kouhei Tanaka, Chihiro Minowa, Naoto Hori, Yoshihiro Ogasawara, Takamichi Mogi

Widening the Circle of Mutual Support



The NSK Welfare Fund (the Fureai Club) was established in 1994 as an organization bringing together labor and management to carry out social contribution initiatives. The fund donates welfare items, makes donations to NGOs and NPOs in Japan, and engages in volunteer initiatives in several regions. The fund has a history of supporting disaster survivors. In April 2009, it launched a program to provide aid for intractable diseases, supported by employees and their families.

The Fureai Club's initiatives are funded with donations from employees who support its objectives. So far, more than half of employees in Japan have contributed to the club. The club will work to further expand this circle of support and enhance its initiatives.



Experiencing the Fun and Wonder of Manufacturing



The Manufacturing Expo in Higashimikawa is held every second year, under the broad theme of promoting the appeal of manufacturing and developing human resources. Asahi Seiki Co., Ltd., participates in the expo each time it is held to communicate the fun and wonder of manufacturing, especially to children. This time, we created a booth where visitors, from children to adults, could experience manufacturing in a fun way, while gaining an interest in the functions and mechanisms of

bearings. Elementary and junior high school students in particular were impressed and surprised by the way the bearings moved.



Am I assembling this right?

Tomohiro Hyoudou

Creating a Plant That Is Gentle on the Earth and People



AKS East Japan Co., Ltd., regards harmony with the environment as a priority issue in its operations and always seeks to protect the richness of nature and the environment. From June to September 2012, the company began growing "green curtains" to shade buildings and save electricity while also making the premises a greener place. It took some tender loving care to get the bitter melon to grow up the net, but everyone helped out. It was a lot of fun to finally share the fruit with employees and community members.



Rear: Yoshio Fukushima
Front left: Osamu Waki, Kazumi Sekiguchi

Blooming Flowers and Smiles



A number of employees at NSK TOYAMA Co., Ltd., volunteered to plant tulips, the prefectural flower, before the winter. They set them out in small flower-pots facing the road throughout the plant premises. This spring, the tulips bloomed beautifully, creating a soothing view for people on their way to work.



Front left: Kaori Oi, Kana Horie, Toshiko Yamamori
Rear left: Naami Nomura, Tomoko Shimoda, Chieko Kaido

Environmental Management

System for Promoting Environmental Protection Initiatives

Concern is mounting over global environmental problems caused by human activity conducted in pursuit of affluence. The depletion of resources, the advance of global warming and climate change, and declining biodiversity are all very serious issues. All of humanity shares the challenge of building sustainable societies that can be prosperous without harming the environment. Today, people expect companies to be proactive about meeting this challenge, for instance, by providing eco-friendly products and services and reducing the environmental impact of their operations.



NSK's Approach

Developing and Popularizing Environmentally Friendly Products and Reducing Environmental Impact in Business Operations

The NSK Group adheres to the principle that global environmental protection, as outlined in the Group's mission statement, must be an ever-present concern in all business activities. Accordingly, the Group states in its Environmental Policy that environmental management forms the basis of its existence and pursuits. The NSK Group strives to raise the awareness of every single employee while taking action to create environmentally friendly products, implement global warming countermeasures and measures for resource conservation and recycling, reduce the use of environmentally harmful substances, and protect biodiversity.

The Group believes that responding proactively to the strengthening of environmental laws and regulations in different countries and regions, changes in customer needs, and increasing risk of storm and flood damage associated with climate change will help in the building of a sustainable society and increase the NSK Group's growth potential. The Group has established systems to achieve that goal and is working to improve its environmental management efforts.

Goals and Performance

Mid-term Goals (FY2013-2015)

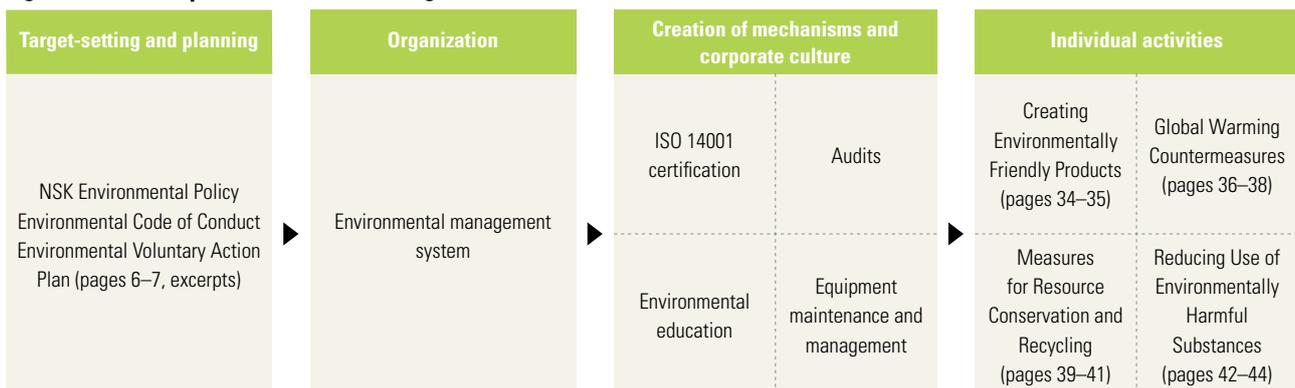
In fiscal 2013, NSK started efforts under its new Environmental Voluntary Action Plan, which goes through fiscal 2015. In the new mid-term plan, NSK will work to contribute even more to the environment through its products. Additionally, the Group has set new targets for reducing water usage and waste as a way to cut the environmental impact of its business activities and bring about a low-carbon, recycling-oriented society that is in harmony with nature. NSK will systematically implement activities aimed at meeting these targets, raise group-wide environmental management to the next level, and further strengthen its global management.

FY2012 Activities

The NSK Group gave environmental management functions to its headquarters in Europe, the Americas, and China and established a system in which each region will enhance its environmental initiatives autonomously.

In fiscal 2012, the Group shared the Environmental Voluntary Action Plan so that sites in each region can steadily move ahead with initiatives in accordance with the plan, which goes through fiscal 2015. It also used a self-inspection check sheet to ascertain the level of initiatives in each region and identify any issues.

Figure 1: NSK Group's Environmental Management



FY2012 Highlights

Systematically Establishing an Environmental Management System

The NSK Group has adopted a policy of obtaining external certification in ISO 14001—the international standard for environmental management systems—within three years of beginning mass production and making improvements continually as a system for ascertaining and effectively reducing environment impact from business operations. As of March 2013, 22 sites in Japan and 36 sites outside Japan have obtained the certification.

In fiscal 2012, three sites made efforts to acquire certification and one site completed the acquisition. The other two sites will continue their efforts with the aim of acquiring certification in fiscal 2013.

Efforts to Reduce Environment Risk

Following on from fiscal 2011, NSK continued conducting audits to prevent oil leakage accidents and illegal dumping of waste and to ensure thorough compliance with environmental laws and regulations. Plant personnel conducted self-audits to strengthen the control of environmentally harmful substances in products in an effort to further improve their management.

Furthermore, in fiscal 2012, NSK made risks in chemical substances and waste management main themes in the e-learning it conducts every year to increase the awareness of NSK Group employees worldwide. About 8,600 people participated in the e-learning.

Sharing Accident Case Studies to Reduce Environmental Risks

The NSK Group investigates the cause of even small leaks of oil in its plants and takes steps to prevent a recurrence, in order to reduce the environmental risk of a leakage accident involving oil or other substances.

In Japan, NSK maintains a database of all the incidents that have occurred since fiscal 2006 and shares the information with all its plants to prevent similar problems. Next, it will share this information with plants outside Japan.

Efforts to Reduce the Risk of Oil and Other Leaks (Americas)

NSK Brasil's Suzano Plant conducted a drill based on the scenario of a forklift accidentally knocking over drums when moving them and spilling their chemical contents. During the drill, drums actually containing water were knocked over.

Employees dammed the flow route and recovered the spilled water, thereby checking the work procedures and equipment.

