

Sustainability report 2022

NAKANISHI INC.

NSK

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Editorial Policy

Significance of This Report

NSK has been issuing our Environmental Report since FY2013. Starting from FY2021, we will be issuing our Sustainability Report which expands on the scope of reporting and introduces the sustainability initiatives of the NSK Group. Through this report, we aim to allow stakeholders to widely understand our initiatives.

Scope of Report

In principle, this report covers NSK and its consolidated subsidiaries. In this report, “NSK” refers to NAKANISHI INC. as an unconsolidated entity, while “NSK Group” refers to the overall NSK Group in Japan and overseas. “NSK” can also refer to our brand name.

Period of Report

January 1, 2021 to December 31, 2021 (including 2022 for certain sections)

Time of Issue

August 2022

Reference Guidelines

GRI Sustainability Reporting Standards

For Inquiries

General Administration Department, NAKANISHI INC.

Top Message

Through Unique and Innovative Grinding Technology We Will Contribute toward Achieving a Better Society and People's Happiness

C-P-S –NSK's Management Policy

With its mission, "To create brilliant progress via innovative grinding technology," NSK has developed core high-speed rotary, ultrasound and micromotor technologies and created innovative products in the dental, surgical and industrial business fields. We currently have business sites in 16 countries around the world and sell our products in more than 135 countries. In the conduct of business, we have cherished the three concepts of "Culture oriented," "People based" and "Social perspective" (C-P-S) as our management policy for many years. Through practicing management that respects local cultures, is based on people and has a social perspective, we have earned the trust of stakeholders around the world.

Materiality for Sustainability

In recent years, there are increasingly more requirements for initiatives regarding various social issues surrounding companies, such as climate change, a circular economy, human rights and the issue of disparity. In 2021, NSK formulated materiality (eight material issues) to share again internally the initiatives carried out under C-P-S and our future direction as well as show clear commitment toward requirements from outside the company.

Besides strengthening the provision of innovative and safe products, which is the core of business, we will also provide product and medical knowledge through seminars in cooperation with dentists and doctors so that products can be used more safely and efficiently. We will also establish an after-sales service system that allows products to be immediately repaired affordably so that they can be used safely for long periods across the globe.

Regarding human capital development, we will enhance education programs, education by grade and other efforts to improve skills in monozukuri (manufacturing) and development. We will also revise our system toward a human resource system that increases individual value so that employees improve their own value exchangeability. Qualitative aspects—such as employee autonomy, pursuit of issues and engagement with others—have also been added to the evaluation criteria. We are also putting effort into occupational safety and health as well as health management. Furthermore, given that the required scope of response to various social issues has spread to the supply chain in recent years, we formulated our Business Partner CSR Guidelines in 2021 and will request business partners to implement initiatives related to ESG. Such requests to business partners will be undertaken globally.

In the environmental aspect, we have begun introducing initiatives toward achieving zero-CO2 monozukuri by switching 100% of the electricity used at our domestic production sites to renewable energy, and have installed solar panels on the entire roof of our new factory which commences operation in September 2022. We will continue to promote environmental activities to realize a sustainable society by implementing measures such as using renewable energy, reducing per unit energy use and reducing waste volumes based on our Green Plan 2030 medium-term plan formulated in 2021.

VISION2030—Toward 2030

Moving toward 2030, NSK thinks that the social issue of super-aging should be handled in particular. The world is aging rapidly, and especially so in Japan, where it is predicted that people 65 years and older will exceed 31% of the population in 2030. There are similar trends in other countries such as various European countries, China and South Korea. One of the most important issues in a rapidly aging society is the extension of health expectancy, and NSK will contribute toward solving the two issues of dental and physical health. Furthermore, super population aging is leading to a decline in the working population, which in turn creates a bottleneck in economic growth. We will help to address this issue by contributing toward factory automation.

Toward our 100th anniversary in 2030, we hope to carry out the best value exchange with all stakeholders by achieving VISION2030 and the eight key sustainability themes. We will do our best so that we can continue to deliver even more inspiration to everyone and contribute toward people's happiness and a recycling-oriented society.



Company Profile



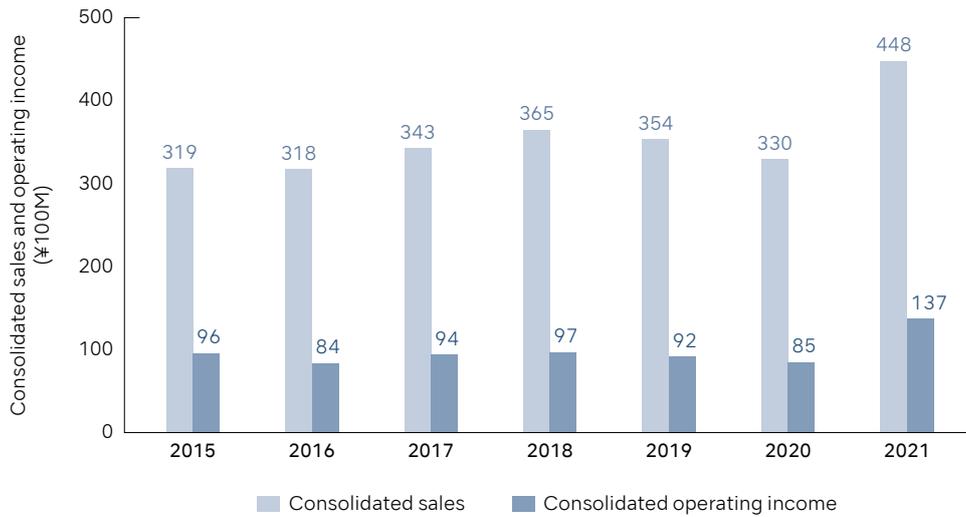
Company Profile

Company Profile

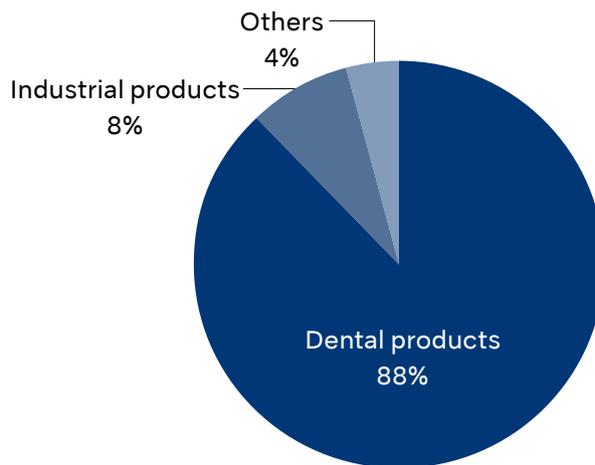
Company Name	NAKANISHI INC.
Founded	February, 1930
Established	January, 1951
Head Office	700 Shimohinata, Kanuma, Tochigi 322-8666, Japan
Phone	+81-289-64-3380
Web Site	https://www.en.nakanishi-inc.jp
Number of Employees	1,239 (as of December 31, 2021)
End of Fiscal Year	December 31
Capital Stock	867 million yen
Representative	President & Group CEO Eiichi Nakanishi
Stock Exchange Listings	Tokyo Stock Exchange, Standard

Financial Results

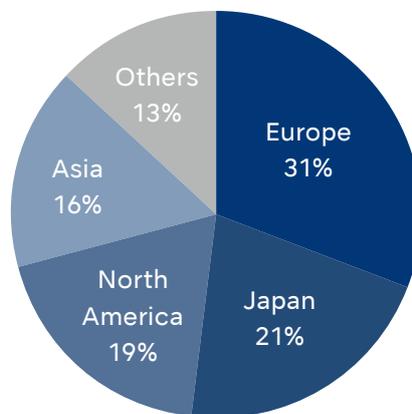
Changes in Consolidated Sales & Operating income



Sales ratio by business domain (FY2021)



Sales ratio by region (FY2021)



Business Domain

Centered on high-speed rotary technology, NSK undertakes businesses in three domains: dental products, surgical products and general industrial products.

Dental business

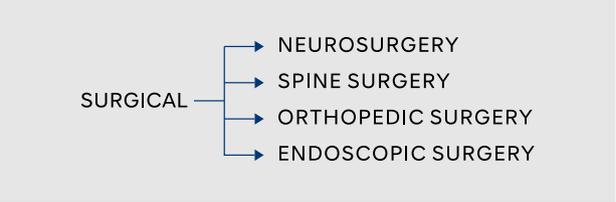


To achieve “dental health”, we will develop innovative products in the fields of restorative dentistry, preventive dentistry, periodontics, implantology, oral surgery and mobile dental care using NSK’s “innovative grinding technology”, namely, high-speed rotary technology and ultrasound technology. All the aforementioned are complemented by our growing range of decontamination products. In each field, we will produce equipment that will allow dentists and dental hygienists to carry out treatment more quickly, efficiently and safely, equipment that will make it possible to provide new types of treatment and be less stressful for patients. Furthermore, we will also develop equipment used by veterinary surgeons for the treatment and healthcare of animals.





Due to the rapid aging of society, there will be a significant increase in surgery for brain disease (e.g. stroke, subarachnoid hemorrhage), spinal disease (e.g. spinal stenosis, intervertebral disk herniation), orthopedic procedures (e.g. implant surgery of knees and hips), as well as various types of endoscopic surgery. NSK's high-speed rotary and ultrasonic products will be indispensable in these kinds of surgery. Nothing is more important than safety and speed when considering cranial, spine, and orthopedic surgery. The precision of surgery is linked to the burden reduction on patients and the speed with which they can make a favorable recovery. For this purpose, NSK takes the initiative to include the opinions of famous surgeons around the world to create medical tools which are truly easy to use.



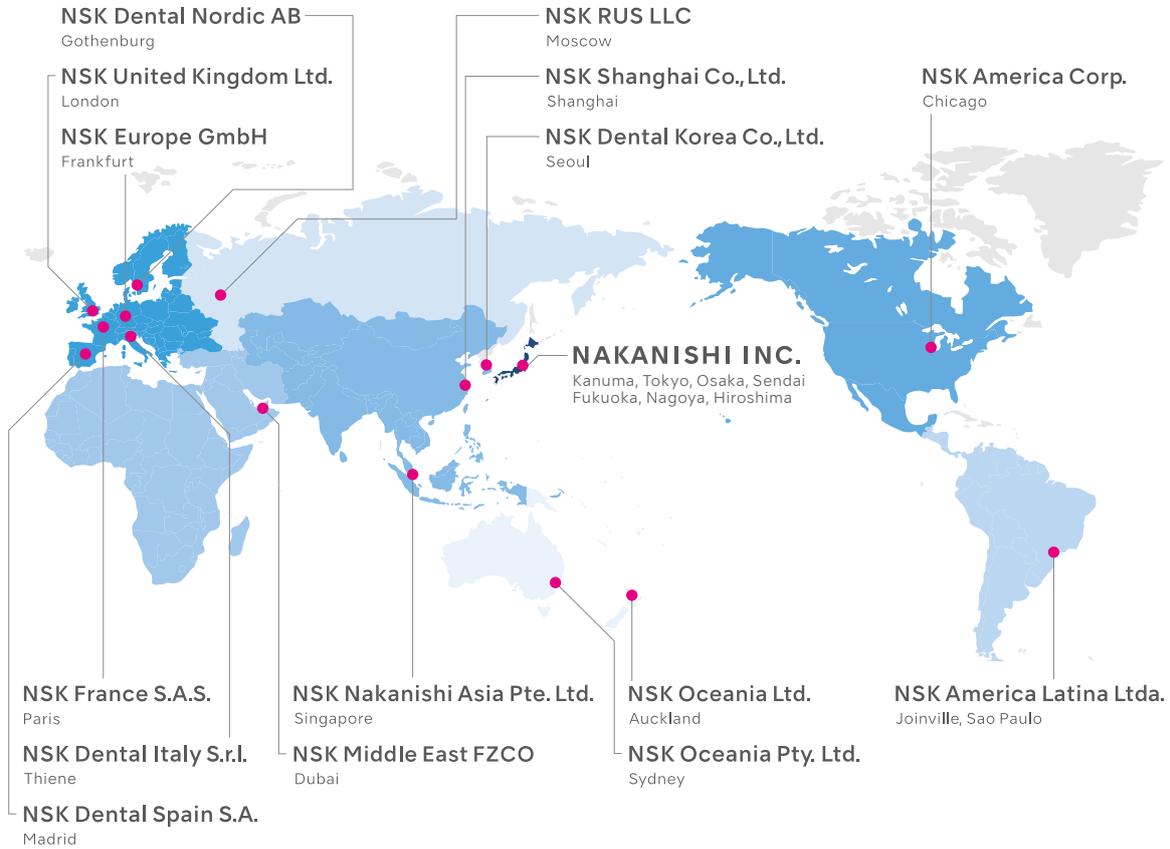


As more and more factories become automated or unmanned, NSK's high-speed high-precision spindles will be used in machines and robots in automated production lines in a variety of industries. The usage for such equipment is becoming increasingly diversified, and expectations of the performance and conditions are getting higher. However, NSK will develop products by taking these needs into account in advance. Furthermore, Nakanishi's high-speed micro grinder is used for fine deburring of work that demands precision and accuracy in the mold manufacturing, crafts, and jewelry industries, and is greatly valued as a high-end class product.



NSK—Expanding Globally

The NSK Group has its own sales bases at 15 locations outside Japan, and its products are used in more than 135 countries around the world. We have achieved the number one share of the global market in the field of dental rotary equipment. Even in countries where we do not have local subsidiaries, we are strengthening our partnerships with local sales agents to achieve meticulous responses to user needs.



NSK's Core Technologies

To achieve the mission of “To create brilliant progress via innovative grinding technology,” NSK has continued to hone the three core technologies of high-speed rotary technology, ultrasound technology and micromotor technology. Using these core technologies, we will continue to provide innovative products in the dental, surgical and industrial fields, and keep contributing toward the creation of all kinds of progress, such as bringing inspiration, happiness, benefits and joy to society and people.

High-speed Rotary Technology

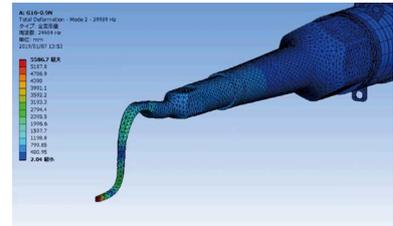
Our dental drill (handpiece)—which we have continued to make since our founding—rotates at an extremely high speed of 400,000 revolutions per minute. The ball bearings inside the handpiece significantly reduce friction between parts to achieve high-speed rotation. At least 90% of the parts, including the ball bearings which require processing precision at the sub-micron*¹ level, are produced in-house. This high rate of in-house production significantly contributes toward improving our product’s quality and cost competitiveness.

*1: 0.0001 mm



Ultrasound Technology

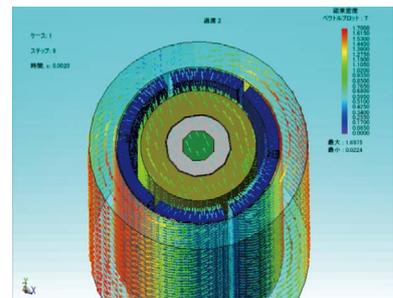
Ultrasound is sound waves with high frequencies that cannot be heard by our ears. Ultrasound vibrates at least 20,000 times per second, and the power (amplitude) of this vibration is applied as grinding power. Examples of ultrasonic equipment being used in the field of dental include ultrasonic scalers and ultrasonic bone cutting equipment. The three parts, the tip, handpiece (vibrating part) and control engine, work together to enhance performance. We brought our ultrasound technology in-house and have succeeded in raising power factor—which is usually around 0.6—to a level close to 1.



Micromotor Technology

Using electronic drive circuits, which we have developed over many years, we achieve stable torque*² and smoothness over a wide range of rotation speeds, from ultra-low to ultra-high speeds. Our micromotors—which achieve precise rotation control and manifest powerful and stable torque—are used in equipment for implantology in the dental field. They are also used in the field of industrial engineering in products such as robot arms and motor spindles which are used in combination with various types of industrial machines.

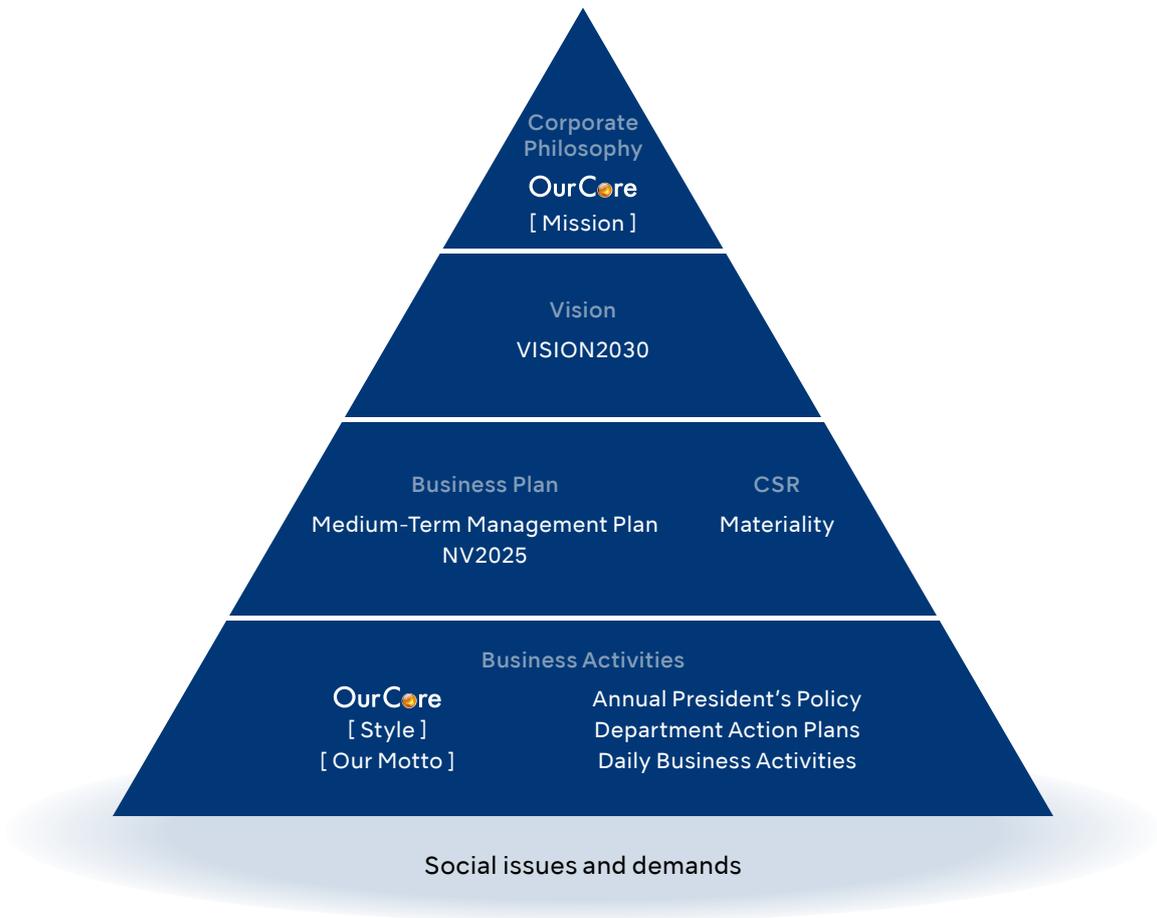
*2: This is the force of rotation centered on an axis, expressed by force multiplied by distance. It refers to rotational force.



Sustainability at NSK

■ NSK's Corporate Philosophy and Sustainability

In line with the Group's values, "Our Core," NSK holds to the mission of creating "brilliant progress" via innovative "grinding technology." By creating new technologies, we strive to contribute to the development of medical care and to the enrichment of people's lives. Amid the global trend of super-aging, extending health expectancy has become a common issue for humankind. We believe that one of the solutions to extending health expectancy is dental health and physical health. In addition, we also see factory automation as a solution to a decline in the workforce which is attributable to the super-aging of society. Through our business activities, we will provide solutions for these social issues, and we will help to realize a sustainable society.



OurCore

Mission	Style	Our Motto
To create "brilliant progress" via innovative "grinding technology"	<ul style="list-style-type: none"> • Exciting • Quality • Open • Honest (EQOH) 	Let's increase individual value "Let's fly" "Let's add"

Our Core represents the corporate philosophy at NSK. Our Core broadly identifies the thoughts and ideal manner of acting/existing that NSK should value in terms of the company as a whole, its various activities, and each and every member. Positioning Our Core at the nucleus, we strive to be a company with an elevated social value.

Here is an introduction to some aspects of Our Core:

Brilliant progress

It is wonderful that the society in which we live is able to achieve more favorable progress. We at NSK feel "To create brilliant progress" is our raison d'être - Our mission - throughout all of our corporate endeavors. The simple word "brilliant" is infused with many meanings for us, such as "complete/amazing solution," "what people and society truly pursue," "dramatic change in style," and even concepts of "admirable." The word comes with the connotation of socially ideal progress. Creation of such "brilliant" value via our "innovative grinding technology," in which we take pride, allows us as a company to help the steady development of our customers and society in terms of deep emotion, pleasure, comfort, and convenience.

EQOH

EQOH is our original acronym that uses the first letters from the four types of style upon which we place importance in the conduct and activities we engage under the NSK name. The first letter, E, was taken from "Exciting." It represents a feeling of being excited about new challenges and creation. Q was taken from "Quality," and it represents the pursuit of high quality. O was taken from "Open," representing an openness toward society. And, the H was taken from "Honest," imparting the meaning of sincerity and righteousness. We refer to these four styles, EQOH, as the way of NSK.

Fly & Add

Fly & Add represents the behavioral guidelines for each of us at NSK. The members of NSK engage in their jobs every day, all the while placing great importance on Fly & Add. The meaning of Fly, you know. In this case, it implies unreservedly taken on any challenge to move forward in any job or task. The meaning of Add, you also know. In this case, it implies the adding of one's own additional value in the form of commitment and stance to one's job. A company is a collection of people, and it is the overall strength of those at NSK that represents the source of its strength. NSK is a gathering of people who display their abilities to their heart's content.

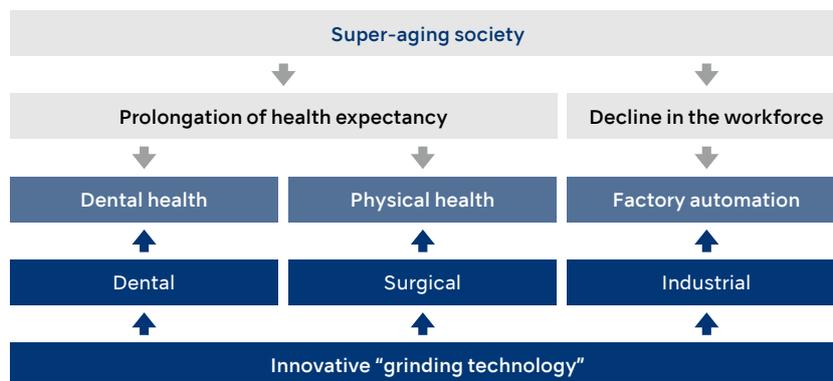
Vision and Keyword for Business Development

VISION2030



Keyword for business development toward 2030

NSK believes that one of the keywords for business development in the decade leading up to its 100th anniversary is "super-aging." The percentage of Japan's population aged 65 and over is currently more than 28%, and is predicted to exceed 31% in 2030. This trend of rapid population ageing is progressing rapidly not only in Japan but also in large parts of the world such as Europe, China and Korea. In the rapid ageing society, the most important challenge is "the extension of health expectancy", and the solution lies in (i) "dental health" and (ii) "physical health". Furthermore, super population ageing is leading to "a decline in the workforce", which in turn creates a bottleneck in economic growth, and the solution lies in (iii) "factory automation". To address these three major social needs, we will create innovative new products and services and make a big social contribution in three business domains (dental, surgical and industrial) using NSK's "innovative grinding technology."



>Related Link:

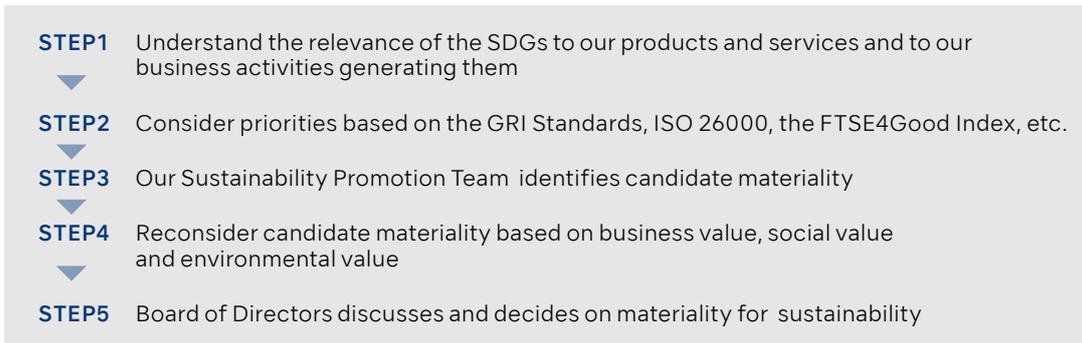
[Mid Term Management Plan Rolling Plan "NV2025+"](#)

Materiality

In addition to striving to maximize its business value in the dental, surgical and industrial business fields by utilizing the innovative grinding technology that it has been honing since its founding, NSK is also committed to creating social value and environmental value. The Sustainable Development Goals (SDGs) were unanimously adopted at the UN summit in 2015. The aim is to achieve the 17 goals listed as SDGs by 2030, the same year as our 100th anniversary. In the leadup to 2030, we will continue to advance our business based on both a business plan and materiality for sustainability.

Process for Identifying Materiality

In selecting our materiality, we identified the issues to be addressed by first understanding the relevance of the SDGs to our products and services and to our business activities generating them, and by considering priorities with reference to relevant guidelines and ESG evaluation indices, such as the GRI Standards, ISO 26000 and the FTSE4Good Index.



Materiality for Sustainability Promoted by NSK



Contributions to SDGs

Proving innovative and safe products (Materiality #1)

NSK develops and launches innovative new products for dental and physical health in order to contribute to extending health expectancy. In 2021, we launched the Surgic Pro2 dental implant treatment drill, a new product in the field of dental medical equipment. This product has a reduced size and is lighter than its predecessor, offering improved functionality and safety.

We have also launched the new Ti-Max Z micro dental handpiece, a lightweight, high-strength, biocompatible titanium Air Turbine Handpiece that can achieve high torque even despite having a compact head. In pursuit of making treatments easier, we have made it possible to perform powerful, high-speed cutting while enabling safe operation by ensuring access to even the tightest spots.

In addition, toward solving the issue of decline in the working population, we also provide products, etc., in the industrial business that contribute to factory automation. In 2021, we launched a new product for the Sonic Cutter series, which demonstrates effectiveness for cutting, clipping, and deburring of thin materials such as plastic and urethane and offers enhanced user benefits such as improved ease of use and visibility alongside limited power consumption.



Dental Business:Surgic Pro2



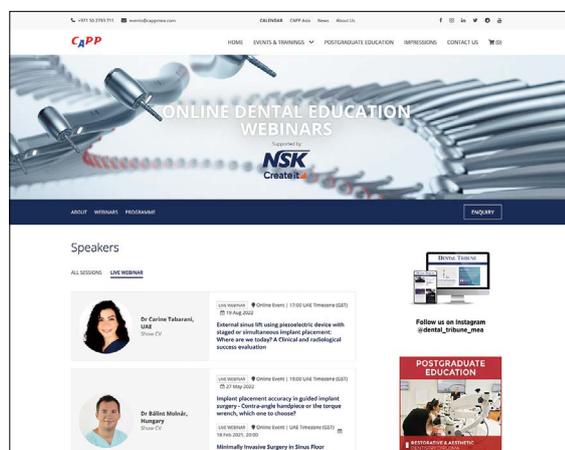
Dental Business:Ti-Max micro



Industrial Business:Sonic Cutter ZERO

Provide product knowledge and best clinical knowledge (Materiality #2)

NSK conducts awareness-raising activities on the proper use of our products through practical seminars and lectures to help our customers understand how to use their medical devices safely and effectively. In the dental business, we held seminars in Japan and overseas covering a wide range of topics including oral hygiene, restorative dentistry, dental oral surgery, and geriatric dentistry. In addition, in the surgical business, we conducted training on the Primado2, which is mainly used in bone cutting and other procedures in the fields of neurosurgery and orthopedics. We continue to offer online seminars in concert with seminars held onsite, providing optimal programs to meet a variety of needs.



