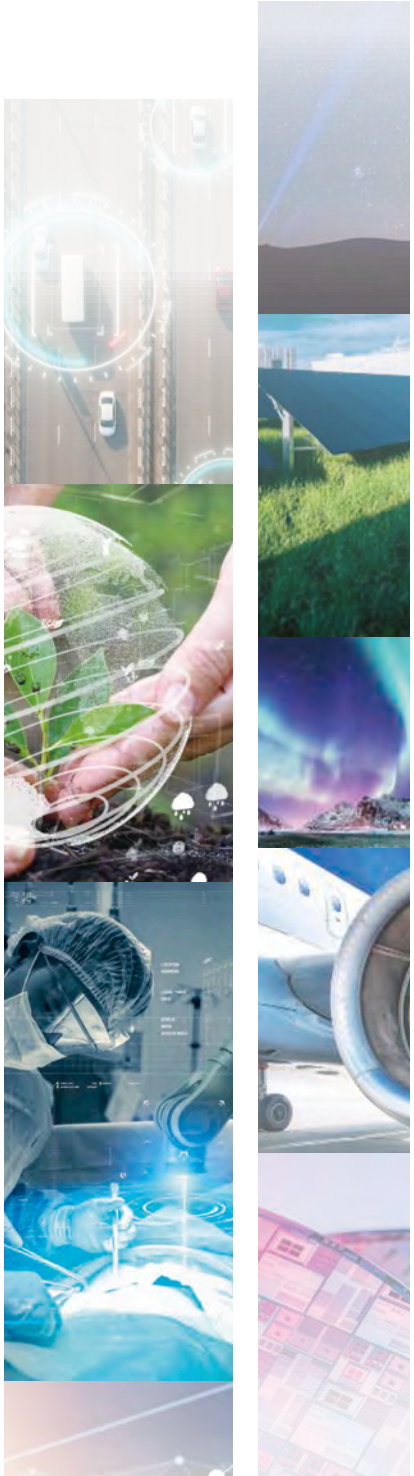
Niterra Co., Ltd. Integrated Report 2023

Niterra Report 2023

Niterra

Niterra with advanced ceramics technology for all environments.
I will be the first to go to Mars.
Niterra through a stable food supply with sensing systems to control water quality.
I will deliver flavorful food, with confidence.
Beyond ceramics,
eXceeding imagination
Delivering new value in the face of an ever-changing future.
To meet large-scale global environmental changes, we too must change.
Creating an organization comprised of passionate individuals working together to face challenges head-on in order to better society.
We are transcending imagination with technology that transcends boundaries.
We are more than just ceramics and we are going in new directions.
Niterra with sensor and plasma technology in healthcare.
I will stay healthy and continue to dance.
Niterra with carbon neutral technology.
I want to conserve our natural resources for our children.



2040 Vision

Change Drastically Beyond the Current Way

The economy and society have changed rapidly.
There have been many changes in technology, such as the introduction of EVs and the increasing demand for semiconductors.
There have been political changes, such as protectionism in major nations and trade conflicts. During this difficult time, we too must change. We cannot continue as we have in the past but must move towards creating a sustainable society.
We have followed the premise of “What ceramics can do” and “Manufacturing = Monozukuri” but now we must face the challenges of the world in order to realize a better society. We must put aside “What ceramics can do” to face the challenges in the world to contribute to a sustainable society, by growing to meet the challenge of “Beyond ceramics”, and work towards “eXceeding imagination”.

By 2040 we aim to create a new Niterra Group with the vision of “Beyond ceramics, eXceeding imagination”.

nable society

We take on challenges in new fields, striving to improve corporate value through ceramics materials technology and other core competencies.

We focus on four areas of business: Environment and Energy, Mobility, Medical, and Communications.

These areas include not only new business pillars, but also current businesses. Our core competencies consist of ceramics materials technology, sensing technology, global production and sales systems, and numerous other areas. Leveraging these core technologies, we seek to add value through *Something New* and the use of open innovation to grow our four areas of business.

Business areas to focus on

Environment & Energy

Energy and environmentally friendly

- Use sensing technology that improves industrial efficiency
- Supply stable renewable energy

Mobility

Fun and convenient mobility

- Services to meet the needs of users' lifestyles
- Improve electricity with ceramic components
- MaaS to meet special needs

Medical

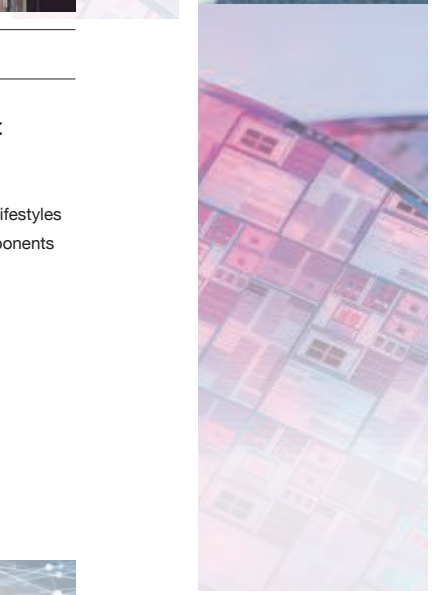
Bring advanced medical care to people all over the world

- Non-invasive diagnosis and treatment, provision of preventive equipment and services

Communication

High-speed communication to connect the real and the virtual

- Support high-speed communication and its infrastructure



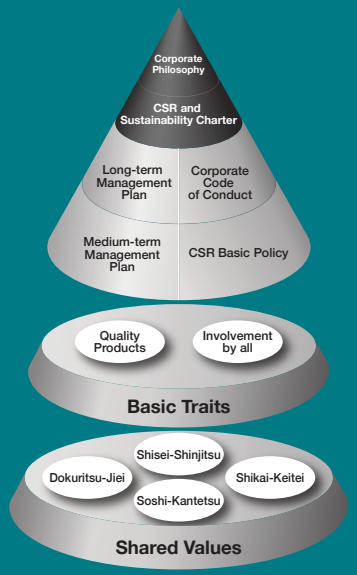
Our Thoughts

IGNITE YOUR SPIRIT

The Nittoku Way

We are an indispensable company that delivers true value to the world.

The Nittoku Way is a philosophy that refers to the values of the Niterra Group to which all employees commit in sharing and passing down to future generation.



CSR and Sustainability Charter

We contribute to develop a sustainable society, thereby improving our corporate value.

- We build relations of trust with our stakeholders while making highly transparent decisions and actions.
- We cocreate and provide new value to solving social issues.

Corporate Philosophy

Realize our imagination.
We continue to offer new ideas and new values.

At Niterra, we aim to contribute to people all over the world by linking people to technologies and delivering new values. As a truly global corporation, we want to build stronger ties not only with customers and communities, but also with the local and global environments. We are always working to make our corporate philosophy and our commitments a reality.

Three elements constitute our corporate philosophy.

1. Commitment

With full use of the most suitable technology and our accumulated experience, we continue striving to offer new values to the peoples of the world.

2. Management Policy

We offer a working environment in which each one of us is encouraged to make full use of his or her personality and capabilities. With all our power we are dedicated to pursue management based on trust and confidence.

3. Action Guideline

Ever onward! Always mindful of what is the best course, we swiftly put it into action.

Helping to Resolve Social Issues to Become a Company That Brightens the Earth and Fosters Well-Being for Society

Chairman of the Board Shinichi Odo

A History of Taking on Challenges and Innovating New Technologies

For the more than 80 years since our founding in 1936, the Niterra Group has been one of taking on challenges and innovating new technologies. At the dawn of the Japanese automobile industry, Niterra began manufacturing the first Japanese-made spark plugs and introduced environmentally friendly high-performance plugs and sensors for exhaust gas in response to the demands of society. We continue to pursue the possibilities of ceramics, our core technology, and develop technologies that contribute solutions to social challenges. Our legacy of taking on challenges continues to this day. As activities aimed at carbon neutrality accelerate around the world toward creating sustainable societies, the automotive industry has seen the progress of technological innovations including electric vehicles (EVs) and much more. We are entering an era in which the structure and commitments of the industry itself are being questioned.

The Niterra long-term vision toward the year 2040 is Beyond ceramic, eXceeding imagination. We are creating new business pillars that transcend the framework of ceramics. Through the accumulation of technology and trusting relationships with customers, we create products through our ceramics technologies that have expanded applications beyond automotive-related products in Japan and overseas, extending to semiconductor manufacturing equipment, personal electronic devices, and medical devices. We will continue to seek discontinuous changes that are more than building on the past, striving for innovations that contribute answers to social challenges.

The future of our general social situation remains uncertain—the VUCA* era. However, similar to our predecessors, mankind has overcome a wide range of challenges by leveraging new technologies, knowledge, and wisdom. I believe humankind is reaching a path toward solutions based on technological changes under a scenario that we envision to a certain extent.

*A term coined from the initials of *volatility, uncertainty, complexity, and ambiguity that* refers to a state in which the future is opaque and difficult to predict.

Quantum Computers, Nuclear Fusion, and Other Technological Innovations that Contribute to Resolving Social Challenges

As an example, the progress of global warming presents a serious future scenario for humankind. The shared global goal of achieving carbon neutrality by the year 2050 has given rise to new, important technologies that include not only EVs, but also renewable energy, CO_2-free hydrogen projects, and CO_2 capture technologies. We believe the accumulation of such technological developments will lead not only to carbon neutrality, which is our direct goal, but also to further social development.

In addition, quantum computers are expected to play central role in fields such as automatic operations, drug discovery, and battery development. This progress will lead to solutions for various social issues. Nuclear fusion and its potential to solve environmental and energy problems does not produce CO_2 emissions, and this technology is also a target for industrialization as a national strategy.

Food issues related to demographic shifts are also attracting more attention, with the emergence of alternative meats made from plant-based ingredients and foods based on genome-editing technology.
There are bright prospects for the future of technology. What is not clear is whether humanity will be capable of aligning with and controlling the use of new technologies to help resolve social challenges. Can humankind capitalize on technology to achieve a brighter future? What is the ideal form of democracy amid ongoing nationalism in certain parts of the world, including the extended Russian invasion of Ukraine and the confrontational relationship between the U.S. and China over economic coercion? How should we understand the just balance between democracy and authoritarianism, and how do we resolve these conflicting structures? These are not problems easily solved in our current social climate.

When Answers are Elusive, What Are the Qualities Demanded of Leaders?

One thing that can be said, however, is that the importance of taking action toward finding solutions is increasing. So, too, is the importance of joining together with others who share the same values of working toward a better world, sometimes through the pure spirit of altruism. In addition, the G7 summit called for cooperation among the Global South countries: India, Indonesia, Turkey, and South Africa. These countries are expected to become powerful in both economic and political terms. We believe the requirements to break from traditional social structures will be the same for companies.
The aforementioned technological innovations for carbon neutrality and the development of quantum computers are being conducted in collaboration across organizational boundaries and sometimes across national borders. New innovations will soon be beyond the resources of a single company. Niterra shares the same social challenges, pursuing alliances with startup companies that possess innovative technologies. We continue to seek partnerships meaningful to society on a global scale.

In an age when answers are elusive, what should we demand of leaders in order to point the company in the right direction and achieve sustained growth? If there are three main qualities to be a leader in any era, the first is the strong will to be a leader. The second is whether the individual is prepared to be a leader. And the third is whether the individual can integrate their identity with that of the organization, looking at himself or herself objectively.
Looking back on my own experience, I first became aware of the idea of leadership when I was seconded to a German subsidiary between 1987 and 1992. That was when I worked with the then-president of our British subsidiary. Performing as the “heart” of his team, he listened to employees, provided motivation, and brought the organization together in one direction: driving results. In a word, I believed he was *cool*. That was my first experience with a true global leader.
Later, I served as president of our Australian subsidiary and then president of our U.S. subsidiary. In June 2011, I was appointed president and representative director of the parent company. Based on my experiences, I have come to believe that no one has the perfect qualities as a leader by nature. This is why we must be prepared, establish an ideal leadership image with reference to our own role models, and strive to draw closer to these images and models. A leader envisions the future of their company while maintaining an objective viewpoint, clarifying what he or she should do as a leader, following through on those decisions. Leaders achieve results and strive for improvement regardless of failure or success. Top management must show that they are not afraid to take risks, fostering a culture of taking on challenges that will lead to the change and growth we aim for as a company in this era of transparency.

The Importance of Fair Opportunities for Human Capital

To provide management leaders with opportunities to challenge themselves, we focus on the development of management human capital through programs such as HAGI. HAGI is a next-generation

management human resources development program that identifies and nurtures the next generation of management leaders. Nittoku Business School is a program that selects leader candidates emerging one step ahead of the next generation. Our Raise UP Program is a selective training program to promote women to management positions.
However, the motivation to work and the goal of achievement are not exclusive to becoming a leader or seeking higher pay. As values diversify, we believe that Niterra must provide a variety of opportunities in addition to providing equal opportunities.
As a company, can we provide all of our valuable human capital with a sense of well-being most suited to them? Will they be happy to work here? For the sustained growth of a company, leaders must take these questions into consideration.
We will work together with our stakeholders to become an organization in which all achieve well-being. And in so doing, we will be active in solving social challenges and improving the well-being of society at large as a company that lights the Earth, true to our new name: Niterra. We sincerely wish that you will continue to look forward to the challenges we undertake, and we look forward to your ongoing support.

PROLOGUE

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Our Group was renamed as the Niterra Group in accordance with the change of our English trade name to Niterra Co., Ltd., effective April 1, 2023.

Niterra

The name Niterra is a combination of "niteo" and "terra," the Latin words for "shine" and "Earth." This name expresses our desire and stance to become a company that contributes to a sustainable society and lets the Earth shine.

Editorial Policy

Niterra Co., Ltd., has issued annual integrated reports since 2017 to help all stakeholders deepen their understanding of our medium- to long-term value creation efforts.

Our 2040 Vision is to change drastically beyond the current way, as established under our 2030 Long-term Management Plan NITTOKU BX, formulated in 2020. We additionally established our slogan "Beyond ceramics, eXceeding imagination" based on this vision. Our major strategic theme is to pursue business beyond ceramics while keeping ceramics at the core of our operation and transforming our business portfolio to focus on the Automotive Components Group. In FY2021, we formulated a Medium-term Management Plan, which ends in FY2024, to achieve our Long-term Management Plan. Our Integrated Report provides an overall explanation of these plans and their progress to help readers understand what sort of value our Group provides.

This publication is also intended to serve as a tool to respond to the various opinions and inquiries we receive from stakeholders through our business and IR activities throughout the year. We look forward to receiving your honest opinions going forward.

Period of Reporting

FY2022 (From April 1, 2022 to March 31, 2023)

*Also includes certain information on our activities before and after FY2022.

Scope of Reporting

The Niterra Group (Niterra Co., Ltd., and consolidated subsidiaries)

Guidelines for Reference

The International Integrated Reporting Framework, the International Financial Reporting Standards (IFRS)

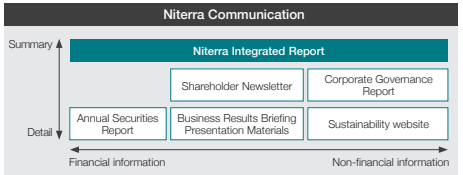
Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation, the Ministry of Economy, Trade and Industry

Forward-Looking Statements

This report contains forward-looking statements regarding Niterra's future plans, strategies, and performance. Actual results may differ substantially from those projected in this report.

Niterra Report and Information System

This report focuses on the information that is essential for the enhancement of our corporate value.



Other Information Sources

The following detailed information is also available through these other information outlets.

■ Company Profile

Corporate profile, brand story, business descriptions, company history, etc.

URL：https://www.ngkntk.co.jp/english/

■ Technology

Vision, core technology, approach, and areas of focus

URL：https://www.ngkntk.co.jp/english/technology/

■ Sustainability

Niterra sustainability management, priority issues, corporate governance report, SASB Content Index, etc.

URL：https://ngkntk.disclosure.site/en/

■ Investor Relations

Financial statements, annual securities report, business results briefing presentations, etc.

URL：https://www.ngkntk.co.jp/english/ir/

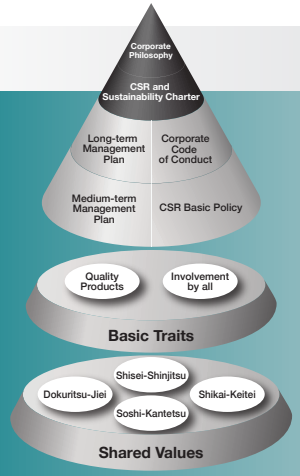
01 Niterra Value Creation

History of Value Creation

The Morimura Group DNA

The origin of the Morimura Group, the foremost ceramics conglomerate in Japan, dates back to 1876 (Meiji year 9), when the Morimura brothers, Ichizaemon and Toyo, founded Morimura Gumi* to launch a pioneering foreign trade business in the country. The four shared values of the Nittoku Way are based on the ideas of the Morimura Group. The Niterra Group DNA is infused with this entrepreneurial spirit and the soul of technologists.

*Current: Morimura Bros Inc.



The Four Shared Values of the Nittoku Way

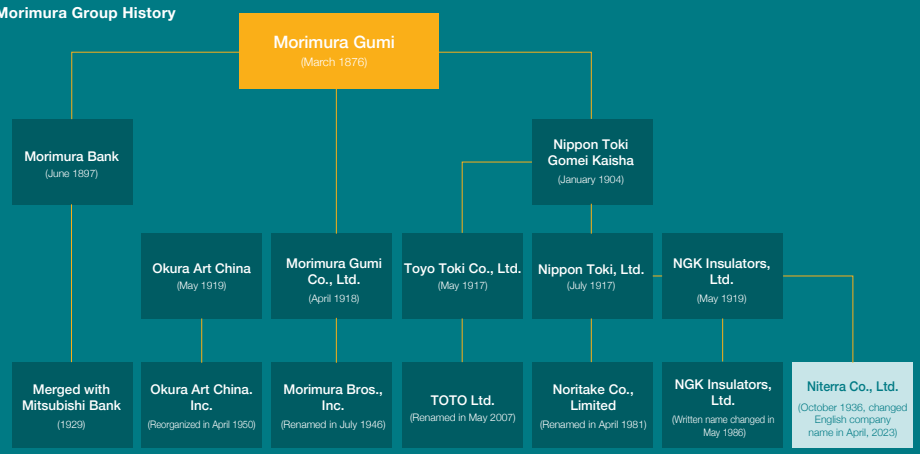
Shisei-Shinjitsu
Sincerely, do our very best.

Dokuritsu-Jiei
Believe in one's own ability, and take actions by oneself.

Shikai-Keitei
Unite efforts with the people of the world, and utilize each other's differences.

Soshi-Kantetsu
Have cherished desires, and carry it through till the end.

Morimura Group History



Honesty and Passion

Ichizaemon Morimura (right side) and Toyo in 1889

Ichizaemon Morimura VI and his brother Toyo founded Morimura Gumi in Tokyo, with Toyo starting an imported varieties business in the U.S. The brothers delivered good products on time and at reasonable prices. And gradually, the small trading business of the Morimura Brothers, built with an independent spirit and refusal to accept support from the Meiji government, grew into a large business.

Dokuritsu-Jiei

Ichizaemon Morimura was an independent spirit, never relying on others, no matter the difficulty, and never taking unfair or unjust advantage, no matter how tempting. He resonated with the message of self-respect and independence of mind, espoused by famous educator Fukuzawa Yukichi. Ichizaemon said, "While it may be easy to start a business venture, it is also easy to err in direction. The fewer the challenges, the more careless one becomes." This philosophy remains fixed among Niterra management today.

In New York,
Morimura Brothers, 539 Broadway, around 1893

"We will not sell anything that is useless after the customer takes possession of it"

Magobei Okura (Left) and Kazuchika Okura (Right)

Magobei Okura, who served as a purchaser, ensured the integrity of the products in which he dealt. This integrity was passed down to his eldest son, Kazuchika. Kazuchika Okura said famously, "a supply of quality products and the satisfaction of consumers is the reality that we need to grasp." helping build the Morimura ceramic business under the philosophy of producing quality products.

"Even if only one product in a thousand is defective, the customer who buys it has a 100% defective rate"

Magoemon Ezoe (First President of Niterra Co., Ltd.)

With the transition from tableware to industrial products, product uniformity became a more daunting challenge. Magoemon Ezoe demanded discipline and a high sense of participation from his employees to achieve products that delivered performance demanded by customers on a consistent basis. This philosophy of producing quality products and the involvement of all employees devoted to manufacturing quality goods is still alive at Niterra.

Addressing a Wider Range of Social Challenges

Historical background and social issues

Startup period (from 1930)

Domestic automobile industry depending on imports

In Japan in the 1920s, when the domestic automobile industry was still in its infancy, the supply of automobiles was limited almost entirely to imports from the U.S. and Europe, and automotive parts, including spark plugs, were also imported. The first president, Magoemon Ezoe, decided to produce plugs using ceramics, a specialty product of Japan, and led initiatives to launch domestic plug manufacturing.

Growth period (from 1940)

Automobile production growing rapidly

In the 1940s, domestic automobile production rose to 46,000 cars, as automobiles and related parts manufacturing developed into a major industry. Accordingly, demand for plugs also increased. After WWII, Japan ushered in a period of high economic growth in the late 1950s, when the country was rapidly becoming motorized.

Establishment period (from 1960)

Impact of high economic growth

From the late 1960s, pollution problems were emerging as a negative effect of the high economic growth, and the automobile industry was particularly called on to urgently address air pollution problems. Looking to fulfill needs related to such problems as well as resource conservation, we started research to develop new products that would help meet exhaust gas regulations. These regulations were made more stringent year by year, pushing up demand for high-performance plugs and sensors.

Development period (from 1990)

Tackling new social challenges

From the 1990s, automakers began to focus on the development of electric vehicles, hybrid vehicles and fuel cell vehicles, as part of efforts to address environmental and energy issues. Those years also saw the explosive growth of information communication technologies bringing about significant changes in many people's lifestyle. In order to provide products that would meet new needs related to these societal trends, we promoted research and development based on our technologies built over long years.

From present to future

Aiming to create a sustainable society

Our business environment is undergoing an enormous change brought about by a number of factors, such as AI and IoT-driven digitization, the once-in-a-century transformation of the automobile industry led by the concepts of CASE and MaaS, and mounting concerns over climate change and ESG-related issues. Recognizing this situation, we are striving to reduce our dependence on the production of automotive components for internal combustion engines, which account for 80% of our net sales, while creating new business projects aimed at achieving a sustainable society.

The Niterra History

Spark Plugs Make Automotive Mobility More Accessible

1936
NGK SPARK PLUG(※) founded

NGK SPARK PLUG was established through the spin-off of the spark plug division of NGK Insulators. The founding business of producing spark plugs has grown to make the company the world's top manufacturer of the product.

1937 Automotive Components
Components Production of NGK Spark Plugs started

In 1930, we released NG Spark Plugs, Japan's first domestically produced spark plug, and began producing NGK Spark Plugs in 1937.

Magoemon Ezoe, first president

NGK Spark Plug

※Changed English company name to Niterra

Providing a Wider Range of Global Value Through Automobiles and Ceramics

1949 Ceramics
Production of NTK Technical Ceramics started

After the post-war confusion had settled down and spark plug production was stabilized, we began applying ceramics to develop new technologies and products for the diversification of our business. The new segment development was promoted under the brand name of NTK. Following this, we gradually broadened our ceramic product range to include those for industrial and environmental uses.

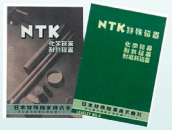
1958 Ceramics
Ceramic cutting tools developed

The importance of ceramic industrial tools increased, particularly in relation to electricity, automobiles, chemical engineering and machinery, and we developed ceramic cutting tools for cutting hard materials to be put on sale in 1958.

1959
Overseas business expansion

Japan entered the high economic growth period, boosting exports. Driven by this trend, we established our first overseas base in Brazil, Cerâmica E Velas De Ignição NGK Do Brasil Ltda(※), in 1959, and began to promote overseas advancement ahead of competitors to build strong global networks.

※Changed English company name to Niterra do Brasil Ltda.



Cerâmica E Velas De Ignição NGK Do Brasil Ltda

Cutting tools

Making Functional Contributions to the Environment Through Core Businesses

1967 Ceramics
Production of ceramic substrates and IC packages started

In the late 1960s, the silicon semiconductor integrated circuit (IC) became a mainstream standard and its mass production began in Japan and the US. Following this trend, we started manufacturing ceramic substrates and IC packages by applying our ceramics technologies.

1982 Automotive Components
Production of oxygen sensors for automobiles started

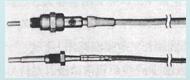
In Japan in the 1960s, as the full-scale motorization of society progressed, environmental degradation such as air pollution became a social issue. In response, exhaust gas regulations were made stricter. To help related industries ensure regulatory compliance, we began developing various sensors, primarily in association with exhaust gas, such as zirconia oxygen sensors and wide range oxygen sensors.

1989 Ceramics
Sales of electrostatic chucks started

In the late 1980s, requirements for higher integration and lower cost of semiconductor elements intensified, which gave rise to a shift to ceramic components, characterized by the material's excellent heat and abrasion resistance, to be used for semiconductor production equipment. In response, we promptly introduced ceramic electrostatic chucks, and commenced mass production of the product in the 2000s to expand sales.

IC packages

Electrostatic chucks


Temperature sensors for automobiles

Oxygen sensors for automobiles

Improving the Quality of Life Around the World by Meeting Diverse Needs

1999 Ceramics
Sales of medical oxygen concentrators started

We started research on the possibility of medical applications of bio ceramics in the 1970s, looking to future opportunities afforded by the progress of population aging. Related results included the rollout of the bone prosthesis Ceratite in 1990 and oxygen concentrators for medical use in 1999.

Medical-use oxygen concentrator

Continuing to Solve Social Challenges

2000 ～ New Businesses
Building new business pillars

Under the NITTOKU SHINKARON long-term management plan started in FY2010, we accelerated efforts to establish new business pillars. The 2030 Long-term Management Plan "NITTOKU BX" also started in FY2020, aiming to transform our business portfolio by 2040. We continue with these challenging efforts, seeking out every possible new field by applying our core ceramics technologies including hydrogen leak detection sensors and the solid oxide fuel cell (SOFC).

Hydrogen Leak Detection Sensor

Solid Oxide Fuel Cell (SOFC)

*CASE (connected, autonomous, shared, electric): A new trend in automotive industry.
*Mobility as a service (MaaS): A concept that considers mobility as a service.