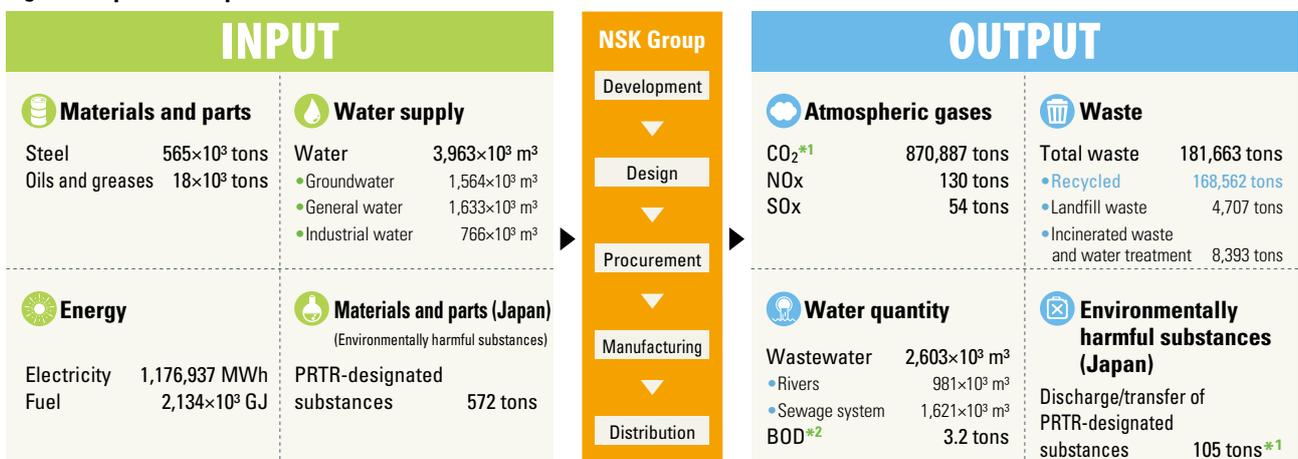


Photo 1: Drill at the Suzano Plant

NSK Wins Honorable Mention Award from the Chemo Bio Integrated Management Society

In October 2012, NSK won an honorable mention award from the Chemo Bio Integrated Management Society, which credited NSK with having an internationally high level of integrated management of chemical substances over the past five years. Five companies won an honorable mention award, of which NSK was the only machinery parts manufacturer.

Figure 2: Input and Output of Global Business Activities



*1 CO₂ emissions are calculated in conformity with data from Japan's Ministry of the Environment. Also, different coefficients are used for Japan and regions outside Japan.

*2 River discharge.



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

- Environmental Policy • Environmental Voluntary Action Plan • Environmental Education
- Environmental Accounting • NSK Group Environmental Structure
- Scope of NSK Group Environmental Management • ISO 14001 Certification Status

Creating Environmentally Friendly Products

Related Stakeholders	Customers	Employees
	Suppliers	Future Generations
	Local Communities	Shareholders and Investors

Providing Environmentally Friendly Products and Services

Transforming the structure of society to reduce risks from events such as increasingly large-scale natural disasters related to climate change and to prevent the depletion of natural resources is a common challenge for humanity. Toward that end, companies are expected to make positive contributions through their products and services. This includes the development of new technologies, making those newly developed technologies even more sophisticated to aid in environmental protection, and increasing utilization of renewable energy.

NSK's Approach

Harnessing NSK's Four Core Technologies to Help Reduce the Environmental Impact of Human Societies

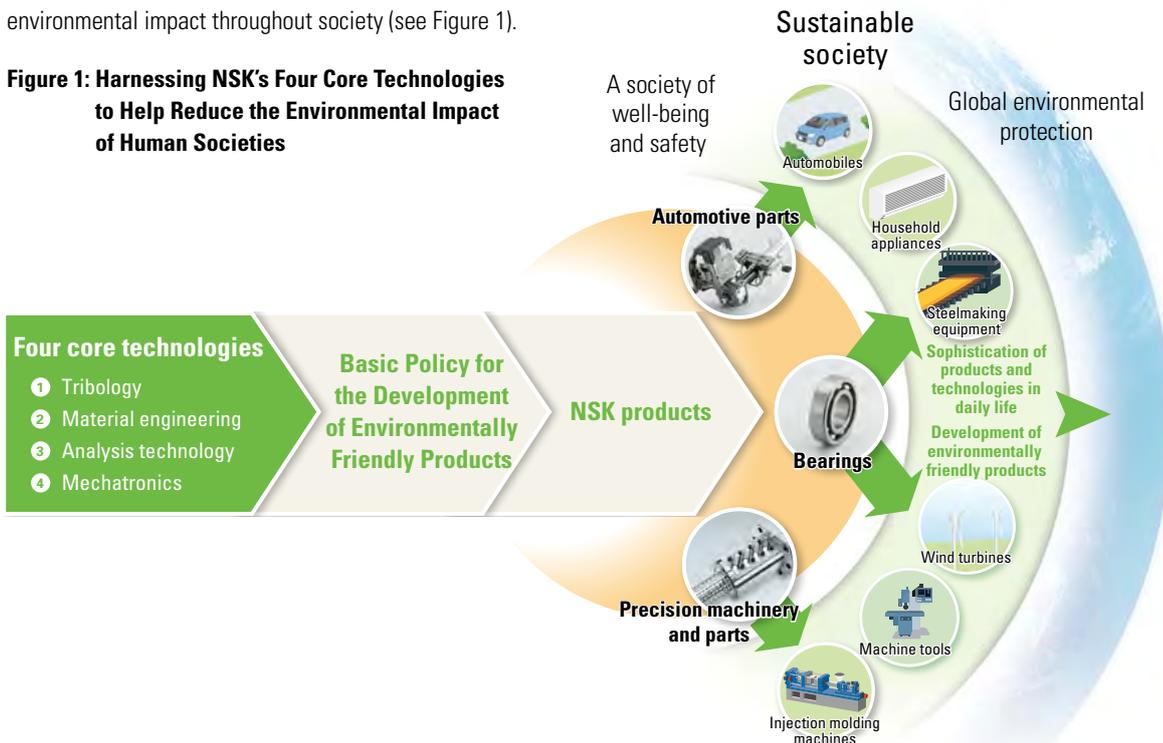
The products of the future must perform better than today's in order to help reduce the impact human societies have on the natural environment. In an effort to contribute to the well-being and safety of society and to protect the global environment, as spelled out by its corporate philosophy, NSK is working hard to accurately determine the needs of its customers and the broader society, as well as to develop environmentally friendly products and technologies which, in keeping with its basic policy, make the most of the Company's four core technologies (tribology, material engineering, analysis technology, and mechatronics). By delivering these products and technologies to all corners of the globe, NSK aims to contribute to the sophistication of the machinery in which its products are incorporated and to the development of environmentally friendly products as well as to the reduction of environmental impact throughout society (see Figure 1).

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 emissions of vibration, noise, and dust.

Figure 1: Harnessing NSK's Four Core Technologies to Help Reduce the Environmental Impact of Human Societies



Goals and Performance

Mid-term Goals (FY2013-2015)

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. It also calculates how much its products help to reduce CO₂ emissions during use.

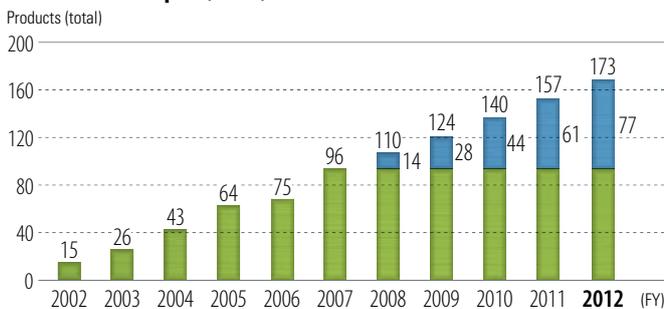
FY2012 Activities

16 New Environmentally Friendly Products

In fiscal 2012, the NSK Group developed 16 new environmentally friendly products that help customers conserve energy and resources. Some of those are shown here (see Table 1).

NSK calculated the CO₂ emissions reduction customers can expect when using its electric power steering systems and ball screws for injection molding machines.

Figure 2: Number of Environmentally Friendly Products Developed (Total)



Environmentally Friendly Products and NSK Eco-efficiency Indicators

NSK products are environmentally friendly because they reduce friction, which helps to save energy and protect the environment. In an effort to further promote these types of products, the NSK Group formulated the Basic Policy for the Development of Environmentally Friendly Products in fiscal 2001 and started registering new products that meet its standards. In fiscal 2008, the Group introduced the NSK Eco-efficiency Indicators (Neco), a yardstick for quantitatively assessing the degree of environmental friendliness possessed by the products it develops.