Dental Business:Online seminars at our overseas bases



Surgical Business:Kansas University Hands On Course in USA

Response to climate change and contribution to a recycling-oriented society (Materiality #8)

Zero-CO2 monozukuri initiatives

From December 1, 2021, NSK began introducing initiatives toward achieving zero-CO2 monozukuri by switching 100% of the electricity used at our domestic production sites—our Headquarters and A1 Factories—to solar power and other renewable energy (green energy). Since acquiring the ISO 14001 environmental management system in January 1999, we have been striving to reduce the amount of energy we use through environmental conservation at our production sites, the introduction of solar power, groundwater circulation air-conditioning systems, automatic air conditioning control systems, etc., and as a globally active company, in taking further measures to play a more active role in efforts to realize a sustainable society, we have decided to switch all energy consumed in domestic production activities to green energy originating from solar power.



A1+ completed and commencing operation

We have installed 1,600 solar panels on the entire roof of our new A1 Factory+ which is scheduled to commence operation in September 2022. These solar panels will generate a total of 620 kW of electricity, and all of the generated power will be used within the A1 Factory and A1 Factory+. We export our products to more than 135 countries, and almost all of our products are manufactured through integrated production at our Headquarters Factory (assembly and packaging) or the A1 Factory (parts processing) located in Kanuma City, Tochigi Prefecture. The A1 Factory which was completed in



A1 Factory and A1+

March 2018 improved productivity by optimizing the complex production lines from the former factory, but in order to continue to provide an apt response to the growing global demand for our products, we decided to expand our production area by constructing a new factory as we proceeded to introduce additional industrial machines and increase the number of production personnel in our drive to take production capacity to the next level. Through the operations of this new factory, featuring installed solar panels and other initiatives, we are working to make zero-CO2 monozukuri a reality.

Toward sustainability promotion

We created an animation series in the hope of inspiring people to “protect beautiful teeth and the global environment.” Our animations feature a diverse cast of characters, including Dr. Sakura, a dentist who attained the ability of talking to teeth after having thought so hard about them. “Healthy teeth contribute to a healthy mind, and good mental health would in turn contribute to peace in the world.” Two episodes are currently available on our website, and further chapters are currently under production. We hope that our animations will motivate viewers to look after their teeth and care for the environment.



>Related Link:

[NSK STUDIO](#)

Social



Quality, Customer Service and Product Responsibility

Quality Policy

The products and services that are provided by NSK places top priority on conforming to the requirements of relevant laws and regulations as well as customer requirements. We have established our quality policy based on the approach of undertaking quality management with all divisions to meet the satisfaction and trust of customers. Under this policy, we conduct quality management—which includes safety—in the entire product lifecycle, from planning, product development, manufacturing, sales and servicing to disposal. Once each year, we analyze the state of our organization based on internal and external issues and the needs and expectations of stakeholders to identify initiatives for risks and opportunities. We formulate quality targets for the fiscal year based on our quality policy, the President’s annual direction and the initiatives for identified risks and opportunities. These targets are then developed into departmental targets and activities toward achieving quality targets are undertaken by all employees.

Quality Policy

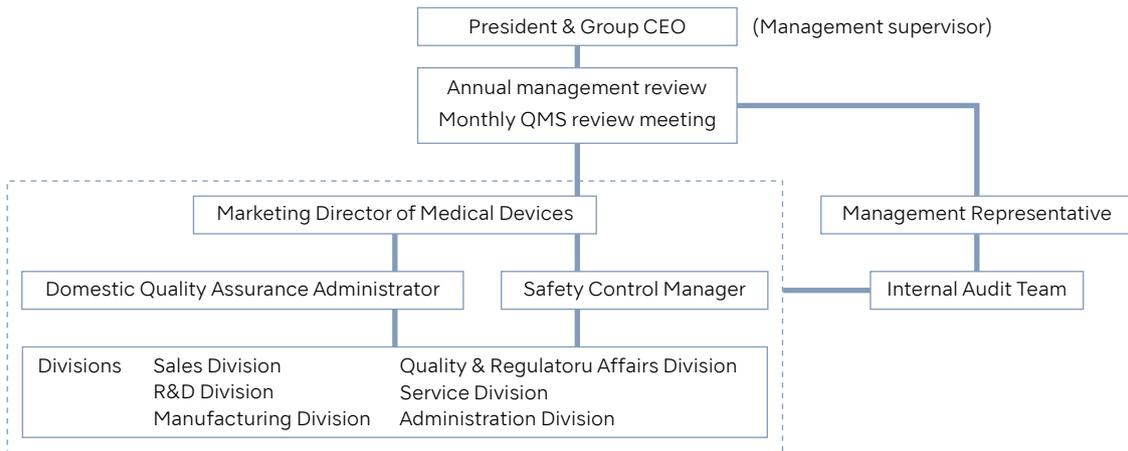
- Nakanishi achieves customer satisfaction and trust by quality management with all Nakanishi staff members, based on the philosophy of “quality first”.
- Nakanishi maintains effectiveness of the quality management system by meeting the quality management requirements.

Quality Management Structure

NSK strives to maintain and improve its quality management system structure based on the quality management system standard of ISO 9001 and ISO 13485 as well as the pharmaceutical regulations of market countries, such as Japan’s Act on Securing Quality, Efficacy and Safety of Products Including Pharmaceuticals and Medical Devices (PMD Act). In addition, besides ISO 9001 and ISO 13485 certifications, we obtained MDSAP* certification in 2019. We are working on further solidifying legal compliance in our sale of medical devices to various countries such as the transition to Medical Device Regulation (MDR). Our quality management structure comprises is organized into the Quality & Regulatory Affairs Division, comprised of the Quality Department which is in charge of managing product shipment to markets and managing safety after manufacturing and sale; the Regulatory Affairs Department which is in charge of applications based on the pharmaceutical regulations of each country; and the Quality Pharmaceutical Affairs Department, which houses the QMS Section, that implements and maintains the quality management system. The Quality & Regulatory Affairs Division, is in charge of companywide quality assurance and legal compliance, and is managed with the President & Group CEO as the executive-in-charge. In our PDCA cycle, executives and employees including the President & Group CEO, the three persons designated by Japan’s PMD Act (Marketing Director of Medical Devices, Domestic Quality Assurance Administrator and Safety Control Manager) and General Managers attend the monthly QMS review meetings and annual management reviews. At these meetings, we work on improving quality by monitoring the progress of plans related to quality, sharing information, and addressing and solving issues.

* Medical Device Single Audit Program (MDSAP): A program that confirms the compliance and appropriateness of a manufacturer’s QMS against the requirements of regulatory authorities of Australia, Brazil, Canada, Japan and the United States through a single audit by an auditing agency

Quality Management Structure



Initiatives

Quality in Design

In the design and development stages of products, NSK always strives to meet the laws, regulations and standards of countries around the world while maintaining and improving product quality. In the lifecycle process of products, eight “quality gates” have been established to confirm quality. In addition, during the design and development stages for new products and at all times collecting information about complaints and safety for existing product designs, we conduct risk assessment regarding quality and safety and strive to lower events with high risks. We put efforts into quality evaluation during the development stage, which is the source of monozukuri (manufacturing), and establish environments allowing the conduct of EMC, product safety tests, useability evaluation, mechanical and environmental tests, material analysis, electronic component analysis and fault analysis within the company to ensure product safety and quality.

Initiatives to Improve Product Quality and Safety

At NSK, the manufacturing frontlines have in place structures to ensure quality. The occurrences of nonconformance in the manufacturing process and at suppliers are monitored monthly and suppliers with high nonconformance rates are instructed, as appropriate, to improve quality. At the same time, quality audits are conducted regularly.

Quality Education for Employees

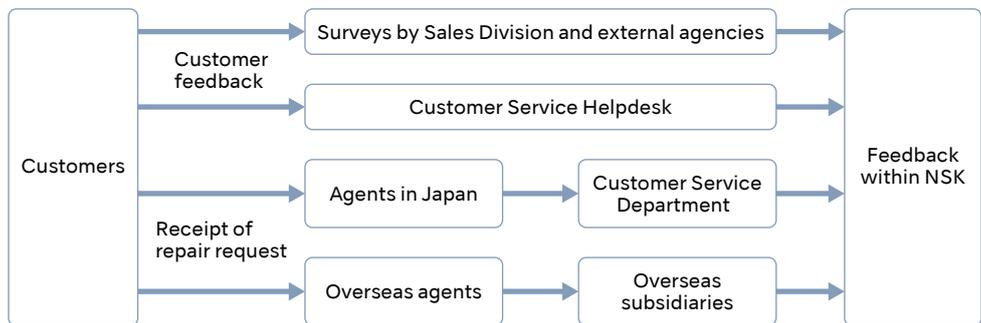
NSK conducts internal education regarding quality policy, quality targets and the impact on the quality management systems of each operation for all employees. Specifically, education is conducted by department and grade on the relevant standards of quality management systems such as ISO 9001 and ISO 13485 as well as the requirements of law and regulations. Education essential for the maintenance of quality management systems is also conducted, including risk management workshops and internal quality auditor workshops. In addition, quality education also includes workshops by external agencies, internal seminars with invited external lecturers and internal workshops by employees who are experts in their respective operations. Recently, internal education is being actively conducted online due to the impact of COVID-19, improving efficiency by conducting workshops without the need for lecturers to travel from afar.

Quality Issues and Responses

NSK has introduced a complaint processing system to collect information about quality from markets around the world in a timely manner. When information about nonconformance is obtained, we immediately pursue the cause to prevent nonconforming products from entering the market. In addition, when corrective or preventive measures are necessary for the nonconformance which occurred, we promptly follow internal regulations to plan and confirm these measures for their effectiveness. Through these actions, we strive to prevent the occurrence of similar nonconformances.

Customer Service Structure

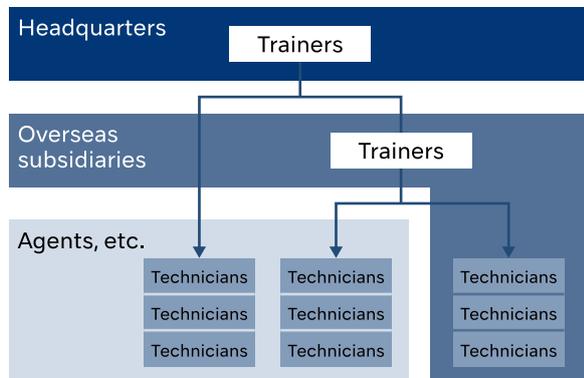
At the NSK Group, more than 6,000 cases of customer feedback are collected and analyzed by department through the Customer Service Helpdesk as well as surveys by the Sales Division and external agencies. Reports to the management and verifications are conducted regularly, and the information collected is fed back internally for use in product development and quality improvement.



Repair Service

The NSK Group has established a sales network spanning 152 countries in the world. To allow customers to use products with peace of mind, we accept repairs ourselves within Japan's domestic market while 13 local subsidiaries and approximately 450 local agents do so for overseas markets. Across the Group, we are working to enhance our structure for accepting repairs at local subsidiaries and local agents. We have approximately 120 service staff at our headquarters and local subsidiaries. Technicians who carry out repairs on our products undergo training either at our headquarters or overseas subsidiaries. We have established a system that evaluates the skills and knowledge developed through work and training and certifies technicians who meet a certain standard.

Training Structure



Training by trainer from headquarters

Responsible Marketing

NSK undertakes fair and responsible marketing activities in accordance with the Code of Ethics, Charter of Business Behavior and Promotion Code of the Medical Devices Industry formulated by the Japan Federation of Medical Devices Associations. NSK America Corporation, our subsidiary in the United States, undertakes fair and responsible marketing activities in accordance with the Physician Payments Sunshine Act.

Employee Data

Number of Employees

As of December 31 in each FY

	FY2017	FY2018	FY2019	FY2020	FY2021
NAKANISHI INC.	1,056	1,073	1,114	1,134	1,160
Regular employees*1	768	806	850	869	906
Temporary employees*2	288	267	264	265	254
Overseas group companies	246	277	309	315	333
Regular employees*1	246	277	309	315	333
Temporary employees	—	—	—	—	—
NSK Group (global)	1,302	1,350	1,423	1,449	1,493
Regular employees*1	1,014	1,083	1,159	1,184	1,239
Temporary employees*2	288	267	264	265	254

*1: Excluding employees seconded to other companies *2: Part-time and contract workers

Number of Employees by Gender

As of December 31 in each FY

	FY2017	FY2018	FY2019	FY2020	FY2021
NAKANISHI INC.	1,056	1,073	1,114	1,134	1,160
Male	647	660	672	683	694
Female	409	413	442	451	466

Note: Scope of aggregation covers regular and temporary employees of NAKANISHI INC.

Number of Employees by Region

As of December 31 in each FY

	FY2017	FY2018	FY2019	FY2020	FY2021
NSK Group (global)	1,302	1,350	1,423	1,449	1,493
Japan	1,056	1,073	1,114	1,134	1,160
Europe	149	160	184	189	183
United States	57	62	67	68	73
Asia (excluding Japan) and others	40	55	58	58	77

Number of New Employees

	FY2017	FY2018	FY2019	FY2020	FY2021
NAKANISHI INC.	159	136	131	76	109
Male	89	76	79	43	65
Female	70	60	52	33	44

Note: Scope of aggregation covers regular and temporary employees of NAKANISHI INC.

State of Employee Retention

	FY2017	FY2018	FY2019	FY2020	FY2021
Resignation rate	4.59%	5.99%	3.46%	2.11%	1.81%
Resignation rate of new employees within three years	4.35%	13.64%	0.00%	5.00%	7.69%

Note: Scope of aggregation covers regular employees of NAKANISHI INC. who resigned due to personal circumstances. The resignation rate of new employees within three years is calculated as of April 1 of each FY based on the number of new employees who joined three years ago and have resigned.

Human Capital Development

Basic Approach

A company is a collection of people, and it is the overall strength of those at NSK that represents the source of our strength. Human resources are our most important resource and most valuable asset. It is human resources that realizes our potential, and the quality of value exchange hinges on the quality of human resources. We have formed a wonderful team consistent with the "Exciting, Quality, Open, Honest" style of NSK where everyone shares a sense of excitement and fulfillment as well as a sense of joy and achievement at all times, and display their abilities to their heart's content. Our motto is "Let's increase individual value" and this is the ideal of our actions that we always keep close to heart. We make this the basic policy of our human capital development and constantly undertake human capital development that maximizes individual value.

Basic Policy of Human Capital Development



Initiatives

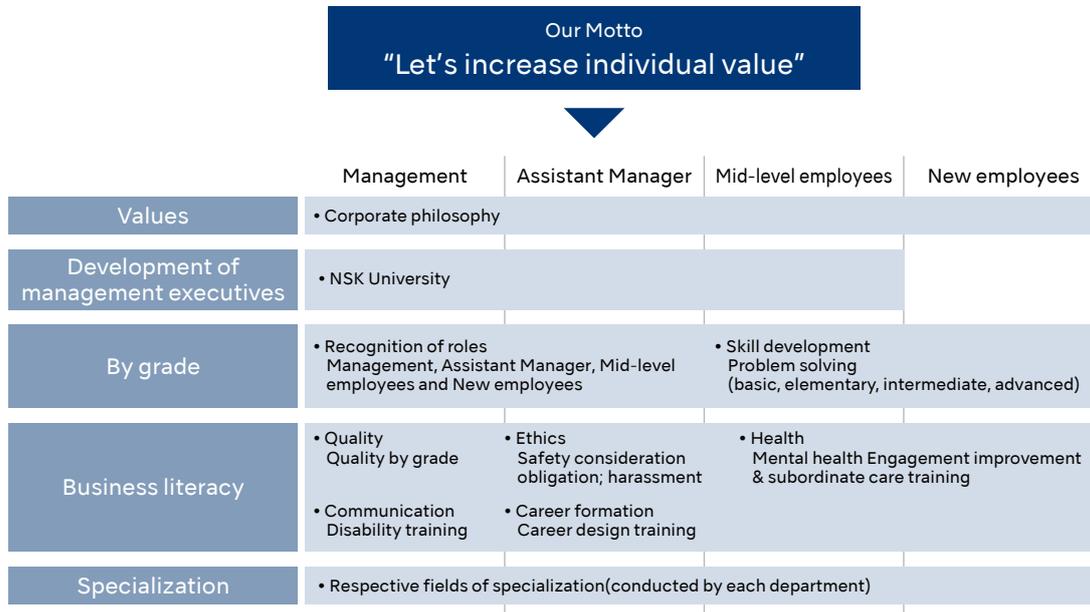
Human Resource System That Increases Individual Value

At NSK, one definition of growth is the improvement of value exchangeability with stakeholders. Our human resource system is the tool that supports the development of human capital which achieves this growth. Centered on Our Core, which encapsulates our values, we established systems for employee grade, evaluation, remuneration and capability development to achieve increase in individual value and individual and organizational growth, which is equivalent to improvement of value exchangeability. With these systems, we are building mechanisms that support the development of human capital which achieves the improvement of value exchangeability with stakeholders.



Training & Education System

Continuous improvement of education and culture is essential for developing human resources. At NSK, with increasing individual value as the basic policy of human capital development, human capital development training—such as corporate philosophy training, training by grade, business literacy training and specialized training—is conducted.



Fair Evaluation

To increase individual value and achieve individual and organizational growth—which is equivalent to improvement of value exchangeability—NSK decides remuneration based on two aspects: performance evaluation that assesses the accomplishment of tasks based on results, and role and capability evaluation that looks at behavioral characteristics such as how roles and capabilities are applied. In addition, through our internal open recruitment system, we offer support for autonomous career development that matches, as far as possible, the careers that the company has in mind with the careers desired by employees. We also create opportunities for the penetration and use of these human resource systems through interviews with superiors that take place three times each year.

Diversity and Equal Opportunities

Basic Approach

NSK is a collection of diverse individualities. Individualities are characteristics possessed by each person. If we can bring together individualities from various backgrounds—such as nationality, culture, age, gender, education, work experience and lifestyles—and fuse them while competing against and learning from each other to create unprecedented power, we will be able to overcome any kind of situation. We respect diversity such as culture, practices, language and race. At the same time, we actively promote fair employment and utilization of human capital regardless of gender, age or disabilities. Through dynamic teams that achieve breakthroughs by sharing thoughts and efforts and bringing together individualities, we advance efforts that allow everyone to play active roles and keep aiming to create new value.

Initiatives

Women's Success in the Workplace

The rate of women who are dentists, major customers for us, reached 25% (2020 census: Ministry of Health, Labor and Welfare). Also, many women are working as hygienists. Increasing the rate of women in decision making in the company leads to better service and products. We conduct activities to support careers for future female management candidates to increase the rate of women in our management. We set the goal for the rate of women in our management as 10% in 2025. The rate of women in our management is 3.30% in FY2021.

Rate of Women in Management

	FY2017	FY2018	FY2019	FY2020	FY2021
NAKANISHI INC.	1.83%	2.70%	5.31%	4.50%	3.30%

Note: Figures as of January 1 of each FY

Localization of Management

NSK believes that what is essential to become the global No.1 brand is the building of strong sales and marketing capabilities in major markets around the world and customer service and after-sales service capabilities to increase customer satisfaction. Currently, we have expanded our direct sales network to 15 bases around the world, including overseas subsidiaries and representative offices. Out of these 15 bases, 11 of them are led by employees recruited locally. We will continue to promote management rooted in the cultures of countries and regions where we are located.

Interaction with Vietnamese Human Resources through Technical Intern Training Program

Since 2009, NSK has been accepting overseas technical interns from Vietnam. Currently, we have approximately 60 interns undergoing technical training. In 2016, we built a dormitory within company premises to allow all interns to live in a clean and quiet environment. In addition, when constructing our new factory, we gave consideration to being able to commute to work on foot or by bus through implementing dedicated shuttle buses. In addition, besides technical training, we also provide opportunities for getting in touch with Japanese culture and traditions, such as participating in local festivals and conducting regular trips to Mount Fuji, which are popular with the interns. We restarted accepting overseas technical interns in April 2022 although we could not accept them for a while due to the regulation of immigration under the COVID-19 spread. Besides, it became possible to offer technical intern training for a maximum of five years for interns who wish to after finishing Technical Intern Training (ii), as applications for Technical Intern Training (iii) for excellent interns were permitted. Employment contracts are based on Japan's laws and regulations and signed in Vietnamese.

Participation of Employees with Disabilities

NSK's employment rate of persons with disabilities is 2.57% (FY2021), which has been increasing every year since FY2016. Toward a society where persons with or without disabilities can work and live together, the Human Resource Department and workplaces collaborate to strengthen support systems and conduct regular seminars for encouraging understanding of staff at workplaces where persons with disabilities work. In this way, we are promoting the creation of workplace environments where employees with disabilities can work easily and with motivation. We also introduced the use of electronic memo pads and support from sign language interpretation volunteers in company-wide events to support real-time communication with employees with hearing disabilities.

Employment Rate of Persons with Disabilities

As of June 1 of each FY

	FY2017	FY2018	FY2019	FY2020	FY2021
Employment rate (NAKANISHI INC.)	1.62%	2.20%	2.32%	2.42%	2.57%

Reemployment Initiatives

To promote the employment of employees who retired at the mandatory age of 60, we have established a retiree reemployment system. In addition, we also employ part-time workers after they pass 60 years old.

Conducive Workplace Environments

Basic Approach

With being the “To be The Leading Excellent Global Medical Device Company” stated in NSK’s long-term vision VISION2030 in mind, efforts are being made to improve workplace environments, establish human resource systems and create the best workplaces with motivation so that everyone working at NSK can work with motivation and continue to apply themselves at their workplaces.

Initiatives

Creation of Comfortable Workplaces Offering Peace of Mind —New Headquarters R&D Center and A1 Factory

NSK’s new headquarters R&D center (RD1) is equipped to serve a headquarters function and a research and development function to achieve efficient operations. In particular, to raise the level and speed of new product development, we have created an environment to make it easier for development designers to work assisted by state of the art equipment. In addition, our A1 Factory—which specializes in the integrated production of high-precision parts—comes complete with environmental hygiene and disaster-prevention facilities meeting high standards so that employees can work comfortably with peace of mind. It also has comprehensive measures against oil mist.



RD1



Research and development facilities



Center Court



A1 Factory



Production facilities



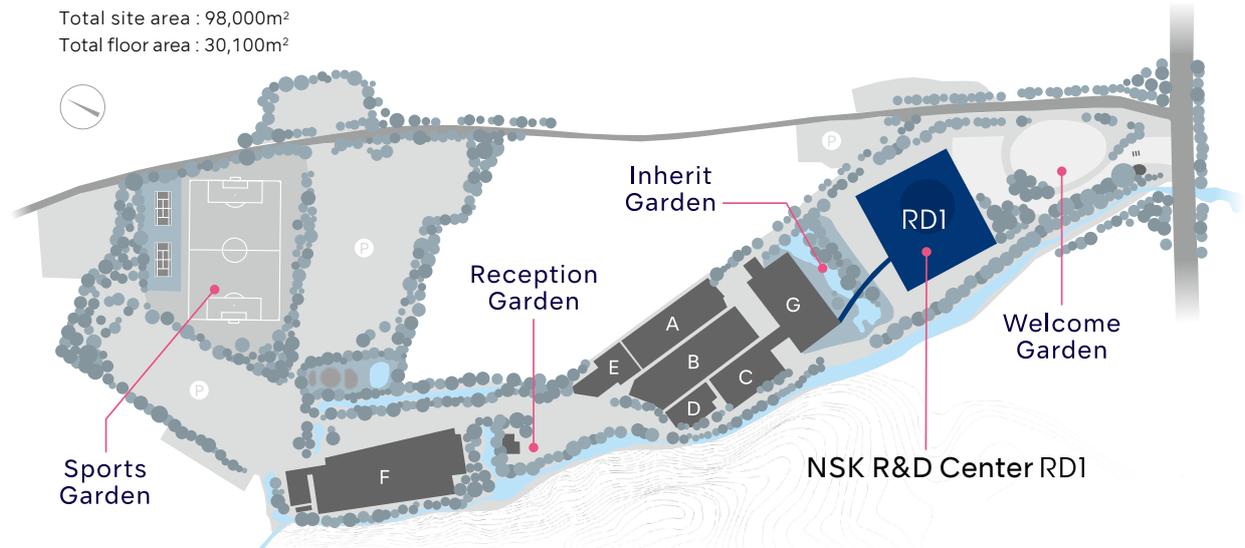
Canteen

SUNNY CAMPUS

"SUNNY CAMPUS" is the name given to the entire premises of NSK's headquarters. "SUNNY" is derived from "Hinata" (toward the sun), the name of the area in which our headquarters is located. The name expresses our company ethos of always reaching for the sun and working for a new dawn. The word "CAMPUS" highlights our company's dedication to production, operations, research and development, positioning this place as the center of innovation. There are trees, ponds and streams within the campus as well as tennis courts, a field and barbecue pits. We lend them out so that employees can use them to enhance health and communication after work or during non-working days.



Campus overview



Field



Tennis courts



Different flowers bloom during each season

Human Resource System Supporting Diverse Working Styles

At NSK, a system for working from home has been introduced to support diverse working styles that increase options for time and place of work. In addition, we introduced a paid leave system by the hour so that it is easier to balance work and private life, thereby encouraging the taking of paid leave. The rate of taking paid leave in FY2021 was 57.8%.

Systems to Support Balancing Work and Childcare

As support for balancing work and childcare is an important theme for us, we have established systems for childcare leave and shorter working hours that exceed statutory requirements. These systems are common for both regular and part-time employees. In FY2021, 21 employees made use of the childcare leave system and 100% of them returned to work. Three of them were male employees.

Nursing Care Leave

NSK has established various systems related to nursing care. In addition to statutory nursing care leave, employees also have up to 10 days of our in-house nursing care leave each year, which can be taken in full-day, half-day or hourly units, depending on the number of family members who need care. Employees can take up to 40 days of nursing care leave, when combining accumulated paid leave. One employee made use of the statutory nursing care leave system in FY2021. Furthermore, in FY2021, we introduced a system for working from home, which can be used for childcare or nursing care, to support balancing work with caring for children/family members.

Communication between Employees and Management

NSK has an activity called O-Time (Opinion Time). Employees, either self-nominated or nominated by others, discuss on a specific theme related to the company for approximately six months and make proposals to the management. Although the activities were interrupted from the viewpoint of preventing COVID-19, we have restarted discussing. So far, 14 themes have been discussed with several proposals implemented.

Examples of proposals



Safety Driver's Card



dialogues with the President and Executive Vice President



signages

Stress & Engagement Survey

Together with the annual stress checks for employees, NSK also conducts an employee engagement survey. We have established a PDCA cycle as an initiative for health and productivity management with the reduction of high stress and low engagement rate* as a target. The survey results are given as feedback to the departments, which then analyze the results and develop and execute action plans to improve on issues.