Revenue trend

At a Glance (as of March 31, 2023)

Group revenue

562.5 billion yen

Paid-in capital

47,869 million yen

Operating income ratio

15.9%

Number of employees

Non-consolidated 3,534

Consolidated 16,247

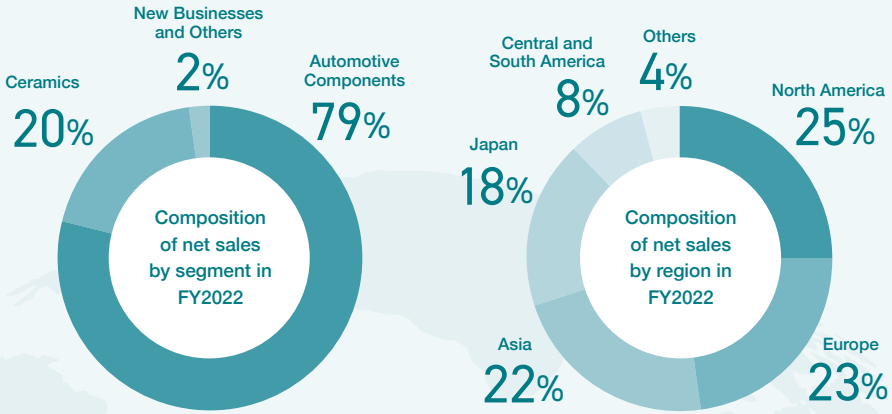
Main products

Global share in spark plugs
Global share in oxygen sensors

No.1

*Niterra research as of March 2022

Composition of net sales



Operating locations

Japan 33 locations

Overseas 59 locations

Global expansion

Number of countries where our products are sold	Overseas sales ratio	Overseas employee ratio
approx. 145	82%	approx. 46%

Value Creation Process

The Niterra Group 2040 Vision is Change drastically beyond the current way.
We leverage ceramics technologies, as well as global scale production and sales system, to engage in business activities in the four focus areas to achieve the sustainable enhancement of corporate value: Environment & and Energy, Mobility, Medical, and Communications.

2040 Vision
Change drastically beyond the current way

Corporate Philosophy and Purpose
With full use of the most suitable technology and our accumulated experience, we continue striving to offer new values to the peoples of the world.

Shared Values The Nittoku Way

- **Shisei-Shinjitsu** — Sincerely, do our very best.
- **Dokuritsu-Jiei** — Believe in one's own ability, and take actions by oneself.
- **Shikai-Keitei** — Unite efforts with the people of the world, and utilize each other's differences.
- **Soshi-Kantetsu** — Have cherished desires, and carry it through till the end.

Priority Issues ▶ P.15-16

- Responding to climate change ▶ P.47
- Providing environmentally friendly products
- Development of technologies, products, and businesses for contributing to the resolution of social issues
- Global human resources management ▶ P.52
- Corporate governance ▶ P.62
- Risk management ▶ P.73
- Compliance ▶ P.74
- Information security ▶ P.75

External environment: Global environmental issues / International issues

Establishment of a society where economic development and resolution of social issues are compatible

Inputs
▶ P.17

- Financial Capital
- Manufactured Capital
- Intellectual Capital
- Human Capital
- Social and Relationship Capital
- Natural Capital

Business Activities
▶ P.18

Sources of Competitive Advantage ▶ P.19-20

- Applied technologies focusing on core technologies in ceramics materials and ceramics
- Global production and sales system

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Focus Areas

- Environment & Energy
- Mobility
- Medical
- Communication

Outputs
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Automotive components ▶ P.34
Plugs
Sensors

Ceramics ▶ P.37
Semiconductor packages
SPE
Medical (oxygen concentrators), etc.

New Businesses ▶ P.39
SOFC cell stack, etc.

Outcomes

Stakeholder Returns

Customers
- Help customers improve product quality by providing high-quality materials and components (help customers increase their competitive stance)
- Improve customer satisfaction

Employees
- Help employees acquire skills (provide growth opportunities)
- Foster job satisfaction and motivation

Partners
- Improve the sustainability of business activities through transparency and stable transactions (strengthen profit base)
- Continue with good partnerships

Shareholders and Investors
- Return profits based on business performance
- Increase share price and market capitalization

Local Communities
- Hold and sponsor community events
- Pay taxes
- Create employment opportunities

Global Environment
- Reduce CO_2 emissions
- Reduce our environmental footprint across the value chain

Social Impacts

Environment & Energy
Energy and environmentally friendly

Mobility
Fun and convenient mobility

Medical
Bring advanced medical care to people all over the world

Communication
High-speed communication to connect the real and the virtual

2030 Long-term Management Plan "NITTOKU BX" ▶ P.26

Medium-term Management Plan 2021 ~ 2024
Break to change. Change to create. ▶ P.28-30

Medium-term Management Plan 2025 ~ 2029
Extend for the future. Spread out to exceed.

Management Innovation (DX) | Clarification of Responsibilities and Authority | Willful Cultural Change

President's message

Transforming our portfolio through the strong will to change and by asking, Why Niterra? Aiming for sustainable enhancement of corporate value.

Takeshi Kawai, Representative Director, President and COO

Facing a New Globally Fractured Structure That Threatens Sustainability

We are in the middle of a once-in-a-century transformation in the automotive industry. Experts say that demand for parts used in internal combustion engines, including our mainstay products of spark plugs and sensors, is expected to peak in the mid-2030s. In response, we are strengthening our existing businesses, creating new businesses, and firming up our business infrastructure.
We created the 2030 Long-term Management Plan "NITTOKU BX" (NITTOKU BX) in 2020, aiming to transform our business portfolio. Today, our internal combustion engine business represents 80% of total revenue. We intend to shift this business to 60% of total revenue, raising our non-internal combustion business to 40%.
I took office as president in 2019. This year marks my fifth year in leadership and the third year of the medium-term management plan we formed under NITTOKU BX. How will we expand our non-internal combustion engine business leveraging our strong internal combustion engine business? The operating catch phrase under this medium-term management plan is *Break to Change. Change to Create.* Our company is working as one to embody this slogan and drive toward our 2040 ideal, which is disruptive change.

Amid the ongoing uncertainty in the state of global affairs, the business environment of FY2022 was indeed a year of upheaval. In China, the two-month lockdown in Shanghai at the end of March and other zero-COVID policies disrupted parts supplies and halted economic activity. The U.S.-China trade frictions have continued since 2018. And in the U.S. and Europe, the prolonged turmoil in Russia and Ukraine, energy prices, and other factors have created high inflationary pressures. The worldwide shortage of semiconductors is another factor slowing the global economy. These developments have created a new globally fractured structure threatening social sustainability.

Record-High Revenue and Operating Profit

In the face of lower auto production and other negative factors, the Niterra Group posted record-high revenue of 562.5 billion yen in FY2022, up 14.4% year on year. We also posted record-high operating profit of 89.2 billion yen, up 18.2%.
We owe this performance to three major factors. The first is the strength of our business model in the automotive components, where products for new automobiles and aftermarket parts complement each other in terms of revenue. In the first half of the

year, sales of aftermarket spark plugs rose, despite sluggish demand for products for new automobiles in reaction to decreased auto production stemming from the shortage of semiconductors. In the second half of the year, we achieved higher revenue and profits across all businesses with the resolution of semiconductor shortages, a recovery in products for new automobiles sales, and settled demand for aftermarket parts.
The second factor, also in the automotive components, was our focus on sales policies, commenced in FY2021, aimed at maximizing sales and profits. Instead of pursuing sales volume in a haphazard way, we negotiated price increases in view of soaring raw materials costs and shifted to a strategy of expanding sales of high-value-added products, including environmentally efficient precious-metal spark plugs, finding success in the aftermarket industry.
The third factor was the strong sales of components for semiconductor production equipment in our non-internal combustion engine business. We view these components as a growth business.
The rapid weakening of the yen against the U.S. dollar also provided a tailwind for our performance.

Developing Favorably Received Ceramics Bearings Into a New Pillar of Business

Our full-year forecast for FY2023 calls for revenue of 600 billion yen and operating profit of 96.5 billion yen, both higher year on year. These forecasts take into account uncertainties in the global economy and foreign exchange risks. In the automotive components, we expect a recovery in sales, particularly for products for new automobiles, in response to the resolution of semiconductor shortages. At the same time, we expect a temporary slowdown in the market for products for semiconductor manufacturing equipment due to the U.S.-led restrictions on semiconductor exports to China. In response to the surge in energy prices stemming from the impact of the ongoing situation in Russia and Ukraine, as well as the increase in labor costs due to inflation, we expect to raise prices by 15.3 billion yen across the entire group. We project the operating profit margin will be in the 16% range for the full year, and we plan for annual dividends of 133 yen per share based on our policy of a 40% dividend payout ratio.
We expect to achieve the revenue target of 600 billion yen in our medium-term management in FY2023, one year ahead of schedule. Looking at each business segment, the internal combustion engine business is making steady progress in its key task: maximizing cash generation. We expect our growing products for semiconductor manufacturing equipment business to drive demand in areas such as power semiconductors over the long term. While special demand in connection with COVID-19 appears to have ended for the time being in our respiratory equipment-related business, we expect sales to increase with our November 2022 acquisition of MGC Diagnostics, a U.S. manufacturer of cardiopulmonary diagnostic equipment.
We have experienced delays in building new business due to certain external factors. However, Niterra Group company Morimura SOFC Technology Co., Ltd. began mass production in its fuel cell (SOFC) business in FY2020, and we expect this to be an area of high growth in the future, as hydrogen is attracting enormous attention in Japan and other countries as part of national strategies toward achieving carbon neutrality.
More recently, we have high expectations for bearing balls, which are a ceramic bearing component that utilizes silicon nitride. These high-performance products are becoming an increasing target of demand in response to higher voltages in electric vehicles (EVs) due to light weight, lower heat generation, high rigidity, insulation properties, and corrosion resistance.
In addition, we have already launched Doctor Link, a connected preventive maintenance service for auto body shops that utilizes our sales network and connected technology. We also market a water quality sensing system for shrimp aquaculture that uses our sensing technology to address issues faced by the primary industry. These services are beginning to show signs of traction.

Leveraging an In-House Company System to Improve Responsiveness to Change, Strengthen Autonomous Management, and Bolster Governance

In April 2021, we adopted an in-house company system to clarify responsibility and authority as part of reforming our business infrastructure under our medium-term management plan. In April 2022, we launched a human resources system linked to the performance of each company. We believe these systems improve sensitivity and enhance motivation to act amid the fast-paced changes in the market environment, leading to an increased ability to adapt with price increases for products and other actions.
We established a new team in the headquarters Global Strategy Division specializing in specific areas including business portfolio transformation, M&As, strategic human resources, and sustainability. This new team serves as a command post for the entire Niterra Group. Our aim is for each company to pursue autonomous and agile operations, while strengthening governance and follow-through, particularly for important strategies related to the management of the group. We also plan to review the design of our human resources system for greater flexibility with an eye to changes in business performance and in the market environment.

Message from the President

Solidifying Our Foothold for the Next Step in the Remaining Two Years of our Medium-Term Management Plan

Including this fiscal year, we have two years remaining under our current medium-term management plan. In preparation for the new medium-term management plan beginning in FY2025, we are shifting from a phase of broad approaches to new businesses to a phase of consolidation. We intend to concentrate resources on businesses with a high degree of certainty, leveraging our competitive advantage in ceramics-related technologies, building models that produce results first of all. We hope to establish a foothold for this next step between this year and next, presenting a road map for the next step during the period of the current medium-term management plan.

From this perspective, one plan to develop a new business will utilize our global supply chain—including repair and parts shops. This global supply chain is a Niterra strength that stands shoulder to shoulder with our technological capabilities. One example of this model is offering our network as a platform for EV technology systems to the IT companies and other entities entering the EV market at an increasing pace. Even after demand for internal combustion engine-related parts peaks in the future, we may still play a socially significant role in helping our repair shop and distributor partners engage in new businesses. We are also considering scenarios in which services such as the aforementioned Doctor Link will connect to our platform, leading to the creation of other businesses that utilize the networks of other business partners. Niterra will focus on certain business, giving them concrete form and connecting with promising business partners for mutual benefits. In this way, we shift to see things as a whole, adding new value and generating growth through Something New. We plan to create a series of successful experiences and find new business seeds in the fields of environment and energy, mobility, medical, and communications.

In-House Venture System and Other Measures to Support Employees Who Are Taking on Challenges and Contributing to Society

Just launching any new business is not enough. We must first ask Why Niterra? Why is it that Niterra must be the one to create this business? From this perspective, we prepare other options for businesses that could have social significance, but which are not linked to our core technology, addressing these businesses through internal ventures or other organizational structures. YORICOM Co., Ltd, a provider of digital communications services for the elderly founded in April 2023, is the result of a Niterra in-house venture. We look to expand our circle of solutions to social challenges, emphasizing relationships that include partnerships with other companies and investments in spin-off companies.

As one example of a new initiative to contribute to society, we installed our solid-state batteries and conducted outer space proof-of-concept tests for the lunar lander for HAKUTO-R, a private lunar exploration program in which we participate. We will continue to explore all the possibilities of solid-state batteries for the future of society, identifying what we can offer, and continuing research on solid-state batteries and battery materials (solid electrolytes). For achieving carbon neutrality, we plan to install an experimental facility at our Komaki Plant (Aichi Prefecture) to test small-scale methanation, which captures CO_2 for reuse as fuel. We have other technologies that can be spun off, including CO_2 capture technology, and we continue with research to provide a variety of options for carbon neutrality.

Communicating Our Commitment to the World Through Our New Corporate Name, Niterra

To contribute to the sustainability of society, we must not only offer products and technologies, but also communicate our philosophy and ideas. As the world transitions to clean energy, we decided in FY2023 to change our corporate name from NGK SPARK PLUG to Niterra. This change demonstrates our determination to achieve our goals and define the path we take toward the future. The name Niterra combines the word *niteo,* meaning “to shine” in Latin, with *terra,* our own word representing the Earth. In other words, the name Niterra reflects our desire to be a company that brightens the Earth. In 2025, we plan to sponsor and exhibit at the world exposition Expo 2025 Osaka, Kansai, Japan. The theme of the expo, Designing Future Society for Our Lives, is highly compatible with our vision behind Niterra. We are preparing for the expo, hoping that our stakeholders will become more familiar with our businesses, environmentally friendly products and technologies, and message.

The power of our employees is the most critical element for achieving the transformation we envision and delivering sustained growth. Every employee must embrace a strong desire to change. I tell our people that failure is not a bad thing. Rather, the worst thing that can happen is that nothing changes. If you take a wrong turn, head in another direction as quickly as possible. Speed is the key. We will embody the phrase in the NITTOKU BX action guideline, change with will, taking on new challenges without fear of risk. I encourage you to look forward to the new Niterra Group, and I ask for continued support and guidance from you, our stakeholders.

Priority Issues (Materiality)

The Niterra Group believes it is important to identify materialities under each area of ESG, setting medium- to long-term goals to address these materialities.
Therefore, we identified eight materialities to address by defining the market environments, stakeholder expectations, risks, opportunities, and activities that affect Niterra Group growth.

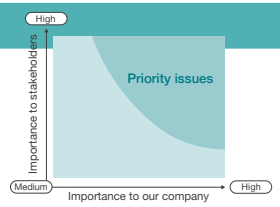
Steps to define priority issues

STEP 1 Understand the external environment

Identify social requirements (issues) in reference to the United Nations Global Compact, SDGs, ISO 26000, GRI Standards, ESG surveys, industry guidelines and other companies' benchmarks.

STEP 2 Analyze and prioritize issues

We hold discussions among related departments, conducting materiality assessment for stakeholders in reference to international guidelines, etc., and ESG surveys used in STEP 1, and for our company in consideration of past activities and future management plans, and create an assessment results map.



STEP 3 Select priority issues

Using the map made in STEP 2, we select materialities of higher priority subject to discussions within the CSR and Sustainability Committees, attended by outside directors, and the approval of the Board of Directors. We review these materialities every year.

Social issues

Global environmental issues

- Climate change
- Decarbonized society
- Biodiversity
- Environmental destruction

International issues

- Protectionism
- Emerging economies
- Disparities in society
- Human rights

Establishment of a society where economic development and resolution of social issues are compatible

- Robots, automation, labor saving
- Artificial intelligence (AI)
- Sensing IoT
- Nanotechnology
- Biotechnology
- Aging society with a decreasing birthrate/Population explosion
- Diversity
- Work-life balance
- Pandemic
- Earthquakes

Risks and opportunities

		Risk	Opportunity	Short term	Medium term	Long term
Environment	Reduction of greenhouse gas emissions	Risk	Opportunity	●	→	→
	Efficient use of CO_2 for a decarbonized society		Opportunity		●	→
	Effective use of renewable energy		Opportunity	●	→	→
	Distributed power sources, and local production and consumption of energy		Opportunity		●	→
	Biodiversity conservation	Risk	Opportunity	●	→	→
	Stricter environmental regulations	Risk	Opportunity	●	→	
Society	Decline in the number of internal combustion engine vehicles	Risk				●
	Expanding demand for automobiles in emerging economies		Opportunity	●	→	
	Change in people's preferences regarding transportation means and consumption	Risk	Opportunity	●	→	→
	Expansion of the sensing field		Opportunity	●	→	→
	Diversification of human resources	Risk	Opportunity	●	→	
	Diversification of work styles and values	Risk	Opportunity	●	→	
	Well-being		Opportunity		●	→
	Respect for human rights	Risk		●	→	→
Governance	Diversification of management personnel	Risk	Opportunity	●	→	
	Stable procurement of raw materials	Risk		●	→	→
	Geopolitical risks	Risk		●	→	→
	Earthquakes and disasters caused by climate change	Risk		●	→	→
	Implementation of compliance	Risk		●	→	→
	Measures for information security (cyberattacks)	Risk		●	→	→

Priority Issues (Materiality)

See P.44-45 Review of Priority Issues Activities for more details

	Priority Issues	Reasons for Identification as a Priority Issue	Major Initiatives	Goals and Outputs	Reference Page	Contribution to SDGs
Environment	Responding to climate change	The impact of climate change, including the increased severity of natural disasters, hinders the sustainable development of society. For this reason, the world faces the common challenge of reducing CO_2 and other greenhouse gas emissions that cause climate change, while aiming to realize a decarbonized society. The Group also recognizes that reducing CO_2 emissions from business activities and supply chains is an important issue.	Reduction of CO_2 emissions	• CO_2 emissions: 30% reduction from the FY2018 level by FY2030	▶ P.49	7, 12, 13
	Providing environmentally friendly products	The earth's resources are limited. To preserve the earth's limited resources for future generations, we must minimize the environmental impact of the products and services used by the current generation. The Group has a bird's-eye view of the entire lifecycle, from when products and services are used to when they are disposed of. We will use that position to contribute to the sustainable development of society by providing products and services with lower environmental impact.	Dissemination and expansion of environmentally friendly products	• Sales ratio of precious metal plugs:at least 50% • Sales ratio of wide range oxygen sensors:at least 50%	▶ P.44	7, 12, 13
Society	Development of technologies, products, and businesses for contributing to the resolution of social issues	The Group is committed to taking on the challenges of the world. We will cocreate and provide new value to help solve these challenges, so that we can contribute to realizing a better society. The world faces various challenges from climate change to food shortages. We continue to use our technology and our accumulated experience to offer new value to people around the world.	Development of fuel cells	• Dissemination of high-efficiency distributed power supply systems with an eye on the use of CO_2-free hydrogen fuel	▶ P.44	3, 7, 12, 13
			Development of applications for lead-free piezoelectric materials	• Promoting substitution for lead-based piezoelectric materials	▶ P.44	
			Development of sensing IoT business	• Improving operational efficiency through automation, optimization and generalization	▶ P.44	
			Carbon Neutral as a service	• Establishing and introducing a synthetic fuel (methane) manufacturing system	▶ P.44	
	Global human resources management	The Group acknowledges that employees are the most important management resources. We believe that respecting the diversity and individuality of our more than16,000 employees around the world and creating an environment in which each and every employee can play active roles will lead to the development of the Group.	Promotion of employment of women, foreign nationals, and careers	• Percentage of female/foreign national/mid-career employees in managerial posts: at least 25%	▶ P.56	5, 8, 10
			Examination of a New Personnel System	• Improved results of employee satisfaction surveys		
Governance	Corporate governance	To achieve sustained growth and improve medium- and long-term corporate value, we believe that it is important to structure the Board of Directors with a team of people from different backgrounds with a variety of expertise and experience. We also focus on enhancing the supervisory function of the Board of Directors and ensuring transparency in decision-making by improving the percentage of outside directors on the Board of Directors.	Increasing the ratio of female and foreign nationals to directors	• Percentage of female and foreign national directors: at least 30%	▶ P.62	5, 16
			Increasing the ratio of external directors	• Percentage of outside directors: at least one-third		
	Risk management	In the modern era of dramatic changes in the environment surrounding business, the risks that companies face are also diversifying. Responding to risks the wrong way could put a company's survival at risk. The Group strives to carry out risk management from day to day, so that it can enhance its corporate value.	Management of serious incidents signs and prevention of their occurrence	• Establishing a risk management system that contributes to management decision making	▶ P.73	8, 11
	Compliance	To develop the business of our Group, we must continue to be a company that is trusted by society. With recognition that our Group is a member of society, we aim to be a company that is trusted by all our stakeholders by appropriately meeting social demand.	Survey of employees' awareness and continuous education	• Conducting compliance awareness surveys and disclosing the results	▶ P.74	16
	Information security	Information technology is becoming more sophisticated every day, and we handle a variety of information assets in our business. Meanwhile, as cyberattacks and other risks increase, bolstering information security is key. The Group will also enhance information security by positioning information assets as one of its management resources. We will make effective use of them while protecting them appropriately.	Maintaining and strengthening incident response organizations and building preventive systems	• Establishing an information security management system	▶ P.75	8, 9, 11

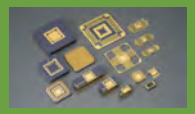
Accumulated Managerial Capital

Throughout our history of challenge and transformation, we have built a store of both financial and non-financial managerial capital. Based on this managerial capital, we contribute solutions to social issues through our business activities, aiming for sustainable enhancement of corporate value by maintaining and strengthening managerial capital.

Financial Capital	Encourage management for our next stage of growth while aiming to improve capital efficiency	Operating Cash Flows 69,305 million yen	Ratings AA- (R&I) AA- (JCR)	Equity attributable to owners of the parent 62.4%	Interest-Bearing Debt 198,222 million yen
Manufactured Capital	Production systems that provide stable, high-quality, and highly reliable products	Bases in Japan 33 Bases Overseas 59	Capital Investment 31,335 million yen		
Intellectual Capital	Applied technologies, expertise, and innovative creation focusing on core ceramics material technologies and ceramics	R&D Expense 27,887 million yen R&D Expense Ratio 5.0%	Patents Owned 5,563	Open Innovation Centers 3	
Human Capital	A diverse base of self-directed and creative human resources who work independently and generate new ideas	Employees (Consolidated) 16,247	Ratio of Employees Overseas Approx. 46% Ratio of Employees With Overseas Secondment Experience 12.3%	Employees Participating in DX Training 7,516	Number of Female Managers 35
Social and Relationship Capital	A global sales structure supplying products to more than 145 countries around the world, collaborative relationships with stakeholders	Distributors Association Membership consisting of approximately 380 parts dealers; Possible business relationships with nearly 80% of more than 70,000 maintenance shops across Japan	Investments in Startups 19 companies in total	Global Sales Presence 145 countries	
Natural Capital	Electricity, raw materials, water resources, etc., required for business activities	Electricity 463,140,000 kWh	Raw Material Input 50,000 tons	Water Input 1,610,000 m^3	

Business Model

Our history of Niterra spans over 80 years and started with the manufacture of plugs. Then, applying its core ceramics technologies, we developed a number of businesses, and are currently accelerating business development in the Ceramics and the New Businesses to transform the business portfolio, while maintaining high profitability in the core Automotive Components.

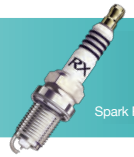
Business segments	Main products	Strengths	Customers	End-users	Value offered
Automotive Components	Plugs Sensors	■ Integrated production system, from materials development to manufacturing ■ Unique sales channels around the world	Automobile and motorcycle manufacturers General purpose engine manufacturers Components distributors	Automobile and motorcycle users General purpose engine users Automobile industry	Higher fuel economy Cleaner exhaust gas Contribution to a convenient mobile society
Ceramics	Products for semiconductor manufacturing equipment	■ Ceramic material technology that can withstand high-power plasma ■ Ceramic sheet lamination technology that contributes to surface temperature homogenization, low particles, and wide-ranging surface temperatures	Semiconductor production equipment manufacturers	Semiconductor industry Communication industry Automobile industry	Enhanced performance of semiconductors Contribution to a digital society
	Oxygen concentrators	■ Product lineup including portable and stationary oxygen concentrators and cardiopulmonary diagnostic equipment ■ Worldwide sales channels for rental operators and hospitals	Rental operators Medical institutions	Home patients Outpatients	Improvement of symptoms Higher quality of life
	Semiconductor packages 	■ Ceramic multilayer technology customized for various applications ■ High reliability with excellent heat resistance and hermeticity ■ Short delivery times to meet customer needs	Semiconductor manufacturers Semiconductor inspection components manufacturers Assembly manufacturers	Electronic device industry Automobile industry	Higher performance of electronic devices
New Businesses (SOFC)	SOFC cell stacks	■ Catalytic electrode and ceramic materials technologies cultivated in the sensor business ■ Disparate material bonding and film formation technologies for highly efficient power generation ■ Broad product lineup, from home use to industrial use	Machine manufacturers	Power generation business operators Plants Data centers Public facilities Retail facilities Households, etc.	Distributed power sources BCP preparedness Contribution to a decarbonized society

Sources of Competitive Advantage
① Technology and Development Capabilities

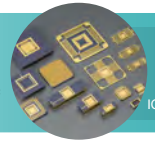
In our more than 80 years of history, we have cultivated a wide variety of applied technologies based on our core ceramics and ceramic materials technologies.
We aim to transform our business portfolio by strengthening and utilizing these technologies to create new businesses in four business domains: Environmental and Energy, Mobility, Medical, and Communications.