The Neco score is derived by comparing a new product with a previous version. It is calculated by dividing product value V, which is an indicator of how much the new product's lifetime and performance have been improved over the previous product, by environmental impact E, which is an indicator based on parameters such as how much product weight and energy consumption have been reduced. The better a product's performance is (the higher the V score), and the more environmentally friendly it is (the lower the E score), the better its Neco score will be. Currently, the Group is working to develop new products with a Neco score of 1.2 or higher (see Figure 2).

$$\text{Neco} = \frac{\text{Product value V (product life, functions)}}{\text{Environmental impact E (product weight and power consumption)}}$$

- Newly developed products with a Neco score of 1.2 or higher
- Newly developed products consistent with the Basic Policy for Development of Environmentally Friendly Products established in fiscal 2001

Table 1: Environmentally Friendly Products Developed in Fiscal 2012

NSK Products						
Technology development at NSK	<ul style="list-style-type: none"> 30% less friction 50% greater durability Optimized internal design Special crowing for the guide surface 	<ul style="list-style-type: none"> Improved durability in the slide joint Improved slide characteristics in the slide joint (greater wear resistance and less vibration noise when sliding) 	<ul style="list-style-type: none"> Established design exclusively for one-way clutch in the oil pump usage environment Space-saving design through parallel arrangement of one-way clutches 	<ul style="list-style-type: none"> Up to 60% less bearing friction loss New grease reduces bearing friction loss and increases low-noise life 	<ul style="list-style-type: none"> Optimized cooling structure inside nut Preload configuration optimized for nut cooling Increased precision of long-shaft ball screw 	<ul style="list-style-type: none"> Lower moment of inertia in motor rotor
Environmental benefits for NSK's customers	<ul style="list-style-type: none"> Smaller and lighter unit Improvement of automotive fuel economy 	<ul style="list-style-type: none"> Improved handling feel Reduced steering wheel vibration 	<ul style="list-style-type: none"> Lighter transmission Improved automotive fuel economy 	<ul style="list-style-type: none"> Increased motor energy savings Longer life 	<ul style="list-style-type: none"> Improved production efficiency and energy efficiency through increased speed and precision 	<ul style="list-style-type: none"> Improved inspection accuracy and processing capacity for LED and small ICs, etc. Improved line operation rate
Neco	1.5	1.2	2.7	1.5	2.9	1.4



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

• Detailed product information

Global Warming Countermeasures

Related Stakeholders

Customers	Employees
Suppliers	Future Generations
Local Communities	Shareholders and Investors

Efforts to Save Energy and Reduce CO₂ Emissions

Concerns are mounting that the advance of global warming will lead to increasingly serious climate change problems and cause tremendous damage including rising sea levels, droughts, localized torrential rain, and the spread of infectious diseases, as well as having harmful effects on ecosystems. At present, the world is debating how to achieve substantial reductions in emissions of CO₂ and other greenhouse gases. To help build a low-carbon society, companies are expected to make aggressive efforts to develop new and more advanced technologies that will lead to energy savings. They are also required to help popularize energy-saving products and reduce the CO₂ emissions generated by their business operations.

NSK's Approach

Helping Society Save Energy with Environmentally Friendly Products, and Reducing Energy Use in Operations

The NSK Group is working to develop and promote environmentally friendly products*¹ in order to help society reduce CO₂ emissions. These products contribute to the fight against global warming by reducing the energy loss that takes place when automobiles, machine tools, and other equipment move.

The Group is also working hard to reduce CO₂ emissions by, for instance, improving production efficiency, installing energy-saving equipment, and switching to cleaner energies (see Figure 1).

*¹ See pages 34–35 for information about environmentally friendly products.

Goals and Performance

Mid-term Goals (FY2013-2015)

Reduce CO₂ Emissions in Operations

The NSK Group has established CO₂ emission reduction goals related to manufacturing, distribution, and offices and is striving to ensure complete energy management, in order to achieve its goals and help fight global warming.

Fiscal 2015 Targets for Global Warming Countermeasures

Manufacturing

In Japan: CO₂ emissions per value-added production unit*²: 4% reduction from FY2011 level
 Total CO₂ emissions: Reduce CO₂ emissions for FY2015 to below FY2011 level
 Outside Japan: CO₂ emissions per value-added production unit: 4% reduction from FY2011 level

Distribution

In Japan: CO₂ emissions per ton-kilometer: 4% reduction from FY2011 level

Offices

In Japan: CO₂ emissions per unit of floor space: 12.2% reduction from FY2011 level

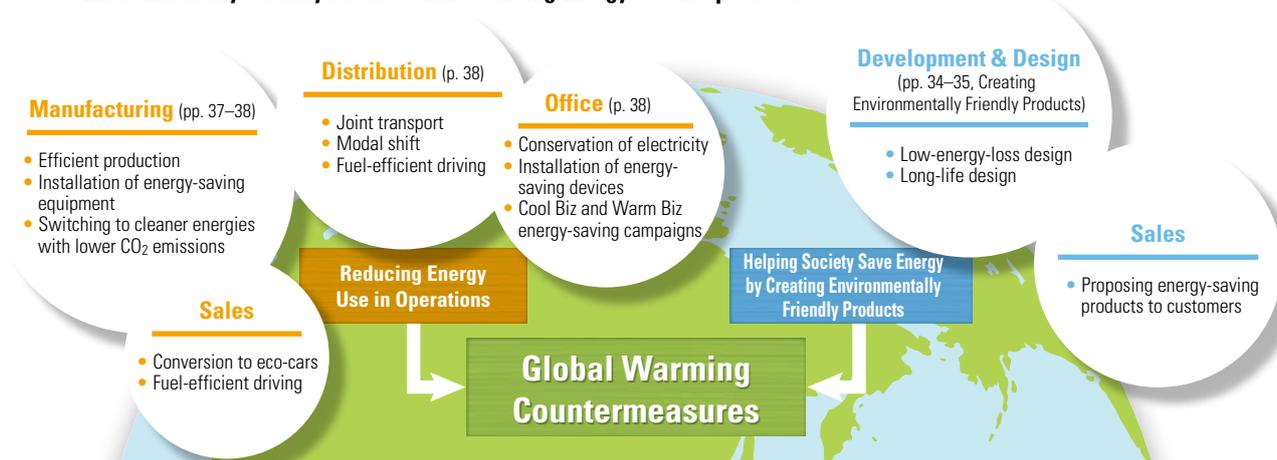
CO₂ emissions intensity: Manufacturing: CO₂ emissions / value-added production unit*²

Distribution: CO₂ emissions / ton-kilometer

Offices: CO₂ emissions / unit of floor space

*² Value-added production is defined as net sales–(costs of raw material, purchased parts and outsourcing)

Figure 1: Contributing to the Fight Against Global Warming by Creating Environmentally Friendly Products and Reducing Energy Use in Operations



FY2012 Activities

Achieved Goals for CO₂ Emissions per Production Unit

The influence of lower production resulted in a 15.5% reduction in the overall volume of CO₂ emissions from the production and technology departments in Japan in fiscal 2012 compared to the base year of fiscal 2006, both calculated with a fixed CO₂ conversion factor for electricity. The steady implementation of working group initiatives at each plant on different themes (see page 38) resulted in a 13.5% reduction in CO₂ emissions per production unit versus the goal of a 12.2% reduction compared to fiscal 1999.

Additionally, the Company implemented energy-saving measures and generated power with in-house generators in response

to requests from power companies to cut power usage at peak times in summer.

CO₂ emissions from plants outside Japan were up 5.6% compared to fiscal 2011, but for CO₂ emissions per production unit, were down 14.1% compared to fiscal 2008, exceeding the goal of a 4.0% reduction.

Meanwhile, distribution divisions in Japan expanded the scope of the modal shift from trucks to ships and improved loading efficiency. These initiatives resulted in a reduction of 10.7% for energy consumed per ton-kilometer, compared to fiscal 2006, exceeding the goal of a 10.0% reduction.

FY2012 Highlights

Manufacturing: Implementing Comprehensive Energy-saving Measures at Plants

The NSK Group is implementing comprehensive energy-saving measures for a wide range of equipment, including production equipment, heat treatment equipment, and compressors. These measures include the following kinds of efforts.