* High stress and low engagement rate: The rate of respondents with a low engagement score in addition to having a stress score higher (worse) than the standard

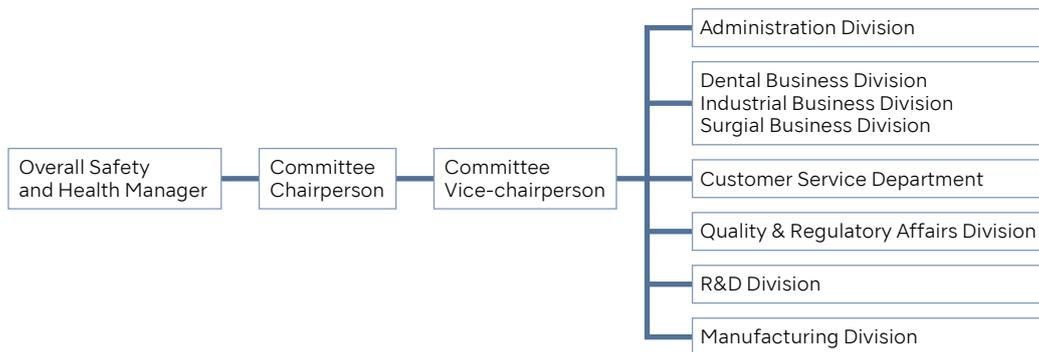
Occupational Safety and Health & Health Management

Safety Policy

NSK states that safety is prioritized over productivity and efficiency in its corporate philosophy. We formulated our safety and health management regulations aimed at creating comfortable work environments that ensure the safety and health of our employees and people who cooperate in our operations. We actively and continuously work on the improvement of working environments and enhancement of both mental and physical health to promote the creation of cheerful and vibrant workplaces without accidents or illnesses. Based on these regulations, we work on improvement activities to reduce the load on workers and make it easier to work. In addition, based on our Nakanishi Health Management Declaration, we have made it a companywide policy to give top priority to the health aspects of employees.

Safety Management Structure

At NSK, the Health and Safety Committee—which makes decisions about basic matters to enhance safety and health activities and prevent occupational accidents—is established based on the safety and health management regulations to ensure the safety and health of employees at the workplace.



Joint Safety Management by Labor and Management

NSK’s safety and health targets cover the number of occupational accidents resulting in time away from work and the promotion of dental, physical and mental health and productivity management. We work toward these targets centered on the Health and Safety Committee. The committee adopts measures to prevent accidents from short- to long-term perspectives based on the approach of risk assessment, such as the elimination of occupational accident risks discovered during workplace patrols.

Initiatives

Occupational Accident Statistics

Number of Fatal Accidents during Work

	FY2017	FY2018	FY2019	FY2020	FY2021
Employees	0	0	0	0	0
Dispatched employees	0	0	0	0	0

Note: Scope of aggregation covers regular and dispatched employees of NAKANISHI INC.

State of Accidents Resulting in Time Away from Work at Sites in Japan

As of December 31 in each FY

	FY2017	FY2018	FY2019	FY2020	FY2021
Number of employees who required time away from work	0	3	0	2	0

Initiatives to Prevent Occupational Accidents

NSK takes measures to prevent occupational accidents by conducting occupational accident risk assessment each year centered on the Health and Safety Committee.

Conduct of Safety Education

Besides conducting the following training regarding safety education, the required education is conducted at each workplace.

- Safety education training (work supervisor education)
- Dust explosion workshop
- First aid workshop
- Danger experience seminar
- Safe driving workshop
- Automated external defibrillator (AED) workshop

Health and Productivity Management

Based on our Nakanishi Health Management Declaration which is our philosophy for promoting health and productivity management, NSK focuses on dental, physical and mental health when being more active in promoting health enhancement activities, identifying health issues and taking measures.



Nakanishi Health and Productivity Management Declaration

Amid a society that is growing old rapidly, NSK strives to contribute toward the extension of health expectancy for people based on the approach that dental health leads to physical health.

To achieve this approach, we think that the most important thing is for each and every employee to continue to be healthy.

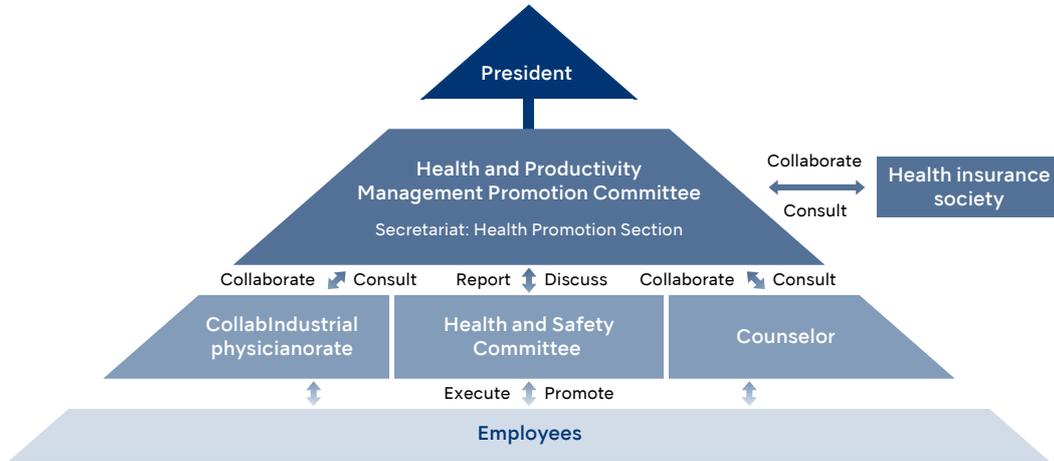
“Let’s increase individual value”—stated in our motto—also applies to health.

We declare that we will actively undertake various health enhancement activities so that each and every employee can take the initiative to maintain and enhance mental and physical health autonomously to increase individual health value.

NAKANISHI INC.
President & Group CEO
Eiichi Nakanishi

Promotion Structure

NSK has established the Health Management Promotion Committee, and health and productivity management promotion measures discussed and decided by the committee are promoted by the Health Enhancement Section of the Human Resource Department—which acts as the secretariat—in collaboration with affiliates within and outside the company.



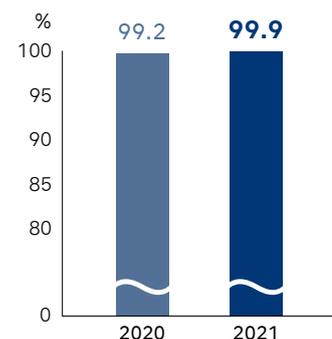
Dental Health

FY2021 measures and targets	Results and performance
Rate of undergoing dental health examination during working hours	
Actual rate :100%	Not conducted in FY2020 or FY2021 due to the impact of COVID-19
Rate of recommaending visit to dental clinic for employees with untreated decayed tooth	
Actual rate :100%	Not conducted in FY2020 or FY2021 due to the impact of COVID-19
Internal training by dental specialist	
Conduct lecture on brushing of teeth	Actual performance in FY2020: Conducted one times with a total of 6 participants Actual performance in FY2021: Conducted four times with a total of 16 participants

Physical Health

FY2021 measures and targets	Results and performance
Rate of undergoing primary health examinations	
Rate of undergoing : 100%; rate of employees with diagnosis: 60% or lower	Actual rate in FY2021: 99.9%; rate of employees with diagnosis: 69.7%
Rate of recommending examination to employees applicable for secondary health examinations and follow-up	
Actual rate :100%	Actual rate in FY2021: 100%
Creating habit of exercise: Employees who conduct exercise to sweat twice or more each week, 30 minutes or longer each time	
20% or more	Actual rate in FY2021: 18%

Rate of undergoing primary health examinations



Mental Health

FY2021 measures and targets	Results and performance
Conduct of stress & engagement survey	
conducted	conducted
Employees with high stress & low engagement	
16.5% or less	Actual rate in FY2020: 15.7% Actual rate in FY2021: 18.7%
Engagement improvement training	
	Not conducted in FY2020 or FY2021 due to the impact of COVID-19
Mental toughness improvement training	
	Not conducted in FY2020 or FY2021 due to the impact of COVID-19
Attendance rate of e-learning lessons (mental toughness improvement of subordinates, assertion, etc.)	
	Attendance rate: 94.7% (scope: all management positions)

Keeping Down Long Hours of Work

As excessive work is a factor that undermines mental and physical health, we work to prevent long hours of work. Together with observing the relevant laws and regulations, we strive to improve operations by establishing internal standards and requiring supervisors to be contacted and checklists to be submitted to the Human Resource Department when working hours exceed the internal standards. In addition, we create opportunities for consultations with industrial physicians when necessary. Regarding the management of working hours, we manage time at the workplace using IC cards.

Respect for Human Rights

Basic Approach

Human rights are rights that all human beings are born with and a universal value. A company is a social system that contributes toward society's expectations and people's happiness. Its management is but a public institution that must follow the logic of people. NSK is always oriented toward the ideal of companies as public institutions of society. We carry out management not based on the company's logic, which puts the company at the center, but based on the logic of people. We respect the human rights of every person and do not accept any form of discrimination (such as gender, age, nationality, race, ethnicity, ideology, belief, religion, birth, education, disabilities, illness and marital status), forced labor, and child labor. In addition, we treat everyone with the same respect and dignity. Based on the above policy, we respect the principles regarding human rights in the United Nations Global Compact and will realize the qualities required by society. We respect the human rights of our employees and those working at our company based on laws and regulations as well as employment rules.

Initiatives

Human Rights Risk Evaluation

NSK checks the state of harassment through the stress & engagement survey conducted annually for employees and take corrective actions as appropriate.

Human Rights Awareness & Education Training

NSK strives to prevent violations of human rights by conducting education for purposes such as preventing harassment (annoyance) and spreading the correct knowledge about work. We conduct training regarding harassment and labor management in the training organized for new managers each year. At the same time, based on the results of stress checks and engagement surveys, we conduct harassment training for existing management and managers as appropriate. In FY2021, 36 new managers attended the training.

Hotlines for Human Rights-related Whistleblowing and Consultation

NSK has established hotlines that can be used freely by all employees and overseas technical interns for consultation about their worries at the workplace and problems in the working environment. Information regarding whistleblowing is handled strictly so that they can use the hotlines with peace of mind. Employees and interns will not be penalized because of whistleblowing or consultation. The hotlines are established with the Human Resource Department internally and with an external agency outside the company. Whistleblowing is possible through telephone, fax or email. In FY2021, there was two case of whistleblowing reported internally and one case externally.

Responsible Supply Chain

Basic Approach

The supply chain, leading from the procurement of raw materials and parts to manufacturing, distribution, inventory management, sales, use and disposal, can include social issues such as human rights abuses, poor working conditions, environmental destruction and conflict minerals, especially in raw material procurement and secondary and tertiary business partners. These problems are seen as a global issue. To ensure sustainable procurement, companies are required to expand purchasing management to not only their own purchasing but their entire supply chain, contributing to resolving this social issue. At a time when poverty is causing human rights and labor issues to become increasingly serious, and the social environment is changing at an accelerating pace, NSK recognizes that deepening our relationships with our procurement partners and working to strengthen our purchasing abilities is more important than ever. Based on an optimized, solid procurement platform, we will contribute to the creation of a sustainable society by aiming to resolve social issues such as conflict minerals through collaboration and dialogue with our procurement partners.

Initiatives

Business Partner CSR Guidelines / Green Procurement Guidelines

NSK's corporate activities are founded on our raison d'être of "creating brilliant progress" as a way so the society in which we live can make better progress. In addition, we also hold that the definition of a company is a social system that seeks happiness and contributes to the expectations of society and the happiness of people through the exchange of value. This raison d'être and company definition are defined as our basic principles and management philosophy, which all officers and employees must abide by, and we work to ensure they are all aware of them. In addition, we are committed to meeting society's expectations in terms of safety, quality, compliance, environmental protection, stable supply and fair value. Also, we believe it is important to promote these initiatives through our business during our procurement of raw materials and services. NSK created our Business Partner CSR Guidelines in April 2021 as a way to respond to the expectations of society in collaboration with all our business partners, and put together the items we want our business partners to work on. We are carrying out activities to ensure these Guidelines are understood and thus strengthen our supply chain together. At the same time, we are working to ensure awareness within our company of the following two points in our Compliance Behavioral Guidelines.

Healthy Corporate Activities

We respect our suppliers and other business partners as equal partners based on the principle of good faith, aiming for mutual prosperity and practicing sincere, fair, and equitable corporate activities. In addition, we do not carry out any unfair or improper activities that take advantage of our superior position.

Respect for Human Rights Across the Supply Chain

NSK uses contracts to require our suppliers to comply with all laws and regulations both domestic and international in transactions in Japan or overseas.

Monitoring Human Rights Issues across the Supply Chain

We monitor human rights issues and risks in the supply chains that feed us the parts and raw materials for our products, and strive to comply with the laws and regulations. In addition, we have established our Green Procurement Guidelines for managing chemical substances.

>Related Link:

[Business Partner CSR Guidelines](#)

[Green Procurement Guidelines](#)

[Statement regarding the UK Modern Slavery Act](#)

Response to the Conflict Minerals Issue

Certain minerals (tin, tantalum, tungsten, and gold) produced in the Democratic Republic of the Congo and neighboring countries have been reported as being a source of funding for armed groups, and may be contributing to human rights abuses caused by their conflicts. This is an issue that arises at the start of the supply chain, and we at NSK are aware that we need to take responsibility for addressing it. Therefore, we have stopped using conflict minerals from the Democratic Republic of the Congo and neighboring countries in our products, parts, and materials, as we aim for a society where there are no abuses of human rights in the mines that are the start of our supply chain. We carried out an investigation into conflict minerals, and, within the scope of the investigation, confirmed that there was no evidence of our involvement with these specific minerals or with conflicts.

Relationships with the Local Community: Social Contribution Activities

Basic Approach

The NSK Group holds up the mission of creating “brilliant progress” via innovative “grinding technology” at the “Our Core” values of corporate philosophy. To achieve this, we contribute to the extension of health expectancy for people all over the world through our corporate activities, and at the same time, we carry out a range of social contribution activities as a company rooted in our local community. Our products are sold in more than 135 countries around the world, and we carry out our business activities in many different countries and regions mainly through our headquarters and the overseas subsidiaries we have set up in 15 countries. Amidst this, our group holds CPS (Culture-oriented, People-based, Social-perspective) as its core premise when carrying out our business. Our group strives to provide solutions to social issues by drawing on our partnerships with the various local stakeholders, while we deepen our understanding of the cultures, societies, and environments of the various countries and regions we operate in. Our headquarters is located in a rich natural environment, overlooking the Oashi River, a major river famed for its clear waters. Inspired by the original Japanese name of the place, we gave it the name SUNNY CAMPUS. While it is of course the headquarters of our group's business, we also hope that it will continue to be a place of organic interactions with the local community. NSK products end up all over the world, but most of them are produced either at our headquarters factory in SUNNY CAMPUS, or the A1 Factory next door. As the slogan “Made in KANUMA” suggests, for our group, which continues to carry out integrated production in the Kanuma region, maintaining good relationships with the local community is one of the key management issues. As a good corporate citizen, we intend to continue carrying out a range of social contribution activities that build on the demands and expectations the local community has of us.



Initiatives

Main Recent Initiatives

Initiatives in Japan

Blood Donation at the Headquarters and A1 Factory

NSK has held blood drives for many years now. Twice a year, in May and November, we work with the Tochigi Red Cross Blood Center to hold a blood drive at our headquarters and A1 Factory. Each time, about 120 people donate blood. The coronavirus pandemic caused a shortage of blood in 2021, so we upped our blood drives to three times a year, in March, July, and November.

NSK Nakanishi Foundation (scholarship)

The NSK Nakanishi Foundation (became a public interest incorporated foundation in 2018), founded on October 12, 2016, provides scholarships to dentistry students to secure and train the skilled people who will lead the dental medicine of the future. The Foundation pays out scholarships to provide an environment where students can learn passionately, contributing to the further advance of dental medicine.



Sponsorship of Local Sports Teams

NSK has signed sponsorship agreements with a number of professional sports teams in Tochigi Prefecture. Encouraging sports together with employees and local residents, it continues contributing to revitalizing the local community and encouraging [promoting] sports in it.



Membership in B.LEAGUE
Professional basketball team
Utsunomiya Brex



Membership in Japan Cycle League
Professional cycle road racing team
Utsunomiya Blitzen



Membership in J.LEAGUE
Professional soccer team
Tochigi Soccer Club



Membership in Asia League Ice Hockey
Professional ice hockey club
H.C. Tochigi Nikko Ice Bucks



Membership in ROUTEINN BCL
Professional baseball team
Tochigi Golden Braves

Sponsorship of National Sports Festival of Japan in Tochigi (Ichigo Ichie Tochigi Kokutai)

We have become an official partner sponsoring the National Sports Festival of Japan in Tochigi which will be held in October 2022. The National Sports Festival (Kokutai) is the largest sports festival in Japan, and has been held every year since 1946, hosted by a different prefecture each year. In 2022, the Sports Festival will be held in Tochigi Prefecture for the first time in 42 years. We sponsored this event because we share the Sports Festival's philosophy of disseminating sporting activity widely, improving the physical health and strength of the people, promoting regional sport, and contributing to the development of local culture.



Future Creation University for Children in Tochigi Project

We want to provide children with opportunities to "touch and learn from the real thing" and help them create their own visions of the future. We have been part of the Future Creation University for Children in Tochigi project run by the prefecture since 2018. We also host a number of social studies class visits from elementary schools throughout the prefecture.



Open SUNNY CAMPUS

"SUNNY CAMPUS" is the name we give to the entire site where our headquarters factory is located. The sports field, tennis courts, and other facilities on the grounds are made available for local educational institutions and so on to use for free.



Support for Kanuma Rotary Club's Education for Job-seekers

We continue to support job-seeking activities for local students who are approaching the milestone that is graduation. We take charge of courses for job-seeking students run by the Kanuma Rotary Club, and hold seminars on interview techniques.

Environment



Environmental Management

In recent years, social issues related to the environment, such as climate change due to the impact of global warming, resource depletion due to population growth and marine pollution due to ocean plastics have become increasingly serious. As a movement of the international community toward the environment, it is necessary to tackle these issues on a global scale. In response to this situation, in September 2015 the United Nations General Assembly adopted "The 2030 Agenda for Sustainable Development," centered on "Sustainable Development Goals (SDGs)." SDGs outline 17 goals and 169 targets that need to be addressed for a sustainable world—including environmental conservation—such as "Taking urgent action to combat climate change and its impacts" and "Ensuring sustainable consumption and production patterns." They call for the active involvement not only of countries but of companies, too. As societal issues grow more complex and more serious, at NSK we believe that companies have a duty to contribute to the development of societies through their business activities. In December of the same year, the "Paris Agreement" was adopted at the International Conference "COP21" of the United Nations Framework Convention on Climate Change (UNFCCC), and the movement toward decarbonization is accelerating in Japan and overseas. Companies are required to understand the risks and opportunities posed by climate change to their businesses, set long-term reduction targets, and work to reduce greenhouse gas emissions throughout the supply chain. It is also expected that local communities, companies, and the whole world will work together to resolve important environmental issues. Accordingly, we believe that companies have an increasingly important role to play in solving environmental issues, and that companies are dutybound to respond to the various needs and expectations of society. At NSK, we recognize that addressing environmental issues such as climate change is a management issue of the utmost importance. We intend to use the monozukuri (manufacturing) expertise and advanced technological capabilities we have accumulated to demonstrate solutions to environmental problems, and build a foundation for achieving SDGs by steadily advancing wide-ranging initiatives. These include strengthening legal compliance, reducing the environmental impact of our monozukuri, promoting environmental education and communication and conserving biodiversity. At NSK, we recognize we are both a member of society and a company that contributes to the global environment. In response to environmental issues such as climate change, we have defined "coexistence between people and the earth" as one of our goals, and we intend to promote our Green Plan 2030 medium-term plan. By integrating our technological capabilities and inventiveness, and by resolving societal issues and growing our business, we believe we can contribute to the creation of a bright future. We understand this to be a corporate duty, which we intend to fulfill as part of our responsibility to society.

Environmental Policy

At NSK, based on our Environmental Policy, we take the environment into consideration in our business activities.

Environmental Policy

NSK shall implement in all its corporate activities, such as research and development, manufacturing, sales and services of ultra-high-speed rotary equipment, including dental instruments, considering the organization state that can affect business activities, the following environmental activities based on the goals of reduction of environmental impact for the global environment of the future, harmony with nature, and the establishment of a healthy and prosperous society:

1. Promotion of environmental protection, including prevention of contamination

NSK reduces environmentally hazardous substances in all of its activities to prevent contamination and protects the natural environment from harm and degradation arising from organizational activities, products and services.

2. Continuous improvement of the environmental performance of energy and resource conservation

NSK continuously improves its environmental performance in all fields of its activities including manufacturing products, focusing on energy conservation for global warming prevention and recycling for resource conservation.

3. Compliance with environmental laws, regulations and other voluntary standards

NSK ensures compliance with environmental laws and regulations related to all of its corporate activities, products and services and standards judged to affect the needs and expectations of interested parties.

4. Reduction of environmental loads in all processes of business considering the life cycle

NSK strives to continuously improve the activities to reduce environmental impact of all production processes from product planning and development to manufacturing, sales, use and disposal, with all of its employees, by accurately assessing the impact of its corporate activities on the environment and setting environmental targets within the range of technological and economical abilities.

5. Promotion of communication with stakeholders

NSK communicates with stakeholders, including those in the surrounding areas, to maintain the environment.

6. Dissemination of environmental policy

NSK communicates environmental policies and the importance of global conservation to all related stakeholders.

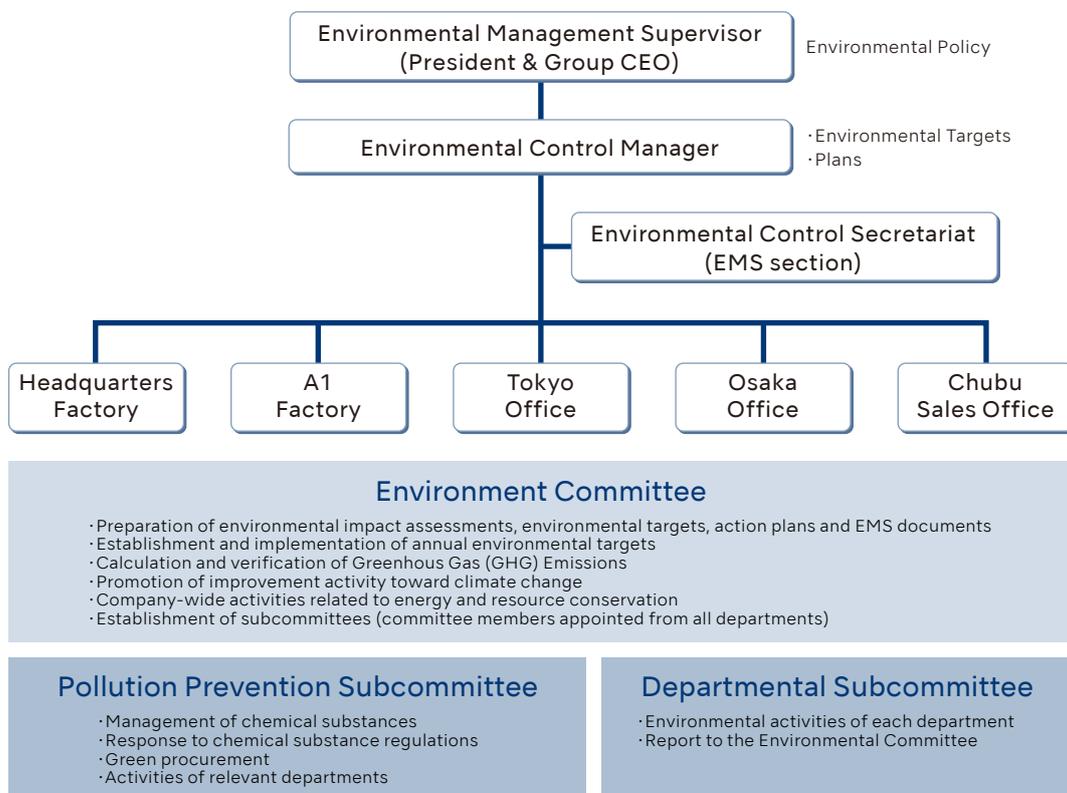
Environmental Management Promotion Structure

At NSK, our President and Group CEO is responsible for overseeing the promotion of environmental management. Under his supervision, we proactively execute our responsibilities centered on the following four key aims:

1. Strengthening our Environmental Management System
2. Providing environmentally friendly products
3. Establishing environmentally friendly monozukuri systems
4. Promoting environmental communication
5. Response to environmental issues such as climate change and resource recycling, etc.
6. Calculation and verification of Greenhouse Gas (GHG) Emissions

In order to promote these aims effectively, we have integrated our company's environmental activities in a cross-departmental manner; specifically, we have appointed an Environmental Control Manager and established the EMS Section as the secretariat responsible for supervising these promotions. These personnel and organizations are responsible for debating and making decisions on key matters, such as defining our Environmental Policy and environmental activities, ensuring we comply with environmental laws and regulations and making recommendations to the management. We have also established the Environmental Committee, which is responsible for the operation of the Environmental Management System, document reviews and the promotion of energy conservation and the 3Rs (reuse, reduce, recycle). Likewise, we have established the Pollution Prevention Subcommittee, which monitors the RoHS Directive and other requirements for chemical substances in various countries and seeks to prevent chemical substance pollution and reduce environmental risk. These committees examine and deliberate all manner of issues, and the conclusions are reflected in activities throughout the company.

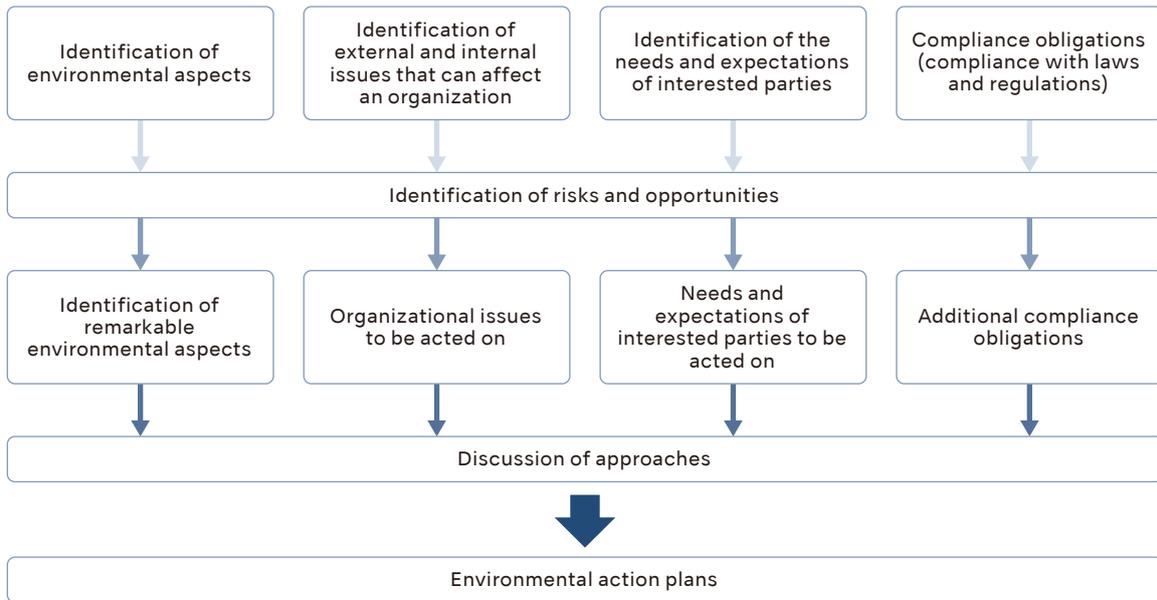
Environmental Management Promotion Structure



Identifying Environmental Risks and Opportunities

At NSK, we have established an Environmental Management System that conforms to ISO 14001; through this management system, we identify important risks and opportunities related to environmental issues, discuss how to respond to these issues and implement action plans accordingly. In addition, based on the concepts outlined in ISO 14001:2015, we are in the process of establishing systems to identify risks and opportunities with the potential to impact our business activities in a manner that exceeds merely an environmental framework. Examples include “external and internal issues that can affect an organization” and “the needs and expectations of interested parties.”