Core Technology
Ceramic Material Technology

Products Developed by the Niterra Group		Product Lines and Core Technologies		Business Focus for the Future
Plugs	Spark Plugs, Glow Plugs	Technology: • Application technology for harsh environments • Disparate material bonding technology	Ceramic material technology allowing engines to withstand high temperatures and high pressures. Disparate material bonding technology for superior ignitability and combustion efficiency to improve fuel efficiency.	Environmental and Energy
Sensors	Oxygen Sensors, Temperature Sensors, Knock Sensors	Technology: • Application technology for harsh environments • Sensing Technology	Rapid and accurate sensing, even in the presence of severe temperature changes and waste condensate in automotive environments; compliance with strict emissions regulations.	Mobility
Semiconductor Packages	IC Packages, LED Packages, Automotive-Use Ceramic Packages	Technology: • Application technology for harsh environments	Ceramic sheet lamination technology for transmitting electrical signals while protecting semiconductors from heat and moisture, contributing to the IoT and next-generation communication society.	
SPE	Electro-static Chucks, Vacuum Chucks	Technology: • Application technology for harsh environments • Disparate material bonding technology	Ceramic sheet lamination technology that provides durability and uniform temperature distribution in plasma and high-temperature environments during semiconductor manufacturing. This technology contributes to improved semiconductor production efficiency.	Medical
Medical	Oxygen Concentrators	Technology: • Sensing technology	Oxygen sensor, developed through the application of ceramic sheet lamination technology, are installed to monitor safety and contribute to improved patient quality of life.	Communication


Spark Plugs

Oxygen Sensors


IC Packages

Electro-static Chucks

Oxygen Concentrators

*View our product introduction video for more on Niterra production technologies ▶ https://www.ngkntk.co.jp/english/corporate/advertising/

Commercialization Strategy Utilizing Our Core Technologies

To achieve the portfolio transformation we describe in our 2030 Long-term Management Plan "NITTOKU BX", we intend to strengthen our core technologies and create new businesses that leverage these technologies.
Specifically, we plan to establish a division (Scientific Research Laboratory Division) to explore and create industry-leading and world-class technologies. At the same time, we will upgrade core technologies and create new core technologies from a medium- to long-term perspective to support our future.
We established a new division in FY2023 (Business Implementation Division) to develop businesses leveraging our core technologies. This division will create new businesses rapidly by identifying technologies necessary to solve market issues and collaborating actively with our Scientific Research Laboratory Division and other companies.

TOPICS | **Solid Electrolytes**

We confirmed the stable operation of solid-state batteries using our ceramic materials technology in the harsh space environment of the HAKUTO-R private lunar exploration program overseen by space startup company ispace, inc. We will continue to develop materials that can be used in various harsh environments.

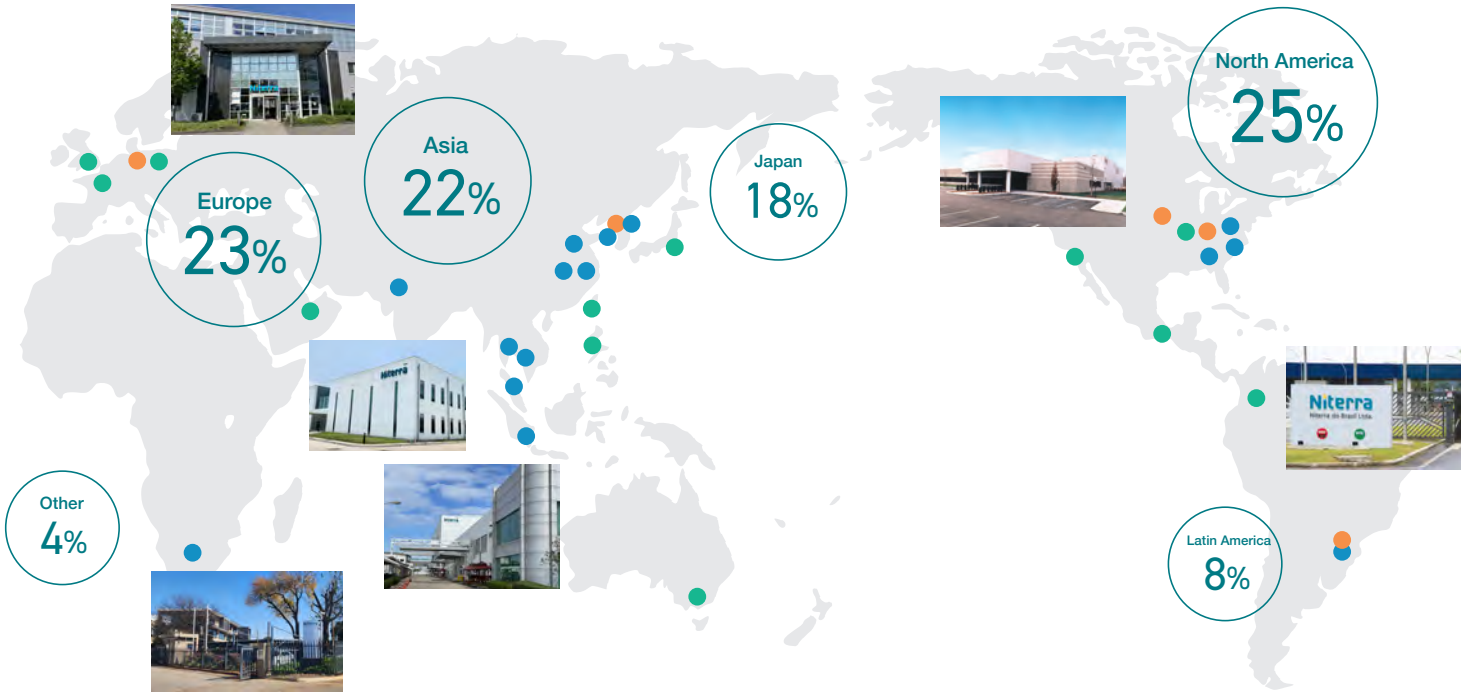
Sources of Competitive Advantage
② Global Production and Sales System

We established a global production and sales system that supplies products to more than 145 countries. Through this system, we provide the same standard and high-quality products from anywhere on the planet in cooperation with Niterra Group companies around the world. The sales channels we developed over the years for NGK Spark Plug have become the source of our revenue.

Favorable Balance of 80%-Plus Overseas Sales

Beginning with our entry into Brazil in 1959, we have steadily expanded our overseas sales channels ahead of other Japanese companies. Today, we operate 33 manufacturing and sales companies, technical centers, and other facilities in Japan, with another 59 corporate entities. Our solid global production and sales system provides high-quality products worldwide. We developed sales channels to distribute products not only to car manufacturers in Japan and overseas, but also to repair and parts shops. These channels contribute to sales of our products in both the new car assembly and repair parts markets. We believe we operate a well-balanced business across the world, with overseas sales accounting for more than 80% of total sales.

Sales Conducted Through 33 Offices in Japan 59 Offices Overseas, and in 145 Countries and Regions



TOPICS Employee Comments

Account Executive
OEM sales

Account Executive, OEM Sales, Niterra do Brasil Ltda.

Throughout my more than 35 years at Niterra, I have been building a solid relationship with the company. Besides professionalism, I strive to apply dedication and love to overcome the challenges of everyday life. I value the teamwork and effective communication I witness every day and I'm proud of the results it brings us. Being recognized and respected by the company motivates me and it is essential for performance improvement. I am heading in the same direction as Niterra: seeking evolution, innovating, and ensuring success. I am happy to be part of this story.

Deputy General
Manager,
Plant Operation

Deputy General Manager, Plant Operation Niterra Asia Co., Ltd.

Quality!!! Word most powerful of business sustainability. Quality related to every single minute of our life, our work. To build the best quality of our work, it is not other persons' responsibilities. But it is ours. We are production people, every step of our work we put quality be a path of our standard. In Thailand, we focus on from people's knowledge & skill to the compliance with their work. Focus on process & product quality control. Continuous improvement of quality and productivity by implementing new technology that is developed by our people. Our goal is that we want customers satisfied with our quality product when they use it.

Diverse Human Resources That Support Our Competitive Advantage

Having a diverse group of self-disciplined creative human resources who can work and create independently is essential for us to take advantage of our competitive edge and change drastically beyond the current way.
We are pleased to introduce the diverse human resources that actively support our competitive advantage in the field.

We continue to create spark plugs that contribute to the Earth and society.

J・I, IGNITE Company

I am responsible for spark plug technical strategy department. Our strength is in our production and sales sites in Japan and overseas. We are also involved in automotive parts other than spark plugs, so we have access to the opinions of automakers and customers around the world from a variety of perspectives.
We formulate policies from a wide viewpoint based on market trends, including CO_2 emission reduction technology for internal combustion engines. As an example, a new CO_2 emission reduction technology meant that spark plugs were exposed to an even harsher environment, which required new considerations. We were forced to broaden our perspective to include exhaust and environmental regulations, in addition to the traditional ignition purpose of spark plugs. In so doing, we made decisions on development based on whether this could become a new mainstream technology, which led to an enormous sense of accomplishment.
The automotive industry is undergoing a once-in-a-century transformation, and the internal combustion engine is facing resistance in the midst of a trend toward EVs. However, many people in the world still need vehicles that use internal combustion engines. We will continue to provide spark plugs that contribute to the global environment and society by considering the type of spark plugs required in a society that is striving to reduce CO_2 emission and carbon neutrality through improved fuel efficiency.

We want to make the materials we develop into key materials for the battery market.

Y・T, Business Implementation Division

I am involved in the development of ceramic materials (oxide-based Li-ion conductive solid electrolytes) for use in solid-state batteries, one of the next-generation of storage batteries. We use ceramic material technology cultivated from making our mainstay spark plug products and exhaust gas oxygen sensors.
The solid electrolyte material we developed has the highest level of Li-ion conductivity among oxide-based materials. When used in batteries, this material is expected to exceed the performance of current Li-ion batteries. Since joining the company, I have worked mainly on the development of solid electrolytes. At first, my work was mostly academic in nature, giving presentations at conferences and so on. But recently, I have been doing more work at trade shows and showing our products to customers. My desire to see the materials we develop used in batteries is one aspect of my work that makes it worthwhile.
Batteries are made up of a complex combination of material functions within a device. Even a material offering high Li-ion conductivity cannot be used in a battery on its own. In addition, each customer has their own battery concept, and uses for solid electrolyte materials and performance requirements differ. As an engineer dealing in ceramics, I want to build my own technical expertise to meet the requirements of each customer and make this material a key material in the highly competitive battery market in the future.

We challenge ourselves to go beyond the boundaries and create new business on our own.

N・I, Mobility Business Company

I develop new businesses in the area of mobility. By doing this, I combine the strong assets we have cultivated in our automotive business, our global production and sales system, for example, with my own strengths in digital marketing and other skills I cultivated through being seconded to a venture company. Creating new businesses requires the ability to think and formulate hypotheses independently, moving forward even when the correct answer might not be clear. The task is difficult, but I am excited by the challenge of verifying hypotheses and finding the correct answer. It is extremely rewarding to imagine that the services I develop will help customers solve their problems. I was seconded to a venture company for a year beginning in 2021 to learn the skills and mindset for creating new businesses. This program is just one way in which our company fosters a culture in which employees can challenge themselves without being bound by conventional ways of thinking.
To achieve the business portfolio transformation described in the 2030 Long-term Management Plan “NITTOKU BX”, I hope to expand the mindset, network, and skills I have gained through my past experiences to create new businesses and continue to challenge myself. Further, I hope to be part of a movement in which all employees work actively together to create new businesses beyond the framework of their own departments.

Dialogue: The President and Two Outside Directors

Unlocking the Source of Disruptive Change

What is the source of Niterra's strength and competitive advantage in creating disruptive change toward 2040?
A discussion among Takeshi Kawai, representative director, president, and chief operating officer, and two outside directors sheds light on this issue.

Strengths as a Pioneer in Core Ceramics Technology

Kawai Disruptive change is our vision for 2040. Under our long-term management plan, we continue to take on the challenge of creating new value that contributes answers to social issues and to transform our business portfolio. What is our competitive advantage in fostering change? What are our strengths in human resources that support our core assets? To gain an understanding of and know the expectations of our stakeholders, as well as to take stock of the source of our strengths, I met with two of our outside directors to hear their objective opinions and get to the bottom of these issues.

Otaki Looking back over more than 80 years of history, I think Niterra is one of the few companies in the world that can boast continued business growth while developing such a wide range of components and businesses centered on spark plugs and sensors. The company's strengths as a pioneer in core ceramic materials technology and in applied technology businesses are the significant factors behind this success.

Takakura Niterra has been part of an automotive industry that has driven the Japanese economy for a long time. And the company continues to take on the challenge of technological innovation, maintaining a constant supply and growing globally, all in parallel. This solid foundation is an absolute strength for Niterra.

Kawai Since our founding, we have taken on the challenge of developing technologies based on our core ceramics technology. We have created a wide range of products, including spark plugs, sensors, and other products for internal combustion engines that we continue to improve and evolve. We are proud to say that we have a competitive advantage in the field of "evolution through expansion." The question we must ask is, Why Niterra? Why are we creating that new business? We believe ceramic technology will be at the center of the next disruptive change from the standpoint of differentiation.

* This three-way dialogue was conducted in May 2023. Mr. Morihiko Otaki retired on June 27, 2023.

Our global sales network could be utilized as a new business.

Engaging in Materials Research and Development Competing With High-Performance, High-Value-Added Products

Otaki Components for semiconductor manufacturing equipment, fuel cells, and other products in our non-internal combustion engine businesses that use ceramic materials technology are already on track, and Niterra is expanding into the medical field as well. Is there still room for the future of ceramic materials and related technologies? And in which fields can they be applied?

Kawai We believe so. For example, when comparing resins and ceramics, ceramics cannot win in terms of versatility and cost. However, ceramics have many strengths, including excellent heat resistance, electrical insulation, durability, and corrosion resistance. Ceramics also have many applications, including household goods, industrial products, and semiconductor products. The compound annual growth rate of the ceramics market has grown steadily over the past several decades. We expect demand to continue to grow in the future. Moreover, we see the high demand for applications in high-performance and high-value-added products with many features as giving us a competitive edge.

Takakura So Niterra has the foundation to compete in sectors demanding high-function, high-value-added products.

Kawai Silicon nitride bearing balls are a ceramic bearing component that is highly functional. They are lightweight, generate less heat, have high rigidity, offer electrical insulation, and provide high corrosion resistance, but they are expensive and difficult to mass-produce. However, in addition to conventional applications in machine tools and elsewhere, demand for these bearing balls has increased recently in response to the high voltages of electric vehicles. With this demand as a tailwind, we can differentiate our products in terms of materials and manufacturing methods to develop these bearing balls into a next pillar of our business.

Otaki In this respect, one of Niterra's strengths is the company's ability to leverage ceramics in providing a one-stop service from materials research to completed products, including combinations of different materials. What about the company's sales network? Niterra has 59 overseas locations*, not only manufacturing centers but also many sales companies.

Kawai In the past, it seemed like every neighborhood had at least one community-based electronics shop. It's the same in our case, just worldwide. There are probably few areas in any country where you won't see an NGK spark plug sign. Due to the nature of our products, we develop sales channels to ensure that our products reach not only car manufacturers, but also repair and parts shops.

*As of March 2023

Global-Scale Sales Network New Business Possibilities

Takakura No matter how much the online market grows, a car cannot actually run without spark plugs and sensors. This is a valuable network for responding to the different needs of each region.

Kawai I agree completely. We are looking for ways to utilize this valuable asset for new business. For example, we may be able to offer our sales network to IT companies and other non-automotive companies that enter the EV market at an accelerated pace in the future. This could have a high social significance, as it would allow repair shops and distributors who have helped us in the past continue their business without pulling down the shutters, even after the demand for internal combustion engine parts disappears in the future.

Otaki After all, if automobiles remain as a means of transportation, even though the form may change, people will still sell cars and cars will still need maintenance. There is still tremendous potential for real-world platforms, not just online platforms. The perspective of combining real and virtual is also interesting.

Creating a Paradigm Shift Through Positive Self-Denial

Kawai To create a paradigm shift that breaks with conventional wisdom and is based on our strengths in core technologies, sales

We have established Venture Labs in Tokyo, Silicon Valley, and Germany as bases for global open innovation. We prepared an area in the exhibition space to introduce our core technologies where visitors can experience our products using augmented reality (AR).

network, and other assets mentioned earlier, we must change the mindset of our employees and our corporate culture. We are beginning to see positive changes in response to a range of actions we have taken, including hiring diverse human resources, introducing an internal company system, and upgrading the HR system. These changes include an increase in the speed of reform and the emergence of a corporate culture that encourages employees to take on new challenges.

Takakura A paradigm shift requires a perspective that questions the obvious. For companies that have experienced success, this is a major challenge that you could call a "success trap." I have been impressed by the seriousness of the company's human resources since I became an outside director in June, 2021. I believe that honesty, accuracy, and even being stern are core assets that are hard to come by, especially in manufacturing. Making a jump to the next stage based on these assets depends on whether an organization can engage in positive self-denial. Can an organization understand its own strengths, while tearing down those strengths to reach the next level? Even the Niterra medium-term management plan references Break to change. Change to create. as a slogan. One of the keys to a paradigm shift could be the capacity to "enjoy" positive self-denial.

I expect the company to undergo an amazing transformation over the next 10 years.

A Major Evolution Over the Past 10 Years. What Are the Keys to Transformation Over the Next 10 Years?

Otaki It has been approximately 10 years since I became an outside director. Compared with when I first joined in June 2013, I feel the company has changed dramatically. Spectacularly, even. In the past, the corporate culture would have been one of caution. Forget "looking before you leap." People wouldn't leap no matter how safe it looked. Now, people engage boldly in new activities, moving on to the next step if things don't work out. The company is also collaborating with other companies and conducting mergers and acquisitions proactively. The number of highly skilled, career-oriented employees with different values and backgrounds is increasing. In the meantime, the internal combustion engine business, our core business, continues to grow, and this business seems to have almost all the people, things, and money it needs. Now it is up to the company to find the seeds of business and create a market. To create a paradigm shift, alliances with companies with completely different strengths and human resources will become increasingly important. If Niterra can break through to this point, I expect that the company will achieve an amazing transformation in the span of the next 10 years.

I believe that the honesty and seriousness of Niterra's human resources are valuable assets in manufacturing.

Kawai Listening to the both of you, I have a renewed awareness of our company's strengths and challenges. Our strength is to act in unison and accelerate forward when we open a path. We will continue to collaborate proactively toward this end, but first, we must deliver one or two more successes, and then move with our vision for 2040.

The new office building N-FOREST symbolizes the Changing Niterra. This building introduces various new initiatives and facilities, and will serve as the base for promoting our transformation, digital transformation, new ways of working, and creating innovation.

02 Growth Strategy

Long-term Management Plan

2040 Vision and the 2030 Long-term Management Plan

In FY2020, Niterra formulated the 2030 Long-term Management Plan, called NITTOKU BX, deeming 2030 as a milestone year for the growth of the company over the next two decades.
The 2030 Long-term Management Plan "NITTOKU BX" consists of three Medium-term Management Plans: the 7th Medium-term Management Plan (the last year of which was the first year of the Long-term Management Plan), a four-year medium-term management plan and a five-year medium-term management plan. We will put more specifics to this 10-year plan as we work together to achieve our 2040 Vision.

2010 — 2019 — 2020 — 2023 — 2025 — 2030 — 2040

Long-term Management Plan "NITTOKU SHINKARON"
(from FY2010 to FY2019)

- Delving (FY2010 to 2012): Delve into existing business and seek new business
- Renovating (FY2013 to 2015): Launch new products or new business
- Evolving (FY2016 to 2018): Develop existing and new business at an accelerated rate
- Real Value

Niterra in 10 years
(from FY2010)
- A distinguished monozukuri company
- A highly profitable company
- A progressive company
- A human "assets" company

2030 Long-term Management Plan "NITTOKU BX" ▶ P.26
(from FY2020 to FY2029)
"Transformation of Our Business Portfolio" for Growth

- 7th Medium-Term Management Plan
  1. Strengthen current businesses
  2. Establishing new business pillars
  3. Establish strong business infrastructures
- Medium-Term Management Plan (4 years): Break to change. Change to create.
  Respect Dokuritsu Jiei. Start from scratch.
- Medium-Term Management Plan (5 years): Extend for the future. Spread out to exceed.
  To foster a new corporate culture, we will work toward sustainable growth.

Operating income ratio	ROE	ROIC
15% or more (FY2022: 15.9%)	12% or more (FY2022: 12.3%)	10% or more (FY2022: 8.6%)

- Management Innovation (DX)
- Clarification of Responsibilities and Authority
- Willful Cultural Change

Priority Issues (Materiality) ▶ P.16

- Environment
- Society
- Governance

Backcast

2040 Vision

Change drastically beyond the current way

Beyond ceramics, eXceeding imagination

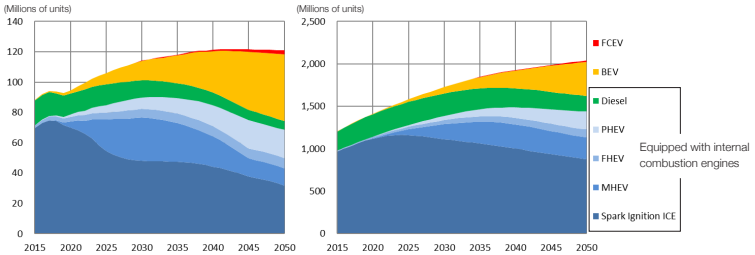
Beyond ceramics, eXceeding imagination

For the solution of various social issues, we need to search for a new way of doing business by thinking beyond "What ceramics can do." We aim to meet the challenge of going "beyond ceramics" and "exceeding the imagination" of society and ourselves, thereby changing "drastically beyond the current way" in 2040.

Long-term Management Plan "NITTOKU BX"

Changes in the external business environment

According to these graphs, which forecast the sales volume of new automobiles and the numbers of vehicles in operation around the world, the number of automobiles with internal combustion engines will continue to increase until around 2030. However, in the middle of the 2030s, the number will peak and begin to go down. We therefore need to shift to a business structure that does not rely on the sales of products used in internal combustion engines by the middle of the 2030s.

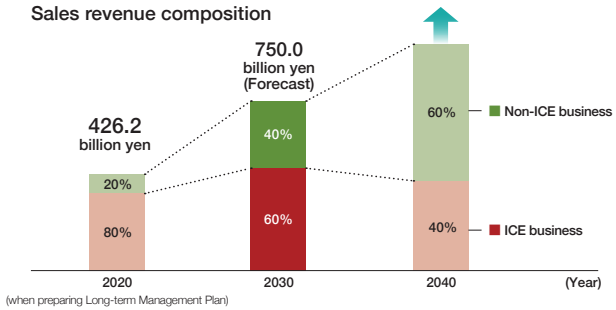


Worldwide sales of new automobiles | Number of automobiles owned around the world

Source: Forecasts made by Niterra based on data provided by IHS Markit Automotive through its "Mobility and Energy Future" service
*Forecast at the time of formulation of the Long-term Management Plan (2020)

Transformation of the business portfolio

We have currently doing business with a focus on internal combustion engines (ICE), however in the future, we need to be involved in more than ICE business and embrace the challenge of starting new businesses to transform our business structure. Specifically, as the 2040 targets, we aim to decrease the proportion of ICE business in our total sales revenue from the current 80% to 40% while raising that of non-ICE business from the current 20% to 60%, thereby transforming our business portfolio. To achieve these targets, we will decrease the ratio to 60% and increase the ratio to 40 % for ICE business and non-ICE business, respectively, as milestone targets for 2030 under the 2030 Long-term Management Plan "NITTOKU BX."

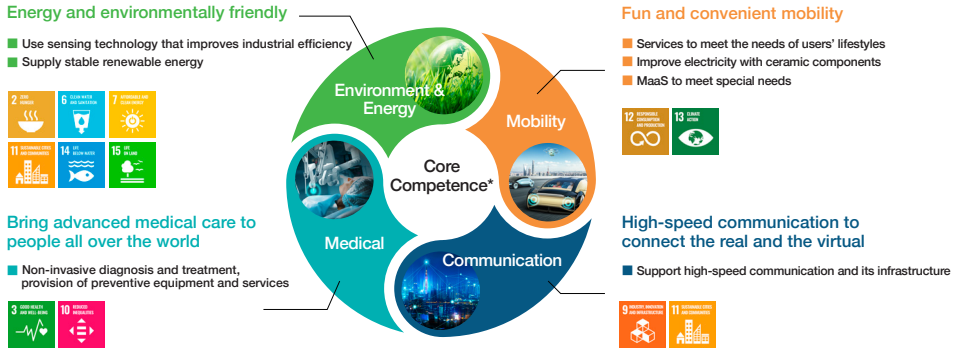


Guiding principle

In our Long-term management plan, we have upheld "Change with Will !!" as the guiding principle, meaning "with a strong commitment ("Will"), we will foster "Change" for coexistence with society and people". We aim to reform our organizations and business structure with speed to make our company one that can coexist with stakeholders from a global perspective.

Business fields to focus on

We are focused on both existing and new businesses in four fields: Environment & Energy, Mobility, Medical, and Communication. Our core competence includes materials technology, sensing technology and a global production/sales system. We will add "Something New" to these to create new value and foster "Open Innovation" both internally and externally, thereby achieving further growth in four fields.

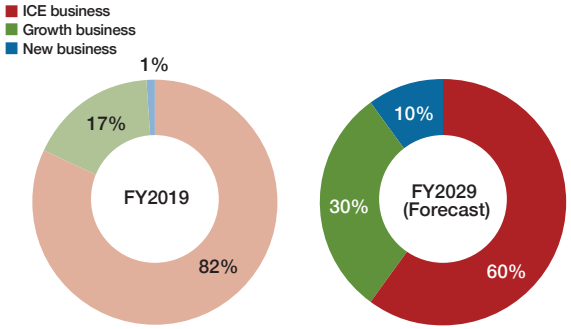


*Ceramic material technology, application technology in harsh environments, disparate material bonding technology, sensing technology, rapid high-temperature heating technology, and global production and sales system

Transformation of Our Business Portfolio for Growth

As the mainstay of the Long-term Management Plan, we will foster the transformation of our business portfolio. As for ICE-related business, we will be able to expand revenue and operating income until 2030 in line with an increase in the number of ICE-equipped automobiles. However, in anticipation of the business environment in 2040, we need to pursue rationalization, higher efficiency and selection and concentration. As part of this initiative, we have shifted to an in-house company system in April 2021, while some departments were spun off. With more clarification of responsibilities and authorities, we will transform ourselves with speed. In new businesses, we aim to achieve a business value of 200 billion yen by 2030, working to achieve growth in each area for sales and profitability. We aim to turn these businesses into our profit pillars in 2040, although their operating income margin might still be low in that year. We will increase efficiency in our ICE-related business with a focus on making profit, use the cash gained in that business for the growth businesses and achieve a profit growth rate that is higher than the market growth rate for these businesses. For the new businesses, we will strictly screen the themes to be continued, thereby revitalizing the new businesses. In order to promote this kind of business portfolio transformation, it is essential to achieve the following three aims: management innovation (digital transformation), clarification of responsibilities and authority, and willful cultural change. We will break our dependence on ICE-related business based on this recognition.