Efficient Operation of Equipment

Plants increase the capacity utilization of production lines and promote efficient energy use by improving operation through the consolidation of production lines and equipment maintenance.

Installation of Energy-Saving Equipment

Plants share information about common issues, such as energy savings for air conditioning equipment and compressors that supply compressed air, and roll out the most successful solutions to other plants.

Conversion to Clean Energies

Plants are switching from fuels such as heavy oil and kerosene, which emit a lot of CO₂, to electricity and natural gas, which have lower emissions.

Manufacturing: Installation of a Cogeneration System at the Ohtsu Plant

The Ohtsu Plant installed a cogeneration system to offset the electricity supply risk during peak power usage and to help in the fight against global warming. The system, which is composed of a 1,000 kW gas engine generator and two absorption water chiller-heaters with exhaust heat recovery, will contribute to stable electricity supply during peak power usage in the summer and winter, when electricity demand is high. By reusing the waste heat from power generation in the absorption water chiller-heaters, municipal gas used for cooling and heating can be cut by 28%. The implementation of various energy-saving measures in addition to the cogeneration system at the Ohtsu Plant reduced CO₂ emissions by 700 tons per year.



Photo 1: Installed cogeneration system

Figure 2: CO₂ Emissions from Manufacturing in Japan: Total Volume and per Production Unit

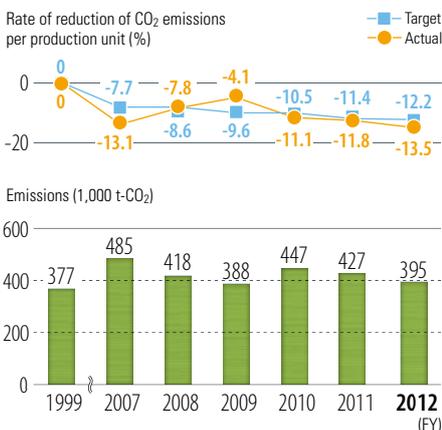


Figure 3: CO₂ Emissions from Manufacturing Outside Japan: Total Volume and per Production Unit

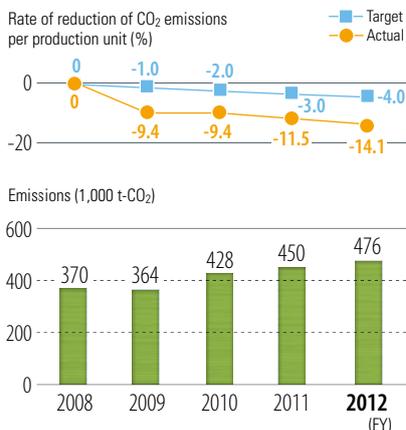
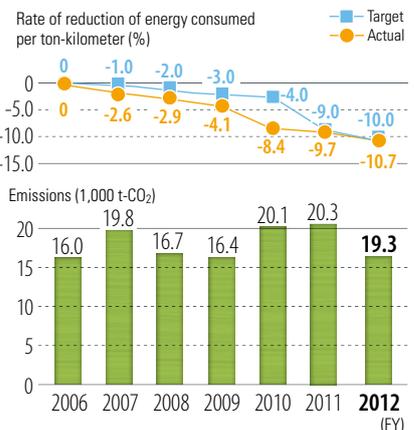


Figure 4: Energy Consumed per Ton-kilometer and CO₂ Emissions from Distribution in Japan



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

● CO₂ Emissions



**Manufacturing:
Spindle Working Group**

Energy Saving in the Grinding Process

A spindle is a unit that rotates a grindstone at a high speed and high level of precision to grind bearing parts to very precise measurements. A huge amount of compressed air is used to spray lubrication oil on bearing parts while spindles rotate at a high speed with high precision, and a lot of electricity is needed to create the compressed air.

To save energy, the NSK Group developed an energy-efficient spindle that uses grease lubrication, greatly reducing the compressed air needed. The Group has been systematically making the conversion at each plant. In fiscal 2012, 80 spindles were switched over. Additionally, it is undertaking initiatives to reduce energy consumption by shutting down the rotation of spindles when parts are not being processed and automatically shutting off the compressed air. This setup was implemented on 106 spindles in fiscal 2012.

**Manufacturing:
Heat Treatment Working Group**

Identifying Energy Losses and Implementing Improvements

Plants in the NSK Group use many heat treatment furnaces to heat bearing parts. Since a lot of energy is consumed during the heat treatment process, working group initiatives are being implemented across plants to save energy. Each furnace has been equipped with a wattmeter and a gas flowmeter to ascertain energy usage and help achieve efficient operation. At the same time, the input and output of heat used by each furnace is analyzed based on the measurement results, and furnaces of the same type are compared to identify those that consume energy wastefully. Improvements are then devised and implemented in an effort to reduce energy consumption.

**Manufacturing:
Examples of Energy-saving Measures Outside Japan**

Siam NSK Steering Systems Co., Ltd., in Thailand used to employ devices mounted on tanks to automatically open a valve for 30 seconds each hour to let out water produced when making compressed air. It has now replaced those devices with ones that open the valve only when there is water in a tank. This prevents compressed air from being released wastefully and has helped to reduce CO₂ emissions.

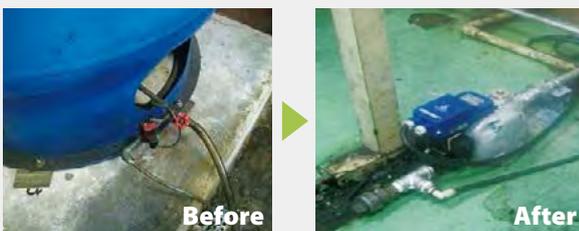


Photo 2: Measure to prevent wasteful loss of compressed air at Siam NSK Steering Systems Co., Ltd.

NSK Brasil Ltda.'s Suzano Plant took steps to save energy by revising its lighting equipment while maintaining an appropriate brightness in the plant.



Photo 3: Measure to save energy used by lighting equipment at NSK Brasil Ltda., Suzano Plant

**Distribution:
Saving Energy in Distribution of Both Products and Procured Parts**

Under its Environmental Logistics Policy, the NSK Group strives to reduce the environmental impact of transport by improving loading efficiency by combining product distribution and procured part distribution and by shifting to modes of transport with lower impact.

Combination of Product and Procured Parts Distribution

The NSK Group is improving distribution efficiency through joint transport that combines the transport of products and parts. It is working to reduce the number of vehicles and the distance driven by using milk runs to collect shipments from several suppliers in the same area and adopting transport routes that make effective use of the return trip after delivering products to customers.

Modal Shift

The NSK Group is using more ship transport, which has lower CO₂ emissions than transport by truck, while adjusting for transport lead-time and cost. It is also working to improve loading efficiency.

**Offices:
Energy-Saving Efforts at Head Office and Sales Departments**

The head office, branches, sales and other departments have implemented energy-saving measures focusing on the conservation of electricity. They achieved an 18.5% reduction against the fiscal 2012 goal of a 4.9% reduction compared to fiscal 2010. Initiatives included thorough everyday management such as controlling air-conditioning temperatures and turning off lights and power sources when not needed, upgrading to energy-saving equipment and devices such as high-efficiency light fixtures and air-conditioning equipment, as well as top-down and bottom-up efforts to raise energy conservation awareness.

In June 2013, renovation of NSK's head office was completed. Substantial energy savings have been achieved by installing exterior aluminum bars that block solar radiation in the summer and let in light in the winter, and by installing the latest energy-saving lighting, air-conditioning, and OA equipment.

Measures for Resource Conservation and Recycling

Efforts to Make Optimal Use of Resources

Related Stakeholders	Customers	Employees
	Suppliers	Future Generations
	Local Communities	Shareholders and Investors

There is growing concern around the world that an economic system based on mass production, mass consumption, and mass disposal will end up depleting a wide range of resources in the future. Against this backdrop, companies are required to help build recycling-oriented societies by ensuring the efficient use of resources throughout the entire product lifecycle—from the extraction of resources, to product use, to disposal.