Process for Identifying Risks and Opportunities



Risks and opportunities to be acted on as part of ISO 14001		Risk or opportunity
Remarkable environmental aspects	1. Electricity use	Risk
	2. Waste emissions	Risk
	3. Recycling rates	Risk
	4. Paper use	Risk
Organizational issues (external)	1. Monitoring and complying with environmental laws and regulations	Risk
	2. Increasing energy and industrial waste costs	Risk
Needs and expectations of interested parties	1. Price increase of energy due to changing global circumstances such as COVID-19	Risk
	2. Formulating medium and long-term Environmental Vision	Opportunity
	3. Response to environmental risks (climate change, chemical substance contamination, etc.)	Opportunity

Environmental Audit

The EMS Section, which is the department responsible for environmental management, carries out internal environmental audits once a year in all departments. The internal environmental audits verify the state of progress of environmental action plans in each department, and thereby confirm the suitability, compliance and effectiveness of the Environmental Management System. The results of these internal environmental audits are reported to the management once a year. In an internal audit in FY2021, we found one unchecked machine of simple inspections required by the Act on Rational Use and Proper Management of Fluorocarbons, and reported one minor non-conformance and conducted corrective action. Environmental audits of business partners are jointly carried out by the Procurement Department, the Production Management Department and the EMS Section. "Environmental audits of business partners check sheets" are distributed to business partners in advance to verify the state of their environmental initiatives. We then narrow down target areas to be audited, and carry out on-site checks of environmental burden reduction activities, compliance with laws and regulations and other aspects. In FY2021, we conducted environmental audits of business partners towards 13 companies (Suppliers: eight companies, Subcontractors: five companies). As a result, we issued 17 enhancement requests and all the corrections were completed. These environmental audits of business partners are also used as opportunities to share issues related to the promotion of environmental management and to provide education related to environmental laws and regulations. In FY2021, we found many business partners have great interest in initiatives such as the substitution of renewable energy in our company, the greenhouse gas (GHG) emission calculation method, and biomass power generation utilizing food wastes.

Number of Environmental Audits Carried Out

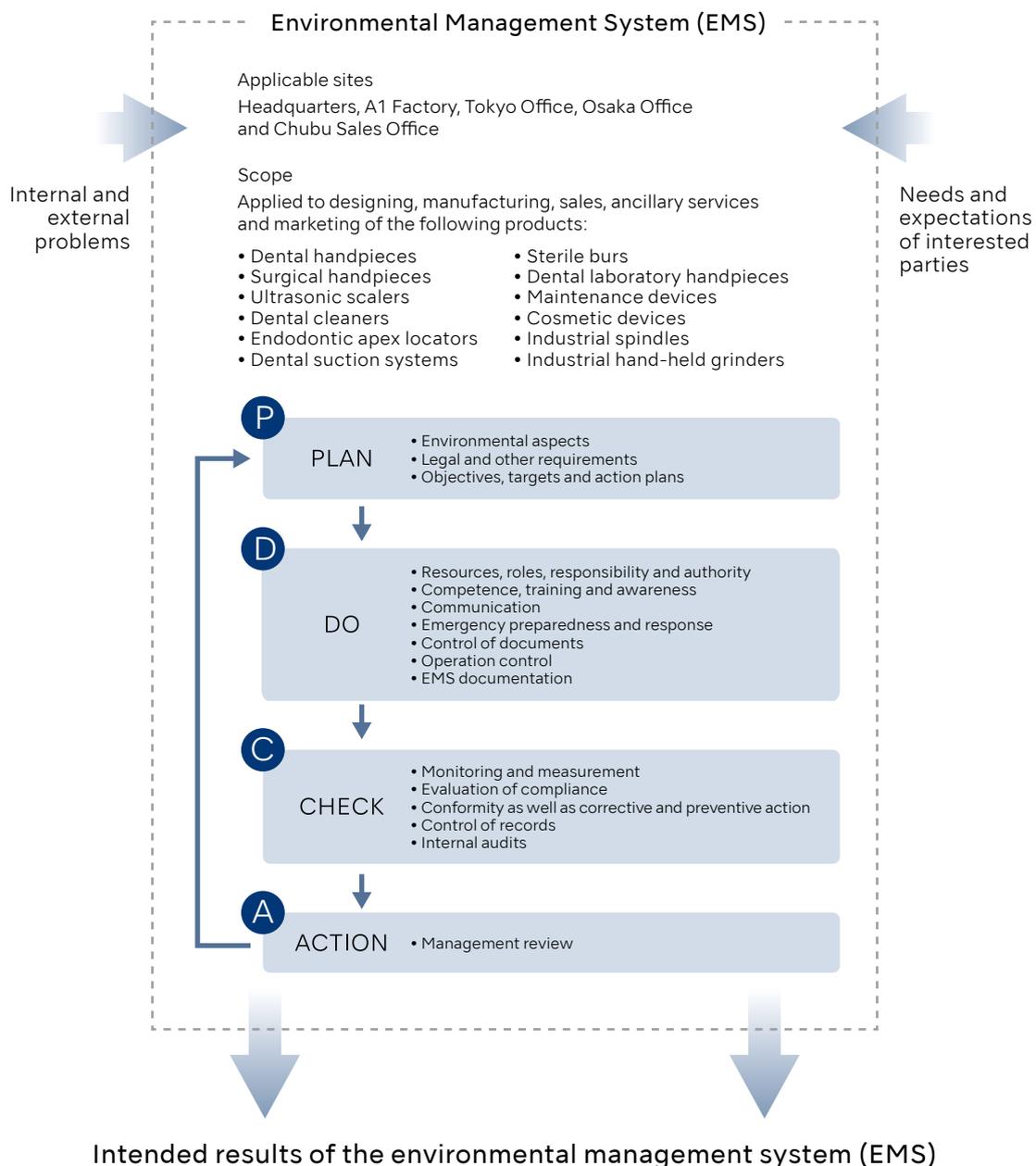
		FY2018	FY2019	FY2020	FY2021
Internal audits		1	1	1	1
Environmental audits of business partners	Suppliers	11	10	8	8
	Subcontractors	5	6	5	5

Other on-site inspection audits of industrial waste contractors and external dangerous goods warehouse managers

At NSK, we carry out on-site inspection audits of industrial waste contractors (collection and transportation, and intermediate disposal sites) and external dangerous goods warehouse managers with whom we have concluded contracts. Through these inspection audits, we verify compliance with applicable laws and regulations, and suggest corrective measures and recommend improvements where necessary. In FY2021, we carried out audits of ten industrial waste contractors, two resource recovery plants, and one external waste warehouse manager by written examinations with checklists due to COVID-19 expansion. We found no points that required correction.

Environmental Management System

Environmental issues are common to people all of the world, and it has become an age that companies' effort to reduce their environmental burden affects the evaluation of the management quality and, in turn, the evaluation of products. At NSK, we are engaged in environment-friendly business operations; to this end, we acquired ISO 14001 certification, the global standard environmental management system, in January 1999. We are implementing environmental activities based on our management policy of reducing the environmental impact for the future global environment and realizing a healthy and prosperous society in harmony with nature through all our business activities including research and development, manufacturing, sales, and service of dental medical equipment and other ultra-high-speed rotary equipment. We have adopted the Environmental Management System at each of our five business sites—our Headquarters and A1 Factories, and our Tokyo, Osaka and Chubu Sales Offices. In order to grasp states of progress and potential issues, and in order to strengthen our management activities at each of these business sites, we have integrated our environmental activities and operate an efficient management system rooted in ISO 14001. Through these activities, we categorize business and environmental issues as “risks” or “opportunities,” and implement solutions aimed at their resolution. Our approach conforms to ISO 14001:2015.



Targets and Results

Medium-term Plan: Green Plan 2030

At NSK, we have for a long time promoted environmental activities based on our medium-term plans. In our previous Green Plan 2020, which ran from FY2016 to FY2020, we set out targets to reduce energy use and industrial waste emissions by 1% year on year, and worked hard to reduce our impact on the environment. With the exception of reducing our industrial waste emissions, we succeeded in achieving all targets set out in the Green Plan 2020. After that, we formulated the environmental medium-term plan “Green Plan 2030” in FY2021 based on the results of the Green Plan 2020 activities we had been working on, on various environmental issues surrounding our company such as global warming, and on our medium-term management plan. The Green Plan 2030 sets even higher targets than our previous medium-term plan. We believe that companies have an increasingly important role to play in solving environmental issues, and that they are dutybound to respond to the various needs and expectations of society. Our formulation of the Green Plan 2030 is rooted in an awareness that responding to society’s expectations in this way will help us execute our social responsibilities. At NSK, we intend to carry out a variety of initiatives aimed at reducing our impact on the environment, based on our Green Plan 2030 medium-term plan. Going forward, we expect that climate change reduction goals, initiatives and measures will be defined by various countries. We will strive to reduce our greenhouse gas emissions, paying close attention to greenhouse gas reduction trends both in Tochigi Prefecture and in Japan as a whole. We reviewed the Green Plan 2030, taking into consideration the results of environmental activities in FY2021. We started calculation of greenhouse gas emissions since FY2021 as response to climate change that is a matter of the utmost importance for the company. From the result of the calculation of greenhouse gas emissions, we determined the reduction target of greenhouse gas emissions from our business activities (consumed by our company) at domestic production sites (Scope 1 and 2). Going forward, for other indirect emissions (Scope 3), we shall expand the scope of calculation of greenhouse gas emissions including local subsidiaries. Gradually, we shall look for how to reduce greenhouse gas emissions in the entire supply chain. Furthermore, we shall consider activities that increase contributions toward climate change, taking into account acquiring environmental initiative certification. In addition, based on our activities in FY2021, we revised the food waste reduction target to reduce by 30% by 2030 compared to 2020. We shall revise the target again, as necessary.

Green Plan 2030

Initiative	Aim	Management items	Head-quarters	A1	Base year	Target values		Concrete measures
					Base value	2025	2030	
Combating climate change	Control greenhouse gas emissions	Calculated greenhouse gas emissions Scop1+2 (t-CO2)	○	○	2019 7,148	▲80%	▲100%	<ul style="list-style-type: none"> Increase proportion of renewable energy used Introduction of J-Credit Scheme Introduction of Electric Vehicles (EVs)
		Reduce per unit CO2 emissions (Number of shipments) (1,000 kW per 1,000 units)	○	—	2019 0.3997	▲5%	▲10%	<ul style="list-style-type: none"> Repair air loss Update aging facilities Review automatic air-conditioning controls and operations
		Reduce per unit CO2 emissions (production units) (1,000 kW per 1,000 units)	—	○	2019 0.0513	▲7%	▲15%	<ul style="list-style-type: none"> Optimize compressor source pressures Discontinue use of mercury lamps Improvements to productivity
Establishing a recycling-oriented society	Control waste emission volumes	Per unit industrial waste emissions (production units) (kg per 1,000 units)	○	○	2019 55.88	▲20%	▲25%	<ul style="list-style-type: none"> Optimize sorting processes Properly classify industrial waste and general waste from business activities Reuse waste oil and cleaning fluids Reduce food waste Carefully implement the 3Rs
	Promote zero emission	Resource recovery rate	○	○	99%	99% or more	99% or more	Resource recovery rate 99% or more
	Reduce food loss	Food recycling rate	○	○	2020 21,517	▲30%	▲30%	<ul style="list-style-type: none"> Standardize disposal methods Monitor canteen utilization rate
Management of chemical substances	Promote green procurement in supply chains	Content of banned substances (%)	○	○	—	0	0	<ul style="list-style-type: none"> Regularly monitor laws and regulations in various countries Ensure green procurement across entire supply chain Integrate management of data using chemSHERPA
Legal compliance	Monitor applicable laws	Compliance rate with related laws	○	○	—	100%	100%	<ul style="list-style-type: none"> Promote green procurement Monitor domestic and overseas environmental laws and regulations
Preventing environmental pollution	Plant effluent standards	Compliance with effluent standards	○	○	—	100%	100%	Trend management of inspection data
Water usage	Water usage surveys and reductions	Headquarters Factory clean water	○	—	—	Monitoring and reductions (m³)		A1 Factory installation of water circulation tank
		A1 Factory clean water	—	○	—			
		A1 Factory industrial water	—	○	—			
		A1 Factory effluent water	—	○	—			

Environmental Activity Results for FY2021

At NSK, we set—and work to achieve—annual environmental targets based on our Green Plan 2030 medium-term plan and on the business issues we have categorized as “risks” or “opportunities.” In FY2021, as water quality in the A1 Factory septic tanks was unstable, we conducted an investigation of the cause and performed corrective action for stable water quality. Our results for FY2021 are outlined below.

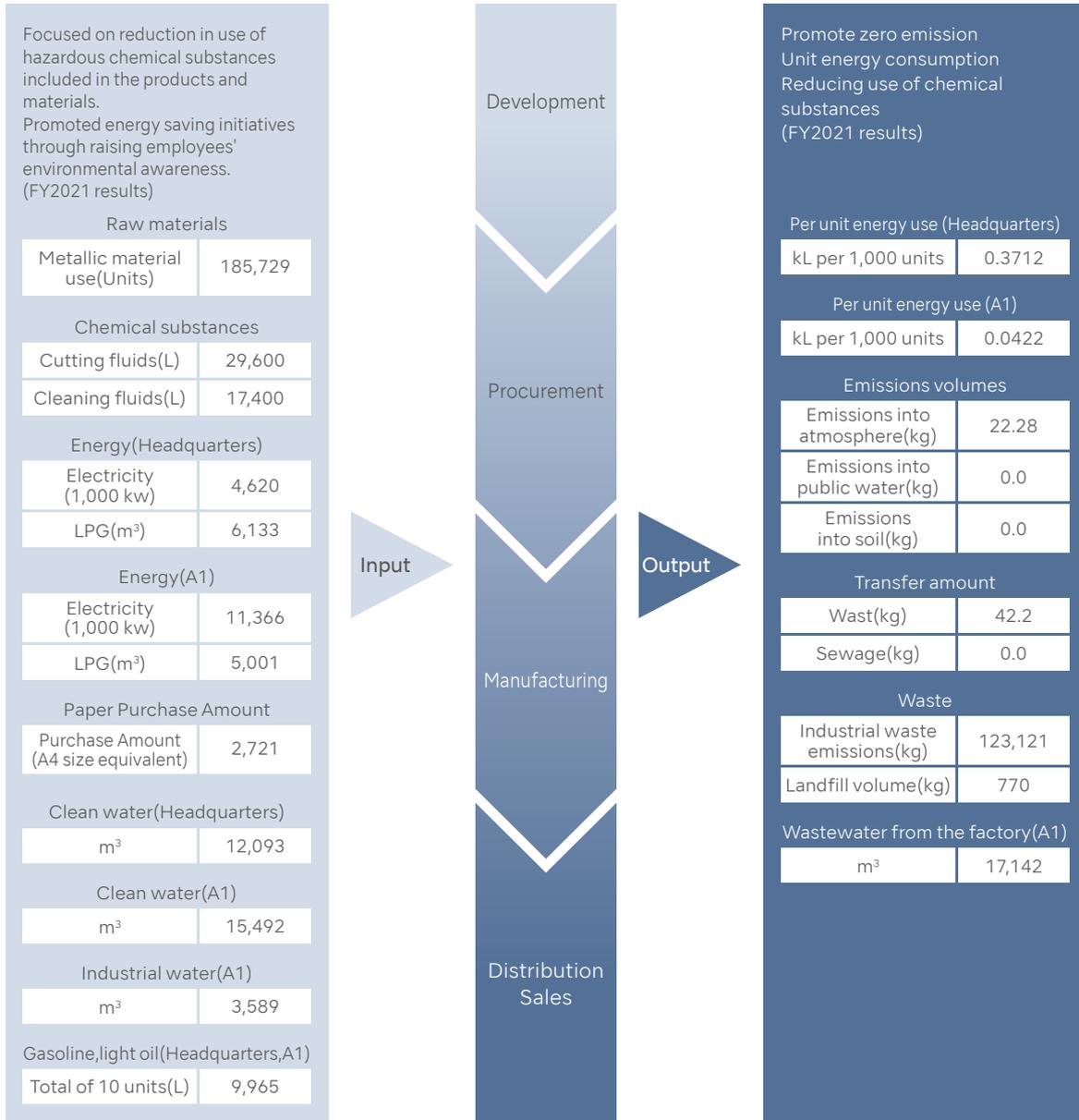
Initiative	FY2020 targets	FY2020 results	Initiative	Assessment
Promote zero emission	Resource recovery rate of 99% or more	Industrial waste resource recovery rate: 99.3%	<ul style="list-style-type: none"> On-site audits of 12 industrial waste collection and transportation contractors Careful sorting of industrial waste 	○
Reducing waste volume	Year-on-year comparison Per unit produced reduction of 1% Target value of 2,302 kg per 1,000 units	FY2021 results: 1,623 kg per 1,000 units Target achievement rate: 130%	<ul style="list-style-type: none"> Proper sorting of industrial waste and general waste from business activities (waste plastic, wood chips) Promote recovery and recycling of in-process cutting fluid Utilize food waste for generating power 	○
Strengthening management of chemical substances contained in products	Survey of phthalates	Standardize attachments of results of investigations into chemical substances contained in our products to specification sheets	<ul style="list-style-type: none"> phthalates-free Identify substitute parts and conclude specification sheets 	○
Reducing paper use	Per unit reduction of 1% 206.4 sheets per person	FY2021 results: 175.5 sheets per person Target achievement rate: 115%	<ul style="list-style-type: none"> Use of digitalized deviation acceptance application forms Use of tablets for repair systems 	○
Reducing per unit energy use	Per unit reduction of 1% 0.001416 kL per 1,000 m ³ /1,000 units	FY2021 results: 0.001216 kL per 1,000 m ³ /1,000 units Target achievement rate: 116%	<ul style="list-style-type: none"> Review of optimal number of compressors (Headquarters: seven units stopped, 12 units operational) Optimization of compressor pressures (0.67 MPa->0.63 MPa) All compressor operation stopped at nighttime on weekdays and at weekends Promote company-wide reductions in air loss (a total of 37 repairs) Automatic air-conditioning control (air-conditioning systems stopped for six minutes at random per 30 minutes of operation) Switching to energy-saving air guns 	○
Complying with environmental laws and regulations	100% compliance	Exceeded BOD with A1 Factory septic tanks (300-person tanks) *Plant effluent water was within specified values	<ul style="list-style-type: none"> The small amount of influent water made water quality highly concentrated. Accordingly, we corrected it by increasing the amount of influent water. BOD remains stable and meets standards after the correction. 	△

Assessment Criteria: ○ = Achievement rate of 100% △ = Achievement rate of 90% or more

State of Environmental Impact of Business Activities

At NSK, we carry out processing and assembly at our production sites and each product is provided to market. We monitor the outline of the environmental burden in the entire supply chain, such as the consumption of resources generated from all business activities, CO2 emissions, and waste generation. At the same time, we utilize them to reduce the environmental burden.

Material Balance (2021)



Initiatives

Compliance with Environmental Laws and Regulations

As global warming, resource energy, and other global environmental issues are becoming more widespread and globalized, policies and regulations are being reviewed and strengthened at the regional and national levels with the aim of achieving sustainable growth. At NSK, we ensure careful environmental compliance with the aim of minimizing environmental risks such as environmental pollution, destruction of ecosystems and climate change. In FY2021, as water quality in the A1 Factory septic tanks was temporary unstable, and Biological Oxygen Demand (BOD) exceeded the standard at outlets of septic tanks. We conducted corrective action and the water quality became stable. Besides, we confirmed that Biological Oxygen Demand (BOD) consistently meets the standard at the final outlets which release water outside of the company at the site boundary of the Headquarters Factory and A1 Factory.

Environmental Education

Raising environmental awareness of each employee is important for promoting environment conservation activities. Therefore, we believe that it is important to enhance the education system and implement continuous education. At NSK, the Environmental Control Manager and EMS Section work together to carry out various educational programs. Through general environmental education programs, we seek to deepen employee understanding of how environmental activities and various work processes impact the environment; we also implement specialized education programs for relevant departments, aimed at raising awareness of the latest trends in environmental laws and regulations, including those covering chemical substances. In addition, when elementary school children take part in plant tours, we teach them about recent environmental issues, the environmental activities we carry out at NSK, as well as environmental initiatives that can be carried out by individuals. At NSK, we carry out monozukuri activities in regions with rich natural environments. We believe it is our corporate duty to pass these natural environments down to future generations, and we implement initiatives accordingly. In FY2021, though we stopped accepting plant tourists due to the spread of COVID-19, going forward, we shall restart to accept them, taking into account the infection circumstances.

Controlling Climate Change

Basic Approach

Climate change, which stems from increased greenhouse gas emissions, is leading to natural disasters such as torrential rain occurring with increasing frequency across the world. Against such a backdrop, the Paris Agreement was adopted at the International Conference COP21 of the United Nations Framework Convention on Climate Change (UNFCCC), and the movement toward decarbonization is accelerating in Japan and overseas. Besides, climate change is a shared global and social issue that is the most urgent and important. Extreme disasters which are caused by climate change may have major impact on not only people's lives but also on business management directly and indirectly. Companies are expected to understand the risks and opportunities posed by climate change to their businesses; it is also hoped that local communities, companies and the entire world will work together to resolve environmental issues. NSK's energy consumption exceeds the equivalent of 1,500 kL of crude oil, and so it is recognized as a Specified Business Operator under the Act on the Rational Use of Energy. We are a company that consumes large amounts of energy, and our business activities therefore have some bearing on environmental issues. At NSK, we have defined "coexistence between people and the earth" as one of our goals and carry out our activities as a member of society accordingly. We recognize that using the monozukuri (manufacturing) expertise and advanced technological capabilities we have accumulated to demonstrate solutions to issues related to global warming is both a need and an expectation of society. In order to respond to these expectations, we seek to accurately grasp the risks posed by climate change, and work to reduce greenhouse gas emissions in our production processes. At the same time, we intend to work on the basis that expanding sales of environmentally friendly products is an opportunity for creating new business and, by reducing climate change-related risks, fulfill our social responsibility for realizing the Paris Agreement. For this reason, all our employees will possess high environmental awareness, our supply chain will work together to achieve the Green Plan 2030 and, as an industrial leader, we will contribute to the resolution of environmental problems.

Important issues toward climate change

In the Paris Agreement of 2015, as a world-wide concern, a shared long-term goal to limit the increase in global average temperature well below 2°C (WB2°C goal), compared to pre-industrial levels was determined. For realizing this WB2°C goal and NSK's long-term vision 2030, we determined the reduction targets of greenhouse gas emissions from our business activities (consumed by our company) (Scope 1 and Scope 2). We shall consider the feasibility of the reduction targets of greenhouse gas emissions in line with the 1.5°C scenario, taking into account acquiring environmental initiative certification. We conducted calculation greenhouse gas emissions in our domestic production sites which have large energy consumption since FY2021. We also started reduction activities, setting the medium-term goal toward Scope 1 and Scope 2 in advance. From the result of the calculation, the large number of emissions are at the raw materials procurement level and sold product usage level. Accordingly, we recognized that reduction initiatives for environmental burdens when customers use our products (improve the energy efficiency of products) and our business activities (production) are important issues toward climate change. Going forward, the amount of energy we use including local subsidiaries shall be confirmed and we shall look for how to reduce greenhouse gas emissions in the entire supply chain as the NSK Group.

Greenhouse gas emission calculation category in all business activities

Calculation category	Explanation	Contents
Scope 1	Direct greenhouse gas emissions by the reporting company itself. (e.g., fuel combustion, industry process)	Fuel combustion
Scope 2	Indirect emissions from the use of electricity, heat, or steam supplied by others.	Fuel usage
Scope 3	Indirect emissions other than Scope 1 and Scope 2 (Emissions by others related to the company's activities).	Raw materials/ Commuting/ Transportation and delivery/ Usage and waste/ Other

Scope 3 Category

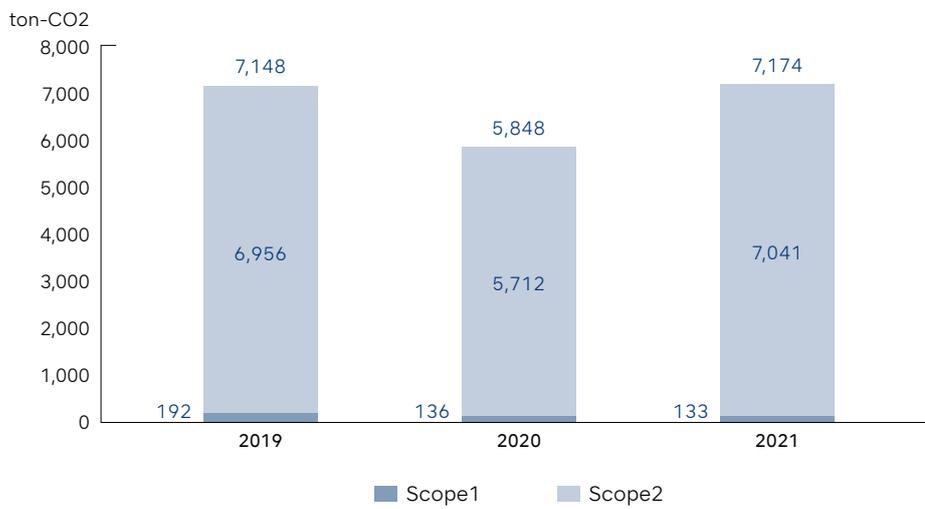
Calculation category	Category	Activities
C1	Purchased goods and services	Procurement of raw materials, parts, and containers
C2	Capital goods	Construction of production facilities
C3	Fuels and energy-related activities not included in Scope 1 or Scope 2	Upstream of purchased fuels and purchased electricity, etc.
C4	Upstream transport and delivery	Transportation and distribution of products and services purchased by the reporting company, third-party transportation and distribution purchased by the reporting company
C5	Waste generated in operations	Processing of waste
C6	Business travel	Business travel by employees
C7	Employee commuting	Employee commuting
C8	Leased assets (upstream)	Assets leased to the reporting company
C9	Downstream transportation and delivery	Transportation and distribution of products sold by the reporting company
C10	Processing of sold products	Processing of intermediate products sold by the reporting company
C11	Use of sold products	Use of products by users
C12	End-of-life treatment of sold products	Processing of products upon disposal by users
C13	Downstream leased assets	Assets leased to other entities by the reporting company
C14	Franchises	Franchises' activities of Scope 1 and Scope 2
C15	Investments	Stock investment

Our approach to reduce greenhouse gas emissions

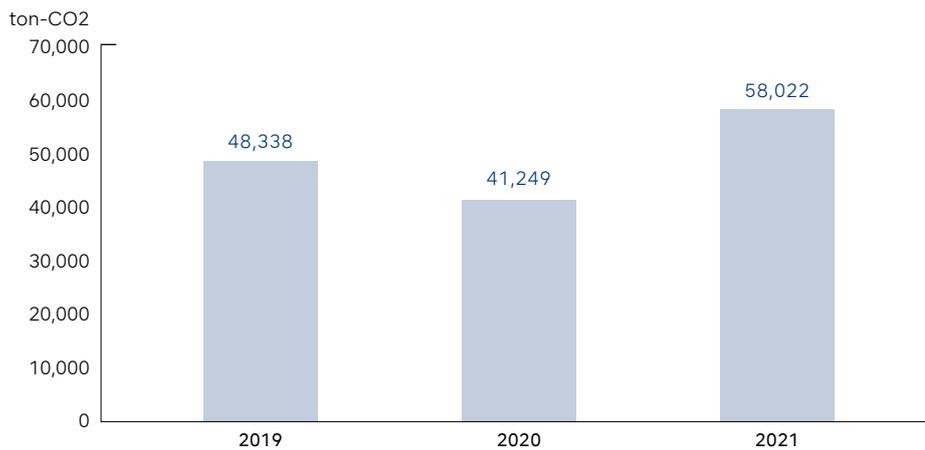
At NSK, we identify the amount of greenhouse gas emissions by the total amount of emissions in various categories mainly in domestic production sites, not only of our company's emissions but also all related emissions from our business activities. All related emissions from our business activities are the amount of greenhouse gas emissions which are produced from the entire supply chain, such as the procurement of raw materials, manufacturing, transportation, sales, and disposal, etc. We are working on external procurement of renewable energy and expanding the renewable energy ratio by increasing our own power generation so that we reduce greenhouse gas emissions from our business activities (consumed by our company) (Scope 1, Scope 2). For other indirect emissions (Scope 3), we shall consider measures to realize business growth and improve corporate and brand value by providing environmentally friendly products and services and gaining empathy from customers and business partners.