Sales revenue composition



Secure profit while transforming the business portfolio

ICE business	Super efficiency and cash generation
Growth business	Drastic development exceeding market growth rate
New business	Selecting and choosing theme and commercializing cutting-edge themes

Specific measures

1 Management Innovation (digital transformation)

- Small, strong and agile head office to support the transformation of our business portfolio
- Quick management decisions supported by DX

2 Clarification of Responsibilities and Authority

- Clarification of authority and responsibilities to promote the transformation of our business portfolio
- Build an optimized structure and system for each business

3 Willful Cultural Change

- Undertake culture reform and strengthen the Group's abilities

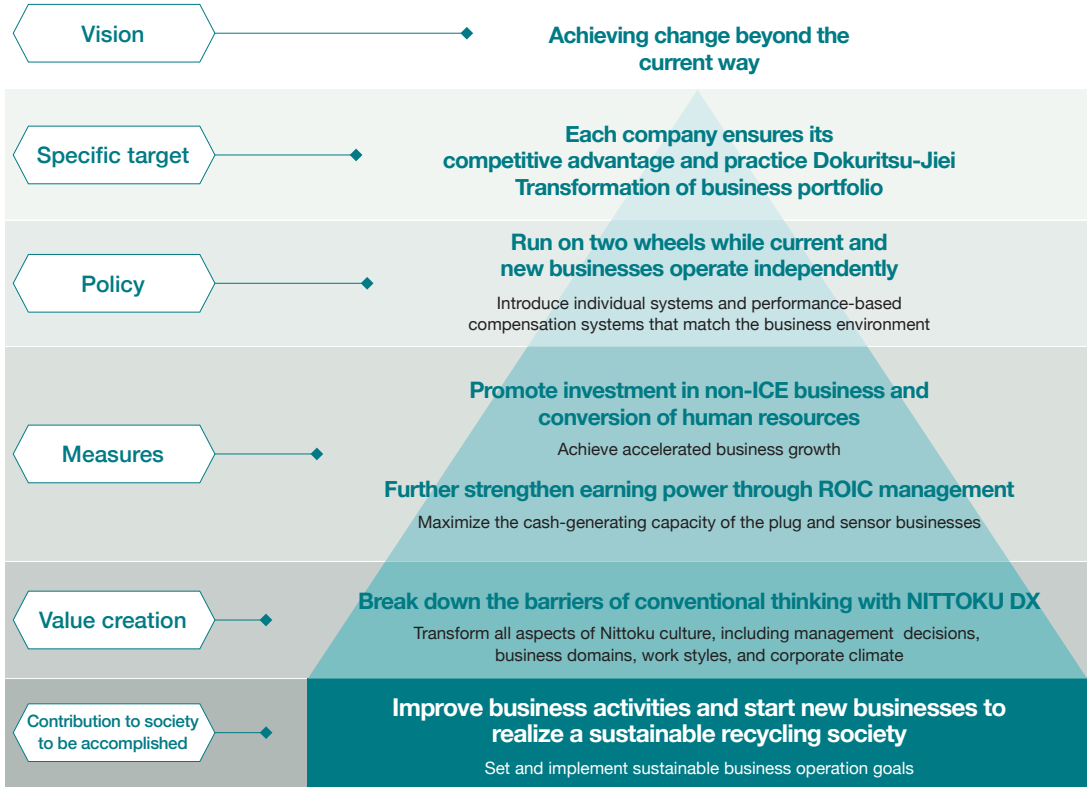
FY2029 management target

The 2030 Long-term Management Plan "NITTOKU BX" indicates the midway milestone for our 2040 Vision. Under this plan, we strive for business portfolio transformation, clarification of responsibilities and authority, and investment in new businesses. In line with the guiding principle, Change with Will!!, which should be followed by all employees, we will achieve Beyond ceramics, eXceeding imagination to be reborn as a new Niterra Group. For the management targets for FY2029, we aim to achieve an operating income ratio of 15% or more, ROE of 12% or more, and ROIC of 10% or more.

Operating income ratio	ROE	ROIC
15% or more	12% or more	10% or more
(FY2022: 15.9%)	(FY2022: 12.3%)	(FY2022: 8.6%)

Medium-term Management Plan

In our Medium-term Management Plan, we will work on zero-based reforms to achieve our 2040 Vision and the 2030 Long-term Management Plan "NITTOKU BX," which will be the milestone for the vision. Here we explain the overview.



Key Initiatives

To transform of our business portfolio, we will maximize cash generation in current businesses and proactively allocate management resources optimally to growth and new businesses.

Business strategy

- **ICE business** — Determine an appropriate business scale and maximize cash generation through ultra-efficiency
- **Growth businesses** — Achieve business growth that exceeds market growth rate
- **New businesses** — Realize new businesses pillars and shorten business creation cycle

Cross-company operations

- Invest in non-ICE business
- Promote transformation of human resources portfolio
- Strengthen earning power through ROIC management

Performance Goals

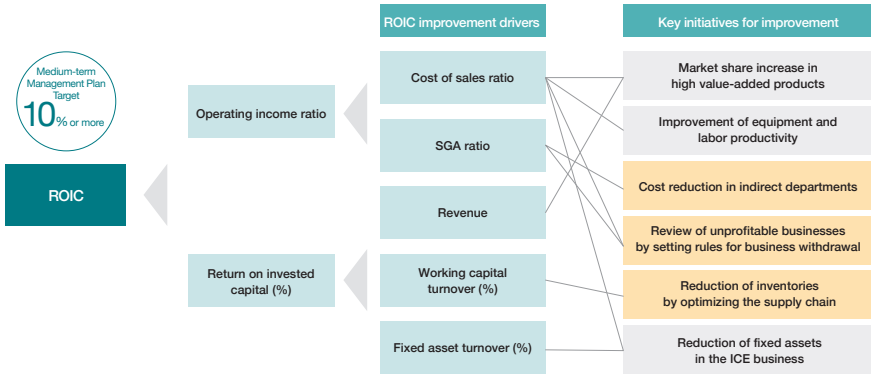
We aim to achieve revenue of 600 billion yen and an operating income of 100 billion yen in the fiscal year 2024, the final year of our 2025 Medium-term Management Plan.

Due in part to the depreciation of the yen, we expect in general to achieve our Medium-term Management Plan target of 600 billion yen in revenue and other indicators in fiscal 2023, one year earlier than the final year of our plan. If we achieve these targets ahead of schedule, we intend to establish new indicators. At the same time, we encountered delays in creating new businesses, but results began emerging in fiscal 2022. We will move forward with our plan under a greater sense of urgency to recoup progress over the remaining two years of our Medium-term Management Plan.

	FY2020 Previous Medium-term Management Plan Final-Year Results	FY2021 Medium-term Management Plan First-Year Results	FY2022 Medium-term Management Plan Second-Year Results	FY2023 Medium-term Management Plan Third-Year Forecast	FY2024 Medium-term Management Plan Final-Year Forecast	FY2029 targets
Revenue (billions of yen)	427.5	491.7	562.6	600.0	600.0	750.0
Operating income (billions of yen)	47.4	75.5	89.2	96.5	100.0	—
Operating income ratio	11%	15%	16%	16%	17% or more	15% or more
Non-internal combustion revenue (billions of yen)	88.9	103.4	118.6	111.1	150.0	300.0
ROIC	6%	8%	9%	9%	10%	10% or more
ROE	9%	13%	12%	12%	13%	12% or more

Efforts to Improve Capital Efficiency

Regarding the ROIC management that was not fully in place throughout the Group during the period of the previous Medium-term Management Plan, we have identified priority measures that should be undertaken to improve investment efficiency. We will achieve 10% or higher ROIC by subdividing the challenges and responsibilities that must be undertaken at individual businesses and monitoring KPIs. We will continue to work on increasing our market share in high-value-added products, improving equipment and labor productivity as well as reducing fixed assets in the internal combustion engine business over the medium to long term. In particular, during the current Medium-term Management Plan, we will focus on the following priority measures: Cost reduction in indirect departments, review of unprofitable businesses by setting rules for business withdrawal, and reduction of inventories by optimizing the supply chain.



Points of Focus During the Current Medium-term Management Plan 2025

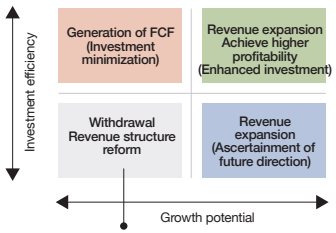
Introduction of an In-house Company System

As part of our initiatives to transform the business portfolio, we introduced an in-house company system in April 2021. We have introduced this system not only for business departments but also for functions at headquarters. The organization that used to be a part of the headquarters or functional headquarters has been reorganized into the Global Strategy Division and Business Partner / Company, and a small number of strategic staff are assigned to the Global Strategy Division. The organizational structure is designed to position each business and function as an independent pseudo-company. Through this organizational change, each company receives internal capital allocated by the headquarters, and will be responsible not only for PL, but also for BS and CF, thereby clarifying responsibility for return on investment as well as a decision to invest. In addition, the responsibilities and authorities, which were ambiguous in the past under the division system, will be clearly defined; for example optimizing the structure and rules to match the standards of the industry to which each company belongs. The Global Strategic Headquarters will promote global group management and accelerate the maximization of the business value according to its business position under the policy of Dokuritsu-Jiei.

Traditional organization	New organizations from April 2021	Roles
Corporate Domain	Corporate division Global Strategy Division	〉〉Planning of company-wide strategies 〉〉Enhancement of global governance 〉〉Promotion of business portfolio transformation through optimal allocation of management resources 〉〉Business withdrawal/continuity governance
	Business support department Business Partner (BP) / Company	〉〉Contribution to the maximization of company-wide earning capacity 〉〉Advancement of the services provided 〉〉Cost reduction through efficiency improvement **Improvement of company-wide earning capacity contributed by Business Partners (BP) / Company**
Divisions	Business department Business company/spin-off	〉〉Improvement of the ability to adapt to changes by introducing systems and structures tailored to each market environment. 〉〉Achievement of KPIs and KGIs at each company

Business Portfolio Management

We will strengthen business portfolio management by setting hurdle rates for each business segment. Assessing the businesses using the two axes of growth potential and investment efficiency, we determine the future direction. KPI and KGI are set for each company after defining expected roles based on rating in accordance with each company's position in the market.

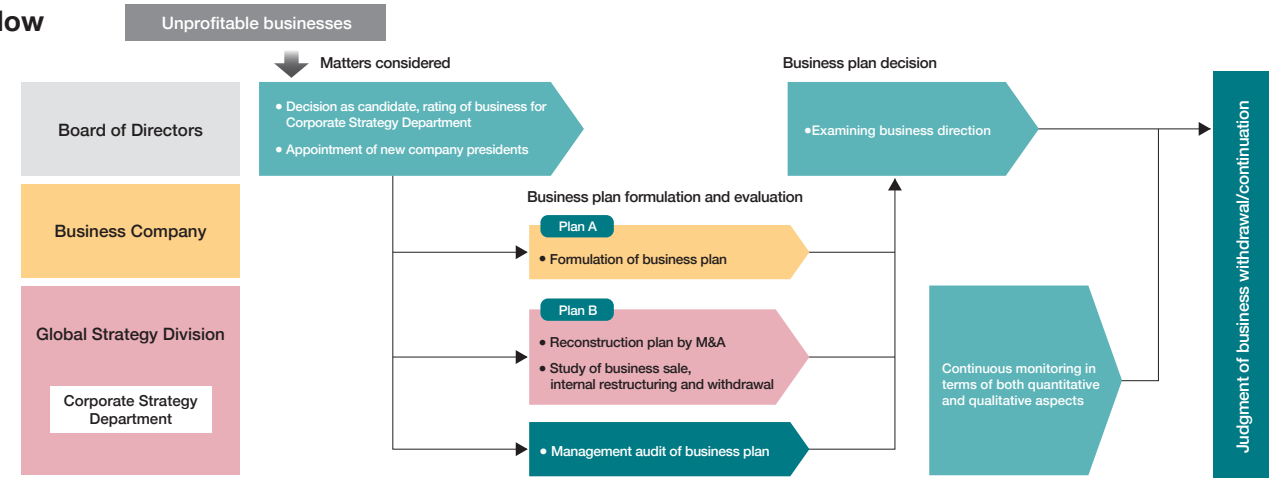


Business continuity/withdrawal examination flow ▶ P.30

Disclosure segments		Medium- to long-term direction
ICE business	Automotive components	Enhance cash generation and aim for even higher profits
Growth businesses	Ceramics	Build a profitable structure that is resilient to changes in the external environment and expand sales Business scale growth exceeding the market growth rate and improvement of profitability
New businesses	New businesses	Discover new businesses that will be the pillars of new businesses and build scenarios for commercialization

Business Continuity/Withdrawal Examination Flow

The Corporate Strategy Department formulates and executes either the Business Revitalization or the Withdrawal or Sale of Business plans to judge whether to continue or withdraw from unprofitable businesses. In the event that a company comes under the organization of the Corporate Strategy Department, a revitalization plan will be formulated under the new company president. Simultaneously, the Corporate Strategy Department formulates another revitalization plan from a different point of view. Finally, the Global Strategy Division assesses these plan in respect of probability, thereby enabling us to implement the best business strategy from multiple perspectives. We strengthened the organization of both the Global Strategy Division and Corporate Strategy Department have with outside human resources to establish a system that enables rational decision-making.



Improvement of Company-wide Profitability by Introducing Business Partners (BP) System

Business Partner (BP) / Company aims at providing high-value-added services that are market-competitive in order to contribute to enhancement of the business companies' profitability. By introducing the in-house company system, we were able to visualize the costs of each organization and its contribution to the business, which have been difficult to come to surface. Also, the services will not be evaluated based on internal standards, and will be compared with those of market. By grasping the service levels of other companies and identifying areas for improvement, we will improve the quality of our services step by step, and at the same time, we will expedite cost reduction by separating services with high added value from those that should pursue higher efficiency.

Business Partner (BP) / Company Aims

Providing market-competitive, high-value-added services

Implementation process

Procurement / Accounting / Human Resources / Labor / IT /
General Affairs / Intellectual Property Management / Quality Control / Environmental Safety

	FY2021	FY2022	FY2023	FY2024
	Grasp Understanding the current situation	**Change** Business improvement	**Improvement** Improving the quality of service	**Expansion** Expansion of range
Improvement of expertise + Cost reduction	• Recognize the current situation of our department, comparing with the service level of other companies and make improvements • Raise BP's awareness of being a profit center by watching its own income statement	• Strengthen professional skills by educating employees • Identify problems and implement countermeasures	• Start preparing for external sales • Improve professional skills by educating employees • Continuation of business evaluation and improvement	• Achieving both maximization of operational efficiency and improvement of quality • Consideration and implementation of drastic measures in the event that service improvement and cost reduction cannot be achieved during the medium-term management plan period

Overview of Niterra DX

We formulated Niterra DX as our vision to promote digital transformation (DX) and to achieve our vision and goals established in the Niterra Group medium- to long-term management plan. We will establish basic strategies for each layer of this plan to transform our operations, business, and existing concepts.

① IT Infrastructure to Support Transformation

We will establish flexible, secure, and safe IT infrastructure to support the digital transformation of the Niterra Group, encourage synergies between businesses, and support new business growth.

② Human Resources to Support Transformation

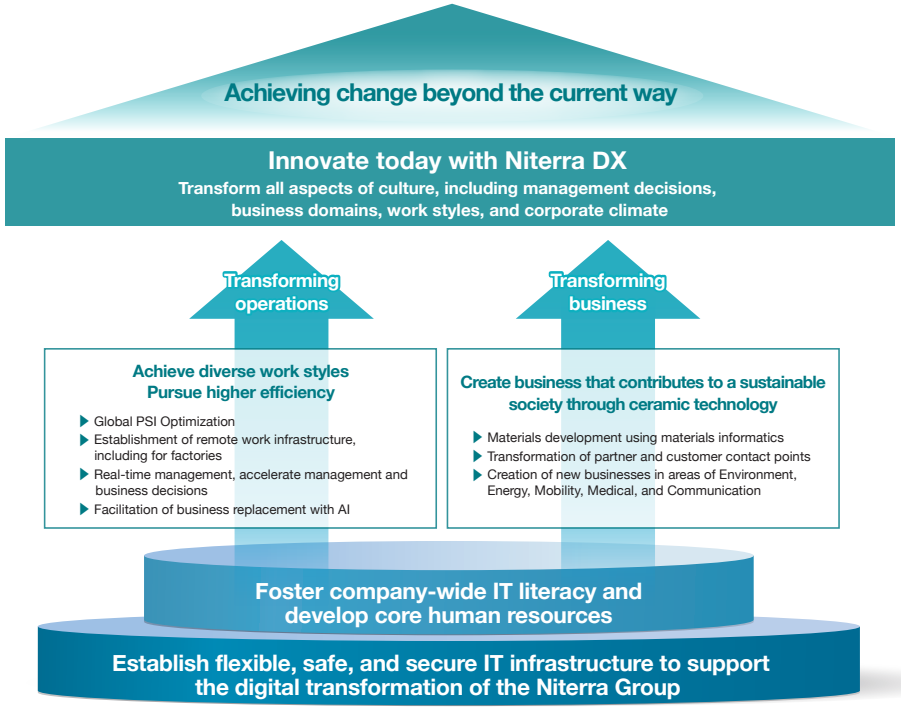
We will develop educational programs for all group companies and core human resources to foster a culture that is open to change and innovation through education and proactively embraces and utilizes digital technology.

③ Transformation of Operations

We will introduce various work styles in both offices and factories, as well as pursue higher business efficiency through the use of data and AI to speed up various decisions and encourage business replacement.

④ Transformation of Business

We will create businesses that contribute to achieving a sustainable society based on Niterra Group ceramic technologies cultivated to date.



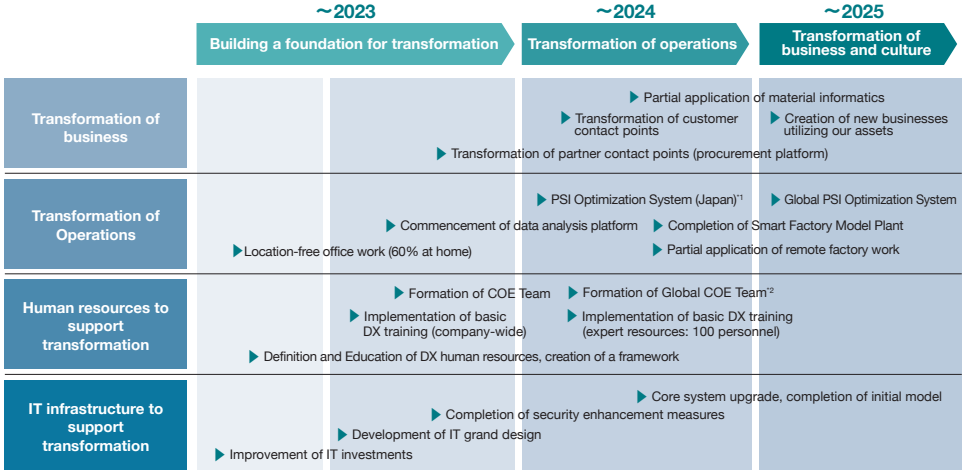
Road to Transformation

Niterra DX divides the execution steps of our basic strategy into three phases, implementing themes and KPIs for each layer. We will use this period through 2023 to build the foundation of our transformation. Currently, we are focusing on strengthening the IT infrastructure and human resources that will support our transformation. Once we establish a solid foundation, we will begin implementing operational, business, and cultural changes.

Declaration of Niterra DX Promotion

We, the Niterra Group declares that we will promote Niterra DX as our management strategy to transform through digital technology, contribute to a sustainable society, and achieve our goals set in the medium- to long-term management plan.

Takeshi Kawai
Representative Director President
Chief Operating Officer



*1 PSI: Production (P), Sales (S), Inventory (I)
*2 COE: Refers to consolidating management resources, such as talented human resources, expertise, and facilities scattered throughout the organization (within the company) in one place as a cross-functional structure to achieve company objectives and goals

Message from the Finance Officer

We will improve capital efficiency through rigorous ROIC management and make investments for future growth while assessing payback potential.

Kenji Isobe, Executive Officer

Review of the medium-term management plan and future outlook

We have marked the close of FY2022, the second year of our 2025 Medium-term Management Plan. In FY2022, despite an environment of soaring raw material prices and disruptions in the supply chain, we achieved record-high revenue for the sixth consecutive fiscal year and record-high operating income for the second consecutive fiscal year. Though buoyed by a cheaper yen, our performance was still largely positive in and of itself, with earnings exceeding the plan in the past two years. We are on track to achieve our revenue targets in the medium-term plan in FY2023, one year ahead of schedule.

Overall, we are making steady progress on the initiatives outlined in the medium-term plan, including the introduction of the in-house company system and other structural changes. Even before many companies began moving to pass on higher raw material and energy prices, we had been taking the time to solidly negotiate with our customers to pass on price changes. These negotiations were successful and had a positive effect on our earnings. I believe that the introduction of the in-house company system and the spread of ROIC management had some positive effect as well in this. In my opinion, the reason we were able to smoothly pass on price changes was because each in-house company worked with a sense of independence and self-management.

In addition, the semiconductor production equipment business has exceeded the targets set in the medium-term plan, and is growing as the next earnings pillar in non-internal combustion engine businesses. By business, spark plugs for repair supported our performance even amid the COVID-19 pandemic and the increasingly severe shortage of semiconductors. In non-internal combustion engine businesses, the semiconductor production equipment business performed well due to favorable semiconductor market prices.

However, some areas still require more effort. For the creation of new businesses, a major pillar of our medium-term plan, we have done well in planting the seeds for new businesses, and some have begun to sprout. Still, at this point we are not yet convinced that these sprouts will lead to future growth pillars, and we have yet to demonstrate the way forward here to our shareholders and investors. This is the biggest challenge we have faced in the past two years, and we are determined to take the next steps to tackle it.

ROIC management

Our ROIC management is infused with a strong desire to further improve profitability as well as capital efficiency. In addition to focusing on business-specific ROIC management to ensure the achievement of company-wide ROIC targets, each in-house company has set up ROIC "trees" and taken the initiative to improve every indicator for improving ROIC, such as inventory and fixed asset turnover, and is working to achieve their targets. As mentioned above, awareness is steadily increasing within every in-house company of the need for independence and self-management. These companies are also managing their ROIC targets with keen awareness. I strongly feel that these awareness-raising efforts are taking root in all of our businesses.

In the current medium-term plan, we are particularly focusing on three methods to improve ROIC: reduction of inventories, cost reduction in indirect departments, and review of unprofitable businesses.

● Reduction of inventories

In FY2022, the COVID-19 pandemic and heightened global geopolitical risks resulted in logistical disruptions and other problems. Even under these circumstances, we were forced to secure enough inventory to fulfill our supply responsibilities to customers. Naturally, this had a negative impact on ROIC, but we were able to minimize the overall impact on ROIC by taking responsibility to provide a stable supply to our customers, boosting revenue.

As the COVID-19 pandemic begins to pass and logistics are stabilizing, we intend to return our inventories to effective levels over the remaining two years of the medium-term plan, while continuing to take into account the risks involved.

● **Cost reduction in indirect departments**

Our selling, general, and administrative expenses are on the rise, partly due to the increase in revenue. Although it is difficult to reduce overhead costs due to the need to address ESG and other social requirements, we believe that it is essential to reduce overhead costs in pursuit of economies of scale. Therefore, from FY2023, we have set a cap on selling, general, and administrative expenses, both company-wide and for each in-house company, and are monitoring allocation and progress. Meanwhile, we intend to make solid investments in areas matching our medium-term plan strategies, such as the creation of new businesses, utilization of digital transformation (DX), and enhancement of human capital, while carefully monitoring cost-effectiveness.

● **Review of unprofitable businesses**

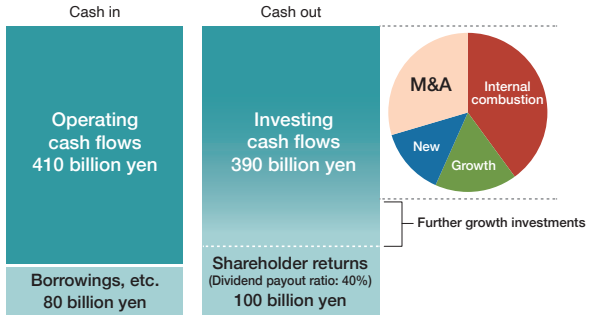
Since formulating the medium-term plan, we have prepared rules for withdrawing from unprofitable businesses, including the establishment of a business continuity/withdrawal examination flow. Specifically, whether or not a business receives continues investment going forward depends in part on the two axes of growth potential and ROIC for the business. In FY2021, we decided to withdraw from some products in the medical business. For businesses that have fallen under our rules for withdrawal, we constantly monitor and attempt to revitalize these. If we determine that revitalizing a business would be unreasonably difficult, our rules dictate that we explore withdrawal from and/or selling the business. One of the reasons for this strict application of the withdrawal rule is that, following the transition to a company with an Audit and Supervisory Committee, business withdrawal is now a topic of regular discussion with the Board of Directors engaging in medium- to long-term discussions more often.