Governance

Social Report

Environmental Report

NSK's Approach

Promoting Efficient Use of Resources in All Business Activities

The NSK Group is working on reducing, reusing, and recycling (the 3Rs) to do its part in building recycling-oriented societies around the world. The Group's development and design divisions strive to develop products that can be produced without wasting raw materials and that can be easily recycled when disposed after use. At the manufacturing and distribution stages, the Group attempts to reduce the generation of waste and also works to recycle waste that is generated, aiming to eliminate landfill waste disposal (see Figure 1). See "Global Warming Countermeasures" on pages 36–38 for information about NSK's efforts to reduce its use of energy resources.

Goals and Performance

Mid-term Goals (FY2013-2015)

The NSK Group is strengthening its initiatives to achieve the rigorous goals it set for the effective utilization of resources, recycling rate, and landfill disposal rate. The group constantly pursues higher performance on the 3Rs.

Manufacturing sites in Japan have already achieved their goals for zero emissions (the elimination of landfill waste

disposal) with a recycling rate close to 100%. Moving forward, the Group has established new targets for the reduction of industrial waste per production unit and is ramping up its efforts to meet this new challenge.

Fiscal 2015 Targets

Development and design, manufacturing

Reduce waste of raw material by changing processing methods

Manufacturing

- In Japan:
 - Achieve a recycling rate*1 of at least 99.99% for waste and maintain zero emissions*2
 - Reduce industrial waste per production unit*3 by 4% compared to fiscal 2011
 - Reduce water usage per production unit*4 by 4% compared to fiscal 2011
- Outside Japan:
 - Achieve a waste recycling rate of at least 99.0%
 - Reduce water usage per production unit*4 by 4% compared to fiscal 2011

Distribution

- In Japan:
 - Reduce packaging material waste per production unit*5 by 8% compared to fiscal 2007

Definitions including the recycling rate, zero emissions, landfill disposal rate, and industrial waste per production unit for fiscal 2013 onward are as given below.

$$*1 \text{ Recycling rate (In and outside Japan)} = \frac{\text{Recycled amount}}{\text{(Total waste - reduction amount)}} \times 100$$

*2 The NSK Group has defined zero emissions as a landfill disposal rate of no more than 0.01%.

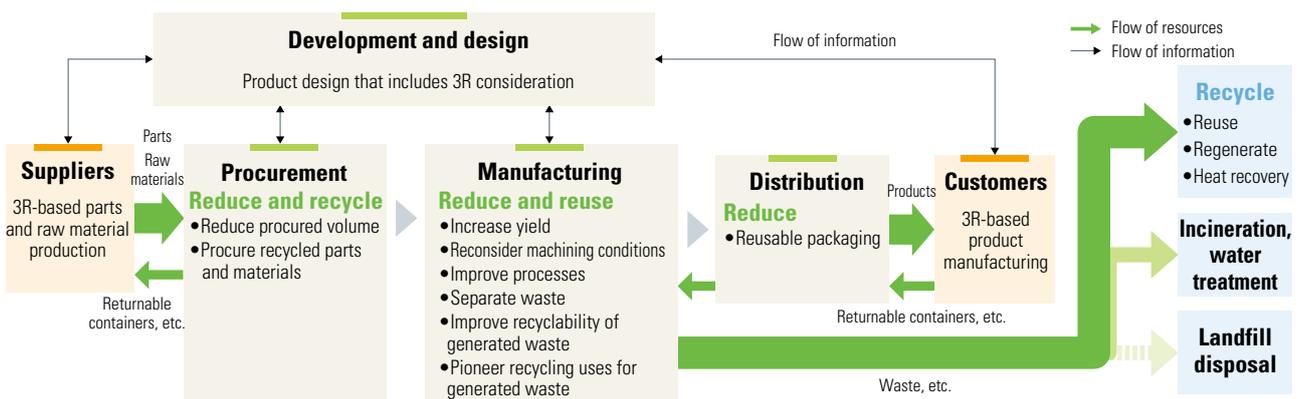
$$\text{Landfill disposal rate (In Japan)} = \frac{\text{Landfill disposal amount}}{\text{(Total waste - reduction amount)}} \times 100$$

$$*3 \text{ Industrial waste per production unit (in Japan)} = \frac{\text{Industrial waste}}{\text{Value-added production}}$$

$$*4 \text{ Water usage per production unit} = \frac{\text{Water use}}{\text{Value-added production}}$$

$$*5 \text{ Packaging material waste per production unit} = \frac{\text{Packaging material waste}}{\text{Production output}}$$

Figure 1: 3Rs to Help Build Recycling-oriented Societies





FY2012 Activities

NSK steadily reduced steel material waste by changing the forging shape for parts.

The NSK Group's plants in Japan achieved a waste recycling rate of 99.7% and a landfill disposal rate of 0.012% by strengthening waste separation and selecting new disposal contractors. This performance met the Group's fiscal 2012 targets

of a recycling rate of at least 99.5% and a landfill disposal rate of no more than 0.05%. Plants outside Japan, however, ended up with a recycling rate of 91.0% due to difficulty recycling grinding dust containing oil in the UK and China, and so did not attain their target of at least 92%.

The Group's plants in Japan also achieved an 8.5% reduction in water usage per production unit compared to fiscal 2011 (see Figure 2 and 3).

FY2012 Highlights

**Development and Design:
Simulation System Used to Reduce Steel
Usage by as much as 20%**

**Optimization of Shape When Manufacturing Parts
for Automotive Hub Unit Bearings**

Hub unit bearings are used where the wheels are attached to a vehicle. In NSK's processing, the outer race—a part of this bearing—is formed using a hot forging method in which the steel is heated to more than 1,000 °C and then pressed. Later a machining process called turning is used to remove a precise amount of material to bring it into a shape closer to the finished product. NSK's new simulating system determines the optimal shape of the part post-forging, so the company can use a smaller machining allowance which requires less material to be cut off during turning. This system has reduced the raw-material steel used by 10–20%, depending on the product. Moreover, using less steel in the machining allowance has also reduced the energy needed for heating, which helps to save energy.

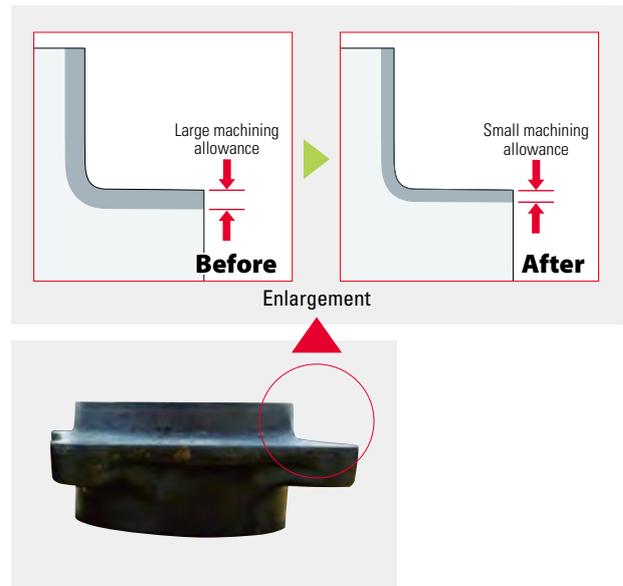


Photo 1: Smaller cutting stock in part for hub unit bearing

Figure 2: Total Waste, Rate of Recycling, and Landfill Volume (Plants in Japan)

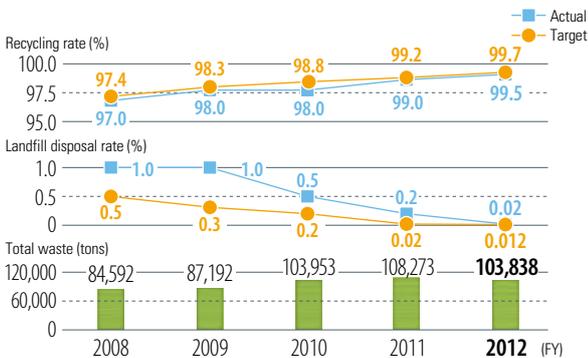
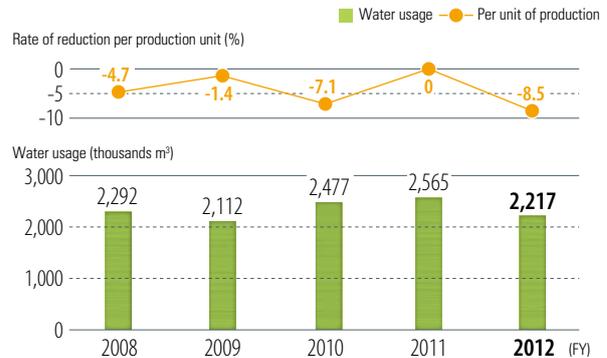


Figure 3: Water Usage per Unit of Production (Plants in Japan)



Manufacturing: Advancing Resource Conservation and Recycling

Initiatives to Increase Recycling Rate (in Japan)

In fiscal 2012, NSK changed the method it uses to recycle sludge containing oil emitted from the manufacturing process for steel balls. This improved the recycling rate for plants in Japan by 0.6% overall.