NSK's greenhouse gas emissions

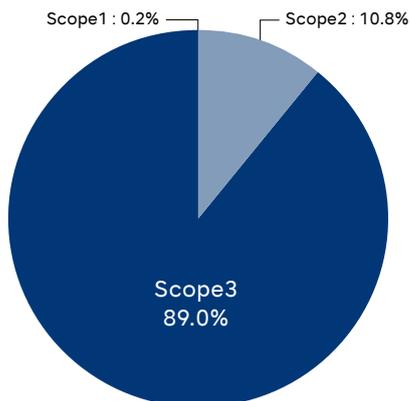
Scope 1 and Scope 2



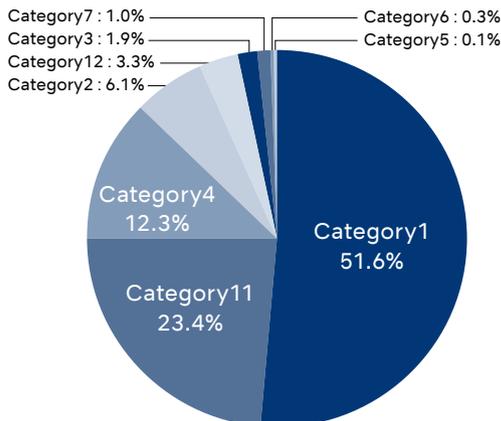
Scope 3



Greenhouse gas emissions rate in FY2021



Scope 3 category rate in FY2021



Initiatives to reduce emissions in Scope 1, 2

Reduction of greenhouse gas emissions by reducing energy consumption from our business activities

- Monitor energy consumption from our business activities
- Reduce greenhouse gas emissions in productivity improvement
- Reduce greenhouse gas emissions by expanding the renewable energy ratio

The EMS Section, as the secretariat of energy-saving of the company, monitors our whole organization in a cross-departmental manner and considers measures for reducing greenhouse gas emissions and shares actual activities, which increases viability to realize the Green Plan 2030. Besides, we substituted all the electricity into renewable energy in the Headquarters Factory and A1 Factory in December 2021.

Introduction of renewable energy

The amount of greenhouse gas emission of Scope 1 and 2 from the Headquarters Factory and A1 Factory in FY2021 is 7,174t-CO₂.

Among this, 7,041t-CO₂ (98%) is electricity which is consumed by our company (Scope 2). We started to procure electricity totally (100%) generated from solar and wind power in December 2021.



Installation of solar panels to the new buildings (A1+ building) at A1 Factory

We shall install 1,600 solar panels on the entire roof of the A1+ (Total floor area: 5,500m²) which commences operation in September 2022. These solar panels will generate a total of 620 kW of electricity, and all of the generated power will be used within the A1 Factory.



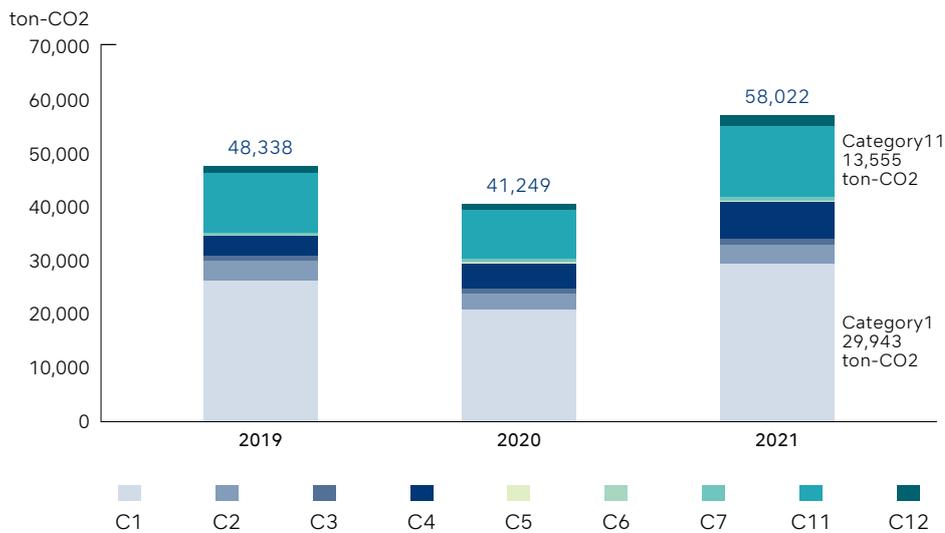
Initiatives to reduce Scope 3 emissions

Reduce greenhouse gas emissions in generating environmentally friendly products

- Monitor the amount of greenhouse gas emissions through lifecycle of products
- Strengthen environmentally friendly design such as lower energy consumption, compactness, and high-performance, and reduce greenhouse gas emissions through the entire supply chain

In FY2021, the amount of Scope 3 emissions is 58,022t-CO₂ of the company. Among this, most large number is 29,943t-CO₂ in category 1: procurement of raw materials. Next, 13,555t-CO₂ in category 11: electricity used by customers. The emissions in these two categories account for about 75% of Scope 3. Going forward, we consider future direction of initiatives to reduce Scope 3 emission, in consultation with the relevant departments.

Greenhouse gas emission rate in the entire supply chain in FY2021



Participation in global initiatives, etc.

NSK consider participating in environmental initiatives including Science Based Targets (SBT) initiatives in order to ensure efforts for climate change. We consider acquiring certification as a goal based on scientific evidence adhering to the Paris Agreement by quantifying the amount of greenhouse gas emissions globally including local subsidiaries, setting the reduction target of greenhouse gas emissions, and submitting it to the organizer of environmental initiatives. Regular disclosure of concrete progress of activities are also planned. We shall continue to work on business growth providing environmentally friendly products and services and realizing to improve corporate value, and gaining empathy with stakeholders.

GHG reduction targets for each Scope category

Scope category	Reduction targets Matching with the Green Plan 2030
Scope 1 and Scope 2	Reduce by 80% compared to FY2019 by FY2025 Reduce by 100% compared to FY2019 by FY2030

Climate Change Action Policy

In recent years, climate change has become a major business management risk. At NSK, we believe that accurately assessing the risks and opportunities provided by climate change and actively disclosing our Climate Change Action Policy to our stakeholders is necessary for our company to grow in a sustainable manner.

Item	Activities	References
Governance	<ul style="list-style-type: none"> Deliberate progress management and investment decisions related to decarbonization as climate change is a matter of the utmost importance for the company Deliberate progress toward the target based on the Green Plan 2030 and review our medium-term plan Report results of environmental activities including climate change to our President and Group CEO who has ultimate responsibility once a year. Deliberate other various strategies, if necessary, with the President and Group CEO and other members 	<ul style="list-style-type: none"> Report results of initiatives related to climate change and propose strategies in the ISO14001 management review <ul style="list-style-type: none"> - Calculate greenhouse gas emissions and introduce third-party verification - Review the Green Plan 2030 - Propose to expand renewable energy ratio <ul style="list-style-type: none"> →Substitute by 100% renewable energy
Strategies	<ul style="list-style-type: none"> Identify risks and opportunity by scenario analysis including not only 2°C scenario but also 4°C scenario Set "Response to climate change and contribution to a recycling-oriented society" as one of the materialities of the company Expand initiatives, not only the current power savings, but also reduction of greenhouse gas emissions as climate change is the global environmental issue <ul style="list-style-type: none"> →Reflect them in the Green Plan 2030 Promote energy saving such as transition away from the use of fossil fuel-based resources, improve the energy efficiency of our production systems and our products, as we are a monozukuri company. As such, if we do not implement any improvements, then we expose ourselves to the risk of rising capital investment and other costs, and we may also miss out on business opportunities. Examples: repairing air leaks, optimizing compressor air supply pressures, etc. 	<ul style="list-style-type: none"> Conduct calculation of greenhouse gas emissions as of FY2019 (the baseline fiscal year) and third-party examination of calculation validity Substitute by 100% renewable energy (Headquarters Factory and A1 Factory) Determined to install solar panels at the A1+ which commences operation in September 2023 Contribute to biomass power generation using our wastes (Participation in activities in both the public and private sectors) Start discussing toward acquiring environmental initiatives Hold a workshop in a cross-departmental manner (BCP) <ul style="list-style-type: none"> →Consider risks and training simulating natural disasters
Risk Management	<ul style="list-style-type: none"> Based on the concepts outlined in ISO 14001:2015, identify risks and opportunities annually with the potential to impact our business activities in a manner that exceeds merely an environmental framework. Examples include "external and internal issues that can affect an organization" and "the needs and expectations of interested parties." 	<ul style="list-style-type: none"> Regular equipment inspections and fire drills Hold drills based on the business continuity plan (BCP) Conduct reduction initiatives for climate change
Indices and Targets	<ul style="list-style-type: none"> The amount of greenhouse gas emissions from business activities Reduction of Scope 1 and Scope 2 FY2030 Targets Scope 1 + 2: Reduce by 100% (Compared to FY2019) Reduction of the amount of greenhouse gas emissions in the entire supply chain 	<ul style="list-style-type: none"> FY2021 results Scope 1 + 2: 7,173t-CO2 We started to procure electricity totally (100%) generated from solar and wind power in December 2021. The amount of greenhouse gas emissions in the entire supply chain. Start discussing reduction targets and initiatives

Governance / System

Currently, including the status of our response to climate change, we operate our system as part of our energy saving efforts for ISO 14001. While maintaining ISO 14001, we identify "risks" and "opportunities" based on an analysis of our organization's current state, and report these factors, and strategies for addressing them, to our President and Group CEO. Going forward, climate-related issues could pose a significant risk to our business management, with potential impact on our business caused by climate change and the formulation of medium to long-term strategies and reviews of their implementation, and we will work to make considerations for systems and activities to ensure that these issues are appropriately managed.

Strategies

At NSK, we formulated the Green Plan 2030, and we are working on reducing by 100% (vs. 2019) the greenhouse gas emissions (carbon neutral) which is consumed by our company in domestic sites by FY2030 in addition to former energy saving initiatives. Among risks related to climate change, there are two types of risks: transition resulted from such as strengthening regulations and technical progress generated on the way to decarbonized economy and change in market, physical change resulted from acute abnormal weather and continuing temperature rise accompanied with global warming accelerates. Meanwhile, related to create energy saving products, "efficient use of resources" related to efficient use of resources in plant operation are in the opportunities. We recognize the relationships between our business activities and risks and opportunities.

Our business risk

Kind	2°C scenario Transitional change	
	Policy	Regulations
Time	Long-term	Medium-term
Risks	<ul style="list-style-type: none"> Most of greenhouse gas emissions are generated domestically because our monozukuri activities are domestic We predict that energy regulation will be accelerated due to the increasing reduction of greenhouse gas in response to the Paris Agreement Global market trend shifts to renewable energy procurement. Accordingly, shutdowns of thermal power plants, increasing costs of oil, coal, and LNG for power generating starting materials will occur, resulting increased energy costs and stopping new contracts 	<ul style="list-style-type: none"> An increasing number of companies are considering transition to 1.5°C scenario, since, in the Paris Agreement, the shared long-term goal to limit the increase in global average temperature well below 2°C (WB2°C goal), compared to pre-industrial levels was determined Capital investment for our own power plants such as solar power. Change in energy cost due to increasing materials cost
Response	<ul style="list-style-type: none"> Accelerated initiatives to improve productivity such as improvement of production process and high-efficiency equipment toward the reduction of greenhouse gas emissions in production sites In FY2021, introduced high-efficiency equipment and hardware improvement such as repairing air loss, and conducted software improvement and reviewed extra energy consumption such as operation efficiency Ahead of competitors, started procurement of electricity generated from solar and wind power (Headquarters Factory and A1 Factory) Introduced calculation of the amount of greenhouse gas emissions 	<ul style="list-style-type: none"> Coal, oil, and LNG costs increased due to COVID-19 which is spreading all over the world Consider infrastructure to increase our power generation ratio of renewable energy in order to minimize influence of changing prices due to changing global circumstances In FY2021, plan to install 1,600 solar panels into the A1+ which we plan to commence operation in September 2022

Kind	4°C scenario Physical change	
	Acute	Chronic
Time	Medium-term	Long-term
Risks	<ul style="list-style-type: none"> Larger typhoons and increased rainfall disasters shall have impact on us and suppliers There is a possibility of shutdown of operations or employee's lives when natural disasters occur, because the location of our Company is subject to suffer from flood damage and frequent earthquakes Profits will decrease if our plants stop operation and costs will increase due to recovery costs and delivery delays 	<ul style="list-style-type: none"> The sea level rise due to continuing global warming. Impact on our company and suppliers shall increase
Response	<ul style="list-style-type: none"> In preparation for apparent physical risks, rapid business recovery and prevention of disasters are essential At NSK, we formulate, maintain, and improve the business continuity plan (BCP) based on BCP, preparing for the damage of production sites and employees due to natural disasters Decentralize production sites to lower risks In FY2021, no disasters occurred which stopped important business operations 	<ul style="list-style-type: none"> Hold drills based on the business continuity plan (BCP) in preparation of natural disaster

Business opportunities in our company

Kind	Timeframe	Opportunities	Response
Energy	Long term	<ul style="list-style-type: none"> Transition to renewable energy Improve social evaluation by the transition to decarbonization 	<ul style="list-style-type: none"> Transition to renewable energy →Promote procurement of renewable energy and introduction of our own power plants Calculation of the amount of greenhouse gas emissions
Efficient use of resources	Long term	<ul style="list-style-type: none"> Aim for our business activities to be carbon neutral toward 2030. Focus on reduction of energy consumption through energy saving operation in production sites Cost reduction by resource efficiency in direct operations 	<ul style="list-style-type: none"> Monitor extra energy consumption by replacement of old facilities to high-efficiency facilities and utilizing energy saving diagnosis in production sites Reduced energy consumption by improving production process, repairing air loss, and introducing high-efficiency facilities in FY2021
Products and Services	Long term	<ul style="list-style-type: none"> Improve product value and expand profit by creating energy saving products which contribute to climate change mitigation and establishment of decarbonized society 	<ul style="list-style-type: none"> Promote creation of energy-efficient products which have high environmental performance thanks to productivity improvements such as low-consumption, common parts, and reduced size Created "Z micro," which realized reduced head size and high-efficiency in FY2021
Markets	Medium term	<ul style="list-style-type: none"> Increase evaluation and expectation from the market by providing environmentally friendly products into market 	<ul style="list-style-type: none"> Enhance marketing methods including web information Brand image innovation utilizing animation movies (NSK STUDIO)
Resilience	Short term	<ul style="list-style-type: none"> Increase customer confidence with stable supply even during natural disasters 	<ul style="list-style-type: none"> Establish the business continuity plan (BCP) and decentralize production sites to lower risks when disaster occur

Risk Management

Following the adoption of the Paris Agreement, the movement toward decarbonization is accelerating in Japan and overseas. Nevertheless, there is a danger that climate change will increase in severity and have a considerable impact across the world. NSK carries out monozukuri activities in regions with rich natural environments. Unless we take measures to combat climate change, there will be significant risks to our business continuity, including cost increases, the loss of business opportunities and the onset of natural disasters. However, we also believe that we can create business opportunities by being among the first to take action. One example is improving the utilization rate of our production facilities. If we can actively use employee feedback from everyday monozukuri work to improve productivity, we will be able to reduce our per unit CO₂ emissions, and result in significantly reducing our greenhouse gas emissions. In addition, decentralizing our production sites to avoid climate change risks can also be taken as a business continuity opportunity. An example of this is our A1 Factory. At NSK, we previously carried out all processes from metal processing to assembly and delivery at our Headquarters Factory. However, we built A1 Factory, a dedicated metal processing site, in the neighboring Utsunomiya Nishi Chukaku Industrial Park, and commenced operations there in FY2018.

Indicator and target

At NSK, we calculate the amount of greenhouse gas emissions generated from domestic production sites. In addition, we are working on initiatives to reduce greenhouse gas emissions of Scope 1 and Scope 2, setting 2030 as the target year. For greenhouse gas emissions in Scope 1 and Scope 2, we aim to realize "carbon neutral" by 2030 compared to FY2019, by promoting introduction of renewable energy and efficient usage of energy in operation. Besides, for other indirect emissions (Scope 3), more than about 70% of greenhouse gas emissions in Scope 3 for the Company are usage of purchased goods and services (category 1) and sold products (category 11). We shall consider concrete reduction initiatives, further providing environmentally friendly products in the market, and promoting active production innovations. The amount of energy we use including local subsidiaries shall be confirmed, taking into account acquiring environmental initiative certification in the future. We shall consider reduction initiatives of other indirect greenhouse gas emissions outside of our business activities (Scope 3).

GHG reduction targets for each Scope category

Scope category	Reduction targets Matching with the Green Plan 2030
Scope 1 and Scope 2	Reduce by 80% compared to FY2019 by FY2025 Reduce by 100% compared to FY2019 by FY2030

Response to the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures

In Japan, the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures require companies that use more than a certain amount of energy, or emit more than a certain volume of greenhouse gases, to report their energy usage and greenhouse gas emissions. The Act on the Rational Use of Energy requires these companies to target, in the medium and long-term, on average an annual 1% reduction in per unit energy consumption, or its equivalent when taking electricity demand leveling into account. However, reductions in greenhouse gas emissions rely fundamentally on voluntary initiatives; for this reason, under the Act on Promotion of Global Warming Countermeasures, it is important not only to implement energy savings, but also to transition to the use of fuels with low emissions factors in order to realize decarbonization. NSK is a Specified Business Operator under the Act on the Rational Use of Energy. For this reason, we are working to achieve on average an annual 1% reduction in per unit energy consumption in the medium and long-term, and we regularly report the results of our initiatives to the relevant administrative bodies. In the Business Operator Classification System, we have been ranked highly due to the results of our improvement initiatives.

Target companies for Business Operator Classification System

Japan: 11,358 companies

The number of companies with "S class" evaluation three years running: 3,369 companies (approximately 30%)

Tochigi prefecture: 153 companies

The number of companies with "S class" evaluation three years running: 39 companies (approximately 25%)

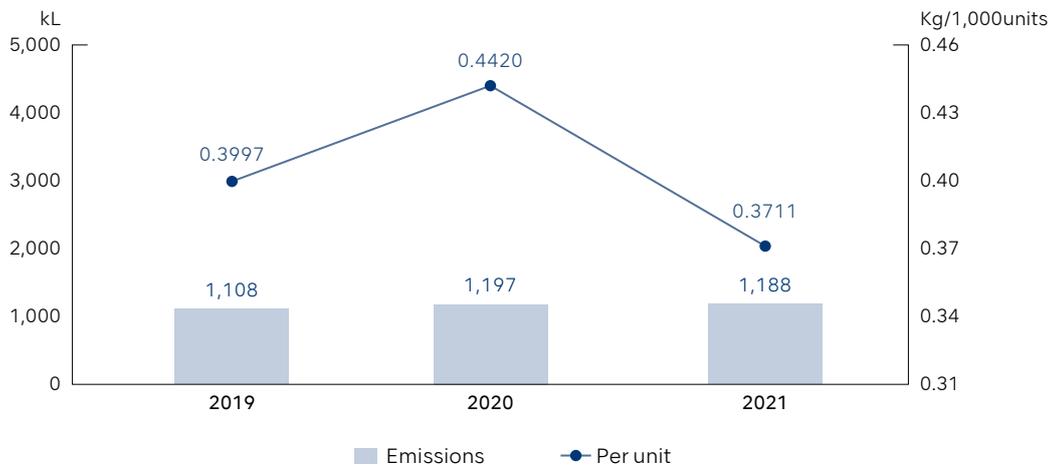
Response to the Act on Rational Use and Proper Management of Fluorocarbons

The Act on Rational Use and Proper Management of Fluorocarbons came into effect in April 2015. As a result, NSK identified all devices that contain fluorocarbons, regularly calculates fluorocarbon leakage quantities and carries out simple inspections, and thereby works to control the generation of greenhouse gases from fluorocarbon leaks. In FY2021, we found no fluorocarbon leakage quantities

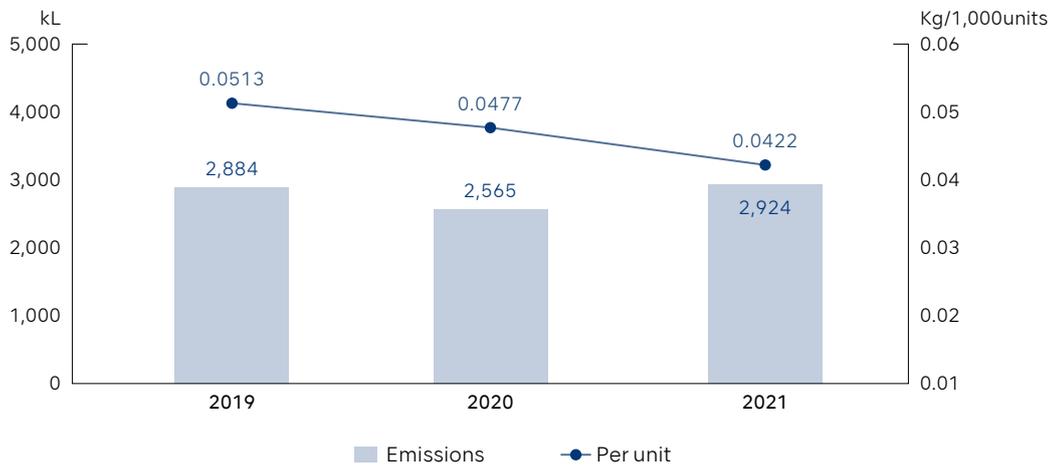
Company-wide Initiatives

Climate change due to global warming has various impacts on human life and natural ecosystems. Society as a whole must use both energy and resources more efficiently to prevent environmental problems from growing more serious. Similarly, when it comes to reducing environmental burden, there are limits to what a single company acting alone can achieve. Instead, it is vital that the entire supply chain increases its efforts to protect the global environment. NSK has been striving to reduce its per unit energy use by 1% year-on-year. Specific initiatives have included continued efficiency improvements in our production processes and planned switches to the use of highly efficient facilities. Going forward, in line with our Green Plan 2030, we intend to set even loftier targets, and all our employees will work together to achieve them. When it comes to our suppliers, we require their delivery vehicles not to idle their engines and to abide by company speed restrictions; we also verify the state of and request their cooperation with regard to energy conservation initiatives when we carry out environmental audits of business partners.

Greenhouse Gas Emissions Per Unit(Headquarter)



Greenhouse Gas Emissions Per Unit(A1 Factory)



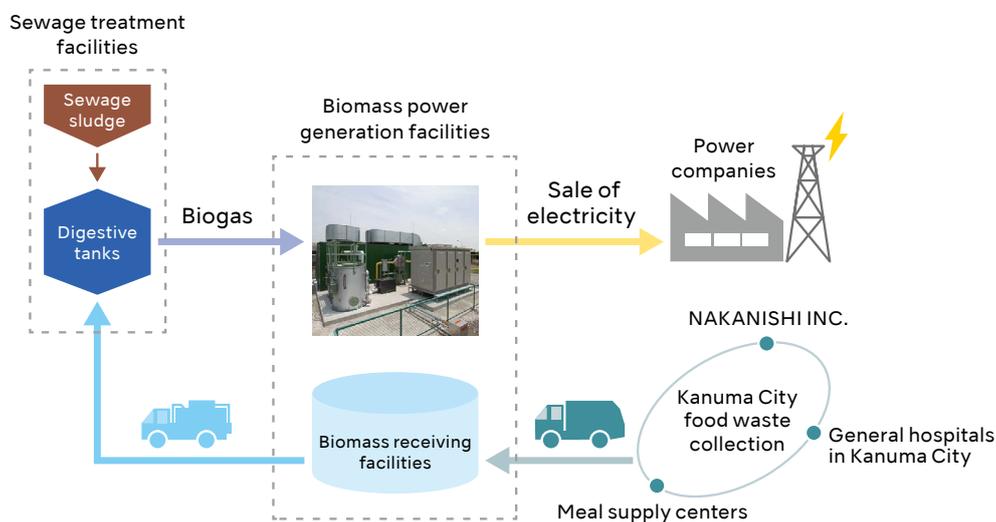
Key Initiatives

Improvements to productivity	Improved yields, automation, optimized production spaces, reduced working hours
Optimizations of facility operating hours	Machines switched off when non-operational, reduced standby power consumption
Review of air-conditioning use	Optimized temperature settings, optimized operational hours, intermittent operation based on automated temperature control, partitioning of spaces
Energy savings at production facilities	Transition to high-efficiency equipment, updates to ageing equipment
Energy savings from air-conditioning	Regular equipment replacements, regular filter cleaning
Energy savings from lighting	Transition to high-efficiency lighting, introduction of motion sensors, transition to fewer lighting fittings
Energy savings from compressors	Transition to inverters, reduced number of units, optimized air pressures, prevention of air leaks, transition to energy-saving air gun nozzles

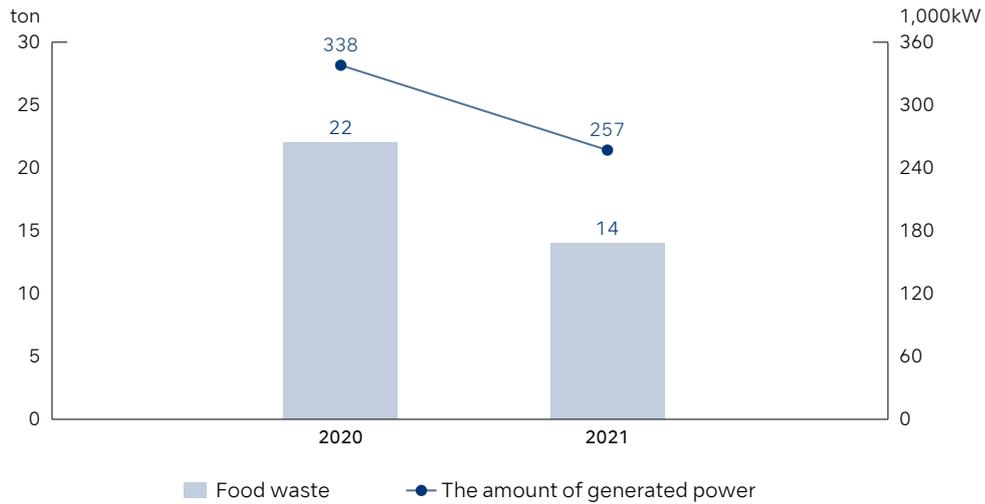
Climate Change Initiatives

Using Regional Biomass and Contributing to Biomass Power Generation

Tochigi Prefecture's Kanuma City and the private sector are jointly operating a regional biomass power generation business. Sewage sludge, food waste and other regional biomass is collected at sewage treatment facilities and turned into energy, generating approximately 900,000 kWh per year. NSK began participating in the business in 2021 by providing food waste. In FY2021, we generated approximately 14 tons of food waste, and the amount of electricity generated from our food waste was approximately 257,000 kWh. We are participating in a biomass power generation business that makes use of our industrial waste. Waste plastic generated via our industrial activities is combusted, and the resulting combustion gas is used as fuel to generate power. In FY2021, we generated approximately 9.4 tons of waste plastic as materials to generate power, and the amount of electricity generated from this waste plastic was approximately 15,000 kWh.