Strategic investments and financial strategy

As mentioned earlier, we have been a little delayed in investing in new businesses, but that does not mean that we have not invested in growth over the past two years. In addition to several mergers and acquisitions, we are also investing for growth in our existing automotive and semiconductor production equipment businesses. Nevertheless, as the officer in charge of finance, I intend to reexamine the strategic investments we have made over the past two years to see if they are consistent with the growth investments defined in our medium-term plan. While the medium-term plan sets a cumulative investment cash flow of 390 billion yen, the goal is not to exhaust the investment limit. For instance, we do not intend to invest in high-risk, low-return projects, even if they are new businesses, and we need to strike a balance with M&As of existing businesses. During the remaining two years of the medium-term plan period, we will proceed with a firm assessment of future investment payback potentials and make decisions on whether or not to invest based on our asessment.

Our financial soundness has received a degree of strong evaluations from external rating agencies, and we will continue to make investments while maintaining an appropriate equity ratio. We recognize that our equity ratio is slightly above appropriate levels, and we believe that we should allocate some of our resources to investment projects for future growth, even if it means a slightly lower equity ratio, combining this with fundraising as necessary. Although the level of liquidity on hand as of March 31, 2023 has increased due to temporary factors, we will manage these levels under a basic policy of raising the necessary amount of funds when needed.

Cash flow plan

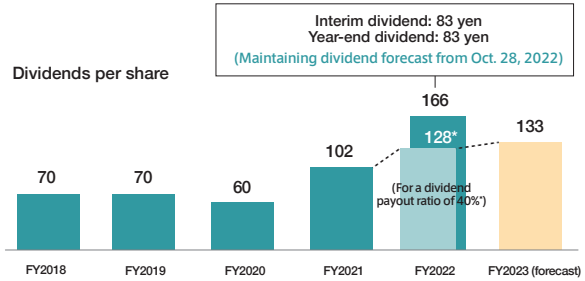


*Cash flow plan is based on assumptions at the time the medium-term plan was formulated.

For our shareholders and investors

We view the return of profits to shareholders as one of the most important elements of our management policies. Our basic policy is to maintain an annual dividend payout ratio of 40%, but we will remain flexible while taking into account the required amount of capital.

To date, we have met the expectations of you, our shareholders and investors, by achieving high profitability and stable cash flow. Through dialogue with you, we have also communicated the future growth potential of our automotive-related business and our business strategy, which aims to maximize residual profit. We feel that these efforts have earned us some recognition in the form of improved PBR.



*The dividend amount is linked to the profit attributable to owners of the parent, excluding one-time gains or losses arising outside of ordinary business activities.

In addition, the English name of the company has been changed to Niterra as of FY2023. The change was made in consideration of the fact that the former company name, NGK SPARK PLUG, would unreasonably give the impression that our company dealt with internal combustion engines alone. This could have prevented investors from overseas from beginning an investment relationship with us.

In order to further improve our reputation, it is of the highest importance for us to clearly state the progress of new businesses in concrete terms and show a solid path toward the transformation of our business portfolio.

We look forward to continuing to earn the trust and meet the expectations of our shareholders and investors as we strive to sustainably improve our corporate value.

Business Strategy
Automotive Components Group

Looking Back on the Second Year of the 2025 Medium-term Management Plan

For the past two years, the plug business has demonstrated the strengths of our plugs for the aftermarket even under special circumstances such as the COVID-19 pandemic and the semiconductor shortage. We implemented flexible price increases as needed and steadily improved profitability in response to the rising cost of materials, especially precious metals. We saw a steady and reliable increase in the ratio of precious metal plugs, a high-value-added product, in developed countries such as North America and Europe as well as in emerging countries. Ratios in China, however, remained flat due to COVID-19-related effects such as their lockdowns.

In the remaining two years of our medium-term management plan, we aim to maximize revenues and raise prices appropriately in response to ongoing inflation. We will additionally improve profitability and advance our environmental contribution by reducing CO_2 emissions by further increasing the global ratio of precious metals. In preparation for the expected peak in inflation, we will reduce inventories by integrating part numbers and enhancing the order management system. The plug business has supported our company, and as such we will proactively implement various measures to ensure residual profit while fulfilling our obligation to supply the markets.

KGI (2025 Medium-term Management Plan)

- Operating income ratio ▶ Annual average growth rate: 1%
- Free cash flows ▶ 1.5 times (compared with the amount for FY2020)

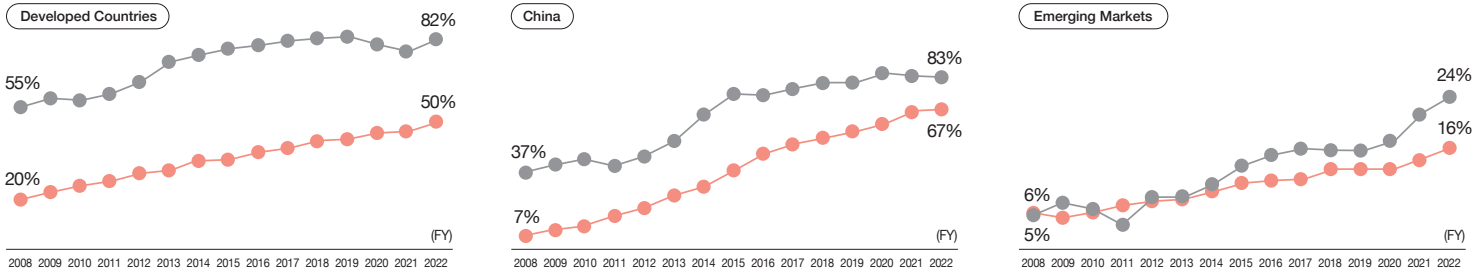
Strength

Integrated production system from material development to manufacturing

Unique sales channels around the world

Precious metal plug ratio by region and commercial distribution (FY2008-FY2022)

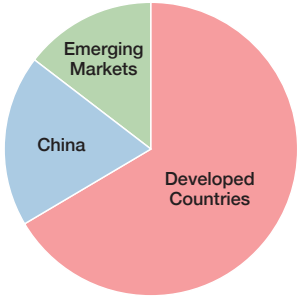
● For new car assembly ● For aftermarket parts



*Developed Countries: North America, Europe, and Korea

*Emerging Markets: ASEAN, India, Central and South America

Precious metal plug sales volume composition by region (FY2022 Actual)



Business Strategy
Automotive Components Group

Looking Back on FY2022

Compared to last year, revenues of aftermarket parts in the plug business fell drastically in the first and fourth quarters due to the impacts of the lockdown in China. However, overall revenues rose by 14% due to the recovery in the shortage of semiconductors in products for new car assembly as well as higher unit sales prices after price hikes.

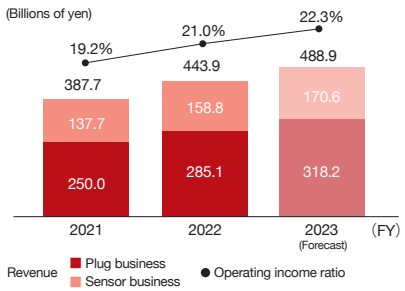
Revenues in the sensor business rose by 15% due to increased sales following the recovery of the semiconductor shortage and automobile production, similarly to the plug business. Our current medium-term management plan aims to not only increase sales volumes but also to expand sales and raise prices of our high-value-added products, such as precious metal plugs. Through these efforts, we are exploring sales policies that will maximize sales and profits.

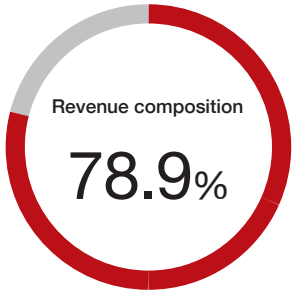
Base sales volumes in fiscal 2022 show a downward trend compared to the previous year due to the significant decline in motorcycle and general machine sales. On the other hand, the sales volume and amounts of plugs for both new car assembly and aftermarket parts are comparatively increasing due to our proactive efforts to raise prices in response to soaring precious metal prices. The overall operating income for the Automotive Components Group additionally increased due to higher sales volumes, price increases, and higher sales prices resulting from increased precious metal ratios. As a result, yearly operating income reached a record high.

Revenue and operating income ratio

Revenue ▶ 443.9 billion yen

Operating income ratio ▶ 21.0%





Sales volume and amount by region (vs FY2021)

Region	Sales Volume			Sales Amount (excluding effects of exchange rates)		
	Plugs		Sensors	Plugs		Sensors
	OEM	AM		OEM	AM	
North America	+4.0%	−4.6%	+6.6%	+18.2%	+2.1%	+9.1%
Europe	+7.6%	−13.3% (+2.6%*)	+12.4%	+14.7%	−2.0% (+9.3%*)	+8.3%
China	−10.6%	−13.7%	−11.4%	−8.6%	−10.5%	−11.0%
Southeast Asia	+10.8%	−7.5%	+32.9%	+10.5%	+10.4%	+26.0%
Global Total	+3.5%	−7.1%	+6.1%	+13.3%	+0.8%	+6.2%

* This excludes the effects from Russian corporations, which were previously included up until the results of FY2021.

Business Strategy
Automotive Components Group

External Environment

Decarbonized society

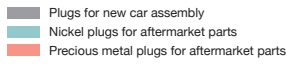
The importance of tackling climate change has increased substantially during the past few years, and governments around the world have been moving swiftly to become decarbonized societies. The automobile industry is in the midst of a once-in-a-century period of radical transformation, with automakers developing electric vehicles (EVs) as nations move with greater speed toward electrification in order to reduce CO_2 emissions. Amid this trend, we revised our sales forecast through 2040. Although growth in the OEM market will peak around 2020 or 2030, we expect that the market will continue to expand in FY2040, even in the Chinese market where the shift to EVs is relatively advanced. On the other hand, we expect strong growth for precious metal plugs and nickel plugs for aftermarket parts. We also expect the global market as a whole to move generally in the same way as the Chinese market going forward, even with some differences in the fiscal year.

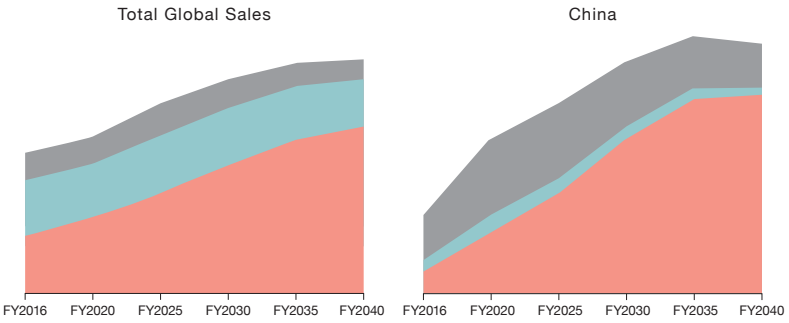
Stricter environmental regulations

We are also expanding our share of the market for exhaust gas oxygen sensors, in response to growing demand resulting from the global tightening of environmental regulations. The demand for sensors that control amounts of fuel injected increased for both automobiles and two-wheeled vehicles, as these regulations expanded to now cover two-wheeled vehicles. The need for sensors that meet regulations is also increasing, and sensors that require technical skills are in demand in addition to typical oxygen sensors that have been mainstream until now. Sensors that require technical skills are more technologically advanced such as wide-range oxygen sensors capable of measuring oxygen concentration in exhaust gas more precisely as well as NOx sensors capable of measuring nitrogen oxide.

Sales forecast through FY2040

Assumptions for sales amount
- Estimated based on the average unit price in FY2022
- Estimated assuming that the current market share remains constant





Vision

Market share expansion in high value-added products

Against the backdrop of these rapid moves toward decarbonization, the need for electrically-powered vehicles that offer high levels of fuel efficiency, such as HEVs and PHVs[*1], is increasing. Our range of spark plugs include the regular nickel type as well as precious metal types, which are highly fuel efficient. The precious-metal spark plugs are said to offer fuel efficiency that is around 2% higher than the regular types. Precious-metal spark plugs already account for around 40% of sales, and by replacing regular nickel spark plugs with them, it would be possible to achieve a significant improvement in fuel efficiency. By selling precious-metal spark plugs, which help boost fuel efficiency, we will meet the needs of the market.

Like spark plugs, exhaust gas oxygen sensors now need to be high-value added products with a stronger environmental contribution. Compared with regular oxygen sensors, our next-generation oxygen sensors and wide-range oxygen sensors can contribute to reduced CO_2 emissions through more precise measurement of oxygen concentrations, and they therefore allow compliance with strict environmental regulations. Although HEVs and ZEVs[*2] are expected to increase over the medium to long term, this does not mean that ICE equipped vehicles will disappear immediately. Because it is important to reduce CO_2 emissions during the transitional period of electrification, we will continue to provide high value-added products to the market and contribute to the environment.

We aim to maximize investment effectiveness by concentrating investments on high-value-added products like these spark plugs and exhaust gas oxygen sensors. We will also maximize cash generation through the expansion of our share of the market for high-profit-margin products. Finally, we will curb increases in inventory by enhancing productivity as well as identify supply chain issues such as procurement, manufacturing, logistics, and sales on a cross-organizational basis. Through these efforts, we will clarify our responsibilities and make efforts to reduce inventory.

*1 Hybrid Electric Vehicle (HEV) Plug-in Hybrid Vehicle (PHV) *2 Zero Emission Vehicle (ZEV): Electric vehicles or fuel-cell vehicles that have zero emissions.

Outlook for FY2023

Planning in anticipation of market recovery

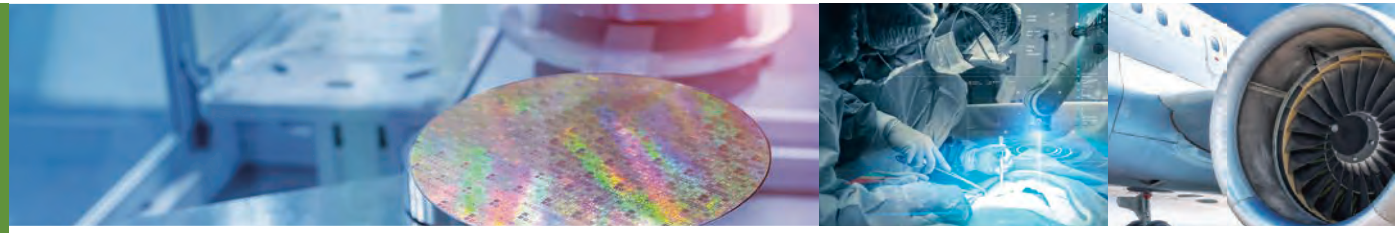
The plug business plans revenue of 318.3 billion yen in Automotive Components Group, which is a 33.2 billion yen increase from the previous year, in response to the recovery of automakers and the semiconductor shortage. We expect a full-fledged recovery from the third quarter.

This revenue plan anticipates a recovery in the Chinese markets, which had been in a depression due to their Zero Covid Policy in 2022 and the post-COVID-19 lockdown resulting from the spread of the virus. Our business activities will naturally promote the switch to precious metal types and pass on the cost of appropriate labor and materials to customers.

The sensor business plans 170.7 billion yen in revenue, an 11.8 billion yen increase from the previous year. Similarly to the plug business, this plan anticipates that the semiconductor shortage will be resolved and that we will see a full-fledged recovery from the third quarter.

We expect operating income in Automotive Components Group to increase by 16.0 billion yen from the previous year to 109.3 billion yen, mainly in the sensor business, due to the recovery in sales of products for new car assembly. This forecast also takes into account the soaring costs and inflation of materials and other items, as well as factors in price increases for products for the aftermarket.

Business Strategy Ceramics



Looking Back on the Second Year of the 2025 Medium-term Management Plan

SPE

Demand for components for semiconductor production equipment began declining in the fourth quarter due to a slowdown in the memory market and the impacts of trade friction between the U.S. and China. However, both revenue and operating income increased year on year due to strong capital investments from the global demand for semiconductors.
In fiscal 2022, we additionally met our fiscal 2024 revenue and operating income targets set in our medium-term management plan. Market demand for newly developed products is strong, and we are preparing to further expand our business.

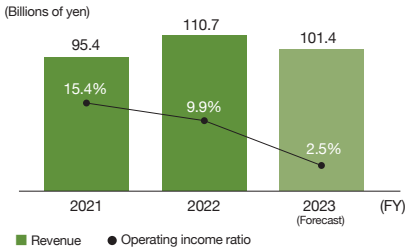
Medical

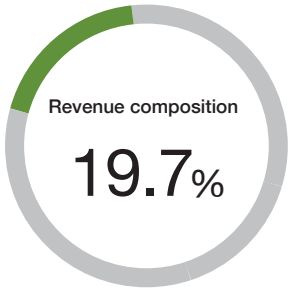
Orders rates of stationary oxygen concentrators are dropping due to declining demand and excessive customer distribution inventories. On the other hand, demand for portable oxygen concentrators is recovering, although production became limited by a shortage in parts. As such, sales were slightly down in the oxygen concentrator business compared to the previous year, even with our business expansion and acquisition of MGC Diagnostics in fiscal 2022 and their positive contributions.
Operating income also decreased from worsening cost ratios caused by higher prices or purchased parts and the impact of lower sales in the oxygen concentrator business.

Revenue and operating income ratio

Revenue ▶ 110.7 billion yen

Operating income ratio ▶ 9.9%





SPE

KGI (2025 Medium-term Management Plan)

Revenue ▶ 35.0 billion yen

ROIC ▶ 17%

Strength

Ceramic material technology that can withstand high-power plasma

Ceramic sheet lamination technology that contributes to surface temperature homogenization, low particles, and wide-ranging surface temperatures

Group Companies

NTK CERATEC

Medical

KGI (2025 Medium-term Management Plan)

Revenue ▶ 30.0 billion yen

ROIC ▶ 13%

Strength

Product lineup including portable and stationary oxygen concentrators and cardiopulmonary diagnostic equipment

Worldwide sales channels for rental operators and hospitals

Group Companies

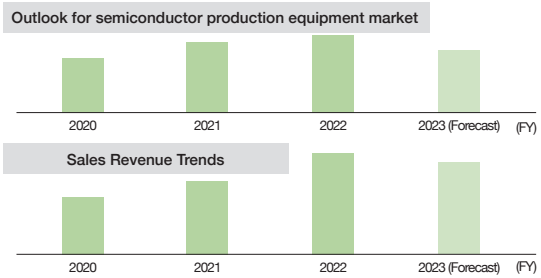
NTK Medical, CAIRE, etc.

Business Strategy Ceramics

External Environment

SPE

Market conditions for semiconductor manufacturing equipment were sluggish in the second half of fiscal 2022, particularly due to the recession from memory surpluses, the effects of the U.S.-China trade conflict, and the lockdown in China. These impacts are expected to continue through fiscal 2023, with external research organizations forecasting a 19% decline year on year in market growth. On the other hand, medium- to long-term market needs in the memory market call for high-rise 3D NAND devices. As such, the formation of minute yet deep memory holes, in other words, the etching process, made possible with high-power plasma is important. As a result, the etching device market is expanding. Demand for etching devices is also increasing in the logic market, as a result of multi-patterning technology, which breaks down lines produced with a single exposure into even finer, multiple patterns.



*Source: External research organizations (December 2022)

Medical

The global market for oxygen treatment is expected to continue to expand as the population ages and the number of COPD sufferers increases, such that the projected size of the market in 2025 is 200 billion yen. In regional terms, the North American market is currently the biggest, and the number of patients is expected to continue rising, and we believe that demand for portable oxygen concentrators, in particular, will rise. And in the Chinese market, an increase in the number of people with COPD is expected to lead to higher demand for stationary oxygen concentrators, and the market is forecast to grow at a faster rate than the U.S. market.

Vision

SPE

This policy will contribute to meeting the growing demand for etching devices in both the memory and logic markets by providing ceramic material technology that can withstand high-power plasma. We will additionally contribute with our technologies for surface temperatures homogenization, low particle counts, and wide-ranging surface temperatures, all of which are based on our strength technology in ceramic sheet stacking technology. In this way, we aim to achieve an annual sales growth rate of 12% by differentiating ourselves with our technologies that meet customer needs. We additionally aim to increase labor productivity by 30% compared to fiscal 2021 by establishing a production system that is resistant to market fluctuations through optimizing inventories and improving facility operation rates.

Medical

In the past, the respiratory business focused on the oxygen concentrator business for rental operators and patients. However, CAIRE Inc's acquisition of MGC Diagnostics late last year enabled the company to gain a product portfolio of cardiopulmonary diagnostic equipment and a sales channel for medical institutions. Going forward, we will aim to provide comprehensive solutions for respiratory patients, such as those with COPD and asthma. We will additionally aim for further growth of our business through the development of products that meet the needs of each region as well as the expansions of our product portfolios.

Outlook for FY2023

SPE

We expect markets to slowdown for products for semiconductor manufacturing equipment from fiscal 2023 to 2024 mainly centered around products for memory use. As such, we also expect sales of electro-static chucks to decline. However, we handle both electro-static chucks, a stacked product strong in technologically advanced products, and bulk ceramic, which is applied to conventional products. We expect bulk ceramic products to offset the negative impact from electro-static chucks, thus preventing revenue from being negatively impacted. We also expect operating income to decrease due to declining electro-static chucks in high-end products, as well as a deteriorating product mix due to an increase in bulk ceramic products.

Medical

In fiscal 2023, we expect an increase in sales due to expanding sales of portable oxygen concentrators, regardless of the demand for stationary oxygen concentrators remaining sluggish due to excess inventory in the distribution system. Revenue is expected to increase significantly compared to last year with the addition of the revenue from our acquired company, MGC Diagnostics. Similarly, we expect operating income to increase significantly year on year due to sales growth in the oxygen concentrator business, cost improvements, and additional revenue from MGC Diagnostics.

TOPICS New Business in Non-ICE Business

In April 2023, we established the new company YORICOM Co., Ltd.

YORICOM combines AI with characters to create virtual assistants and develops Close Communication business activities. Close Communication is a digital communication service that supports the independent daily lifestyles of elderly users at home through the use of easy-to-use interfaces and virtual assistants. This new user experience is provided by Shiori Hoshiki, a 3D character who aims to be a caregiver and stays in close contact with users every day.

For more details, visit 〉〉 https://www.ngkntk.co.jp/news/upload/1d0386bd9c5a0f1552ccd44b742b0929_1.pdf (Japanese text only)
YORICOM Co., Ltd. Website 〉〉 https://yorisoi-communication.com/ (Japanese text only)

Business Strategy
New Businesses

Our Initiatives (MORIMURA SOFC TECHNOLOGY)

External Environment

As social demand for a decarbonized society strengthens, we expect the wide-spread use of fuel cells as highly efficient generators and cogeneration systems to significantly reduce CO_2, regulate power sources for renewable electricity, and improve resilience in the event of disasters. Expectations are growing for the introduction of fuel cell into various markets, such as factories aiming to recycle carbon, in addition to their traditional uses in business areas such as households, housing complexes, nursing homes, and commercial facilities.

Vision

We promote the development of a fuel cell stack with a flat plate structure that can recycle fuel. This flat plate structure is extremely efficient, compact, low-cost, and has superior sealing performance. As such, it is expected to be used in hydrogen production (SOEC) and other applications. We will develop competitive next-generation SOFC cell stacks, enter the fuel cell markets for household and business use, expand our business, contribute to achieving a decarbonized society, and aim to establish ourselves as a flat plate fuel cell stack manufacturer.

Outlook for FY2023

In fiscal 2022, we focused on improving productivity efficiency and consolidated our production basis to the Komaki Plant where we installed production equipment to increase the production capacity potential by approximately 10 times. We will operate facilities sequentially and establish a mass production system in fiscal 2023. Going forward, we will encourage stronger cooperation with electronic manufacturers to increase orders and expand use from fiscal 2024.

Strength

Fuel diversity and high-efficiency power generation stacks that contribute to a decarbonized society

Compact design for expanded use

Affiliated Companies

MORIMURA SOFC

MORIMURA SOFC TECHNOLOGY Co., Ltd., is a joint venture company consisting of Noritake Co., Limited, TOTO Ltd., NGK Insulators Ltd., Morimura Bros Inc., and Niterra Co., Ltd.

Niterra Ventures Company Policy

We established the Niterra Ventures Company (NVC) to develop businesses focused on issues, provide prompt value in line with the times, and to shift our business profile through their establishment.
The mission of NVC is to provide solutions that create a better quality of life for people around the world. NVC is characterized by their ability to incorporate the best global technologies when developing solutions to solve clients' issues, without being limited to their core assets. Through their results, the Niterra Group will incorporate new core assets to achieve our transformation.

Commercialization Flow

The NVC commercialization flow consists of the following four elements.

① Identification of business opportunities	First, we analyze the gap between the ideal society and lifestyle and reality, evaluate the issues to be solved and their social and economic impact, and identify business opportunities.
② Hypothesis building and testing	We then determine what issues to solve and establish a business hypothesis consisting of the issue, value provided, potential customers, a business model, and a monetization model. We additionally interview and speak with experts to evaluate the business probability from the three perspectives of usefulness, feasibility, and sustainability.
③ MVP development and identification of test marketing sessions	Next, we create a minimum viable product (MVP) to provide value to our customers and make prompt improvements as we check customer feedback.
④ Official launch	Finally, we make the decision to launch into the market and scale up operations after confirming that the product is acceptable.

CVC

We entered our third year of activities in our CVC (corporate venture capital), established with Pegasus Tech Ventures in April 2021. So far, we made small investments in eight companies that fit our strategy. Our collaborations with small businesses are taking shape and activity in our product and business developments is on the rise. We will continue to accelerate the creation of new business pillars through the providing cash and forming business alliances with startups from countries all over the world that possess advanced technology.

Partner:
Pegasus Tech Ventures

Small equity stakes

Expected no. of transactions Approx. five each year
Stages targeted Seed capital to Series A funding
Sizes of equity stakes Several tens of millions of yen to several hundreds of million yen, 10 billion yen over six years

Investment criteria
- The startup matches our portfolio of new business pillars, the business domain targeted is broad, the business has potential, and there is a vision for the business
- There is a high degree of affinity with our new business pillars, and the startup possesses a business, technology, and human resources that will complement/expand our portfolio
- The startup possesses technology, intellectual property, and skilled people or teams of the like we are lacking as we endeavor to establish our new businesses

Our Approach to Intellectual Property

We appropriately create, protect, manage, and utilize intellectual property in close coordination with related departments, internal companies, and Group companies, under our policy to honor intellectual property including patents, designs, trademarks, copyrights, and trade secrets.