Recycling Mop Water (in the U.S.)

In September 2012, the Bennington Plant of NSK Steering Systems America, Inc. installed a unit to reclaim waste liquid after washing the floor. Previously, nearly 60 drums of waste liquid per month were sent to an outside waste disposal company for disposal, but this decreased to about 25 drums after installation of the reclamation unit. Soap usage was also cut by 60%, resulting in effective use of resources and a significant cost saving.



Photo 2: Mop water recycling unit installed at the Bennington Plant

Distribution: Reducing Packaging Materials

Increasing Reuse and Recycling of Used Packaging Materials

The NSK Group is working to reduce packaging materials by meticulously sorting used packaging.

In fiscal 2012, the Group was able to reduce its disposal of wood by 20% by gathering the salvageable parts of wooden pallets that had broken and were no longer usable and using them to rebuild usable pallets.



Photo 3: Reusing repaired wooden pallets

Offices: Strengthening Waste Management

Educating Office Waste Managers (in Japan)

In Japan, even offices and other sites that are not manufacturing sites must fulfill their legal responsibilities as a waste emitter and dispose of refuse appropriately if they emit industrial waste such as plastic.

In fiscal 2012, all NSK sales offices provided education to waste managers about risks that should be noted when disposing of industrial waste and about laws that must be followed.

NSK Action

Improving Machining Precision and Reducing Waste

The Akagi Plant of NSK Steering Systems Co., Ltd., which manufactures products such as electric power steering systems, has already achieved a recycling rate of 100%. Now it is making efforts to further improve 3R performance, including reducing waste by improving equipment and production processes.

The plant has changed the machining process—from cutting using blades, to grinding—in order to increase the precision of parts. During the grinding process, a grinding fluid is applied to the parts to wash away grinding dust while also cooling the parts. The grinding fluid is collected in one location and filtered to remove grinding dust before supplying it back to the machine. Traditionally, the grinding dust was recycled as sludge, but now it is solidified with a newly installed compactor and sent as scrap for use as a raw material by a steel manufacturer. At the same time, by recovering the grinding fluid squeezed out when compacting, the plant has reduced its industrial waste by about 70% from the previous year.

There is a lot that can be done with the 3Rs, and we are still only half way there. We will keep moving forward with the mindset that there is no end to the improvements we can make.



Michio Kabasawa
Assistant Manager,
General Affairs and Human Resources Section,
NSK Steering Systems Co., Ltd., Akagi Plant



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

• Waste Emissions (Plants)

Reducing Use of Environmentally Harmful Substances

Related Stakeholders

Customers	Employees
Suppliers	Future Generations
Local Communities	Shareholders and Investors

Appropriate Management of Environmentally Harmful Substances

Chemical substances have made modern life much more convenient. However, some chemicals can have adverse effects on human health and the environment. At the World Summit on Sustainable Development in 2002, the nations of the world reaffirmed their commitment to “aim by 2020 to use and produce chemicals in ways that do not lead to significant adverse effects on human health and the environment.” Since then the international community has been working cooperatively to regulate chemical substances more strictly.

NSK's Approach

Staying Ahead of Regulatory Progress

The NSK Group is striving to create products that use no environmentally harmful substances, ahead of laws and regulations around the world and voluntary standards from its customers. Responding to stricter regulations, the Group tightly controls environmentally harmful substances through each stage of development and design, procurement, manufacturing, and distribution to ensure that safe products are delivered to customers (see Figure 1).

Goals and Performance

Mid-term Goals (FY2013-2015)

Enhance the System for Managing Environmentally Harmful Substances

To ensure the products it delivers are safe, the NSK Group is reinforcing its system for reliably ensuring that products contain no environmentally harmful substances. The goals the Group expects to attain in fiscal 2015 are shown to the right.

To advance its global management of environmentally harmful substances, the NSK Group is strengthening its management system for the development and design processes and rolling out

green procurement to sites that manufacture products around the world. Additionally, it is prioritizing the global expansion of a database built from surveys of environmentally harmful substance inclusion in parts and raw materials based on the latest NSK List of Environmentally Harmful Substances. The Group also aims to reduce the use of environmentally harmful substances handled in manufacturing processes.

Fiscal 2015 Targets for Reducing Use of Environmentally Harmful Substances

Development and design

Establish a development and design management system that ensures environmentally harmful substances are not incorporated in products
Streamline management by using a chemical substance management system

Procurement

Complete the extension of NSK green procurement to key suppliers worldwide

Manufacturing

Complete a global chemical substance quality assurance system for products
In Japan: Reduce the handling of PRTR-designated substances per production unit by 6% compared to fiscal 2011

Figure 1: Management of Environmentally Harmful Substances



FY2012 Activities

Staying Ahead of Regulatory Progress and Strengthening Global Response

Following on from fiscal 2011, in fiscal 2012 the NSK Group revised the NSK List of Environmentally Harmful Substances in response to legislative amendments in Europe. It conducted a survey not only in Japan but also at production sites worldwide

of environmentally harmful substances inclusion in parts and raw materials and strengthened its management so that environmentally harmful substances are not used in products.

The Group is continuing to strengthen its management of chemical substances used in manufacturing processes. In fiscal 2012, it worked toward the target of a 5% reduction from fiscal 2010 in the handling of PRTR-designated substances per production unit, but recorded a 3.2% increase, not achieving its goal.

FY2012 Highlights

Management: Strengthening the Management System for Environmentally Harmful Substances

Strengthening the Management System for Environmentally Harmful Substances Worldwide

The NSK Group is striving to strengthen its management by implementing initiatives not only in Japan but also at plants worldwide to reliably ensure that environmentally harmful substances are not included in products and then auditing the status of implementation.

In fiscal 2012, the Group provided education on the content of initiatives and auditing methods as a step toward strengthening the management system at plants in countries around the world. Each plant conducted a self-audit to identify challenges and strengthened its efforts to establish regulations and conduct surveys of environmentally harmful substances inclusion. Furthermore, the Group trained 39 new environmentally harmful substance auditors in Japan and 41 outside Japan, bringing the total up to 202, so that plants around the world can autonomously conduct self-audits and supplier audits.

Substances, Reduced Substances, and Observation Substances. The Group is aiming for zero use of environmentally harmful substances in the manufacture of its products.

As in the previous fiscal year, in fiscal 2012 the NSK Group conducted a survey of parts and materials suppliers based on the list to make sure that substances prohibited by NSK are not included in its products.

Design: Aiming for Zero Environmentally Harmful Substances

Taking Action Based on the NSK List of Environmentally Harmful Substances

NSK has registered nearly 3,200 chemical substances in its NSK List of Environmentally Harmful Substances as Prohibited

Procurement: Green Procurement

Worldwide Efforts to Increase Awareness of NSK Green Procurement Standards

The NSK Group cooperates with suppliers in an effort to strengthen the management of environmentally harmful substances and procure environmentally friendly parts and raw materials. To reinforce its efforts, the Group is rolling out its Green Procurement Standards to regions outside Japan. Following China in fiscal 2011, in fiscal 2012 efforts were made to ensure local suppliers are familiar with the standards in Europe, Indonesia, Thailand, Malaysia, and South Korea.

Going forward, the NSK Group's production sites worldwide will continue to work with suppliers to manufacture dependably safe products.



Photo 1: Briefing at PT. NSK Bearings Manufacturing Indonesia, the Jakarta Plant

NSK Action

Committed to Strengthening Management of Environmentally Harmful Substances

In fiscal 2012, I received instruction from the Global Environment Department in NSK's head office and started working to strengthen the management of environmentally harmful substances. There were many hurdles, including confirming the compliance of chemical substances indicated on material safety data sheets (MSDS) for oils used in manufacturing processes with Chinese laws and NSK's internal regulations and ascertaining whether environmentally harmful substances are not contained in subsidiary materials purchased by the plant. However, I feel that a cooperative relationship has developed with the general affairs, quality assurance, manufacturing, and other relevant departments in the company as well as with suppliers. We will strive to ensure that we meet NSK's management standards for environmentally harmful substances.