Relationships between food waste and the amount of generated power



Reducing Greenhouse Gas Emissions in Our Production Processes

Corporate energy consumption is one of the sources of greenhouse gas emissions, which cause global warming. NSK uses large amounts of energy to manufacture products. For this reason, we are continually working to promote careful energy conservation, such as by installing highly efficient facilities and making improvements to our production processes. To this end, we are carefully working to eliminate waste across all our departments and all our employees, by improving work efficiency in our production activities. Concrete examples include optimizing compressor pressures, preventing air loss and making other improvements to our production processes. As a monozukuri company, many of our previous energy reduction initiatives related directly to production. Going forward, however, we also intend to pay attention to reducing energy use in air conditioning, lighting and other regular sources of electricity consumption in our facilities, and continue to work to reduce our greenhouse gas emissions.

Environmentally Friendly Buildings

NSK's new RD1 headquarters building commenced operations in April 2017. It is surrounded by a beautiful natural environment—including the Nikko mountain range, Mt. Fukaiwa and the Oashi River—and strikes a harmony with Kanuma's scenery, which changes with the four seasons. The exterior wall of the building is covered with "Sigma" environmental control panels, made from special-order aluminum extrusion to protect the structure of the building. These Sigma panels incorporate external insulation layers and natural ventilation devices, helping to control the environment both inside and outside the building and guarantee a comfortable internal environment. They also contribute to significant reductions in energy consumption. Sigma panels feature free-form curve cross sections, which generate soft shadows and, according to the time of day, weather conditions and time of year, result in a variety of light patterns.



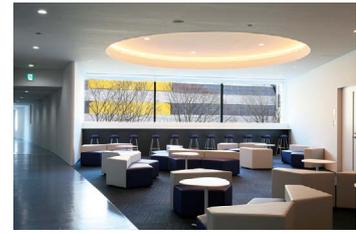
RD1 headquarters building



Building exterior showing Sigma environmental control panels

Energy-conserving Lighting

NSK is working to transition entirely to the use of LED lighting. In addition to a planned transition to LED lighting, we have also installed motion sensors in some corridors to reduce unnecessary energy use. In FY2021, all of 21 mercury lamps in the parking of the Headquarters Factory were replaced by LED. This resulted in energy saving of approximately 33,000 kWh.



Interior lighting controlled by motion sensors

Green Spaces and Planting

Our headquarters factory has planted more than 300 of 10 different trees and seeds, including cherry trees, zelcova trees and grasses, outside the building to develop rich green walkways and gardens. In prefectural property opposite our Headquarters main entrance, we carry out beatification activities such as sowing seeds and ivy groundcover, and actively take part in the creation of green spaces.



Planting and green space management on company grounds

Underfloor Cooling and Heating Air-conditioning Systems

The air-conditioning systems in larger spaces in the RD1 building—such as entrances, showrooms and the Center Court with four-story atrium—make use of abundant groundwater. By circulating groundwater and using it in conjunction with underfloor air-conditioning systems, NSK is making efficient use of small amounts of energy to make its residential spaces comfortable.



The Center Court uses underfloor cooling and heating

Office Initiatives

All NSK employees engage in environmental contribution activities, ensuring that lighting and computer monitors are switched off during out of office hours. Office air-conditioning is managed by Automated Control Systems that carefully ensure room temperatures of 28°C in the summer and 21°C in the winter.

Installing Automated Air-conditioning Control Systems

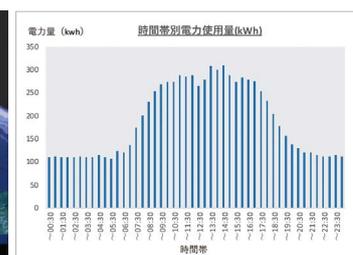
NSK's air-conditioning systems are operated by Automated Control Systems. These systems can be programmed to stop operating for a certain period of time within set intervals; we have set air-conditioning systems to stop operating for six minutes within every 30-minute interval, leading to reductions in energy use of approximately 20%.

Energy-saving Activities Using the "Power Visualization System"

NSK has installed a Power Visualization System that uses internal monitors to visualize the power usage of individual buildings in real time. Visualizing power usage trends enables us to level our electricity demand by limiting power use at peak times. This, in turn, allows us to reduce our electricity costs and greenhouse gas emissions. Visualizing the effects of energy-saving improvements also helps raise employee awareness of energy conservation and plays a significant role in encouraging further environmental initiatives.



Power Visualization System



Installation of Solar Panels

NSK has long recognized the impact of energy supply and demand on the environment to be a matter of the utmost importance. For this reason, beginning in 2011, we installed 256 solar panels on the walls of Headquarters Factory. Annual power generation of solar panels is approximately 33,000 kw, equivalent to approximately 8 residential homes, and the electricity produced is used for lighting in buildings. Besides, we plan to newly install approximately 1,600 solar panels (power generating capacity: 620 kW) on the roof of the A1+ which commences operation in September 2022. All the generated power shall be consumed in the A1 Factory.



Solar panels

Active Introduction of Hybrid Vehicles

In order to limit fuel consumption by and greenhouse gas emissions from company vehicles, NSK monitors and manages the distances driven and gasoline consumed by each of its vehicles, and thereby raises environmental awareness among its drivers. We have actively introduced hybrid and fuel-efficient vehicles with less environmental impact than gasoline vehicles, and as a result, have reduced greenhouse gas emissions associated with driving by approximately 34% compared with 2.0 L gasoline vehicles. Headquarters Factory and A1 Factory together own 14 company vehicles, 10 of which are not used for transportation of goods. These 10 vehicles are all hybrid vehicles.

<Fuel consumption>

FY2021 gasoline (regular/ high octane/ diesel oil) consumption: 9,965kL (Reduced by 14% year-on-year)

Choose industrial disposal sites with low environmental impact

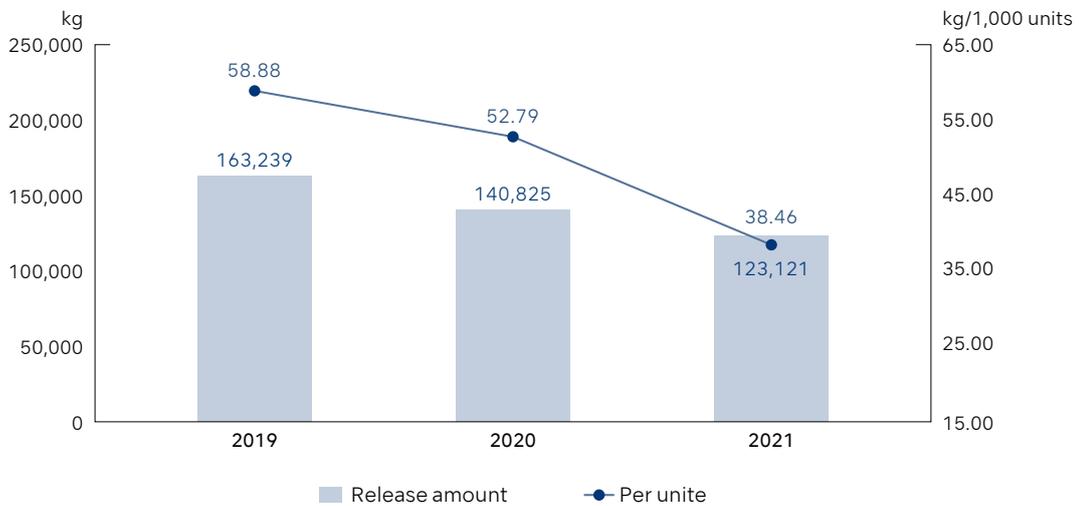
At NSK, we cover electricity by generating power with a turbine. Heat from the incineration of waste is used to generate steam in the waste heat boiler, which drives the turbine. Besides, we choose and outsource the processing of waste to the disposal sites which sell the surplus electricity to private power companies. We choose industrial disposal sites within Tochigi prefecture as close as possible in order to reduce greenhouse gas emissions in collecting and transporting wastes.

Effective Use of Resources

Basic Approach

Resource issues caused by economic development and population growth are universal, and measures both to control large-scale consumption of resources and to limit large-scale emissions of waste are required. NSK is working to improve the efficiency of its resource use, by promoting resource conservation in its monozukuri (manufacturing) and waste reductions in its production processes. In our Green Plan 2030 medium-term plan, we have set targets of reducing waste volumes and promoting zero emissions, with the aim of contributing to the establishment of a recycling-oriented society. Every year, we actively engage in activities based on the 3Rs of reuse, reduce and recycle, with the goal of reducing and improving recycling rates of waste stemming from our production activities.

Waste Volumes per Unit Produced



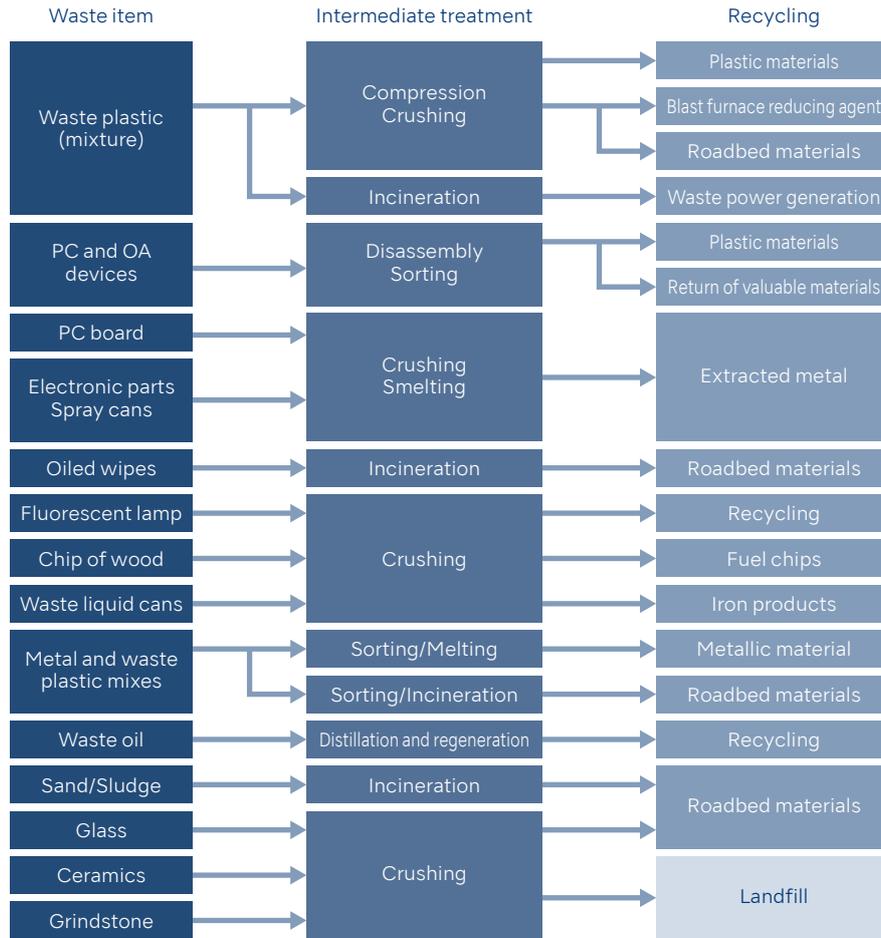
Initiatives to Reduce and Recycle Waste Generated via our Production Processes

NSK generates both waste and valuable byproducts in its product manufacturing processes, and is engaged in efforts to control them. In FY2021, we generated approximately 123 tons of industrial waste, around 90% of which was waste plastic, waste oil, or sludge. However, we achieved high rates of recycling, with 99.4% of our industrial waste reused as roadbed material and for other purposes after intermediate treatment.

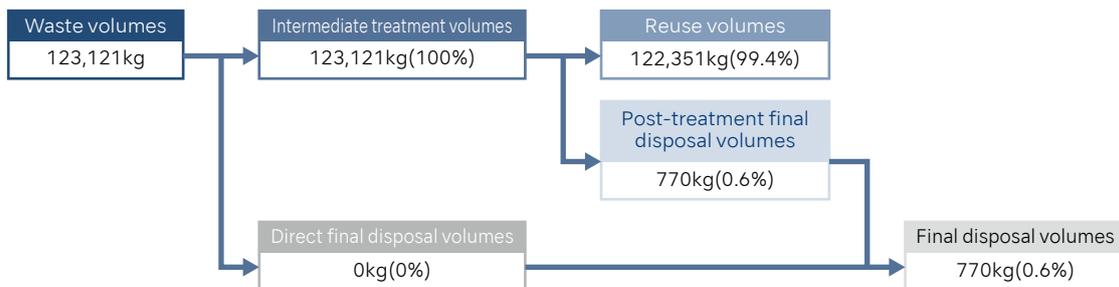
Key Measures

Process improvements	<ul style="list-style-type: none"> Increasing yields of parts and products
Packaging material reductions	<ul style="list-style-type: none"> Reducing packaging materials by making our products smaller Using returnable boxes Switching to paper packaging materials for Eco-friendly packaging
Reuse of cutting fluids	<ul style="list-style-type: none"> Collecting and reusing cutting fluids stuck to shavings Collection/reuse of oil mist floating in the workspace air
Reuse of washing fluids	<ul style="list-style-type: none"> Distilling, restoring and reusing spent washing fluids
Other reductions	<ul style="list-style-type: none"> Reusing wipes Recycling metal waste Recycling work clothes Reducing food waste

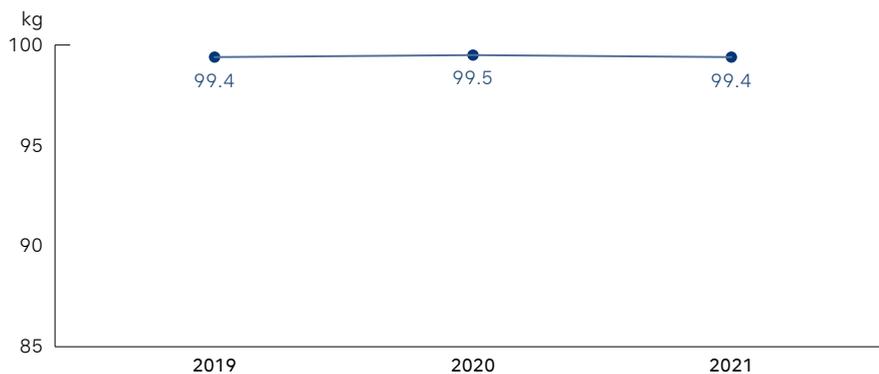
Recycling Industrial Waste



FY2020 Recycling Rates



Recycling rates



Reusing Cutting Fluids to Reduce Waste

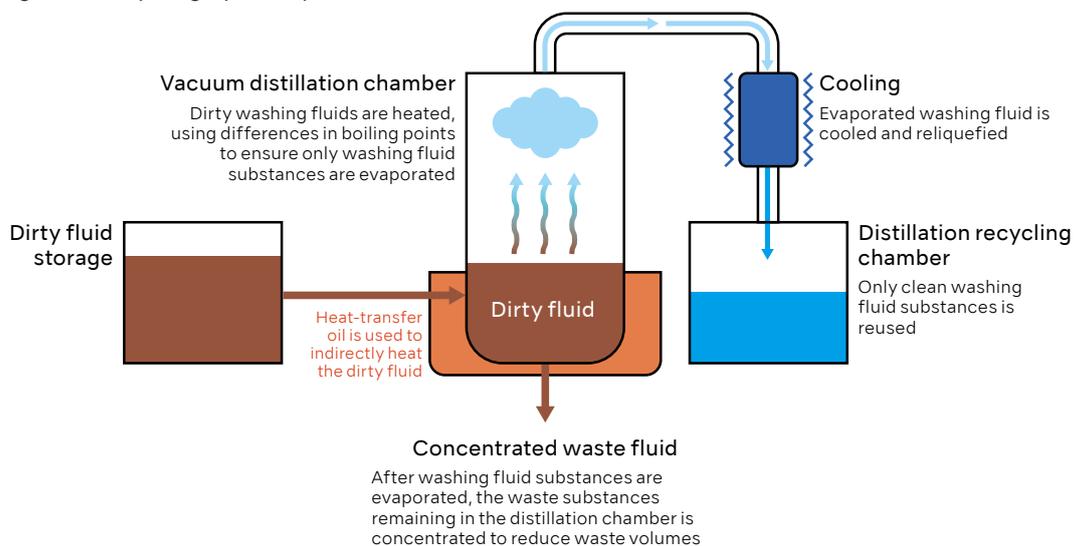
NSK is actively engaged in reducing waste oil. The majority of our waste oil comes from cutting fluids used to process metals and is generated by A1 Factory, our dedicated metal processing site. During processing, cutting fluids adhere to metal shavings and float in factory working environments as oil mist. We use ceiling-mounted oil mist collectors to collect these fluids and micro-filtration devices to recycle them. At NSK, we develop activities for the co-existence of comfortable work environment maintenance and recycling-oriented monozukuri, including waste oil. We reuse these recycled cutting fluids by micro-filtration devices in our production processes, enabling us to reduce waste oil volumes.



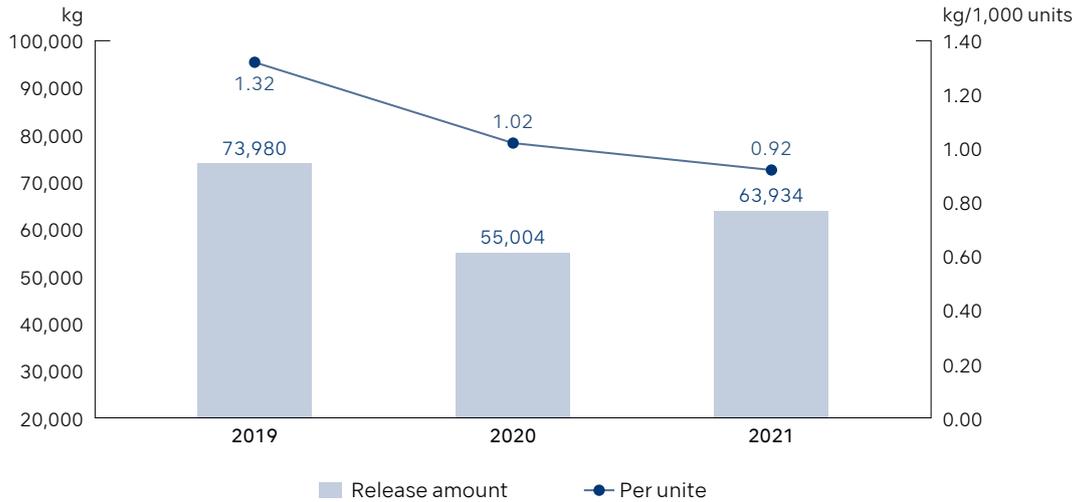
Recycling and Reusing Cleaning Fluids to Reduce Waste

NSK uses hydrocarbon-based washing fluids to wash its parts. Dirty, used washing fluids are heated in distillation regeneration machines, utilizing differences in boiling points to ensure only washing fluid substances are evaporated. The resulting clean recycled washing fluids are reused in our factories to wash parts.

Washing Fluid Recycling System (provisional name)

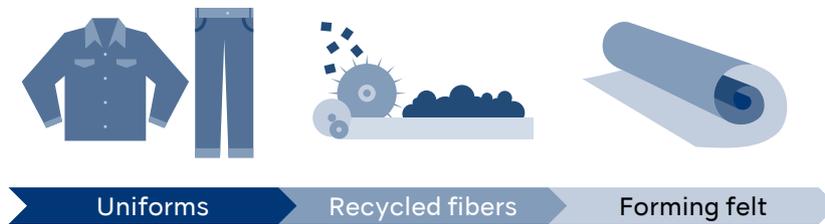


Changes in Waste Oil Volumes & Per Unit Figures

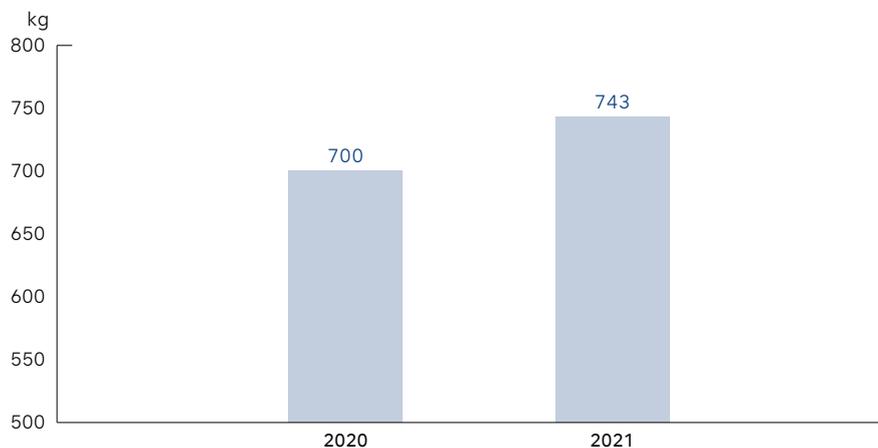


Using the Cross-jurisdictional Waste Management Certification System to Reduce Waste Plastic

NSK is engaged in work uniform recycling that makes use of the Ministry of the Environment’s Cross-jurisdictional Waste Management Certification System, so reducing its waste plastic volumes. The “Cross-jurisdictional Waste Management Certification System” is a system in which manufacturers are working to improve the recycling rate through a series of life cycle assessments, ranging from materials to design, production, and recycling. Using this system, we sell our used uniforms as valuable resources to manufacturers, where they are recycled into felt. In FY2021, by recycling approximately 743kg of used uniforms, we managed to reduce our waste plastic volumes by around 3.6%.



Used uniforms by year



■ Reducing and Recycling Repair and Service Process Waste

Including Maintenance Guides with Repaired Parts to Encourage Long-term Use

When returning repaired parts to its customers, NSK includes Maintenance Guides to encourage the long-term use of its products. These Maintenance Guides instruct customers on how to appropriately maintain their products, enabling them to extend the life expectancy of their products and contributing to the effective use of limited resources.

Establishing a Customer Service Helpdesk to Communicate Appropriate Methods of Maintenance

NSK has established a Customer Service Helpdesk on its company website. This helpdesk receives a large volume of inquiries and feedback related to product quality, prices, product specifications and maintenance. Questions related to maintenance methods account for approximately 10% of our monthly inquiries. We explain appropriate methods of maintaining our products to help our customers understand how to use their products safely and for a long time.

Our Products and Environmental Activities

Basic Approach

NSK recognizes that companies are expected to respond to environmental issues such as climate change, and societal changes such as a rapidly ageing society. Consequently, we believe it is important we increase our profits and launch highly competitive products while actively contributing to the resolution of societal issues. We are working to develop products that help society to reduce its environmental impact and, at the same time, we are responding to the needs and expectations of markets. In this way, we seek to achieve sustainable growth hand in hand with society.

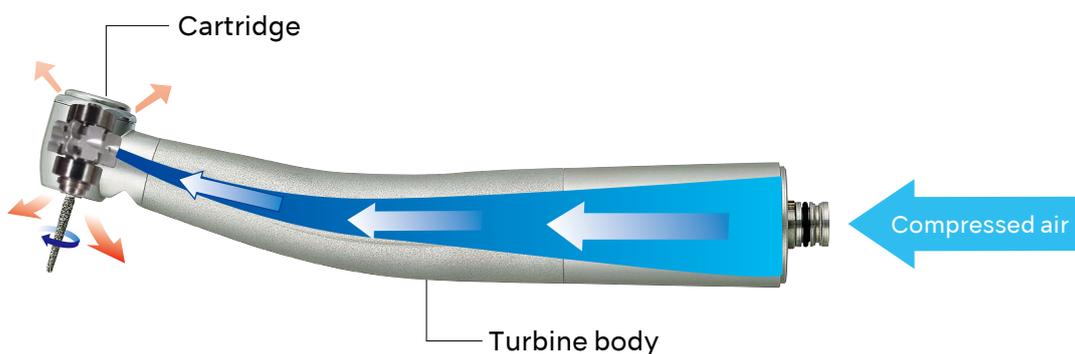
Environmental Design in the Development Process

At NSK, at the development stage we seek to accurately grasp and reduce the environmental impact of the entire lifecycle of our products—from materials to distribution, use and disposal. We aim to provide high-performance products that are extremely energy-efficient, as well as products that are more compact, lighter, and incorporate multiple functions in response to increasing demand for mobile dental care in a rapidly ageing society. We have set ourselves the goal of “coexistence between people and the earth,” and aim to become a company that contributes to improving the global environment and society through the provision of these products.

Structures that Facilitate User Maintenance (Resource Conservation)

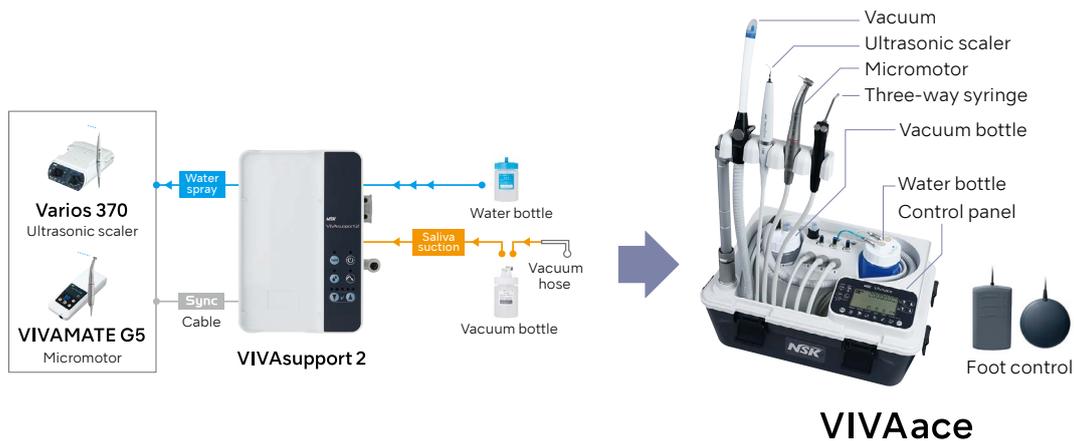
Air Turbines are one of our core dental products. They are used to drill teeth, and powered by compressed air. Air Turbines work by using compressed air to drive rotors that spin an axle; the axle is fitted with a bur, and this bur is used to drill teeth. The rotor part of the system is known as the “cartridge.” We gave careful consideration to the maintainability of the cartridge, and designed an easily interchangeable structure. Enabling customers to replace the cartridge extends the life-expectancy of the turbine, making a significant contribution to saving resources and reducing greenhouse gases during transit.

Air Turbine Structure



Integrating Distinct Products for Greater Efficiency

As societies begin to age with increasing rapidity, we can expect greater demand for mobile dental care. And, since elderly people today retain more of their natural teeth, a wide range of mobile treatment will be required. Our VIVA ace mobile dentistry system integrates a high-performance micromotor, an ultrasonic scaler, a three-way syringe, and a vacuum into a single package. Previously, our mobile dentistry solutions required three distinct devices: the VIVA-support 2, the VIVAMATE G5, and Varios 370. However, VIVA ace not only broadens the scope of possible treatments, but provides the convenience of a traditional dental clinic treatment environment in condensed form in a high-added value product. Condensing necessary functions into a single package realizes significant energy savings when compared to using a variety of distinct devices. At NSK, we intend to recognize future societal changes as business opportunities, and provide products that cater to market needs and expectations in a timely manner.



Product Development that Takes Maintenance and Other Lifecycle Processes into Consideration

Handpieces used to treat patients must always be washed and sterilized after use. At NSK, we have launched iCare, a device that automatically washes and lubricates up to four handpieces at once, and iClave, a device that sterilizes using high-pressure steam. The iCare automatic cleaning and lubrication system dispenses lubricant volumes tailored to the type of handpiece used, so reducing excess oil use. The iClave mini2 high-pressure steam sterilization system is more compact than its predecessor, the iClave mini. In addition, increasing the high-pressure steam gravity displacement process enables even the inside of handpieces to be carefully sterilized, and improves the device's sterilization capabilities. Our maintenance products enable users to keep their handpieces in better condition for long periods of time, and contribute to reduced use of new materials. They also help prevent infection, and can therefore be used safely.