Action Guidelines

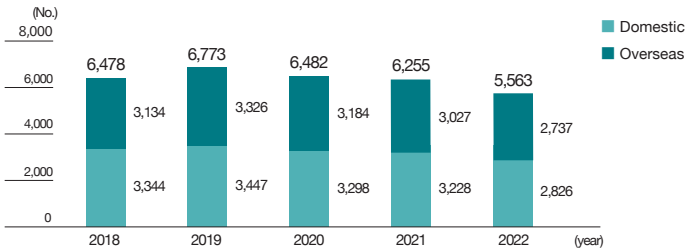
- Create intellectual property, aiming to further improve our corporate value.
- Honor intellectual property rights of third parties.
- Comply with laws and regulations regarding intellectual property in individual countries.

Intellectual Property Activities According to the Management Atrategy Outlined in the 2030 Long-term Management Plan "NITTOKU BX"

One of the major strategic pillars of our Long-term Management Plan is the transformation of our business portfolio. We are promoting various measures for the tasks, positioning intellectual property activities as an important element in this management strategy.

1. Protect new technologies and inventions from development to the mass-production and create intellectual property.
2. Develop high-value-added patent information in the company through efficient patent searches using AI.
3. Negotiate and manage complicated contract clauses regarding intellectual property based on legal knowledge.
4. Protect our brands and detect and eliminate counterfeit goods in coordination with customs offices and government agencies around the world.
5. Develop regulations and management rules which comply with laws and regulations of individual countries.
6. Lay the groundwork for the promotion of efficient intellectual property strategies, such as responding to digital transformation and working styles that meet the needs of the times.
7. Hold intellectual property meetings to discuss and formulate activities necessary to business strategies.

Number of patents held



Intellectual Property Activities by Business Field

* Current businesses are related to the Automotive Components Group, growth businesses include business related to components for semiconductor production equipment and respiratory-related business, and new businesses are related to the focus areas of Smart Health, Utilities, and Smart Mobility, as well as fuel cell business.

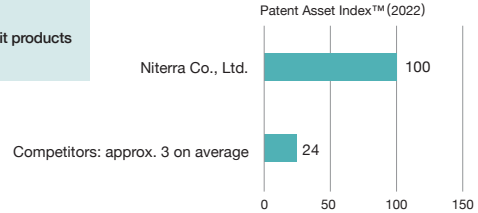
Current businesses

In our current businesses, which are the pillars of our earnings, we aim to secure a competitive advantage through IP mix activities that protect our technologies and know-how in multiple aspects, and continue to contribute to maximizing profitability.

Examples of intellectual property mix activities

- Defense with a superiority patent portfolio
- Brand protection by detecting and eliminating counterfeit products
- Defense through know-how secrecy

Patent asset index (PAI) for spark plugs
(Comparison with competitors when our company is set at 100)



*Prepared by our company LexisNexis PatentSight.
We evaluate these figures using the Patent Asset Index of LexisNexis PatentSight. This index comprehensively takes into account the technology perspective, market perspective, and number of patent applications and rights with valid legal status (pending applications and patents that have been granted).

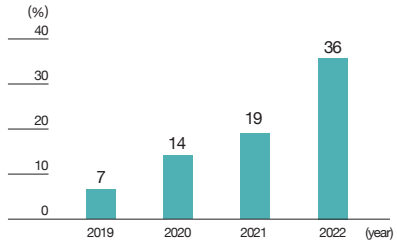
Growth businesses

We aim to support business execution and growth from the perspective of intellectual property perspective by working with related departments to obtain patent application rights with the aim of building a patent network for key products and themes in addition to conducting clearance activities to investigate infringement of third-party intellectual property rights.

New businesses

We attempted to make efforts to utilize patent information, such as IP landscape, as one material for consideration in the initial stage of business creation. In cooperation with the department in charge of creating new business pillars, we used patent information to verify hypothetical competitive advantages and applied for patents based on our application strategies. Going forward, we will continue to increase our number of activity themes based on trial results.

Trends in the ratio of the number of published patent applications related to new businesses in the past four years
(total as 100%)



03 Foundation for Value Creation

Message from the Sustainability Officer

We will strive to practice "trade-on" that balance both economic and social benefits of our business.

Representative Director, Member of the Board, Executive Vice President
Toru Matsui

Toward "trade-on" for greater corporate value

Since FY2021, prior to my taking charge of sustainability, I had been working to draw up a detailed vision for society in 2040 while taking on new projects. In the course of these activities, I learned how important decarbonization and the circular economy are for people to coexist with the Earth going forward and that companies must address these topics in order to survive. I also learned that there are profitable companies that are already taking actions in these areas. From there, I realized the importance of sustainability management and volunteered to take charge of sustainability, and was appointed to the role. I will take on the challenge of spreading the concept of the "trade-on" within the company and putting it into practice. A "trade-on" combines economic and social benefits, where an activity achieves economic rationality over the longer term despite incurring costs in the short term.

For example, we would like to take non-financial information and convert it into indicators that are more familiar in some way or another and to visualize impact in a way that is easy to understand. This is for the purpose of widely spreading the concept of trade-ons so that employees can make sustainable decisions on their own. Through these actions, I will strive to ensure that investments in the area of sustainability create economic and social value that significantly exceed initial outlays over the long term and that our stakeholders have a better understanding of our sustainability initiatives and achievements.

Developing technologies that help to resolve social issues and our environmental initiatives

The Niterra Group hopes to contribute to the realization of a better society by confronting issues faced by the world while co-creating and providing new value that contributes to the solution of those issues. To this day, we have been developing technologies, products, and businesses that contribute to the resolution of social issues. Examples include the development of fuel cell stacks and lead-free piezoelectric materials. Today, we continue to focus on the development of new technologies and materials. This includes solutions such as the Regional CCU®, which makes local use of CO_2 collected at factories, and land-based aquaculture systems that help reduce ocean pollution and ensure safe food, as well as SOEC, which efficiently generates hydrogen from water, and magnets that minimize the use of rare metals. Our entire Group is committed to developing these new businesses and improving the intellectual capital that underpins them.

To help reduce CO_2 emissions company-wide, we introduced an internal carbon pricing system.

Specifically, an internal carbon tax is levied on the CO_2 emissions of every department, including internal companies and Group companies. Though we have currently set this at 10,000 yen per ton of CO_2 emissions, this will be reviewed depending on the situation. The funds raised through this internal carbon tax are managed as an environmental fund to subsidize capital investment to reduce CO_2 emissions. The size of this fund reached 2.1 billion yen in the previous fiscal year. To date, we have provided subsidies for solar power generation equipment, LED lighting, and environmentally friendly air conditioning equipment. These measures are intended to awareness of the need to further reduce CO_2 emissions, and we expect they will lead to accelerated reduction.

Message from the Sustainability Officer

Accelerating our development by building mechanisms for human resources to take leading roles

The Group recognizes that employees are our greatest management resource (human capital). We believe that human resources, who are the source of consistent generation of value, have a true understanding of sustainability, they will be able to take ownership of and execute trade-ons that balance economic and social benefits. As part of this initiative, it is our intent to raise awareness among employees in order to spread the concepts of trade-ons between sustainability and profit.

I believe that initiatives to encourage diversity, such as increasing the ratio of female managers and strengthening the recruitment of foreign employees, comprise one of a number of powerful ways to generating diverse new ideas and realize trade-ons. We will focus on creating a work environment where diverse human resources can make the most of their individuality. The modest improvements in figures since FY2022 in our employee satisfaction survey show us that we are gradually achieving results. Going forward, we will continue our activities and aim to maximize the value of our human capital.

Human rights risk management incorporating social change

Considering the recent changes in the international community surrounding human rights, we have been holding discussions at a working group on human rights since May 2022. In January 2023, we revised our Human Rights Policy and conducted a human rights risk survey, as well as training for directors. We will continue to advance human rights due diligence that considers global standards and other factors, strengthen our training and management systems, and systematize our approach.

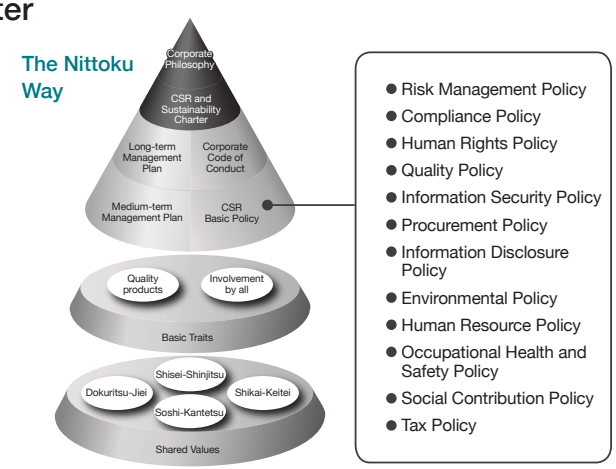
Human rights considerations are the ticket to doing business, and must be addressed at the outset of any trade-on. What I feel is a challenge is managing human rights compliance in the supply chain. We will encourage responsible procurement activities together with our suppliers, while regularly reviewing our CSR and Sustainability Procurement Guidelines, which are our standards.

Taking on further challenges toward trade-ons

Spark plugs for internal combustion engines, one of our main businesses, are often viewed negatively for the environment. However, in reality they contribute significantly to reducing environmental impact by improving fuel efficiency and reducing the size and resource use of components. In particular, for reducing Scope 3 CO_2 emissions, automobiles equipped with high-performance spark plugs and oxygen sensors can curb CO_2 emissions by approximately 30 kg per vehicle per year compared with automobiles equipped with basic, conventional products. Given how many of these we sell worldwide, this translates into an annual reduction of more than 3 million tons of CO_2 emissions. On the other hand, we believe that there is still more we can do for the environment, such as further waste reduction, recycling, and establishing a circular economy, and we will continue to do more that is needed by society. In the past year alone, the social landscape has changed dramatically and the development of sustainability laws and guidelines that affect corporations has accelerated. In Japan, authorities are now demanding proactive initiatives and disclosure, particularly from listed companies, and attention is rising even further for sustainability. We will also update the sustainability initiatives we have taken on so far and strengthen our efforts and information disclosure to further improve our corporate value. We hope you will watch the new value we create going forward with anticipation.

CSR and Sustainability Charter CSR Basic Policy

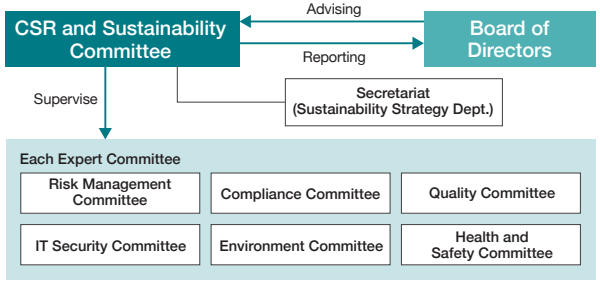
We are committed to delivering new value to people all over the world and contributing to society, as expressed in our corporate philosophy. This commitment is associated with our concept of sustainability, which is to help solve social issues through business activities. We established the CSR and Sustainability Charter and the CSR Basic Policies (12 in total), which dictate Group action guidelines for CSR, to present our concept more clearly, communicate it widely both internally and externally, and promote CSR and sustainability. ▶ P.4



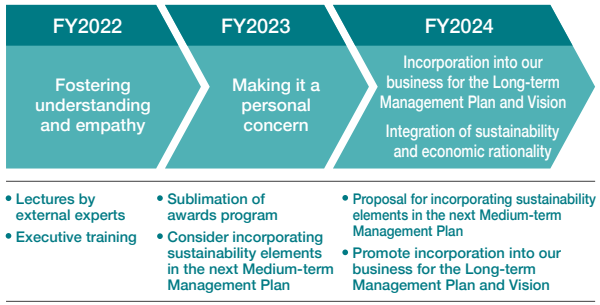
CSR and Sustainability Promotion System

The CSR and Sustainability Committee acts as an advisory body to the Board of Directors and is responsible for reporting and advising consultations from the Board, as well as supervising each expert committee. They invite outside experts as guests to the Board to broaden knowledge and perspectives during consultations from the Board of Directors meetings. They additionally hold multifaceted discussions to encourage sustainability management in the long term and make reports and proposals to the Board. Each expert committee monitors the effective execution of their respective specialized operations, and the CSR and Sustainability Committee oversees them. Expert committees share important information with the CSR and Sustainability Committee, such as the status of CO_2 emission reduction and risk assessment.

CSR and sustainability promotion system



CSR and Sustainability Committee Medium-term Management Plan



CSR and Sustainability Committee Message from the Chairman

Outside Director,
Chair of the CSR and Sustainability Committee
Chiharu Takakura

Recognizing External Environments

It is important to recognize the importance of how we as a company perceive and address various issues facing society and the Earth such as climate change, biodiversity, and human rights. We recognize that we must conduct business from the perspective of sustainability. So, we hope to enhance the sustainability of society and our Group by working to solve social issues through our Group business operations.

Mission and Vision of the CSR and Sustainability Committee

To formulate the committee's mission and vision, we take sustainability management into account and fully discuss how we can help resolve social challenges based on our core competence and management philosophy. The CSR and Sustainability Committee aims to achieve its mission and vision through reporting and making proposals to the Board of Directors.

Mission

Shift Niterra Group Sustainability Management to future-oriented resolutions by improving corporate value through the coexistence of society and our Group beyond the current framework toward a sustainable society.

Vision

Strive for the understanding and sympathy of society in the creation of a sustainable coexistence between people's happiness, the Earth, and the universe.

CSR and Sustainability Committee Discussions

We discuss sustainability issues that cover a wide range of areas, such as the formulation of our mission and vision, the effectiveness of specialized committees, the revision of human rights policies, human capital disclosure, and awareness-raising activities. We will continue to promote self-motivation, as set in the medium-term plan, and examine new important themes such as biodiversity and human capital management. In addition, we will continually raise the awareness of employees and discuss the review of our priority issues (materiality) for the next medium-term management plan.

Review of Priority Issues (Materiality) Activities

We have identified eight priority issues (materiality) to be addressed in order to realize a sustainable society. For these priority issues, we have defined major initiatives, targets, and outputs, and are carrying out activities from a medium- to long-term perspective. For FY2022, we have made progress as follows. We will continue to address these issues and contribute to the realization of a sustainable society.

Environment — Responding to climate change

Major Initiatives	Reduction of CO_2 emissions	Goals and Outputs	CO_2 emissions: 30% reduction from the FY2018 level by FY2030
Progress in FY2022	Reduced by 27.6% (211,000 tons)		
Specific Activities	• We worked to create energy through energy-saving and solar power generation in areas such as manufacturing. • We adopted CO_2-free electricity at headquarters, Satsuma Plant, and Satsuma Electrode Plant of the Nittoku Spark Tec WKS Co. Ltd. • We launched Employee Participation in Cabon Neutral Activities		

Environment — Providing environmentally friendly products

Major Initiatives	Dissemination and expansion of environmentally friendly products	Goals and Outputs	Sales ratio of precious metal plugs: at least 50% Sales ratio of wide range oxygen sensors: at least 50%
Progress in FY2022	1) 43% 2) 39%		
Specific Activities	• Certified the OZAS®-S4 oxygen sensor and Sumikaze ozone generator as Nittoku Green Products under the environment-friendly product certification system. • Sales ratio for precious metal plus and wide range oxygen sensors for automobiles increased in the Chinese market due to the early recovery from the COVID-19 pandemic, although the number of sales was on an overall downward trend.		

Society — Development of technologies, products, and businesses contributing to the resolution of social issues ❶

Major Initiatives	Development of fuel cells	Goals and Outputs	Dissemination of high-efficiency distributed power supply systems with an eye on the use of CO_2-free hydrogen fuel
Progress in FY2022	Established a system for the mass production of SOFC cell stacks		
Specific Activities	We consolidated the cell production process in Ise City, Mie Prefecture to the main plant in Komaki City, Aichi Prefecture. We then established a single integrated mass production system from cells to stacks. We will consider further increasing production capacity based on future orders.		

Society — Development of technologies, products, and businesses contributing to the resolution of social issues ❷

Major Initiatives	Development of applications for lead-free piezoelectric materials	Goals and Outputs	Promoting substitution for lead-based piezoelectric materials
Progress in FY2022	Continued to introduce and propose lead-free piezoelectric materials as well as Promoted technological development aimed at expanding applications of lead-free piezoelectric materials as well as continued to introduce and propose		
Specific Activities	We continued to encourage our customers to replace leaded piezoelectric materials with lead-free piezoelectric materials in the semiconductor, automotive, and medical fields in anticipation of future regulations.		

Society — Development of technologies, products, and businesses contributing to the resolution of social issues ❸

Major Initiatives	Development of sensing IoT business	Goals and Outputs	Improving operational efficiency through automation, optimization and generalization
Progress in FY2022	Made progress in the development of a water quality management system for land-based shrimp aquaculture		
Specific Activities	• We achieved our target yield of land-based shrimp aquaculture • System development is progressing and is expected to be completed in the fall of 2023		

Society — Development of technologies, products, and businesses contributing to the resolution of social issues ❹

Major Initiatives	Carbon Neutral as a service	Goals and Outputs	Establishing and introducing a synthetic fuel (methanes) production system
Progress in FY2022	Completed a demo container-sized methanation device for CCU solutions and prepared for operation		
Specific Activities	• We completed a demo container-sized methanation device. • We exhibited regional CCU at EcoPro 2023 and the DECARBONISATION EXPO.		

*Carbon Neutral as a service is our vision of a decarbonized circular society and solution services.
For more information please visit our website: https://ngkntk.disclosure.site/en/themes/174/

Review of Priority Issues (Materiality) Activities

Society — Global human resources management

Major Initiatives	1) Promotion of employment of women, foreign nationals, and careers 2) Examination of a New Personnel System	**Goals and Outputs**	1) Percentage of female, foreign national, and mid-career employees in managerial posts: at least 25% 2) Improve the results of employee satisfaction surveys
Progress in FY2022	1) 19.9% 2) 3.33 (92.6% response rate)		
Specific Activities	1) • We continued to implement the Raise UP Program (selective training for female manager promotion) This program was effective in changing the mindset of female employees. • Continued to raise awareness through diversity training for managerial positions and Company e-mail newsletter distributions 2) • Held a briefing session for officers and general managers to use the results of the employee satisfaction surveys for workplace improvement. We also held a workshop for general managers to discuss how to utilize survey results. • Regularly distributed messages from the chairman and held roundtable discussions with the chairman and employees.		

Governance — Corporate governance

Major Initiatives	1) Increasing the ratio of female and foreign nationals to directors 2) Increasing the ratio of external directors	**Goals and Outputs**	1) Percentage of female and foreign national directors: at least 30% 2) Percentage of outside directors: at least one-third
Progress in FY2022	1) 45% (5 out of 11 directors) 2) 64% (7 out of 11 directors)		
Specific Activities	1) In order to achieve sustained growth and enhance corporate value over the medium to long term, the Board of Directors continues to be composed of a diverse group of people with different backgrounds in terms of expertise and experience. 2) In order to strengthen the supervisory function of the Board of Directors and further ensure transparency in decision-making, the Company has transitioned to a company with an Audit and Supervisory Committee, and the majority of the Board of Directors is composed of outside directors.		

Governance — Risk management

Major Initiatives	Management of serious incidents signs and prevention of their occurrence	**Goals and Outputs**	Establishing a risk management system that contributes to management decision making
Progress in FY2022	Promoted measures for priority risks		
Specific Activities	• Updated the risk map and periodically reviews our priority risks. • Promoted measures for priority risks and monitored progress.		

Governance — Compliance

Major Initiatives	Survey of employees' awareness and continuous education	**Goals and Outputs**	Conducting compliance awareness surveys and disclosing the results
Progress in FY2022	Implemented improvement activities based on the results of the compliance awareness surveys		
Specific Activities	• Implemented improvement activities in departments deemed necessary based on the FY2021 compliance awareness survey results. • Renewed in-house training for managerial positions to strengthen the prevention of harassment. • Distributed helpline cards to all Company and domestic Group employees.		

Governance — Information security

Major Initiatives	Maintaining and strengthening incident response organizations and building preventive systems	**Goals and Outputs**	Establishing an information security management system
Progress in FY2022	1) Acquired TISAX certification for Group companies in Thailand 2) Conducted IT security audits		
Specific Activities	1) • Acquired TISAX certification at Group companies in Thailand and all other planned locations. •Began discussions on ISMS (Niterra Standards) for overseas Group companies. They are to be deployed in FY2023. 2) Launched company-wide IT security audits and audited six Company divisions and three Group companies.		

Internal Carbon Pricing System and Internal Environmental Funds

Niterra introduced internal carbon pricing, an internal carbon tax, and internal environmental funds to reduce our Scope 1 and Scope 2 emissions and become carbon neutral.

Basis of our activities and the external environment

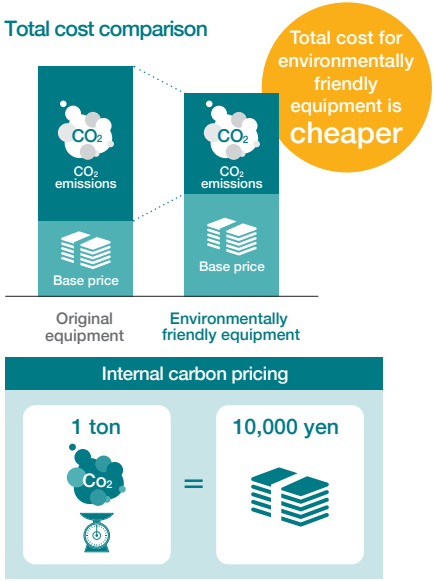
The Group declared our goal of becoming carbon neutral by 2050 and set a specific interim target of a 30% reduction by FY2030 from FY2018 levels. We introduce these frameworks to raise awareness and accelerate CO_2 emission reduction.

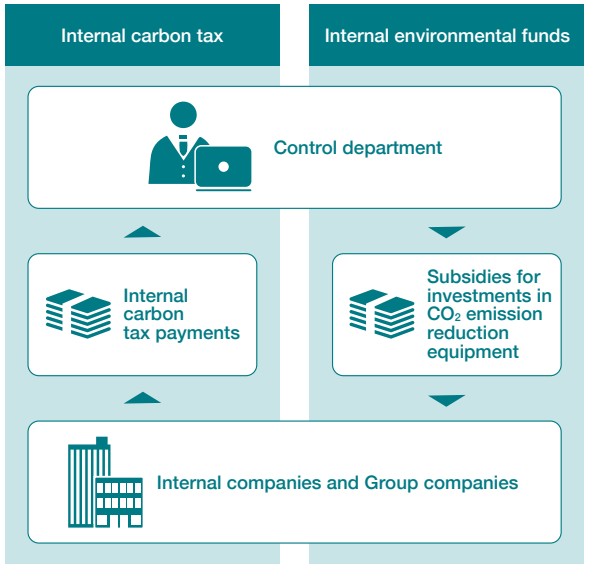
Details on our activities

The Group set our internal carbon pricing at 10,000 yen per ton of CO_2 emissions. By visualizing the social costs of emissions, we aim to increase awareness of CO_2 emission reductions and accelerate our activities. We calculate the cost of CO_2 emissions for applicable equipment when making capital investments and compare it with the total cost of the equipment, including installation fees. In doing so, the Group makes environmentally conscious investment decisions.
The internal carbon tax is a framework that collects money from each department, including internal companies and group companies, in accordance with their CO_2 emissions. The internal environmental fund takes the money collected from this tax and uses it to subsidize capital investments for CO_2 emission reduction.

Current status

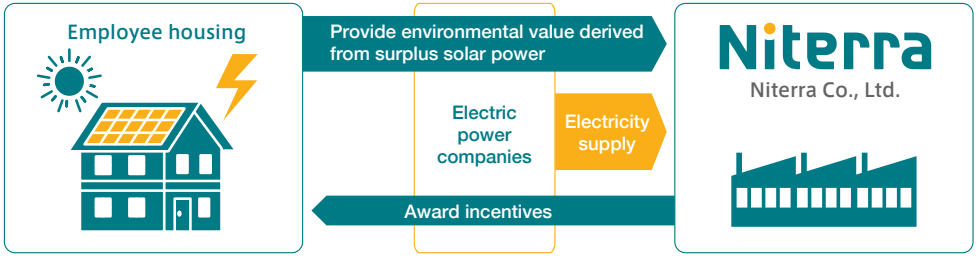
As the internal carbon tax is 10,000 yen per metric ton, more than 2 billion yen will be collected every year and put into our environmental fund. We collected 2.1 billion yen in fiscal 2022, investing 200 million yen in environmental subsidies. We invested in solar power generation, air control equipment, LED lighting, heat pumps, and other items. In fiscal 2023, we plan to invest another 2.8 billion yen.





Carbon-Neutral In-House Support Service

This service will supply electricity from electric power companies with added environmental value derived from surplus solar power. This power is generated at the homes of Group employees and used at our plants. Electric power companies then award incentives to the employees who provide this environmental value. This service is one example of our energy-creating activities introduced to foster Group momentum for CO_2 emission reduction and educate employees to carry out Group-wide emission reduction activities.



*For more information please visit our website: https://ngkntk.disclosure.site/en/themes/167/

Environmental Policy

As a globally developing core manufacturing corporation, we aim to promote environmental conservation activities linked with corporate management maintaining a good balance with corporate growth, based on "Involvement by all" in order to contribute to the construction of a sustainable society.

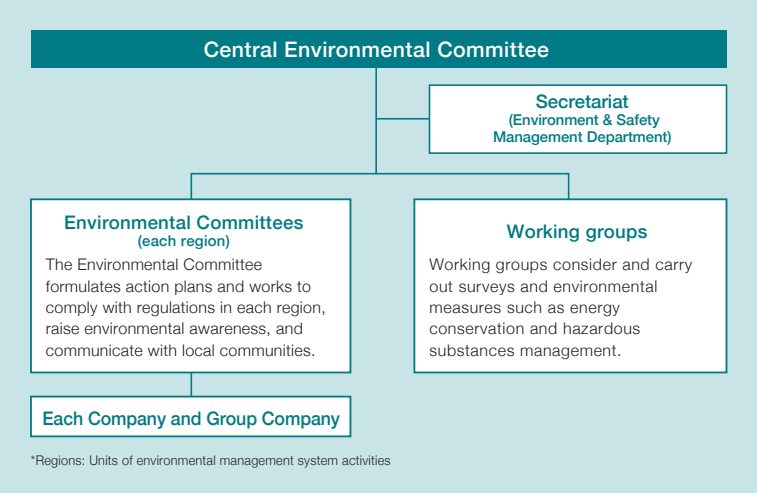
Action Guidelines

- Through all of our business activities, we make particular efforts to reduce CO_2 emissions toward a decarbonized society, conserve water resources, manage waste, and develop, offer and expand environmentally friendly products.
- We strive to conserve the ecosystem through the control of chemical substances that place a burden on the environment.
- We strive to raise environmental awareness among our employees to ensure that they all positively participate in activities.
- We observe the laws, ordinances, and agreements concerning environmental conservation.
- We aim to substantiate information disclosure to stakeholders and communication activities, and also conduct activities for coexistence with the regional community.
- In order to achieve these targets, we will strive to make ongoing improvements to our environmental management system.