Jun Li
Chief, Administration Division General Affairs Department, Zhangjiagang NSK Precision Machinery Co., Ltd.



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

• NSK Group Green Procurement Standards and the List of NSK Environmentally Harmful Substances



**Procurement:
Supplier Audits**

Promoting Improvements through On-site Audits

The NSK Group aims to strengthen environmental initiatives throughout the supply chain. Group employees who hold qualifications as environmentally harmful substance auditors periodically visit suppliers of parts and raw materials with a high possibility of inclusion or attachment of environmentally harmful substances and conduct audits using an NSK audit check sheet.

In fiscal 2012, on-site audits were conducted at 52 suppliers in Japan. The Group is working with suppliers to follow up on improvements to issues identified through the audits. In the future, the NSK Group will conduct audits of suppliers outside Japan to further strengthen its management system for environmentally harmful substances.

**Manufacturing:
Reducing Use of Environmentally Harmful Substances**

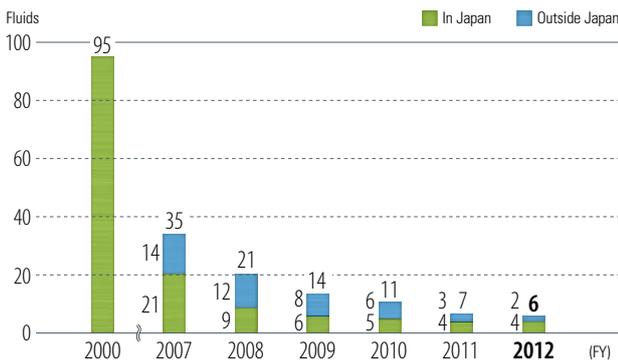
Striving to Totally Eliminate Machining Fluids Containing Chlorine Additives

Machining fluids containing chlorine additives may generate harmful dioxins when incinerated at disposal. The NSK Group is striving to totally eliminate their use. After repeated tests to confirm effects on workability and quality, the Group was able to switch to a new alternative in fiscal 2012. However six fluids used in machining under some of the harshest conditions for broaching and multi-daylight press machining remained. The goal of full phase-out remains just barely out of reach. In fiscal 2013, the Group will continue working to complete the elimination process (see Figure 2).

Handling of PRTR*1-designated Substances Reduced by 6%

The number of PRTR-designated substances increased with the revision of the law in Japan in fiscal 2008. Therefore, the NSK Group's handling of those substances significantly increased. The Group set the goal of a 5% reduction in fiscal 2012 from fiscal 2010 in order to reduce its handling of PRTR-designated substances contained in fluids and fuels used in manufacturing processes.

Figure 2: Number of Machining Fluids Containing Chlorine Additives



In fiscal 2012, its handling per production unit increased by 3.2% from fiscal 2010, but the total amount handled decreased by 6% with the systematic implementation of the conversion of fuel for air conditioning and changes to wastewater treatment agents (see Figure 3).

*1 PRTR Law: Act on Confirmation, etc., of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register / PRTR). Japan's law intended to facilitate improvement of chemical substance management by ascertaining and reporting to authorities the amounts released into the environment.

**Manufacturing:
Reducing Emission of Environmentally Harmful Substances**

VOC Emissions Reduced by 10%

Some manufacturing processes use solvents and adhesives that contain volatile organic compounds (VOCs) such as toluene and xylene. By taking steady action during those processes, emissions to the atmosphere in fiscal 2012 were reduced by 10% from fiscal 2011 to 88.6 tons.

**Manufacturing:
Countermeasures Against Soil and Water Pollution**

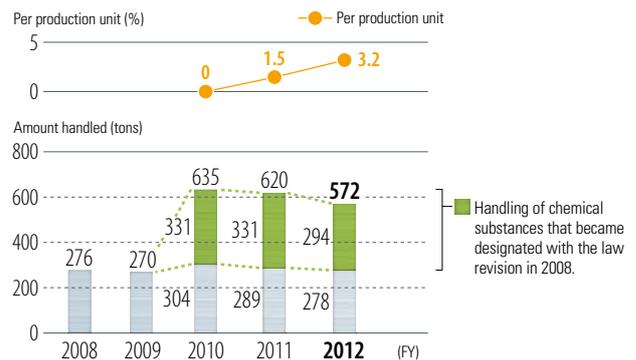
Oil-contaminated Soil Countermeasures Completed at Former Site of Tamagawa Plant (in Japan)

The Tamagawa Plant, formerly located in Tokyo's Ota Ward, was closed in 1999 and a part of the site was used as a warehouse. In 2010, the warehouse also closed and a soil contamination investigation was carried out when the building was demolished. While no contamination with harmful substances was found, some soil and groundwater was found to be contaminated with oil. In 2012, soil contamination countermeasures were implemented based on the Ota Ward Soil Contamination Prevention Guidelines. All soil with an oil odor or oil film was transported off-site and replaced with clean soil. It was then confirmed that there is no oil odor or oil film remaining in the soil or groundwater.



Photo 2: Soil contamination countermeasure work at the former site of the Tamagawa Plant

Figure 3: Handling of PRTR-designated Substances



Biodiversity Preservation

Initiatives to Preserve Biodiversity

Related Stakeholders

Customers	Employees
Suppliers	Future Generations
Local Communities	Shareholders and Investors

The earth is blessed with many different types of natural environments, including forests, woodlands on the outskirts of populated areas, rivers, oceans, and wetlands. There are some 30 million species of organisms that have evolved and adapted to each of those environments. These organisms live in connection with one another, supporting one another through the food chain and the oxygen-carbon dioxide cycle based on photosynthesis. The food, clothing and shelter which people need to live are reliant on a rich biodiversity. Aiming to preserve biodiversity, the Convention on Biological Diversity was concluded at the Earth Summit in 1992, and in 2010 the Japan Business and Biodiversity Partnership was established, in an initiative headed by the business community.

Governance

Social Report

Environmental Report

NSK's Approach

Conducting Business with Consideration for Biodiversity Impact

Although NSK's business operations have a comparatively minor direct impact on biodiversity, its strong efforts in areas such as energy conservation and air and water quality management indirectly help to preserve biodiversity. The materials that the Group procures from steel manufacturers do, however, have a direct impact on biodiversity when traced back through the supply chain. NSK is committed to contributing to biodiversity preservation by identifying the direct and indirect impacts that its business has on biodiversity and using its findings to improve its business operations and enhance its social contributions.

Goals and Performance

Mid-term Goals (FY2013-2015)

Evaluating Business Effects on Biodiversity and Preservation Measures

NSK will identify the factors behind the impact that its business operations have on biodiversity and will provide education to raise the awareness of its employees. It will also strive to protect rare species on plant premises and expand its social contribution activities in the area of biodiversity.

FY2012 Activities

In fiscal 2010, NSK established the Biodiversity Guidelines. It has since conducted a current situation survey and launched initiatives, starting with NSK plants in Japan in fiscal 2011 and Group companies in Japan in fiscal 2012.

FY2012 Highlights

Building Awareness of the Importance of Biodiversity Preservation

Since fiscal 2011, the NSK Group has been educating employees in Japan on topics such as "What is biodiversity?" and "Activities that impact biodiversity." In fiscal 2012, the Group continued to provide education in Japan and also conducted a status survey on biodiversity. In the future, the Group will expand these efforts to plants outside Japan.

Survey on Plant Premises and Protection of Rare Species

In fiscal 2012, NSK conducted a survey on the premises of its plants and found that wild Grey-headed Lapwings*1 live at the Fukushima Plant and that the Golden Orchid*2 lives at the Kirihara Precision Machinery Plant. Accordingly, both plants implemented protection measures to preserve these rare species' habitats.