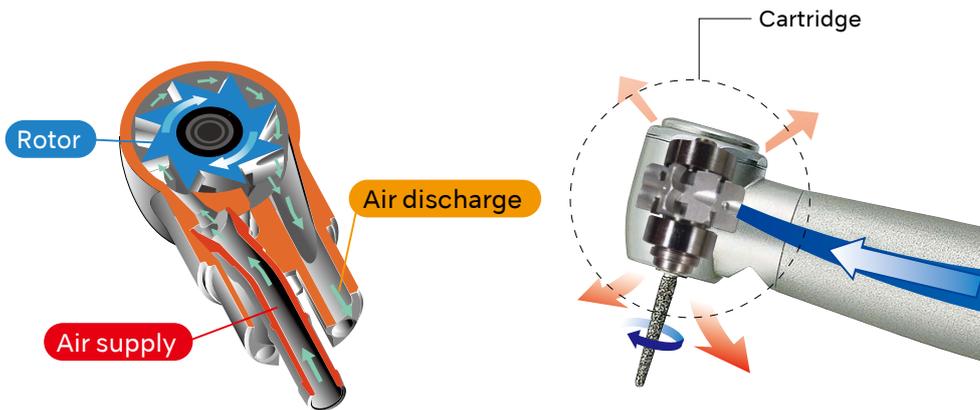


Energy Conservation

Efficient Transmission of Compressed Air to Drive the Rotor (high-efficiency and energy-saving)

Our Air Turbine dental products efficiently transmit compressed air to rotate the rotors. This improves the basic performance of the product, including its rotational speed and rotational torque. Our S-Max M Turbine uses a modified rotor shape that increases the surface area that receives compressed air by 100% (a two-fold increase) over previous models. Accordingly, the rotor spins more efficiently when using the same volume of compressed air as previous models, leading to a significant increase in torque from 20W to 26W.

Air Turbine Structure



Improved Internal Circuitry Leads to Energy Savings

At NSK, our industrial ultrasonic polishing devices are high-speed devices that operate at 19,000 to 29,000 rotations per second, with a maximum amplitude of 40 μ m. In our latest models, we have introduced a raft of improvements over previous versions, including: a heat-protection function to prevent temperature rises and enable continued use; improved visibility through the use of large numbers of LEDs; and energy savings of 13% by refining the structure of its internal circuits. At NSK, we work to reduce the environmental burden of our products throughout their lifecycles, and to this end we promote energy savings while they are being used.



Ultrasonic polishing device: Sheenus ZERO

Effective Use of Resources

Transition to Paper Packaging Materials

Recently, the words "Plastic-free" and "Plastic reduction" have become more common. Measures are taken inside and outside of Japan such as charging for disposable plastic containers. At NSK, we recognize that waste plastics have a major impact on the global environments, such as by contributing to marine pollution. For this reason, we are working on switching from the use of plastic to recyclable paper packing materials for approximately 80% of our core products: Air Turbines, Contra-angle Handpiece products, and Handpiece for dental cleaners. Switching to paper packing materials enables us to make our packaging about 30% more compact and about 50% lighter than our previous plastic packaging. Besides, we had used approximately 55.5 tons of plastic materials for plastic packaging per year. We successfully reduced plastic materials by approximately 49% by switching to paper packing materials since FY2021.

Management of Chemical Substances

At NSK, we have formulated the Green Procurement Guidelines to define our basic approach to environmentally friendly materials and parts, and together with our Japanese and overseas business partners we promote green procurement activities.

Our Products and Chemical Substance Management

Acquiring Information Related to Chemical Substances Contained in Products

In order to comply with applicable laws and regulations, to prevent negative health impacts of controlled chemical substances, and to prevent environmental pollution, we use chemSHERPA. This tool allows us to appropriately manage information on chemical substances contained in our products across our entire supply chain, from upstream to downstream companies, improving information accuracy, and enabling us to carry out more reliable chemical substance management. In addition, while laws and regulations in each country are being strengthened, we regularly verify the applicability of the laws and regulations. At the same time, we have built a database for the integrated management of this information. At the end of FY2021, there are approximately 15,000 pieces of information about raw materials and chemical substances contained in products parts.

Preventing Contamination (preventing contamination of our products)

In the EU's RoHS Directive, the use of four phthalates were prohibited in medical devices, the deadline which was July 2021. In addition, an exemption of lead included in metallic materials expired. For four phthalates, we completed the transition to the use of parts and materials that contain none of the four phthalates in question at the end of December 2020. Besides, for lead included in metallic materials as the exemption of the EU's RoHS Directive, we confirmed that the report which extends the limit of exemption issued on January 13, 2022, from the investigative body which was authorized by the European Commission. We shall determine our response awaiting the official judgement.

Reducing Emissions of Hazardous Chemical Substances

Basic Approach

Our lifestyles are made possible by various natural resources, including the atmosphere, water, soil and animals and plants. NSK's entire value chain—from raw materials procurement and product manufacturing to the energy it uses for transportation—has some impact on ecosystems. We work hard to maintain ecosystems from two perspectives: contributions through our business activities and social contributions related to nature conservation. One of our ecosystem conservation activities entails the proper management of chemical substances that have the potential to affect ecosystems. In terms of concrete initiatives aimed at preventing and reducing the risk of chemical substance contamination, we regularly take and analyze the water quality of samples of factory wastewater that has been treated at our in-house wastewater treatment facilities. Boric acid is a hazardous substance. Previously, waste fluids containing boric acid from our production processes were purified at our wastewater treatment facilities so that levels of boric acid were within required standards, then released into rivers. However, in FY2019, the production processes requiring the use of boric acid were transferred to a separate building removed from our wastewater treatment facilities. If we installed pipes to connect the new building to the wastewater treatment facilities, we would not be able to wholly eliminate the risk of pipe leakage. For this reason, we have switched to storing the waste fluid in storage tanks and discharging it as industrial waste. At NSK, we make advance assessments of the impact our business activities have not only on human health but also on the environment, and we continuously work hard to eliminate as far as possible all risks of environmental pollution.

Advance Assessment of Chemical Substance Risks

When using new chemical substances, NSK refers to information regarding their hazardousness and toxicity contained in safety data sheets (SDS). Based on this information, we identify appropriate methods of handling the chemical substances, necessary facility specifications, levels of risk posed to workers and potential impacts on worker health. We then conduct a chemical substance risk assessment and, if necessary, install local exhaust ventilators and other devices, and so work to improve worker safety.

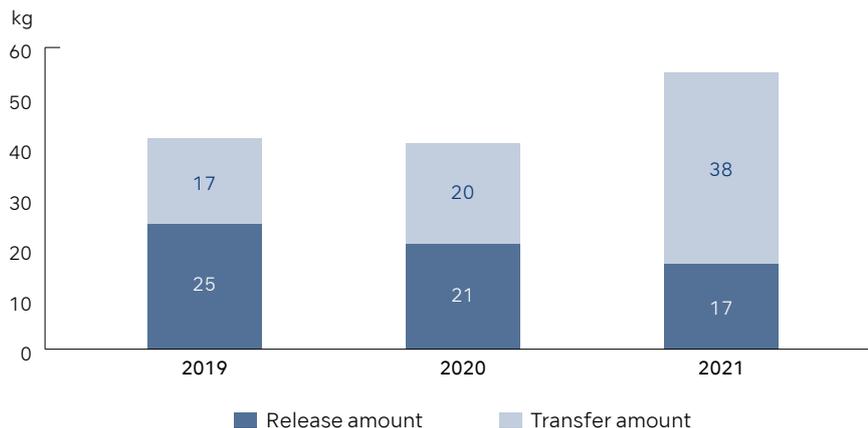
Reducing Release and Transfer of PRTR Substances

NSK works to manage and reduce its use of chemical substances listed on the Pollutant Release and Transfer Register (PRTR)*. We also ensure such substances are handled according to SDSs, and we carry out safety management of our waste. In addition, once a year we aggregate stock, purchase, use, waste and release volumes of PRTR substances and, where necessary, notify the relevant parties. At NSK, we are engaged in initiatives to store washing fluids in airtight conditions and increase recycling rates. We reduced our release and transfer of PRTR substances to 55kg in FY2021.

* Pollutant Release and Transfer Register

The Pollutant Release and Transfer Register is a system that enables Japanese administrative bodies grasp, aggregate, and publicize information regarding chemical substances that are potentially harmful to human health and to ecosystems. Companies independently assess emissions of these substances from their work sites into the environment—into the atmosphere, into bodies of water, and into the soil—and submit reports to the relevant administrative bodies once a year.

PRTR Release and Transfer Volumes



Managing Ozone Depleting Substances

NSK uses specified fluorocarbons, which are ozone depleting substances, as refrigerants in the air-conditioners in its factories. We ensure that waste is appropriately treated in line with all applicable laws. In addition, as required by the Act on Rational Use in FY2021 and Proper Management of Fluorocarbons, we have verified that our calculated leakage amount of fluorocarbons is less than the equivalent of 1,000 tons of CO₂. Going forward, we intend to further strengthen our management of fluorocarbons through daily and regular inspections.

Lead-free Initiatives

All solders used at NSK are lead-free solders. In addition, when carrying out audits of our business partners, we verify whether they have established measures to prevent mixing of lead-containing solders and lead-free solders. In FY2021, we found no non-conformance related to mixed toxic substances inside and outside the company.

Measures to Combat Atmospheric, Soil and Water Pollution

In order to prevent emissions of hazardous chemical substances from causing atmospheric, soil, or water pollution, NSK ensures it complies with all relevant laws, ordinances and regulations. In addition, we also enter into agreements with local organizations and set our own voluntary standards.

Measures to Combat Soil and Groundwater Pollution

NSK does not use chemical substances that cause soil pollution. With regard to groundwater at Headquarters Factory, we carry out water quality analyses once every two months to verify that we have not exceeded applicable standards. Our A1 Factory does not use groundwater, so we do not carry out analyses there.

Measures to Combat Water Pollution

NSK carries out water quality analyses of factory wastewater at the final outlets at the site boundary which releases water outside of the company once a month. In particular, we analyze concentrations of hydrogen ions and biochemical oxygen demand. Besides, for nitrogen and phosphorus quantity, since FY2021 we increased the quantity checks frequency from once a year to every month, consistently monitoring the water quality at the outlets.

As a result, we confirmed that we have still not exceeded permissible standards. In addition, the wastewater treatment facilities in our factories are fitted with an external interlock function that forcibly interrupts the release of wastewater if abnormalities are detected. We verify that this function operates properly once a year.

Headquarters Factory Water Quality Analysis Results FY2021

Measured Substance	Hydrogen ion concentration	Suspended solids	Biochemical oxygen demand	n-Hexane	Nitrogen quantity	Phosphorus quantity
Units	-	mg/L	mg/L	mg/L	mg/L	mg/L
Standards	5.8~8.6	50 or less	20 or less	5 or less	120 or less	16 or less
January	8.0	< 0.1	2.7	< 0.5	1.4	0.2
February	7.8	< 0.1	< 0.1	< 0.5	1.7	0.2
March	7.9	< 0.1	1.4	< 0.5	2.5	0.2
April	7.8	< 0.1	< 0.1	< 0.5	2.8	0.2
May	7.9	< 0.1	1.6	< 0.5	2.7	0.2
June	7.9	< 1.0	1.4	< 0.5	3.1	0.3
July	7.9	< 1.0	< 1.0	< 0.5	2.8	0.4
August	8.1	< 1.0	1.7	< 0.5	2.9	0.4
September	7.9	< 1.0	1.6	< 0.5	2.2	0.4
October	8.1	< 1.0	2.2	< 0.5	1.9	0.4
November	8.1	< 1.0	< 1.0	< 0.5	2.3	0.4
December	8.0	< 1.0	2.2	< 0.5	2.2	0.3

A1 Factory Water Quality Analysis Results FY2021

Measured Substance	Hydrogen ion concentration	Suspended solids	Biochemical oxygen demand	n-Hexane	Nitrogen quantity	Phosphorus quantity
Units	-	mg/L	mg/L	mg/L	mg/L	mg/L
Standards	5.8~8.6	50 or less	20 or less	5 or less	120 or less	16 or less
January	7.1	< 0.1	2.8	< 0.5	4.5	< 0.1
February	7.1	< 0.1	< 0.1	< 0.5	4.3	< 0.1
March	7.5	< 0.1	4.9	< 0.5	0.8	< 0.1
April	7.5	< 0.1	1.3	< 0.5	3.9	0.1
May	7.6	11.0	2.3	< 0.5	4.6	0.7
June	7.4	< 1.0	< 1.0	< 0.5	3.3	0.3
July	7.4	< 1.0	1.0	< 0.5	3.9	0.1
August	7.3	3.6	4.7	< 0.5	22.2	2.6
September	7.4	10.8	9.3	< 0.5	17.1	1.7
October	7.4	< 1.0	1.1	< 0.5	1.8	0.3
November	7.5	6.8	3.5	< 0.5	3.7	0.4
December	7.5	3.2	3.2	< 0.5	2.8	0.3

PCB Measures (storage status)

NSK treats polychlorinated biphenyl (PCB) waste and PCB-containing in-use electrical equipment in line with the Law Concerning Special Measures for Promotion of Proper Treatment of PCB Waste*. More specifically, we work together with Japan Environmental Storage & Safety Corporation (JESCO) to treat high-concentration PCB waste, and we work together with government-certified industrial waste disposal companies to treat low-concentration PCB waste. At this time, we do not have any PCB waste in storage.

* Law Concerning Special Measures for Promotion of Proper Treatment of PCB Waste

Reducing Emissions into the Atmosphere

NSK does not emit NO_x, SO_x or VOC.

Management of Chemical Substances

Basic Approach

Countries and regions around the world are strengthening regulations related to chemical substances. Examples include the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. in Japan and the RoHS Directive and REACH Regulation in the EU. With the addition of increased interest in SDGs and ESG, companies are expected to further improve their management systems and information disclosure for chemical substances. With regard to chemical substances used in its production processes and contained in its products, NSK has established and conforms to management standards that encompass risks to health and the environment and limits to quantities contained in its products. In addition to complying with applicable laws and regulations, in order to ensure the penetration and sharing of SDGs and ESG, we work together with all business partners involved in the transmission of chemical substance information, and carry out operational management of chemical substances in a supply chain-wide manner.

Management of Chemical Substances in our Production Processes

NSK works to prevent environmental pollution caused by chemical substances. Specifically, we manage chemical substances in a manner that prioritizes the environment from purchasing and use to disposal and work to eliminate environmental risks posed by the chemical substances we use as far as possible. It has been internationally agreed that we should ensure the impact of chemical substances is minimized not only on human health but also on the environment. As countries around the world strengthen their management of chemical substances, at NSK we take a precautionary approach, carrying out advance assessments of the environmental risks posed by chemical substances, and minimizing risks before we start to use them. In this way, we are working to eliminate hazardous substances from our production processes and our products, and thereby improve safety both for our production line workers and for users of NSK-brand products.

Advance Assessment of Risks Posed by Chemical Substance

When using new chemical substances in either its production processes or its products, NSK assesses the risks posed by chemical substances in advance. Before using new chemical substances, we acquire the relevant SDSs*, carry out risk assessments and take the appropriate measures. We assess levels of risk posed to workers and potential impacts on worker health based on information regarding the hazardousness and toxicity of the chemical substances, methods of handling them, work environments and facility specifications. According to the results of the above risk assessments, if necessary we install local exhaust ventilators and other devices to improve worker safety. In addition, in order to minimize the risks posed by chemical substances, we continue to explore potential substitutes. In fact, we have already identified a substitute for 1-bromopropane, which is contained in the washing fluids we use to wash parts in our production processes.

* Safety data sheets (SDS)

In order to encourage companies to improve proper management of chemical substances, the Act on confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof requires that when specified "chemical substances or products containing chemical substances" are transferred from one company to another, safety data sheets containing information related to the characteristics and handling methods of the chemical substances are provided in advance.

Revision of safety data sheets (SDS) accompanies the revision of Japanese Industrial Standards (JIS)

Based on the GHS document sixth revised edition of United Nations, JIS Z7252: Classification of chemical based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)" and JIS Z7253: Hazard communication of chemicals based on GHS-Labelling and Safety Data Sheet (SDS) were revised on May 25, 2019. At NSK, we have completed the revision for 2019 as the grace period of three years will be expired on May 24, 2022. New safety data sheets are available on our website.

>Related Link:

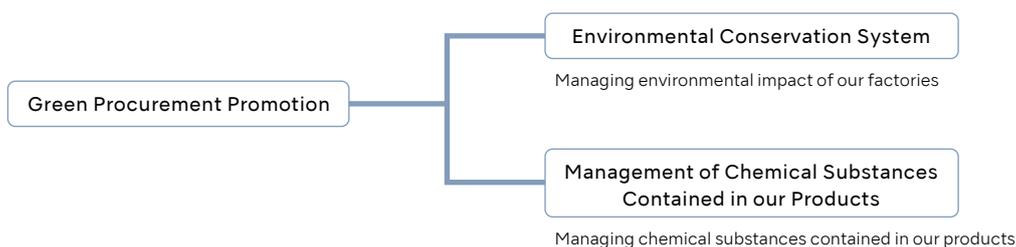
[Dental business SDS](#)

[Industrial business SDS](#)

Green Procurement

In recent years, regulations on chemical substances contained have become increasingly strict, including the implementation of the RoHS Directive in various countries and the revision of REACH Regulation; for this reason, companies are required to establish and operate thorough management systems. NSK uses a wide variety of chemical substances both in its monozukuri (manufacturing) processes and in its products. In order to appropriately manage these chemical substances, we have established the "NSK Green Procurement Guidelines." We regard minimizing the environmental risks posed by chemical substances to be an important issue, and we are promoting initiatives to identify which chemical substances must be managed, as well as working to reduce their content and find potential substitutes. The above initiatives are aimed at preventing the risk that our products will contain hazardous chemical substances when they are shipped, and at minimizing risks both to human health and the global environment. In addition, as our business becomes increasingly global, we make sure to collect and evaluate the latest trends in chemical substance management policies and regulations in countries around the world and see they are reflected in our management of chemical substances. We have designated two substances as "substances prohibited to be included in procured items such as product parts and materials (prohibited substances)" and "substances that need to be reduced or replaced by understanding their content in procured items in order to reduce environmental impact (controlled substances)." We promote "green procurement" in cooperation with our business partners and suppliers to procure products, parts, and materials with low environmental impact.

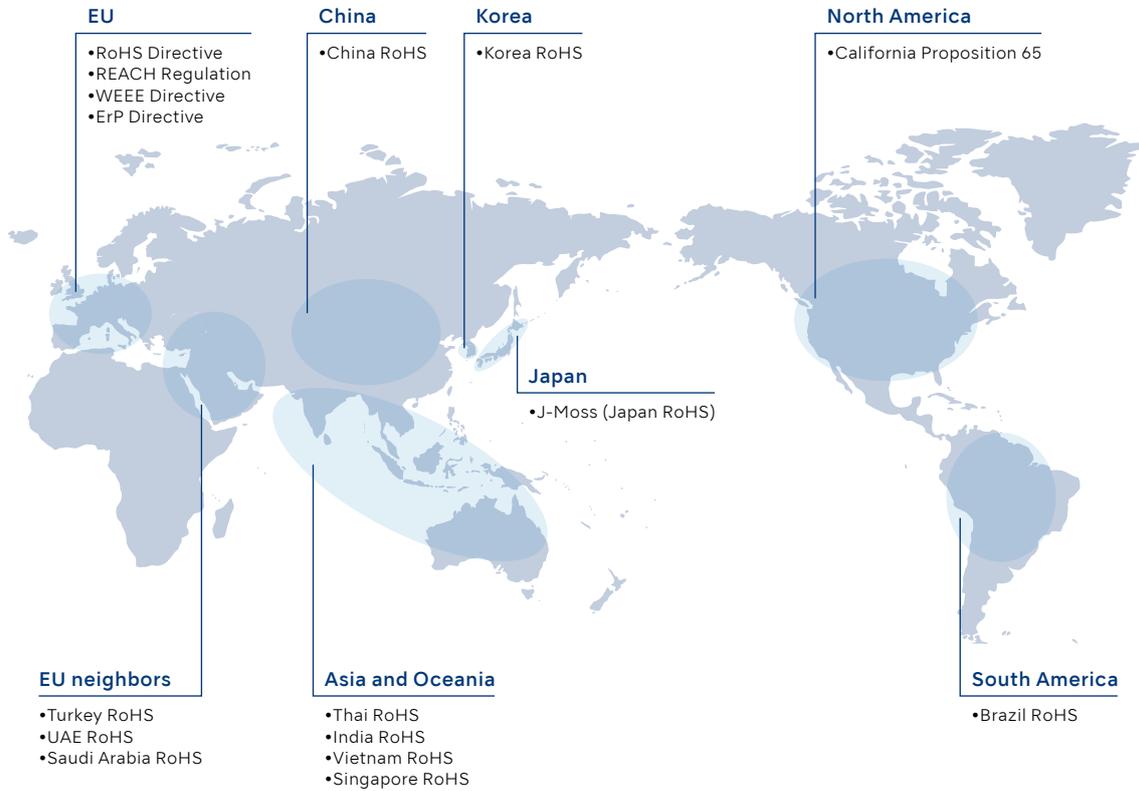
Green Procurement Promotion System



Green Procurement Promotion Structure

NSK has established a Pollution Prevention Subcommittee, comprised of members of its Design and Procurement Departments, under the supervision of the Environment Committee. The subcommittee monitors chemical substances regulations, seeks to standardize our chemical substance management systems and promotes research into chemical substances contained in our products.

Key Regulations regarding Chemical Substances Contained in Products in Countries around the World



Advance Verification of Substances Contained in our Products

Various countries are formulating laws and regulations governing chemical substances contained in products, such as the RoHS directive and REACH Regulation; these regulations cover a growing number of chemical substances, products and uses. NSK investigates information related to chemical substances contained in its products, auxiliary materials, and packaging materials. The information we gather is shared via internal systems and made available for relevant parties to verify when necessary. We list banned substances and managed substances in our Green Procurement Guidelines. Before developing new products or switching to different parts and materials, we verify in advance the substances they contain and thereby ensure our products are not hazardous to humans or the natural environment. In addition, every year we carry out environmental audits of approximately 15 business partners. On these occasions, we directly verify how chemical substances contained in products are being managed and, if their systems are unsatisfactory, request corrections and provide support for the establishment of appropriate systems.

Environmental Audits of Business Partners

When carrying out environmental audits of business partners, NSK also takes the opportunity to directly verify whether they are carrying out Green Procurement. We ensure our business partners have an accurate understanding of our Green Procurement Guidelines, and carry out regular investigations to verify whether or not their products contain any substances defined as banned substances or managed substances in our guidelines. When we revise our Green Procurement Guidelines, we also verify whether or not the revised information is being properly communicated to our secondary business partners.

Compliance with the RoHS Directive

In 2006, the EU issued the RoHS directive, which limits products from containing specified hazardous substances. Since then, growing numbers of regions outside the EU have also demanded compliance with these standards. The range of product fields falling under the scope of the directive has also steadily expanded, with medical devices—including NSK dental products and medical products—covered in 2014. RoHS directive standards have subsequently become even stricter, with the additional prohibition of four phthalates and revisions such as the abolition of exempt items. At NSK, we share the results of investigations into chemical substances contained in our products via internal systems. Using information available in these internal systems, we identified parts and materials containing the four phthalates and completed a transition to substitute materials.

Compliance with REACH Regulation

The EU's REACH Regulation is a set of comprehensive chemical substance management regulations that requires the registration, evaluation, authorization, and restriction of chemicals; it applies to all chemicals, whether they are currently in use or new. REACH Regulation applies to chemical substances contained not only in chemical products but also in articles such as machines and molds. The regulation chemical products came into effect in 2007, and is gradually being enforced. With regard to the regularly updated candidate substances of very high concern for authorization, NSK continually carries out investigations into whether they are contained in its articles, and verify that contained quantities do not exceed 0.1%.

Conserving Water Resources

Basic Approach

Due to climate change and the destruction of forests, and to population growth and economic development in developing nations, water shortage risks are increasing around the world. In recent years, the impact of climate change and other factors have led to worsening quality of river water, resulting in strengthened regulations. From the perspective of risks to company activities, water-related issues are of great urgency. In FY2021, NSK used approximately 27,000 m³ of clean water and 3,500 m³ of industrial water. After use, this water was purified at our in-house wastewater treatment facilities before being externally released. Going forward, we intend to continue focusing on the effective use of water resources, and promote activities that enable us to have a positive impact on local aquatic environments.

Controlling Water Use

Installing Water Faucet Adjustment Valves

In some in-house processes, NSK has installed adjustment valves in its water faucets. These adjustment valves enable small volumes of water to be released at high pressures, helping us to wash our products efficiently. We intend to install these adjustment valves in water faucets that see large amounts of water use—including in production processes, canteens and washing basins—and thereby limit our water use.



An adjustment valve



Water Circulation in our Electrical Discharge Machines

At its A1 Factory, NSK uses a total of eight general-purpose and four automatic electrical discharge machines. These electrical discharge machines use a mix of industrial water and dielectric fluid, which is poured onto metals during processing. We use approximately 800 m³ of industrial water per year on electrical discharge machining, which represents approximately 28% of total industrial water use at A1 Factory. In FY2021, we completed installing water circulation devices on all our general-purpose electrical discharge machines. This enables us to use filters to remove impurities contained in post-process water. This water is then reused in subsequent electrical discharge machining processes. This resulted in a significant reduction in water use.

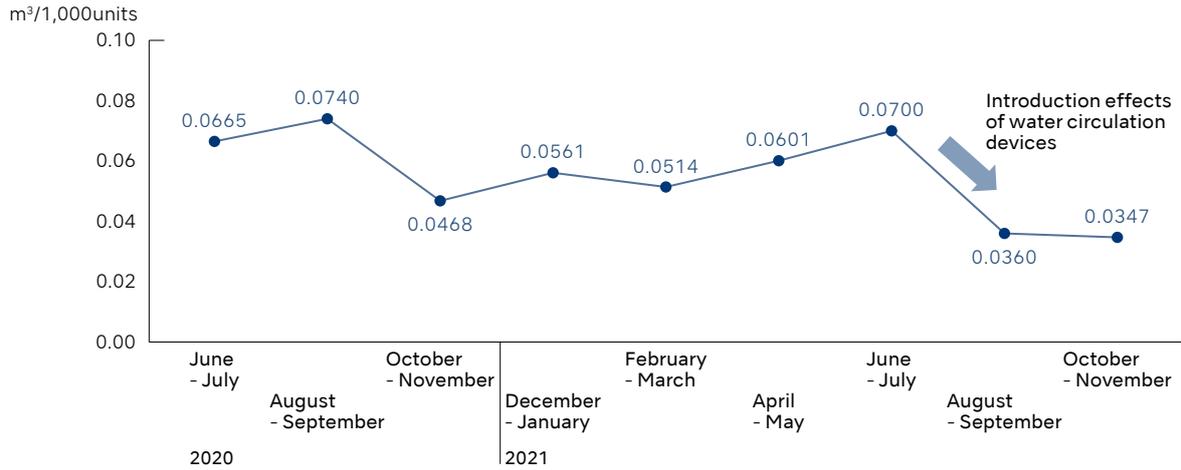


Electrical discharge machining line



Water circulation tank with 100 L capacity

Water use



Wastewater Purification

The water NSK uses at its factories is purified at in-house wastewater treatment facilities to meet water quality standards, before being released into nearby rivers or industrial park wastewater treatment facilities. We carry out regular inspections at our wastewater treatment facilities, managing them at all times to ensure there are no irregularities. We also carry out water quality analyses at final outlets to verify that our effluent water meets applicable water quality standards. In addition, we have installed water-release interrupt functions that activate if effluent water exceeds water quality standards. We verify that this function works properly once a year. In this way, we have implemented ample measures to combat environmental risks in the case that effluent water exceeds applicable water quality standards.