Promotion System

We established the Central Environmental Committee and environmental committees in each region to comply with environmental laws and regulations as well as to encourage environmental preservation.
The Central Environmental Committee chaired by the Environmental Advisor (President), directors, company presidents, regional environmental administrators, and heads of the working groups. This committee checks the progress of Eco Vision 2030 and other issues to work for continuous improvement.
Each internal company manages its own targets on items relevant to business activities and conducts activities integrated with business to achieve Eco Vision 2030. Meanwhile, we formulate action plans and work to comply with regulations in each region, raise environmental awareness, and communicate with local communities. Various working groups are established as cross-functional teams across the internal companies to promote specialized matters such as energy conservation and chemical substances.

Environmental Promotion System



Environmental Management System

The Group obtained integrated Group-wide ISO 14001 certification for the Company and 13 domestic Group companies (as of the end of FY2022). Other domestic and overseas group companies also established environmental management systems, with one domestic and 17 overseas companies individually certified under ISO 14001. 96% of Group employees have obtained ISO 14001 certification.

Eco Vision 2030

Protecting the global environment is the foundation of a sustainable society. For all our stakeholders, we must face it head on as a key management issue.
On the premise of aiming for carbon neutrality in 2050, we have established "Eco Vision 2030," which shows the vision (or goal) of what we want to be by 2030 and the vision of what we will pursue until 2040.
For Eco Vision 2030, we analyzed the impacts that our businesses and products would have on society and our company and identified 13 issues with the greatest impact. Among them, the four issues identified to have a greater impact are Responding to Climate Change, Expanding Environmentally Friendly Products, Conserving Water Resources, and Waste Management. We positioned these issues as the four important issues and set quantitative targets for them. Through Eco Vision 2030, our Group will work together to help achieve global carbon neutrality and zero emissions.

Four important issues

Eco Vision 2030 issues	The milestone to be achieved in 2030	Our vision for 2040
Responding to Climate Change	CO_2 emissions: 30% reduction from the FY2018 level	Implementing activities toward realization of a decarbonized society *Aiming for carbon neutrality by 2050
Expanding Environmentally Friendly Products	Expand Nittoku Green Products	All products contribute to the improvement of the global environment and contribute to making sustainable society come true
Conserving Water Resources	Water consumption intensity: Keep below FY2018 level	Implementing sustainable business operations in response to global water risks
Waste Management	Achieve over 95% effective utilization rate	Contribute to a global recycle-oriented society by promoting zero emission
	Reduce at least 1% of waste intensity compared to FY2018	
	Promote 3R (reduce, reuse, recycle) activities	

Other issues

Eco Vision 2030 issues	The milestone to be achieved in 2030	Our vision for 2040
Integration with management	Incorporate global environmental issues into business strategy	Continuing to incorporate global environmental issues into business strategy
	Environmental KPI (Eco Vision 2030) initiatives and management commitment to achieve them	
Globalization of EMS	Work to improve environmental information sharing with overseas Group companies as well as monitoring and supervisory functions	Continuing to carry out environmental information sharing with overseas Group companies as well as monitoring and supervisory functions
Analysis of climate-related risks and opportunities	Analyze climate change risks and opportunities and incorporate responses into business strategy	Ensuring business sustainability by analyzing climate change risks and opportunities and incorporating responses into business strategy
Implementing environmental compliance (compliance with environmental laws and regulations and elimination of environmental accidents)	Aim for zero violations of environmental laws and regulations and zero environmental accidents	Being a company trusted by society by maintaining zero violations of environmental laws and regulations and zero environmental accidents
Raising environmental awareness	All employees take environmental education programs and actively engage in environmental conservation activities	All employees have a high level of environmental awareness and are able to contribute to the realization of a sustainable society as a company
Chemical substances management	Carry out appropriate chemical substances management and reduce environmental impact	Continuously carrying out appropriate chemical substances management to help conserve biodiversity
Green procurement	Achieving 100% introduction of the green procurement system	Carrying out procurement with a low environmental impact so that we can help realize a sustainable society
Green logistics	Promoting green logistics and reducing CO_2 emissions by optimizing logistics efficiency	Achieving green logistics globally
Enhancement of environmental information disclosure	Responding to stakeholder requests and using communication to foster dialogue	Responding to stakeholder requests and using communication to foster dialogue

Information Disclosure Based on TCFD Recommendations

In July 2020, the Niterra Group announced its support for the Task Force on Climate-related Financial Disclosures (TCFD) recommendations.
Based on the TCFD recommendations, we disclose important information related to climate change as outlined below.
https://ngkntk.disclosure.site/en/themes/168/

Governance

Regarding the approach of management concerning climate change, the CSR and Sustainability Committee compiles recommendations based on climate related risks and opportunities and reports to the Board of Directors, which then makes final decisions on these recommendations. In addition, the CSR and Sustainability Committee monitors the progress of priority issues, including our response to climate change. The Environmental Committee deals with specific CO_2 emission reduction and other activities, while the Risk Management Committee deals with risks related to climate change.

Strategy (risks & opportunities)

We looked at the entire supply chain, projected social and regulatory trends in the short, medium, and long term, and then listed a wide range of risks and opportunities. We assessed the business impact of risks based on scenarios assuming risks related to the transition to a low-carbon economy and risks related to physical changes caused by climate change. As opportunities, we considered the opportunity for management reform through climate change mitigation and adaptation measures. We summarized the risks and opportunities related to climate change submitted a report to the CSR and Sustainability Committee for confirmation. ▶P.50-51

Risk management

The Niterra group faces various risks and opportunities in each type of business. Therefore, monitor regulatory trends closely and assess the respective impacts on business in terms of risks and opportunities related to climate change. The Risk Management Committee evaluates risks from a company-wide perspective by analyzing their impact, likelihood of occurrence, and status of countermeasures to determine whether or not they will have a significant impact on our business activities and ability to achieve targets. Risks evaluated as requiring priority action are designated as priority risks, and the Risk Management Committee confirms the status of mitigation activities. The CSR and Sustainability Committee confirms key opportunities, incorporating these opportunities into our management strategy and priority issues (materialities), when necessary.

Metrics and targets

Pursuing carbon-neutrality by the year 2050, our group has set a goal to reduce CO_2 emissions by 30% by FY2030 compared with FY2018 levels.
To make further advancements toward achieving these targets, we have set the CO_2 emission reduction rate as one of the evaluation indicators in the performance-linked stock remuneration system for directors (excluding directors who are Audit and Supervisory Committee Members and outside directors) and corporate officers (excluding employment-type corporate officers).
We aim to achieve a 30% reduction in each Scope 3 category in FY2030 (compared to FY2018). We also ask our suppliers to set CO_2 reduction targets and provide support as appropriate.

CO_2 Reduction Targets and Results

Items	Target	Results
Scope 1 and 2	30% reduction from the FY2018 level by FY2030	Reduced by 27.6% compared with FY2018 in FY2022 [Emissions: 211,000 tons] [Intensity: 0.58t/million yen]
Scope 3 Category 1 Purchased goods and services Part of Category 4 Transportation and delivery (upstream) Category 11 Use of sold goods	30% reduction from the FY2018 level by FY2030	Increased by 0.8% compared with FY2018 in FY2022 [Emissions: 11,150,000 tons]

* The above CO_2 reduction targets were certified as well-below 2°C (WB2°C) targets by the SBT Initiative in June 2022 as science-based targets (SBT).
* 97.6% of total Scope 3 emissions consist of Category 1 Purchased Products and Services, Category 4 Transportation and Delivery (upstream), and Category 11 Use of Sold Goods. We set fiscal 2030 targets for these three categories to reduce CO_2 emissions.

CO_2 emission reduction measures for Scope 1 and 2, such as energy conservation activities, progressed as planned. Furthermore, our early adoption of energy creation through solar power generation and CO_2-free electricity enabled reductions to exceed our target values.

Climate-related risks

Risk item			Business impact (risk)	Assessment(impact)			Timing of the impact		
				Small	Medium	Large	Short term	Medium term	Long term
2°C scenario Risks related to the transition to a lower-carbon economy	Policy and legal	Carbon tax	● If a carbon tax is introduced, taxes levied on fuel will increase procurement costs, resulting in a rise in the costs of energy and raw materials.			●			
		Carbon border tax	● If a carbon border tax is introduced, taxes will be levied on products to be exported, resulting in the reduction in the cost competitiveness of the products.			●			
		Regulations on carbon emissions	● The achievement of GHG reduction targets will be required, resulting in increases in the costs of, for example, making capital investments and purchasing electricity generated from renewable energy sources.			●			
		Sale of gasoline powered vehicles	● In countries that ban the sale of gasoline-powered vehicles, OEM demand will disappear, resulting in a decrease in sales.			●			
	Technology	Proliferation of energy saving and renewable energy technologies	● The introduction of new energy-saving and renewable-energy technologies will increase the cost related to, for example, capital investments.		●	●			
		Development of new technologies	● Expenditures on the research and development of new technologies will increase.			●			
	Markets	Shift in customer preferences	● After the 2030s, the number of people who choose ZEVs even as used cars will increase, resulting in a decline in demand for spark plug replacement and eventually a decrease in sales. ● Products that emit less CO_2 in their life cycle will be chosen, resulting in a decrease in the sales of conventional products.			●			
	Reputation	Shift in investor preferences	● Investors' opinions will turn against internal combustion engines, resulting in divestments.	●	●				
		Shifts in job-seekers' preferences	● Job seekers' opinions will turn against internal combustion engines. Accordingly, job seekers will not choose us as their place to work.	●	●				
4°C scenario Risks related to the physical impacts of climate change	Acute	Increased severity of extreme weather events	● Typhoons and other extreme weather events will cause damage to plants and other facilities, resulting in shutdown or a decrease in production. Furthermore, additional costs will be incurred to restore equipment. Non-life insurance premiums will also increase.	●	●				
	Chronic	Sea level rise	● Rising sea levels will increase the risk of flooding and storm surges. Plants and transport infrastructure located in coastal areas will be damaged and supply chains will be broken, resulting in the extra costs of addressing these problems.	●	●				
		Changes in precipitation patterns and variability in weather patterns	● Plants in areas facing severe water shortage will be forced to shut or slow down operations due to limitations on water usage, resulting in the cost of shifting production to other plants, increased transportation costs and the like.	●	●				
		Rising mean temperatures	● Employees who work in extreme heat will frequently get heat stroke. To reduce their increased physical burden, the cost of dealing with extreme heat and labor costs will increase.	●	●				

Climate-related opportunities

Aspect	Major opportunity	Timing of the impact		
		Short term	Medium term	Long term
Resource efficiency	● The increasing adoption of new energy-saving and renewable-energy technologies will reduce energy costs.			
Energy source	● The increased demand for hydrogen as a fuel exempt from carbon tax will provide new opportunities in the hydrogen energy market. ● The current internal combustion engine business will continue as technologies such as methanation develop and synthetic fuels such as eFuel become more widespread.			
Products and services	● To conform to fuel efficiency regulations, demand for high value-added products will increase.			
	● The hydrogen energy market is expected to grow due to mandatory reduction of GHG emissions. Increased demand for hydrogen technologies, SOFC, and SOEC will provide business opportunities.			
	● Demand will increase for CO_2 recycling-related solutions (e.g., using electricity to produce hydrogen (SOEC), using recovered CO_2 as fuel, etc.).			
	● In disaster preparedness, local consumption of locally-produced energy (distributed power generation) will receive attention, resulting in increased demand for SOFCs			
	● Demand will increase for ceramics-related technologies and products used in electric motors and generators.			
Markets	● The development of new climate-related technologies that meet social needs will provide business opportunities.			
Resilience	● In disaster preparedness, the continuous reinforcement of the BCM and BCP of our group, including our supply chain, will help enhance our resilience.			

Short term: short term until around 2025 in line with the target year of our Medium-term Management Plan
Medium term: medium term until around 2030 in line with the target year of our Long-term Management Plan
Long term: long term until around 2040 in line with the vison of our Long-term Management Plan

Business risks, opportunities and responses under the climate-related scenarios

To further clarify climate-related risks and opportunities, we examined business environments and responses by business type under both 2°C and 4°C scenarios. With regard to our business related to internal combustion engines, whose sales revenue makes up 80% of the total at present, we are facing a major change. On the other hand, geared toward the realization of a decarbonized society, hydrogen-related and other new needs and markets are expected to arise. Therefore, in the 2030 Long-term Management Plan NITTOKU BX, we designated Environment & Energy as one of the business fields on which to focus. Toward 2040, we will push forward with the transformation of our business portfolio (40% ICE business, 60% non-ICE business).

* The financial impact of the internal combustion engine business
Based on analysis by IHS Markit Automotive, we forecast the number of vehicles with internal combustion engines to decline beginning in the mid-2030s due to increased restrictions on internal combustion engines as a result of climate change measures in many countries. At the same time, demand for spark plugs, which is the core of our internal combustion engine business, reflects not only use in new vehicles, but also use in repair work. Here, since we expect vehicles with internal combustion engines will continue in use, our forecasts indicate that sales will peak after 2040 and then gradually decline. Given this situation and assuming a 10% decrease in revenue in the internal combustion engine business beginning FY2040 onward compared with FY2020 levels, we estimate a decrease in revenue of about 35 billion yen.

FY2020 Revenue: 426.2 billion yen
Composition ratio of the internal combustion engine business in FY2020: 82%
Projected decrease in sales of products for internal combustion engines beginning in FY2040: 10%
426.2 billion yen x 82% x 10% = 35 billion yen

Examined business	Product	Responses to future business risks and opportunities	Financial impact	Revenue target in our Long-term Management Plan
Automotive Components Group	Spark plugs, Glow plugs, Sensors	Under a 2°C scenario, sales of internal combustion engine parts are expected to decline in the future due to stricter regulations on vehicles with internal combustion engines. On the other hand, opportunities will arise in the electric vehicle market and other new markets.Under a 4°C scenario, further energy conservation and toxic-gas emission control will be required in terms of internal combustion engines. Therefore, we will take measures to improve the performance of internal combustion engine parts.	Impact certain revenue sources*	450 billion yen (FY2029)
Fuel cell business	Fuel cells	Under either a 2°C or 4°C scenario, demand for non-fossil energy sources is expected to grow. Therefore, we will continue to enhance our measures taken in the relevant markets. Under a 2°C scenario, the proliferation of hydrogen infrastructure is expected. Therefore, the market may grow at an accelerated rate.	Analysts project a 200 billion yen market, with a possibility of an upward swing depending on the wider adoption of hydrogen infrastructure.	300 billion yen (FY2029)
Other businesses	SPE, packages, oxygen concentrators, cutting tools, bearing balls, etc.	Under either a 2°C or 4°C scenario, the impact on risks and opportunities is small.	Small	

- **For the Automotive Components Group, under the 2°C scenario, sales are expected to decline in the future due to stricter regulations. Therefore, the transformation of our business portfolio is required.**
- **For other business types, under either a 2°C or 4°C scenario, we will conduct business flexibly and strategically while keeping a close watch on market trends. Thus, we have high resilience in terms of both medium- and long-term perspectives.**

Conserving Water Resources

Protecting the sustainability of water resources that are essential for maintaining ecosystems is one of the most important issues for the group. To this end, our Eco Vision 2030 calls for the efficient use of water with a goal of maintaining water consumption intensity at or below FY2018 levels.
In FY2022, water consumption intensity for drinking water, well water, and river water was 4.40 m^3/million yen, which was a decrease of 18.4% compared with FY2018. In addition, the water usage amounted to 1.61 million m^3, a 3% decrease compared with the previous year.

Waste Management

The Niterra Group uses a variety of raw materials of which we must make effective use, including recycling. We pursue the reduction and effective use of waste materials in line with our Eco Vision 2030 targets of a 95% or more effective utilization rate, a reduction of at least 1% of waste intensity compared to FY2018, and the implementation of 3R activities.
Our effective utilization rate for FY2022 was 91.3%, the same level as the previous year. Total emissions were 21,188 tons, a 7% decrease year on year. Our waste intensity was 0.058 tons per million yen, a decrease of 22.8% compared with FY 2018.

Biodiversity Conservation

We recognize that the conservation of biodiversity is also an important issue. Therefore, we established the Niterra Group Biodiversity Action Guidelines, based on which we work to remain aware of the fact that our activities, particularly involving energy and resource usage, are inevitably causing impacts on biodiversity, and are taking appropriate measures to reduce such impacts throughout our business operations, in cooperation with business partners and external groups. We will continue to identify issues related to biodiversity risks associated with our business (materials, components, products, location, etc.) and comply with the Taskforce on Nature-related Financial Disclosures (TNFD) framework.

Human Resource Policy

We acknowledge that our employees are our most important management resource. In light of this, we respect the diversity and individuality of our employees and strive to develop the group as a whole by ensuring that these self-leading and innovative human resources can fully demonstrate their capabilities.

Action Guidelines

- We foster aspiring human resources who can act to bring about changes and also change themselves (self-leading and innovative human resources) and establish an environment where they can perform to the best of their abilities.
- We strive to nurture a corporate culture where human resources with different qualities can fully realize their own capabilities and ensure that the right human resources are assigned to the right posts.

Message from the Officer in Charge of Human Resources

Creating an organization where diverse human resources can play an active role

Executive Officer
Tomohiro Yamaguchi

In our 2030 Long-term Management Plan "NITTOKU BX," we have set "change drastically beyond the current way" as our actions toward our vision for 2040. The core message of this vision is to be a company that coexists with a diverse range of human resources with aspirations. We are not only concerned with "what ceramics can do," but also with the acquisition and development of autonomous human resources, the combination of diverse knowledge and expertise, as well as more engagement with the aim of maximizing our human capital and thereby improving corporate value so that we can take on challenges beyond the realm of ceramics and beyond the world and our own imagination.
To realize our vision, we need a diverse range of human resources who have aspirations. We consider diversity, equity & inclusion (DE&I) to be one of our most important management strategies as we believe that harnessing each employee's individual qualities and helping them fully demonstrate their abilities are essential for companies to attain sound growth and ensure happiness for all employees. We strive to understand and accept diverse human resources regardless attributes such as gender and age, and to provide each with the best support and opportunities in a fair way.
In addition, to raise the value of human capital, we recognize that human resources are the most important management resources for a company. Knowing this, and to achieve the goals of our Long-term Management Plan, we have defined the human resources we seek as "self-disciplined creative human resources" and are taking systematic and consistent actions to create this kind of human resources. Among these, we consider the development of next-generation leaders to be an issue of tremendous importance, and we are working to cultivate managers from early stages and develop human resources for upper management.
The Group's external environment is in a period of dramatic change. In order to address this and build an organization that can withstand harsh business environments, we began with our internal environment, carrying out organizational reforms. These included introducing the in-house company system, spinning off some businesses, and other actions. In addition to improving the internal environment, we believe that boosting employee engagement will also make a significant contribution to increasing corporate value. To realize our goal of creating a company that is attractive to employees, we carry out employee satisfaction surveys with the aim of increasing engagement even in a changing environment. To create innovation for "change beyond the current way," we will transform our organization to allow every employee to fully demonstrate their capabilities and play an active role.

Launch of Long-term Management Plan
Until 2020

Preparations for achieving a true independent spirit (in-house company system)
2021 - 2024
Break to change.
Change to create.
Respect Dokuritsu Jiei (independent spirit).
Start from scratch.
Creating self-disciplined creative human resources

True independent spirit
2025 - 2029
Extend for the future.
Spread out to exceed.
To foster a new corporate culture, we will work toward sustainable growth.

Our vision
2040
Change drastically beyond the current way

Human Resources Strategy

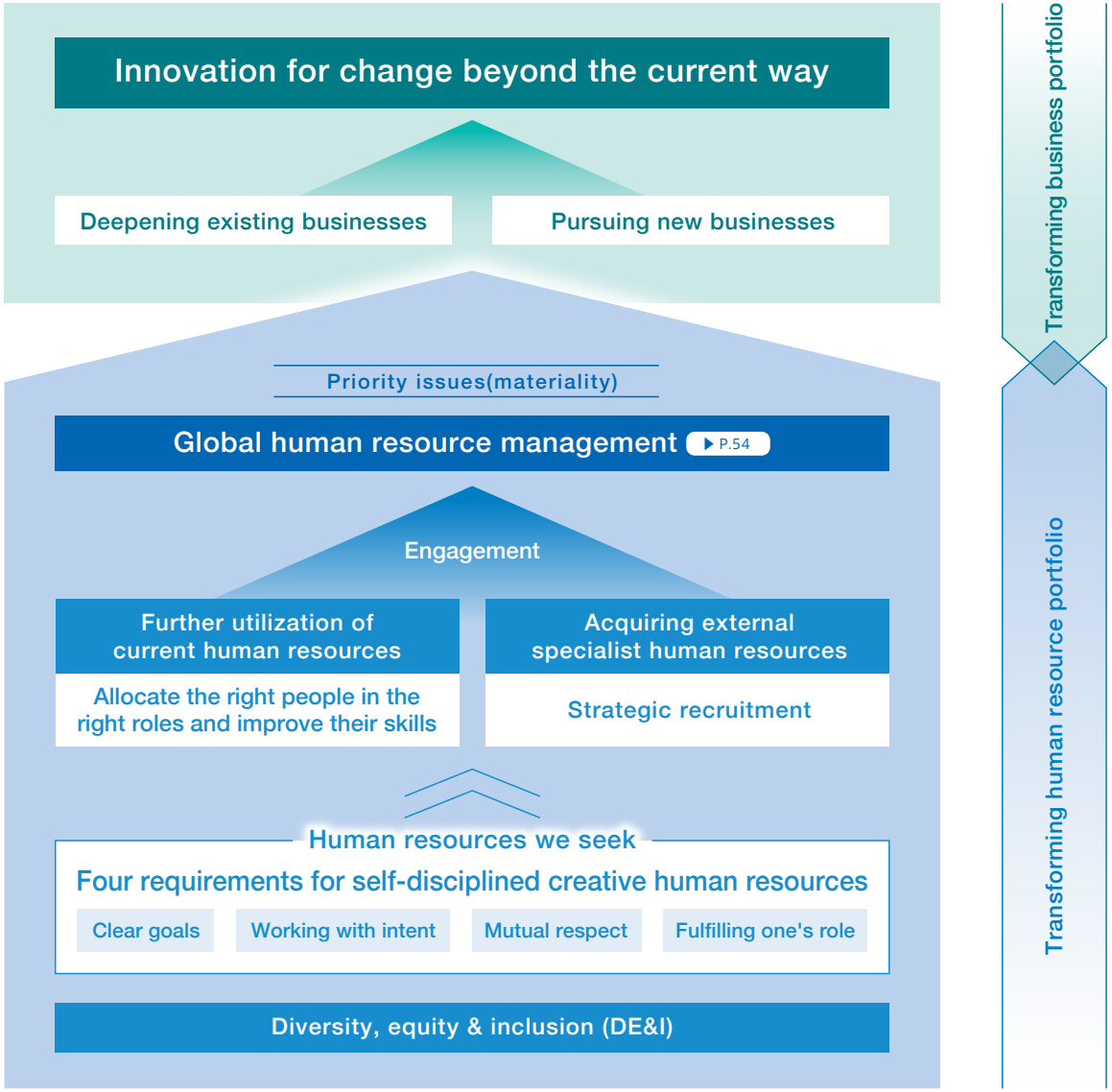
Our human resources strategy focuses on how to acquire and develop the human resources needed to achieve the vision of our 2030 Long-term Management Plan "NITTOKU BX," and our Medium-term Management Plan. We have defined the image of human resources we seek and are advancing global human resources management to bridge the gap with our current human resources and transform our portfolio in this area.

In order to create technologies and new businesses that can respond to rapid changes in the environment, we are focusing not only on the further development of internal human resources, but also on the strategic acquisition of external human resources with sharp expertise.

In order to realize the transformation of our business portfolio, we seek to develop all of our employees into self-disciplined creative human resources who are able to work independently and create new ideas.

As a specific initiative to create self-disciplined creative human resources, we are working to establish a Group-wide skill map that defines the necessary skills for our talent. We will also identify the gap between the current state of our employees and the desired skills, and create an environment in which employees can improve their skills to fill this gap.

In addition, we are implementing selective training measures for the next generation of management, working to help target employees acquire the right attitudes, concepts, and knowledge. Furthermore, as part of our succession plan, we have identified potential successors for key positions in units of "now," "in one to three years," and "in five years." We systematically maximize organizational performance by assigning the best human resources to core positions. As for DX, we are actively deploying measures to cultivate our personnel to achieve high efficiency in operations and to realize "change beyond the current way." In FY2022, we implemented educational measures to improve the digital literacy of employees at all domestic Group companies. We will continue to deploy educational measures to harness digital technologies for reforming operations, and ultimately, creating new businesses.



Global Human Resources Management

Personnel system

In April 2022, the Company revamped its personnel system. In order to accelerate the creation of self-disciplined creative human resources who can realize the themes of the Medium-term Management Plan to “Break to change” and “Change to create,” we have incorporated the Group Human Resource Policy. This policy clearly defines the direction of human resource policies that the entire Group will pursue, creating a highly fair personnel system that rewards achievements and challenges regardless of age, gender, and other personal attributes. We have introduced a system in which employee compensation reflects the results produced by each in-house company, and we expect each employee to be aware of the output that contributes to our business and performance, and to work in a more efficient manner.

A role grading system was introduced for managerial positions, and by setting role ranks and salaries according to the roles required, we established a system so that the actual roles played by the employees and their compensation are aligned. By abolishing the annual requirement for promotion for staff positions as well, we have been able to quickly appoint excellent human resources in both managerial and staff positions, regardless of tenure. In addition, as human resources who can make a positive impact on our business management and performance by utilizing their high level of expertise, we have established qualification for specialist positions (SP positions). The M positions, the traditional managerial positions, will focus on management, while SP positions will concentrate on demonstrating their expertise toward more efficient business operations. By further clarifying the roles of each individual, we will realize speedy innovation and the placement of the right people in the right roles to promote the achievement of organizational goals.