*1 Category I endangered species on the Fukushima Red List

*2 Category II endangered species on Japan's Ministry of the Environment Red List and category II endangered species on the Kanagawa Prefecture Red List



Photo 1: Grey-headed Lapwings at the Fukushima Plant



Reference data is available on NSK's website.
www.nsk.com > Sustainability > CSR Reports & Reference Data

• NSK Biodiversity Guidelines

Relationship with Shareholders and Investors

Basic Policy on Shareholder and Investor Relations

NSK is committed to meeting the expectations of shareholders and investors by disclosing a variety of management information in a timely and fair manner and by striving to provide stable returns.

Communication with Shareholders and Investors

NSK has established a dedicated IR division to provide appropriate information that shareholders and investors can refer to when making investment decisions, and it aims to engage in active communication. The Company strives to disclose business and financial information in a fair and appropriate manner in cooperation with other relevant departments.

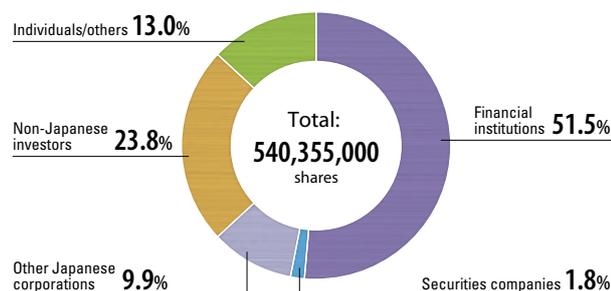
IR Events

NSK holds a variety of IR events, including results briefings, business briefings, roadshows outside Japan, and briefings for individual investors. The Company strives to disseminate and share information related to business performance, as well as medium- to long-term strategies and their progress, at briefings for institutional investors and analysts. In April 2013, NSK started out on a new mid-term management plan with the vision of "establishment of corporate fundamentals appropriate for a company with net sales of ¥1 trillion." At a briefing in May, it announced this new mid-term plan. The Company works to communicate actively with shareholders and institutional investors in and outside Japan by accepting interview requests and holding conference calls, as well as at conferences sponsored by securities firms. In fiscal 2012, it again held briefings for individual investors to create opportunities for direct communication and also held small meetings between senior management and analysts. Going forward, the Company would like to create even more opportunities for dialogue.



Photo 1: Briefing for individual investors in fiscal 2012

Breakdown of Shareholders (Number of Shares, as of March 2013)



Information Tools

NSK reports on its financial situation and business topics through the publication of an annual report and a business report, the *NSK Group Report* (in Japanese only). It also discloses these reports along with financial briefing materials and financial results on the Investors section of its website. Going forward, the Company will strive to continue disclosing information in a timely manner and to enhance the content of disclosed information.

Dividend Policy

The return of profit to shareholders is an important management policy for NSK. The Company's basic policy is to continuously provide a stable dividend, which it sets based on consideration of the dividend payout ratio and business performance criteria on a consolidated basis.

Assessment by External Organizations

Social responsibility indexes (SRIs) include companies that promise long-term sustainable growth because they merit high evaluations for environmental and social contributions as well as financial performance. A broad range of institutional investors are attributing greater importance to such companies. As of March 2013, NSK is included in four internationally recognized SRIs.

Dow Jones Sustainability Indices

<http://www.sustainability-indices.com>



FTSE4Good Index Series

http://www.ftse.com/Indices/FTSE4Good_Index_Series/index.jsp



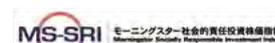
Ethibel Investment Register

http://forumethibel.org/content/ethibel_sustainability_index.html



Morningstar Socially Responsible Investment Index

<http://www.morningstar.co.jp/sri/about.htm>



Third-Party Comments

Again this year, NSK asked Professor Yoshinao Kozuma of Sophia University's Faculty of Economics to provide third-party comments on this report.



Yoshinao Kozuma

Professor, Faculty of Economics,
Sophia University, Japan

After leaving the Sophia University Graduate School of Economics upon earning credits in the latter half of the doctoral program, Professor Kozuma worked as a research assistant at the Nagoya Institute of Technology, a visiting researcher at the Limperg Instituut in the Netherlands, an associate professor at the University of Shizuoka, and an associate 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. His specialty is environmental accounting, and his recent work includes *Carbon Labeling to Visualize CO₂* (Chuokezai-sha, Inc., in Japanese).

1 | Integration of the New Mid-term Management Plan and CSR Goals

This year saw the start of NSK's 4th Mid-term Management Plan, which includes a number of CSR goals. The NSK Group will mark its 100th anniversary in 2016. To achieve its growth target of net sales of ¥1 trillion by that time, it has placed "safety, quality, and compliance" at the top of its agenda and is attempting to strengthen its global management with the aim of enhancing its presence in emerging markets, which are important drivers of growth. Accordingly, NSK has clearly identified CSR issues such as enhancing corporate governance and compliance, and working closely with local communities to create jobs and transfer technologies. At the same time, the Company has firmly presented its stance on addressing environmental problems such as energy and climate change. These issues are reflected in the summary table for CSR management goals and performance, which now includes goals for fiscal 2015 based on the mid-term plan in addition to the usual goals for the following fiscal year.

NSK appears to recognize that consideration for sustainability is an essential prerequisite for corporate growth and is seeking to place sustainability at the foundation of its management strategy. I commend

all improvements reflecting this direction, as well as the NSK Group's more integrated thinking.

2 | Strengthening the Compliance System

This fiscal year NSK again made improvements relating to the strengthening of its compliance system in particular. It has taken steps from multiple perspectives, including establishing a Compliance Committee and Compliance Enhancement Office, developing internal rules, distributing a guidebook to officers and employees, having them submit written oaths, and providing compliance training—all measures that will help prevent recurrence of the Antimonopoly Act violations that have been a matter of concern since the year before last. This fiscal year, NSK upgraded the Internal Audit Office into the Internal Audit Department, in order to strengthen the internal audit system and compliance functions in line with the Group's global business expansion. With this organizational change, the compliance monitoring function in particular has been improved.

The effectiveness of the Company's compliance measures has achieved a measure of external recognition, as NSK was included again this year in SRI indexes such as DJSI and FTSE4Good. Eradicating unfair trading is not easy, however, and I hope the Group will continue with its countermeasures.

3 | Future Issues

Improvements have been made little by little with respect to switching the disclosure boundary to the consolidated basis and extending the disclosure scope to the value chain, as I suggested last year. However, the global market has its own CSR risks, and to manage them appropriately requires accurate risk assessment and proper countermeasures. At present, labor-related indexes and some environmental indexes are managed on a domestic basis in Japan, and so the first issue going forward is to develop an information management system that can expand these to a global basis. I expect the Group to continue making advancements and to disclose information in a manner appropriate for a global company.

Response to Mr. Kozuma's Third-Party Comments



Saimon Nogami

Director, Senior Vice President,
Corporate Planning Division HQ-Head,
Responsible for IR & CSR Office

Thank you for your valuable comments.

We appreciate your evaluation of the NSK Group's CSR initiatives. In our Mission Statement we have committed to contributing to the well-being and safety of society and to protecting the global environment, and we are working to help build a more sustainable society while enhancing the NSK Group's corporate value. Going forward, we will strive to further improve our initiatives in terms of governance, social, and environmental issues.

We take note of the future issues you pointed out: accurate risk assessment and countermeasures from a global perspective, and the disclosure of indexes related to labor and the environment on a global basis. We will continue to advance our initiatives outside Japan and strengthen our system for gathering information, which in turn will support information disclosure that provides a fuller picture.

Responses to Comments on the NSK CSR Report 2012

With respect to the CSR Report 2012, Professor Kozuma of Sophia University's Faculty of Economics provided the suggestions of "giving the report a global perspective and improving and expanding supply chain information."

The NSK Group is steadily making efforts to globally strengthen its initiatives for creating quality, creating excellent workplaces, and protecting the environment and has striven to enhance information on regions outside Japan in the articles on each topic in this report.

Additionally, the Group is strengthening its efforts to encourage initiatives throughout the supply chain related to BCP, human rights consideration, and environmental protection and has given examples in this report of human rights consideration through CSR procurement and the global expansion of green procurement.



Contact

IR & CSR Office, NSK Ltd.

Nissei Bldg., 1-6-3 Ohsaki, Shinagawa-ku, Tokyo 141-8560, Japan

Tel: +81-3-3779-7400 Fax: +81-3-3779-8906

E-mail: csr-report@nsk.com

Date of Issue

January 2014 (previous report, *CSR Report 2012*, issued February 2013; next report scheduled for November 2014)