Our in-house wastewater treatment facilities

Biodiversity Preservation

Basic Approach

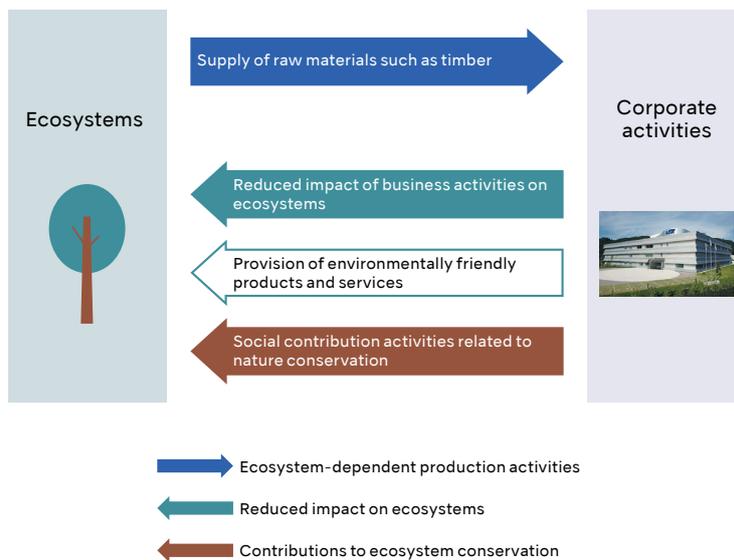
If we wish to live in harmony with nature, we must protect abundant forests and other forms of nature around the world. Yet forests around the world are shrinking, the habitats of diverse creatures are becoming fragmented and loss of biodiversity is growing worse. Loss of biodiversity leads to various issues, including the depletion of biological resources that are vital to society, the inducement of natural disasters and the progress of global warming and, as such, it presents a risk to the sustainability of society as a whole. In the face of such risks, NSK carries out activities aimed at reducing its impact on the environment, including biodiversity. By helping to prevent global warming, using resources effectively and managing chemical substances, we act in an environmentally friendly manner when it comes to monozukuri (manufacturing) and to the products and services we provide. At the same time, we promote conservation activities that have a direct bearing on nature, and so contribute to the realization of a society that coexists in harmony with nature. It takes many years for biodiversity and ecosystems to recover and for their health to improve. For this reason, we analyze the risks and opportunities to our company stemming from biodiversity preservation measures, and promote biodiversity preservation activities in a long-term and sustainable manner.

Biodiversity Policy

Item	Risks	Opportunities
Managing paper use	<ul style="list-style-type: none"> Resource depletion due to deforestation for resource procurement 	<ul style="list-style-type: none"> Set reduction targets and promote reduction measures
Managing wastewater	<ul style="list-style-type: none"> Ecological destruction due to the impact of releasing dirty factory wastewater into rivers 	<ul style="list-style-type: none"> Carry out regular inspections of factory wastewater devices Check external water-release interrupt functions activate correctly in cases of abnormal readings Carry out regular water quality analysis and trend monitoring
Optimizing planting at our factories	<ul style="list-style-type: none"> Shrinking green spaces due to climate change leading to accelerated global warming, loss of habitats and collapse of balanced ecosystems 	<ul style="list-style-type: none"> Manage planting within company grounds in an appropriate manner

The Relationship between our Company and Ecosystem Conservation

Our lifestyles are made possible by the fruits of nature—also known as ecosystem services—provided by natural capital such as the atmosphere, water, soil and plants and animals. NSK recognizes that its entire value chain—from materials procurement and production to energy used for transportation—has some impact on local ecosystems. For this reason, we work to maintain and recover ecosystem services from the dual perspectives of contributions through our business and social contributions related to nature conservation. As far as contributions through our business is concerned, we provide energy-saving and other environmentally friendly products and, as part of our ecosystem conservation activities, carry out proper management of chemical substances. With regard to social contributions related to nature conservation, we promote local clean-ups, green space management and other ecosystem conservation activities.



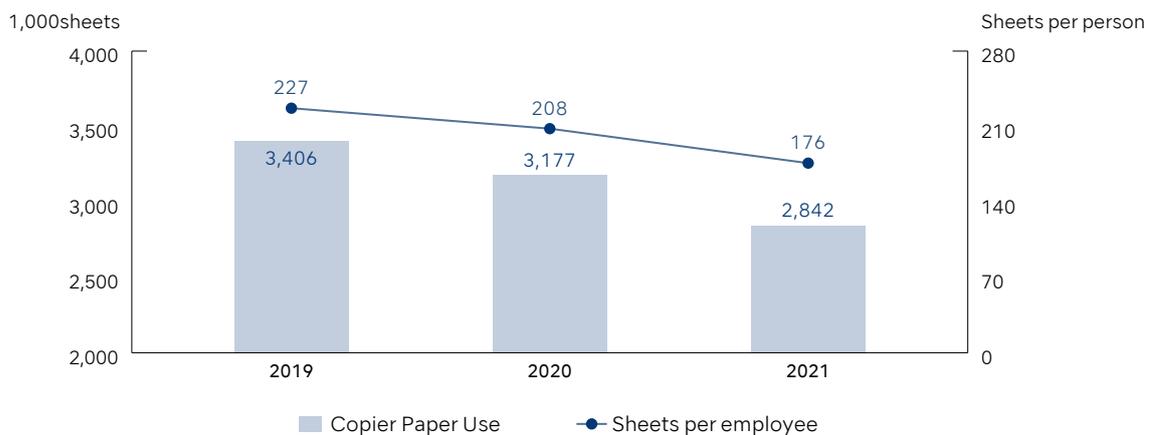
Management of Chemical Substances Contained in Products

As part of its ecosystem conservation activities, NSK manages chemical substances contained in its products from the product development stage. This includes chemicals contained in materials and parts in every stage of the procurement and production processes. In particular, we carefully manage chemical substances in key procurement materials according to our Green Procurement Guidelines. In cooperation with our business partners, we carry out investigations into chemical substances contained in the materials and parts used in our products, as well as in all purchased parts—including auxiliary materials—used in our production processes.

Reducing Paper Use to Promote Biodiversity

NSK seeks to reduce paper use as part of its biodiversity and forest resource conservation activities. In order to reduce per employee use of copier paper, every year we set reduction targets and engage in activities to promote reduced use. Core initiatives include digitalizing various in-house application forms and enabling work instructions for our production processes to be viewed via digital media.

Per unit Copier Paper Use



Coexisting in Harmony with the Natural Environment

NSK's Headquarters Factory is surrounded by a beautiful natural environment—including the Nikko mountain range, Mt. Fukaiwa and the Oashi River—and strikes a harmony with Kanuma's scenery, which changes with the four seasons. Goheiiwa, a mountain rich in greenery that neighbors our Headquarters Factory, provides a habitat for wild animals; fireflies also live by the river that runs between the mountain and our factory. At NSK, we endeavor to minimize the risks our business activities have on ecosystems. We have defined "coexistence between people and the earth" as one of our goals and carry out our business activities accordingly. We engage in initiatives to safeguard plant and animal ecosystems, such as helping to maintain the green spaces around Goheiiwa.



Goheiiwa, a mountain neighboring Headquarters Factory, provides a habitat for wild animals

Appropriate Management of Planting at our Factories

Our headquarters factory has planted more than 300 of 10 different trees and seeds, including cherry trees, zelkova trees and grasses, outside the building to develop rich green walkways and gardens. In prefectural property opposite our Headquarters main entrance, we carry out beautification activities such as sowing seeds and ivy groundcover, and actively take part in the creation of green spaces.



Company Gardens

Purifying Factory Wastewater

In order to prevent water contamination due to wastewater, NSK regularly verifies it complies with wastewater standards set out by applicable laws and ordinances. We have established wastewater treatment facilities within company grounds, where water used by our factories is purified to meet permissible standards. This water is then released into rivers via the company pond. In FY2020, we did not exceed permissible standards.

Communication with Local Communities

Training and Education

In order to resolve recent environmental issues, NSK believes it is imperative that all stakeholders—not just NSK employees—share responsibility for environmental issues and recognize the importance of initiatives to improve them. Every year, we invite elementary schools from Kanuma, Tochigi Prefecture, to participate in factory tours. On these tours, we give lectures related to environmental issues and our company's environmental activities, discussing questions such as: What can we do as individuals in response to existing environmental issues? Why are companies recently placing greater importance on environmental issues? and, What environmental activities are they carrying out? Through these activities, we believe that we have been recognized as a monozukuri company that gives due consideration to the environment and develops locally oriented business by local residents.

Supply Chain Environmental Initiatives

>Related Link:

[Green Procurement Guidelines](#)

Governance



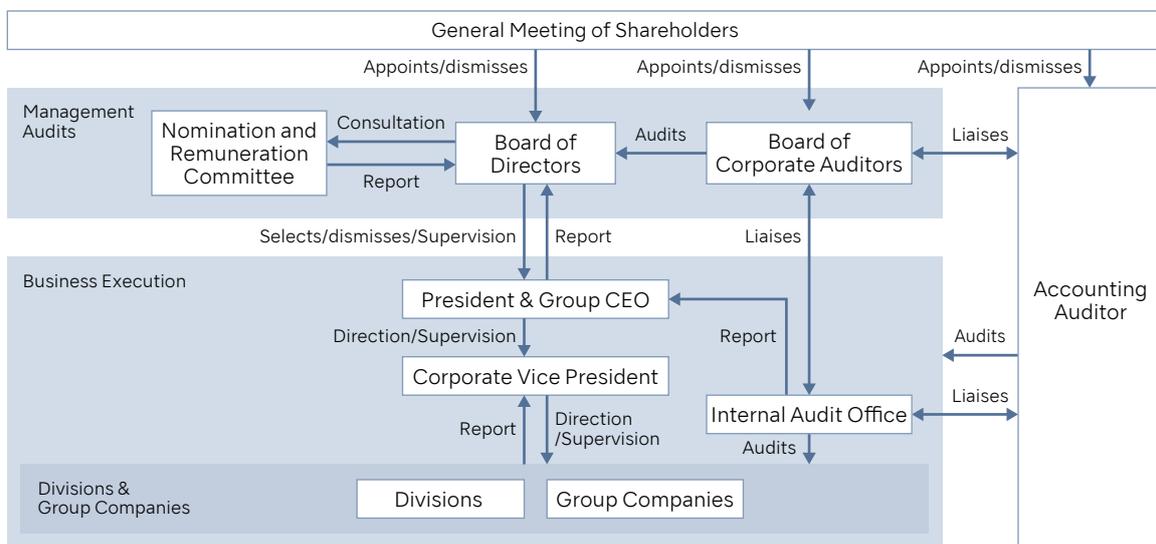
Corporate Governance

Basic Approach

NSK's basic management policy is to increase its corporate value as a global company that is trusted by shareholders and other stakeholders. As such, we promote the strengthening and enhancement of our corporate governance system.

Outline of the Management System

Corporate Governance System



Board of Directors

NSK has a board of directors composed of five directors (including one female director), which is positioned as the management decision-making organization, and thus judges and makes decisions regarding matters important to our Group. The Board of Directors holds regular meetings, as well as irregular meetings as required, at which decisions are made on key management issues and work execution is supervised. The Board of Directors meetings are attended by, in addition to the five directors, the three auditors, who provide their opinions as appropriate to help strengthen our audit functions.

Evaluation for the effectiveness of directors

Regarding the effectiveness of directors, we conduct self-evaluation by questionnaire surveys of the directors and auditors. As a result of analysis and evaluation of the effectiveness of the Board of Directors, we confirmed that the Board of Directors of our company was appropriately managed, and the effectiveness was thoroughly ensured. We shall continue to conduct evaluations so that the Board of Directors strengthens its functions.

Appointment of Directors

Designation of candidates for directors and auditors at NSK is made through resolutions of the Board of Directors regarding candidates recommended by the representative directors in consideration of their character, knowledge, experience, and abilities, and based on the policy of comprehensively considering the right person in the right place. In addition, designation of candidates for auditors is done with the agreement of the Audit and Supervisory Board.

Outside Directors

There are two outside directors at NSK. When appointing outside directors and outside auditors, we refer to criteria such as the independent standards stipulated by the Tokyo Stock Exchange, appointing those who have no vested interests in us and no risks of conflicts of interest with general stockholders. They must also have superior character, the knowledge, abilities, and wealth of experience to accurately, fairly, and efficiently carry out management of the Company, and high ethical standards.

Reasons for Appointing Outside Directors

Yuji Nonagase was appointed as an outside director due to our expectations that he can contribute to strengthening corporate governance and maintaining management health through his specialist knowledge regarding management systems engineering and through advice regarding management as a whole. Fusato Suzuki was appointed as an outside director due to our expectations that he can contribute to strengthening corporate governance and maintaining management health through his wealth of experience and broad knowledge regarding financial institutions and through advice regarding management as a whole. Yukiko Araki was appointed as an outside director due to our expectations that she can contribute to strengthening corporate governance and promoting sustainability of NSK through her wealth of experience in administration over many years, and her broad knowledge of, CSR, environmental strategies and healthcare.

Board of Corporate Auditors

We have an board of corporate auditors composed of three auditors (all of whom are outside auditors). Based on the audit plans set by the Board of Corporate Auditors, members will attend Board of Directors meetings, exchange opinions with the accounting auditors and internal Audit Department, and carry out other activities to audit management activities, including the directors' performance of their duties.

Officers' Remuneration

Amounts such as the remuneration for the Board of Directors are determined by the Board of Directors in consideration of the performance and execution of each director, the company's performance, and the economic situation. In addition, as medium-term incentives, directors (excluding outside directors) are provided with a set number of new stock options in accordance with their post as remuneration when they leave their post. At NSK, we established a Nomination and Remuneration Committee in July 2022. We shall strengthen fairness, transparency, and objectivity of the procedures of directors and corporate vice presidents of our company and important subsidiaries, and we shall further improve the corporate governance system. Amounts such as the remuneration for auditors are determined by a meeting of the Audit and Supervisory Board and are set to be within the remuneration limits approved by a resolution of the General Meeting of Stockholders.

Total amount, remuneration, etc. for each officer category by type of remuneration, etc. and number of eligible officers (2021)

Officer category	Total remuneration, etc. (1,000 yen)	Total amount per type of remuneration, etc. (1,000 yen)				No. of eligible officers (persons)
		Basic remuneration	Stock options	Bonuses	Retirement pay	
Directors (excluding outside directors)	233,963	191,099	42,864	—	—	3
Audit and Supervisory Board members (excluding outside directors)	—	—	—	—	—	—
Outside officers	33,950	33,950	—	—	—	6

Internal Control

In accordance with the Companies Act and the Ordinance for Enforcement of the Companies Act, NSK's Board of Directors passes resolutions on the development and operation of the system (the internal control system) to ensure the appropriateness of the operations of the corporate group (hereafter, "our Group") that comprises NSK and our subsidiaries, working to ensure the appropriateness of our operations as well as improve and strengthen our management systems. We strive to improve corporate value by carrying out sound business operations through the enhancement of internal control.

Operation of the General Meeting of Shareholders

Voting Rights

NSK has stipulated in its Articles of Association that resolutions for the election of directors shall be adopted by a majority of the voting rights of shareholders present at a meeting where shareholders holding one-third or more of the voting rights of shareholders who are entitled to exercise their voting rights are present. In addition, the Articles of Association stipulate that resolutions for the election of directors shall not be made by cumulative voting.

Compliance

Compliance Behavioral Guidelines

NSK's mission is "To create 'brilliant progress' via innovative 'grinding technology.'" To achieve this, we develop, manufacture, and sell high quality products centered around our core ultra-high-speed rotary technology. We contribute socially significantly in the three domains of dental, surgical, and industrial, providing products and services in 135 countries around the world. In order to achieve our corporate mission and contribute sustainably to society, we have set out Compliance Behavioral Guidelines which all officers and employees must comply with in their daily work. In addition, we require all our overseas bases to comply with the laws and regulations of each country in our Group Governance Code.

Compliance Behavioral Guidelines

1. Respect for Human Rights

We respect the human rights of every person and do not accept any form of discrimination (such as gender, age, nationality, race, ethnicity, ideology, belief, religion, birth, education, disabilities, illness and marital status). In addition, we treat everyone with the same respect and dignity.

2. Compliance with Laws and Regulations

We comply with laws, internal regulations and rules, and other social norms, and conduct corporate activities in a fair and sound manner.

3. Responsibility to Society

We act with a social conscience and take a firm hand against all forms of illegal and antisocial behavior.

4. Positive Workplace Environments

We strive to create workplaces that are easy to work in and encourage good interpersonal relationships, respecting the character and personalities of each of our officers and employees. Concerned about how others feel, we ensure personal privacy is protected.

5. Safe, Healthy Workplace Environments

We strive to create workplaces that prioritize the safety and health of each officer and employee, working to achieve safe, comfortable workplace environments where people can work healthy in both mind and body.

6. Preventing Harassment

We do not permit any form of harassment, including sexual or power harassment.

7. Respect Diversity of Human Capital

We aim to be a workplace which respects diversity and where each officer and employee can work with enthusiasm.

8. Dedication to the Job

We dedicate ourselves sincerely to our jobs, following the set procedures and correctly understanding work-related directives and orders. In addition, we follow laws, regulations, and social norms and ethics, always carrying out our work with a high awareness of ethics.

9. Making Products

In order to contribute to society through providing top-quality products using innovative, advanced technologies, our core principle is to not make defective products, and to always deliver them at the promised time. We listen sincerely to opinions from our customers and society regarding our products and services, comply with all relevant laws and regulations, including those relating to medical devices, strive to maintain and improve the quality of our products, and work towards being able to provide a stable supply at fair prices.

Our research and development is carried out independently and sincerely, based on a high sense of ethics and scientific facts.

10. Healthy Corporate Activities

We respect our suppliers and other business partners as equal partners based on the principle of good faith, aiming for mutual prosperity and practicing sincere, fair, and equitable corporate activities. In addition, we do not carry out any unfair or improper activities that take advantage of our superior position.

11. Fair Business Activities

We comply with competition law (the Anti-Monopoly Act in Japan), laws and regulations relating to import and export control, and other laws and regulations, striving to earn the trust of society and improve our corporate and brand images through fair, free and lawful business activities.

12. Effective Use and Protection of Company Assets

We strive for the effective and efficient use of both tangible assets, such as our land, buildings, and facilities, and intangible assets, such as patents, copyrights, and expertise. We manage these appropriately and will not use them for anything other than business purposes, including for personal use. In addition, even for business use, we do not use or provide them for political activities without the approval of the company.

We strive to manage our assets in order that payments to outside be both fair and appropriate.

13. Protection of Intellectual Property Rights

We respect the intellectual property rights of third parties, and do not obtain the results of third parties unfairly, nor use them in our businesses. In addition, we require our business partners to also comply with intellectual property laws.

14. Ensuring Information Management

We carefully manage information related to business or work, and ensure that management secrets are not leaked and that personal information is handled in compliance with the laws and regulations.

15. Appropriate Information Disclosure

We disclose corporate information, such as our business activities or the state of our management, at the appropriate time, accurately, and in a way that is easy to understand, in accordance with the relevant laws and regulations.

16. Prohibition of Insider Trading

We do not use unpublished key information (such as information that could affect company stock prices) for the gain of either ourselves or third parties.

17. Prohibition of Conflicts of Interest and Mixing Public and Private

We carry out our company work sincerely, and do nothing that would go against the company's interests. In addition, we make clear our position as a company and the positions of individuals, and do not do anything that would bring in personal stakes into the company or utilize the company's position.

18. Opposition to Antisocial Forces

We take a firm and organized stance against antisocial forces and groups that threaten the order and safety of civil society, and will not provide them with benefits of any sort. In addition, we cooperate with investigating authorities to the fullest extent provided by law.

19. Contributions to Local Communities

We aim to become a member of our local communities, always contributing to them by carrying out corporate activities that are rooted in the region. In addition, we actively carry out exchanges with local communities.

20. Preventing Bribery and Corruption

We never offer inappropriate gifts or entertainment of any kind. Nor do we ever receive inappropriate gifts or entertainment of any kind.

21. Donations and Aid

We provide donations and aid responsibly, with full awareness of their necessity and appropriateness, as a company that exists as part of society.

22. Environmental Protection

We are aware that the protection of the global environment is one of the most important issues for the entire human race, and that this protection is a vital requirement for our existence and activities as a company. To that end, we give consideration to the protection of the regional and global environment in every field of our corporate activities.

23. Monitoring Human Rights Issues across the Supply Chain

We monitor human rights issues in the supply chains that feed us the parts and raw materials for our products, and strive to comply with the laws and regulations.

Initiatives

Whistle-blower System

At NSK, since 2015 we have had a whistle-blower system which employees can discuss issues they have discovered that violate compliance. In addition to this company system, we have an external office set up by a lawyer to ensure that reports can be made in complete confidence. The facts of the reported content are investigated and dealt with.

Preventing Harassment

At NSK, we strive to prevent infringements on human rights by providing training designed to prevent all forms of harassment and ensuring people are fully versed with the correct knowledge for working. If an issue is discovered, we investigate the facts and deal with it in accordance with our company regulations.

Appropriate Relationships with Medical Workers

NSK complies with the regulations set by the Japan Federation of Medical Devices Associations (JFMDA) and the Japan Fair Trade Council of the Medical Devices Industry, and with our internal regulations and employee behavior policies, to carry out corporate activities that maintain high ethical standards. With the goal of achieving a broad understanding of how we contribute to the development of the life sciences, including medicine and medical engineering, and promote corporate activities that ensure a higher standard of ethics, in compliance with the JFMDA's "Transparency Guidelines for the Medical Device Industry and its Relationships with Medical Institutions and Other Organizations," NSK publishes information about our corporate activities related to medical institutions and medical personnel.

Dealing with Antisocial Forces

NSK takes a firm and organized stand against antisocial forces and groups that threaten the order and safety of civil society, and will not provide them with benefits of any sort. In addition, we cooperate with investigating authorities to the fullest extent provided by law.

Risk Management

Basic Approach

Changes to the world situation and the globalization of business mean that the business environment is changing rapidly, and we are seeing a greater variety of risks that could impact our business activities. This is why NSK carries out appropriate initiatives towards minimizing risks that could have major impacts on our business activities. In addition, to prepare for unexpected events such as natural disasters, we are also working on business continuity plans to either continue operating or recover as quickly as possible after a disaster.

Risk Management System

We are constructing a system where, if there is an unexpected event that could have a major impact on NSK's operations, it is promptly reported to the management team and the people responsible liaise with the related departments to deal with the issue appropriately. In addition, we have established separate management systems, committees, and councils for major risks, and are working on understanding risks and appropriate responses.

Major Business Risks

1. Risks associated with a high proportion of exports
2. Legal regulations
3. Quality issues
4. Risks associated with restructuring the sales network
5. Risks associated with dependence on specific industries and increased competition
6. Risks associated with parts suppliers outside our Group
7. Risks of litigation
8. Risks of major natural disasters, infectious diseases, etc.

Initiatives

BCP Initiatives

NSK has a business continuity plan (BCP) in place to use in case of an emergency such as a major natural disaster. This plan sets out the systems, rules, responding organizations, recovery priority steps, and so on needed to minimize the effects on our employees, customers, local people and all other stakeholders and to recover business promptly.

Preparations for Major Disasters

NSK carries out regular drills in order to implement its BCP in the event of a disaster, verifying its effectiveness and making improvements to the plan in a PDCA cycle. In addition, we are working to ensure the effectiveness of our disaster measures by, for example, providing hazard maps, maintaining an emergency contact network, and maintaining a safety confirmation system to collect information on the safety of employees and their families in the event of a disaster.

Infectious Disease Measures

At NSK, we are working to prevent employees from being infected by ensuring compliance with the “new normal” directed by the government as a way to deal with the COVID-19 pandemic. In addition, we consider stable supply of products and continued service for our customers to be two of the most important issues, so the entire company, especially the Manufacturing Division and the Sales Division, will respond to ensure customer needs are met.

Cybersecurity

NSK works to ensure information security throughout our entire company by establishing a Basic Cybersecurity Policy that protects information received from customers and our own information assets from threats such as accidents, disasters, or crime, allowing us to enjoy the trust of our customers and society. Specifically, we are maintaining and improving information security levels based on rules that regulate personal measures, information asset management, physical measures, access control and authentication, use of IT equipment and software, system development and maintenance, IT infrastructure operation and management, information security incident response and business continuity management. In addition, we have established the Personal Information Protection Regulations to appropriately protect and appropriately handle the personal information of our customers and other stakeholders, and strive to adhere to them.

Tax Transparency

■ Tax Policy

NSK has established a Basic Tax Policy to carry out tax work ethically, based on sincerity and fairness.

Basic Tax Policy

1. Tax Compliance

We will carry out our tax work ethically, based on sincerity and fairness, to ensure that it does not violate legal or social standards. This is done through understanding and compliance with the guidelines prepared by the Organisation for Economic Co-operation and Development (OECD) and the laws, regulations, etc. related to taxes in the various countries and regions Group companies do business in.

2. Transfer Price Taxation Compliance

We will strive to pay taxes appropriately in each country or region by setting internal Group transaction prices based on the guidelines prepared by the OECD and the laws, regulations, etc. related to taxes in the various countries and regions in order to achieve a fair distribution of income among Group companies in proportion to their contributions.

3. Tax Planning

We will act based on the Base Erosion and Profit Shifting (BEPS) action plan prepared by the OECD, and will not take any actions designed to avoid paying tax that are not economically rational, such as the transfer of profits to lightly taxed countries (tax havens).

4. Relationship with Tax Authorities

We will strive to build and maintain healthy relations with the tax authorities in each country or region through the appropriate and timely presentation of information during tax administration procedures and tax inspections. In addition, we will strive to deal appropriately and promptly with issues pointed out during tax inspections, and make improvements.

Interviews with Outside Directors

Yuji Nonagase



NSK is gradually developing systems for the SDGs. At the point where new products are developed, the company is now considering product structure and packaging materials as well. So we can see progress being made at this point.

The most important thing is to meet the needs of dentists and physicians. Moreover, what's important is to contribute to providing top-class medical care to patients. In line with our corporate philosophy of "Our Core", we are required to take a total, bird's eye view of our customers, who are people working in treatment facilities and their patients, and to take into account sustainability.

It is important to share our values globally, improving satisfaction for all our stakeholders. We need to move ahead with creating organizations that recognize diversity, bringing together a diverse range of human resources, and connecting this to a corporate culture that offers ample motivation. Being able to establish a foundation as a company that has grown from a medium-sized enterprise in a very short time is bound to form the basis for further growth in the future.

Our system to consider the dental health of employees is unique, and helps us have a dialogue with the market. I feel we should be striving to enhance our measures even further.

Yukiko Araki



With the expansion of information disclosure required of corporations to the environment, society, and governance, rather than just financial matters, our first report that expands our previous environmental reports into a sustainability report was issued last year. For NSK, this is a way to restate, in clear and understandable ways, the basic values and their practices that we have always valued as a company to our external investors and customers, as well as to the local community and a wide range of other interested parties, and that this core part will not change.

Specifically, we first featured our most important cores as a company (brilliant progress, EQOH, Fly & Add). But within the company, this is something that has been rooted here from before, as specific, concrete activities that are continually improved, from management to the factory floor. This year's report clarifies the specific targets and steady progress we have set to achieve these core values.

I expect that every individual within the company will continue to take ownership and work continuously toward achieving the targets we have set. Furthermore, in the context of our core values as a company and our contributions to the SDGs, we must be mindful of how to create value through our business in the future in addition to setting even loftier targets while moving ahead with global initiatives, and securing methods to measure our progress.

NAKANISHI INC.