We also revised our evaluation system, providing more opportunities for interviews than in the past, working to build an environment that clarifies employee evaluations through detailed follow-ups and where employees can achieve autonomous career development. Through the new personnel system, we aim to encourage changes in employee awareness, develop richly creative human resources who can fulfill their roles, and foster a corporate culture that rewards challenges.

Employee skill enhancement and career development

In this fiscal year, we introduced a Group-wide skill map for employees to check their own skills as a tool to support their personal growth. In addition to specialized training with voluntary participation from employees to improve their own skills, we also offer a variety of programs to support employee career development, including level-specific training to acquire the knowledge and skills necessary for each level and role, and training for manufacturing that focuses on quality education and other areas. We are also utilizing My Career, a framework to help employees envision their future careers and think autonomously about the approach they want to take. From this fiscal year, we are also promoting our Career Design Cycle, in which each employee arranges their “cans” (work they can do) and “wills” (the kind of work they want to do). The Career Design Cycle is a process whereby employees take ownership of the design and achievement of their own careers, utilizing interviews with workplace supervisors in order to realize their vision, both for their work and for themselves. In the event that the cycle is not working well for employees and there are concerns regarding their daily work or career, we offer a consultation helpline that they can contact at any time. Employees certified as career consultants provide one-on-one counseling to employees, supporting them so that the consulting employees can find answers for themselves.

A career consultation session

Development and management of managerial human resources

HAGI Program

As our businesses expanded globally, in 2016, we started a program to find and develop the next generation of global managerial human resources, targeting all Group companies. This program is intended to facilitate the employment and promotion of candidates regardless of nationality and to provide them with opportunities and environments that allow them to demonstrate their abilities. It was named the HAGI Program after Hagi City in Yamaguchi Prefecture, where the Shoka Sonjuku school developed diverse human resources at the end of the Edo period. Chairman of the Board Shinichi Odo serves as the head of the program. Under the program, seminars have been held on a continuous basis to provide employees with opportunities to learn together with a focus on gaining practical knowledge from a Group-wide perspective. We are thereby developing leaders with the will and sense of mission required to take the Niterra Group into the future.

A HAGI Program session

Nittoku Business School

Targeting human resources in Japan, we run Nittoku Business School classes for employees who are almost qualified to participate in the HAGI Program. For these classes, we have prepared a curriculum that helps participants develop logical thinking and acquire knowledge and skills in areas such as management strategies, marketing, and presentations. They also include case studies based on actual examples and are intended to help participants to develop the spirit, techniques and physical stamina required of leaders.

Employees who have completed the HAGI Program and the Nittoku Business School curriculum have already been making contributions in core positions within the Group. We have also established a selective human resources development program within each of PAMA, Asia, and other regions and implement the program four times a year for the development of business leaders.

In addition, the Corporate Management Committee, whose members consist of the Representative Director and some executive officers, has been meeting once a month to discuss personnel matters for core positions across the entire Group.

Initiatives to improve employee engagement

The Group conducts employee satisfaction surveys for the following three purposes.

(1) to understand employee motivation and sense of burden
(2) to understand the current status, verify the effectiveness, and consider measures for our Action Guidelines "Change (transformation) with (co-existence) Will (will)," as set in the Long-term Management Plan
(3) to improve the workplace through examination of the results

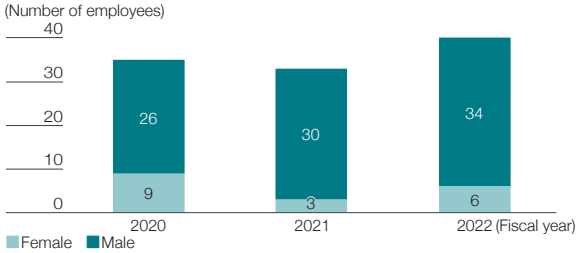
The survey results of each individual department are fed back to the departmental heads to notify them of the department's situation and challenges indicated by the results. For items with low engagement and for which engagement should be increased, issues and actions are considered through exchanges of opinions within departments to improve and revitalize workplaces. The HR development department is also leading efforts to create better workplace environments by identifying issues through interviews with young employees and section managers at each workplace and holding study sessions with department heads to encourage action.
The overall satisfaction level for FY2022 was confirmed to be slightly higher than that of the previous year by about 1%.
In addition, the change in overall satisfaction has been adopted as one of the indicators used in the calculation of directors' bonuses as of FY2022. We recognize that improving employee engagement is an important management issue and will work on measures toward this improvement.

▶ Employee Satisfaction Survey Graph ▶ P.77

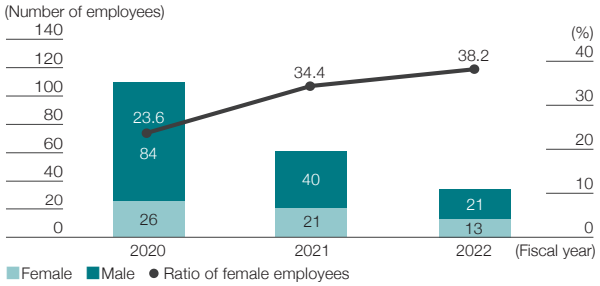
Recruitment strategy

In terms of recruitment, in order to respond quickly to changes in the business environment and to transform our human resource portfolio, we are aggressively pursuing employment of mid-career personnel, mainly in headquarters, new business, and IT departments and including those at the managerial level. We are also working to hire foreign employees in our effort to adapt to the rapid advancement of globalization and encourage diverse talent to play active roles. For new graduates, we have been hiring around two to five foreign employees every year, recently with a special focus on hiring foreign employees who have acquired more specialized skills from overseas universities, in addition to those who have studied in Japan. Furthermore, we have been working to increase the ratio of female employees and the employment rate of people with disabilities. The inclusion of mid-career employees and foreign nationals in each workplace has build greater diversity, equity, and inclusion across the Company.

Mid-career employment (non-consolidated)



New graduate employment (non-consolidated)



*Due to company spinoffs, recruitment has been handled by each Group company since FY2021.
The graph shows the number of employees hired by the Company on a non-consolidated basis.

Work style reforms

Work Style Reform Declaration

We recommend "diversified work styles" for "Creating an organization comprised of passionate individuals working together" of NITTOKU BX.
Promote comfortable remote work to employees.
▶Create an environment with a goal of a remote work rate of 70% or more.
Prepare tools that respond to change and create new value.
▶To that end, we will invest in digital solutions.
And we want you to find the best for yourself from the many options and become a "self-disciplined human resource who can continue to add value."
Niterra Group respects each person's values and aspirations.

To improve productivity and develop self-disciplined human resources, we formulated the Work Style Reform Declaration in 2021. Remote work, promoted as part of these work style reforms, had taken root in each workplace as a combined result of reviewing operations and taking measures to prevent the spread of COVID-19. However, in January 2023, we encouraged employees to come to work to a certain extent (40% or more per month) to further activate face-to-face communication and maximize the benefits of both remote and in-person work.
In addition, in order to achieve the goal of reforming work styles as indicated in the 2030 Long-term Management Plan "NITTOKU BX," we aim to institutionalize the following two measures in FY2023 to improve productivity and increase engagement.

(1) Diversification of where we work

In February 2022, we began a trial run of a system for employees working in remote areas, which will lead to securing excellent human resources living in remote areas and preventing turnover by moving away from a working style restricted by location.

(2) Diversification of working hours

By expanding employee options with regard to working hours, we will create an environment that encourages employees to achieve harmony between their work and private lives and grow into self-disciplined human resources.

*For more details about work style reforms, please see our website:
https://ngkntk.disclosure.site/en/themes/198/

Human Capital Management

Diversity, equity & inclusion (DE&I)

Vision Providing opportunities and developing each individual so they can make their own unique contribution

We consider diversity, equity & inclusion (DE&I) to be one of our most important management strategies as we believe that harnessing each employee's individual qualities and helping them fully demonstrate their abilities are essential for companies to attain sound growth and ensure happiness for all employees. We strive to recognize and accept diverse human resources regardless of gender, age, disability, nationality, as well as lifestyle and personality, and to provide each with the best support and opportunities in a fair manner. We utilize new values and ideas coming from an employee-friendly workplace that accepts such people by combining different "knowledge."

Vision and action policy for diversity, equity & inclusion (DE&I)

Vision	Action policy
• Growth of the company and happiness of the individual • Diversification of decision-making levels	• Ratio of women, foreign nationals, and career hires in managerial positions: 25% • Promoting female managers and providing career development • Developing more flexible work styles

Interview with a female manager (1)

General Manager of Human Resources Strategy Dept., Global Strategy Div.
Natsuki Hirano

Q. One of your priority tasks is to increase the ratio of women in managerial positions. Why is it once again necessary to grow the number of women in these positions?

I believe it is important not only to have more women in the workforce, but also to have women at decision-making levels. We believe that when determining which direction a company will aim for, better choices can be made if opinions from colleagues with diverse attributes, such as women, are shared and discussed. Our ratio of women in managerial positions has now finally exceeded 4%.

I believe that we have reached a point in time where we can, without hesitation, say that the ratio of women in managerial positions should be equal to the ratio of all female employees, which is 17%.

Q. In the context of your own experience, tell us about the issues that need to be resolved in order to increase the ratio of women in managerial positions?

If we wait for a natural cultivation of female managers, we will find ourselves behind the rest of the world. Therefore, we have implemented a program to help elevate women to managerial positions. Some women, like myself, don't like the idea of putting on airs. But, even if you just reach a little at the start of something big, you can be the one to produce real results. It is my hope that my female colleagues will recognize when there is an opportunity right in front of them, and that they will seize it. We hope that this program will be seen as a way that makes the Niterra Group stronger.

Q. In the promotion of diversity, one of your management strategies, please tell us about your future goals, including your thoughts on having a diverse workforce.

I believe that for a company to be strong, it needs the ideas of a diverse set of employees. This is because the world itself is made up of diverse people. I believe that if decisions are made based on the ideas of only people with similar attributes, we risk bias emerging in some part of our thinking, making it difficult for the organization to grow. The promotion of diversity is one means by which we will reach active participation by self-disciplined creative human resources, a goal of our Medium-term Management Plan. We seek to achieve a state in which individuals are respected and their active participation is a given.

Human Capital Management

Diversity, equity & inclusion (DE&I)

Initiatives to Promote DE&I

1. Selective female manager promotion training

Niterra Group aims to increase the ratio of women, foreign nationals, and mid-career employees in managerial positions to 25% by 2030, and has shown strong progress toward this goal, at 20% as of March 2023. A specific effort to increase the ratio of women in managerial positions is the Raise UP Program, a training program for selective promotion of women to managerial positions. With the support of multiple mentors, we encourage the growth of women, creating opportunities for them to acquire the knowledge, skills, and attitude required for managerial positions. We launched this program in 2019, and since then, 20 women have been promoted to managerial positions through the program. As we accept diversity and promote the right talent, the ratio of female managers is increasing year by year.

2. Male childcare

Recognizing that the declining birthrate is an important social issue, we are encouraging men to take childcare leave. Specific actions here include, as part of our environmental improvement efforts, seminars on the revision of Japan's Child Care and Family Care Leave Law for supervisors and those in the child-rearing generation, respectively, to raise awareness among workplace supervisors, as well as seminars on how to achieve a good balance between childcare and work. As a result, the rate of employees taking childcare leave has increased significantly, up 28% over the previous year. In addition to increasing the rate of employees taking childcare leave, we are also focusing on expanding flexible work styles to support employees who wish to balance childcare and career development without taking leave. We encourage the participation of men in childcare by offering a choice of places to work through our system for employees working in remote areas and a choice of working hours through our flextime working system.

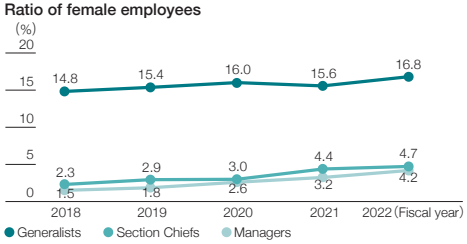
3. Gender pay gap

We help our employees to autonomously develop their careers by providing a variety of work style options. Specifically, we have established a system that allows employees to choose generalist or non-management-track positions regardless of gender, provides job transfer programs, and offers shorter working hour options. This gives our employees options for work styles that they can pick and choose based on their own preferences. This system does not discriminate between genders, and wage levels between men and women, all other conditions being equal (e.g., position, job transfer program), show nearly equal wages between the genders. However, we recognize that the ratio of women in managerial positions is lower than that of men, and we will further accelerate work to have women play an active role. We respect the choices that employees make of their own volition and are working with emphasis on enhancing systems that allow them to enjoy a long, secure tenure with us.

Selected as a Nadeshiko Brand company for FY2021 as a company that promotes the empowerment of women

As a company that excels in the empowerment of women, we were selected as a Nadeshiko Brand company for FY2021, which is jointly selected by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange. This is the second time for us to be selected as a Nadeshiko Brand company following the selection in FY2018.

Ratio of female employees



*A manager refers to those whose duties and responsibilities are equivalent to those of a section manager or higher. Though the Company has specialist positions of manager grade, they are not included above.

Interview with a female manager (2)

Q. Having been a participant in Raise UP Program training for promoting female managers yourself, how do you make use of this experience in the field in your current position of promoting this training?

In the Raise UP Program, a training program for selective promotion of women to managerial positions, I learned many things that significantly changed my own awareness. These things included self-reflection, presentation skills to communicate in my own words, and insights from mentors. I try to share that experience with the program participants. Because I feel that female managers also need horizontal connections, we also focus on networking both internally and externally. This networking includes roundtable discussions between program participants and more veteran colleagues who have already gone through the program, as well as opportunities to interact with female managers from other companies.

Q. As a first step toward diversity, what goals are you working toward in order to increase the ratio of women in managerial positions?

It is my desire to increase the ratio of women in managerial positions each year by consistently carrying out the Raise UP Program. In addition, I will focus not only on measures tailored to the characteristics of our colleagues, including the promotion of active participation of women, but also on being understanding and inclusive of diversity. I will also work on measures to create an organizational climate where employees can demonstrate their individuality, including not only diversity in visible characteristics, but also *invisible* diversity in terms of individual abilities, experience, and knowledge.

HR Development, HR Development Dept., HR Communication Company

Namiko Nishimoto

Occupational Health and Safety Policy

With high respect to humanity, we act on occupational health and safety as the company's starting point.

Action Guidelines

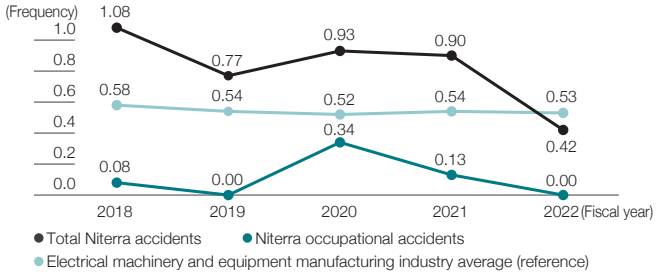
- To prevent health damage, injuries at work, and illnesses of employees, we will provide healthy and safety working environment and act to improve physical and mental health.
- We will comply with laws and voluntary regulations regarding Occupational Health and Safety.
- We will continuously improve occupational health and safety management system and health and safety performance.
- We will eradicate injury at work by eliminating hazards for occupational health and safety and by reducing risks.
- We will promote ability and awareness at occupational health and safety through education and enlightenment.
- We will inform all employees about this policy and engage in health and safety activities with the participation of all employees.

Promotion System

In FY2021, we obtained ISO 45001 certification, the international standard for occupational health and safety management systems (OHSMS), and are working to obtain certification at Group companies in Japan and overseas. Under our OHSMS system, each internal company and Group company sets its own goals and plans, and engages in health and safety activities through the Health and Safety Committee at each business site.
The state of management at each internal company and Group company is subject to a management review by the manager in charge of overall health and safety at the Central Health and Safety Committee once every two quarters.

*Please see our website for a diagram of our promotion system in this area:
https://ngkntk.disclosure.site/en/themes/177/

Frequency of occupational accidents



In FY2022, the Company experienced three occupational accidents (versus seven in the previous fiscal year), with an overall frequency of 0.42. All accidents were minor.

Occupational Health and Safety Initiatives

Risk Assessment Initiatives

Risk assessments (RA) are the core activity of our OHSMS. We have reviewed diverse potential risks resulting from workplace equipment, chemical substances, and work at every workplace and evaluated them to take hardware/software countermeasures (residual risk management), prioritizing the most dangerous risks.
In addition, workplace leaders observe work and review RA results to ensure that all workplaces are working together to reduce risk. In the event of an accident, an accident alert is promptly distributed to all Niterra Group companies, with an accident field report distributed at a later date that outlines permanent countermeasures and other measures to raise awareness and prevent similar accidents.

Education

To prevent accidents from occurring, we conduct education and training activities from the viewpoints of "people," "products," and "systems." The Health and Safety Guidelines book distributed to all employees summarizes the basics of health and safety, and is available in English and Portuguese. Each workplace holds group readings to ensure that each and every employee practices safe behavior. We provide training using hazard simulators to simulate accidents so that trainees can experience the fear of having an accident, which is difficult to describe in words, and so that they can learn how to avoid accidents. In addition to 29 types of hazard simulators, two types of protective equipment fitting check devices are also available. Through a variety of educational and training activities, including stratified and specialized training, we aim to build a safety culture.

Fostering Employee Health

The Niterra Group regards the health of employees as one of its important managerial resources for sustainable corporate growth and is fostering the health of individual employees for "health and productivity management." In December 2017, we made a declaration on health and productivity management as the entire Niterra Group and are implementing countermeasures to support mental health and against lifestyle-related diseases and passive smoking.
In particular, we have achieved 100% of employees undergoing health checkups, the basis for employee health management, and we are also focusing on voluntary health checkups such as gynecological examinations and H. pylori examinations. In addition, from the viewpoint of preventing passive smoking, we have established a smoking cessation clinic on our premises, and from April 2023, smoking has been banned throughout the entire premises. We are growing our various health management measures not only at the Company, but also among Group companies, including actions to establish habits for weight loss and exercise across the entire Group.

Declaration on health and productivity management

I. Niterra Group declares that we will support the health of each and every employee and promote Kenkokeiei (health and productivity management) by viewing the health of our employees as one of the most important management resources in order to realize sustainable growth.

II. We will respect the diversity and individuality of each employee and promote the creation of a workplace in which each employee can fully demonstrate his or her abilities as well as work energetically.

III. We will work together with the labor and health insurance unions to actively engage in health promotion activities that include employees' families from a long-term perspective

President & Chief Operating Officer
Takeshi Kawai

* Kenkokeiei is a registered trademark of NPO Kenkokeiei.

Human Rights Policy

We are working to resolve various social issues to realize sustainable societies. We recognize that as a prerequisite for this, it is important to respect human rights of people who are affected by our business activities, and that it is essential to continuously fulfill such responsibilities in truly contributing to the realization of sustainable societies. To this end, we respect human rights set out in the Universal Declaration of Human Rights and the ILO Declaration on Fundamental Principles and Rights at Work, and make our best efforts to protect the dignity of these people based on the UN Global Compact, the UN Guiding Principles on Business and Human Rights, and the OECD Guidelines for Multinational Enterprises.

Action Guidelines

- We comply with the laws and regulations of all countries and regions in which we conduct our business activities. If where national laws and international human rights differ, we seek ways to respect internationally recognized human rights wherever possible.
- We identify negative impacts that we could have on human rights through our business activities, and strive to prevent, mitigate, or eliminate the causes of such impacts.
- We establish a scheme for our employees and suppliers to access or report, and accept consultations and notifications concerning human rights. Upon receiving consultations or notifications, we investigate the facts, and if any problem is identified, we remedy it through appropriate response.
- We disclose efforts and progress promptly on human rights actions and keep updating ones through discussions and dialogues with various internal and external stakeholders.
- This policy applies to all Corporate Officers and employees of the Group. We provide appropriate education and trainings to ensure that all Corporate Officers and employees understand and act with this policy.
- We keep encouraging all of our business partners, including suppliers, to understand the Policy and join our efforts to respect human rights.

▶Visit the following website for more details https://ngkntk.disclosure.site/en/themes/175/

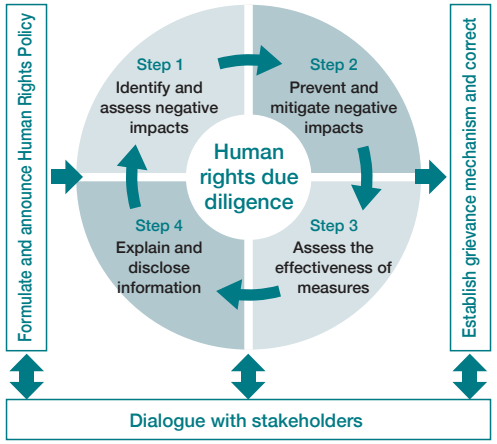
Promotion System

Human rights issues affect a wide range of areas. Each department, such as HR, procurement, risk compliance, and environment and safety, addresses human rights issues. Some issues require efforts from each department, and each department and expert committee involved monitors the issue and progress. In response to recent global progress in legislation on business and human rights, we established a working group in FY2022 and began exploring how we can evolve Group respect for human rights into an approach that meets global standards.
The CSR and Sustainability Committee oversees Group measures on human rights.

Respect for Human Rights

We recognize that our business affects a wide range of people from our employees to the employees of our business partners, and residents of local communities. As such, we are committed to respecting human rights through the identification and assessment of negative impacts on human rights related to our business activities. We also work to respect human rights through the establishment of structures to prevent, mitigate, and correct negative impacts.

Overview of our efforts to respect human rights



Human Rights Policy Formulation and Announcement

We established the Human Rights Policy as one of our CSR basic policies in 2020. In January 2023, we revised the Human Rights Policy due to the increasing importance and expectations of corporate human rights initiatives, as well as the need for initiatives within the Group and over the entire value chain.

Human Rights Policy revision process

- ✓ Survey and organize issues to cover (such as Group issues, human rights risks, and global standards)
- ✓ Draft the revision
- ✓ The CSR and Sustainability Committee checks the revision
- ✓ The Board of Directors approves the revision
- ✓ Notify employees and announce to the public

Human Rights Due Diligence

We make efforts to identify, assess, prevent, and mitigate human rights risks related to our business activities.
To identify human rights risks, we organize the main value chains and stakeholders of the Group and extract any risks generally assumed for each value chain. We then organize these risks, taking reports from international organizations, media databases, other surveys, and benchmarks of other companies into account. From there, we conduct a human rights risk assessment, map, and identify human rights risks in priority areas.
We currently encourage efforts to respect human rights by focusing on priority risks directly in our Group and our supply chain based on these results.

Our Group

We conduct compliance awareness surveys for employees and surveys on human rights and labor for Group companies. These surveys enable us to identify human rights violations and potential human rights risks.

•Compliance awareness survey for employees
Our compliance awareness survey for domestic Group employees enables us to ascertain compliance risks (including harassment), levels of awareness and understanding, and the status of our organization. Employees can anonymously write about how they feel about compliance in the open-ended section of the survey. Issues and potential human rights risks identified through the survey are reported to the department managers to improve and prevent.

•Human rights and labor surveys for Group companies
We conduct annual human rights and labor surveys of Group companies in Japan and overseas to identify potential human rights risks.

Supply chain

We have issued CSR and Sustainability Procurement Guidelines to our suppliers to promote CSR and sustainability initiatives throughout our supply chain. These guidelines also include compliance items related to human rights such as labor, health and safety. We are requesting suppliers to survey the status of implementation with a checklist every two years, providing feedback on the evaluation results. For suppliers that require follow-up, we confirm the situation by visiting them and other means. We provide support as appropriate if improvements are necessary.

Our Group and supply chain measures

Our Group	Compliance awareness survey	• Conducted once every two years in Japan • In FY2022, we focused on following-up with FY2021 results • In FY2023, we plan to reinforce questions on human rights
	Human rights and labor survey	• Conducted annually • In FY2022, we reinforced questions on human rights (38 companies) • We conducted interviews at Group companies where foreign national technical intern trainees work (2 companies)
Supply chain	Survey through the CSR and Sustainability Procurement Guideline checksheet	• Conducted once every two years • We will reinforce questions on human rights in the next survey (FY2023) • In FY2022, we administered a human rights-specific survey instrument to some business partners (28 companies)

Complaint Handling Mechanism

We established contact points to accept opinions, questions, requests, etc., from stakeholders, customers, suppliers, and employees.

Dialogue with Stakeholders

We hold regular labor-management meetings with the labor union, which represents our employees, to discuss the management of working hours and employee work styles. Our business partners have access to our consultation counter through which we hold consultations and address their concerns. In addition, we hold roundtable meetings with representatives of residents living near the plant to discuss whether there are any issues that could threaten their living environment.

Educational Activities

Every employee participates in human rights training where they watch videos on the need to respect human rights and our Human Rights Policy. Quizes are then administered to check participants' level of understanding. In our management-level human rights seminars, we provide opportunities for participants to reflect on global trends and human rights in business. We also increase opportunities to educate, provide information on human rights, and raise the awareness of management and employees. In recent years, our various trainings and newsletters have increased Group awareness of gender equality and LGBTQ issues, while keeping a close watch on racial issues happening around the world.

Human rights seminar for management-level employees
(held both in person and online)

Procurement Policy

We aim to realize globally optimal procurement based on our quality products principle. To this end, we focus on strengthening cooperation with suppliers and promoting our CSR and sustainability efforts throughout our supply chain system, while at the same time striving to carry out proper purchasing transactions when procuring materials and parts, based on the following guidelines:

Action Guidelines

- We conduct rational transactions based on fair, transparent, and open competition.
- We comply with procurement-related laws and regulations and foster responsible procurement. We select suppliers based on comprehensive assessment of product quality, technology, prices, deliveries, CSR and sustainability initiatives, and efforts to continuously make improvements.
- Aiming to procure more eco-friendly products, we strive to promote our green supplier system.
- We enhance mutual trust with our suppliers, who are good partners for us, and strive to realize mutual development.

▶**For more details, please visit our website : https://ngkntk.disclosure.site/en/themes/179/**

CSR and Sustainability Procurement Initiatives

Taking seriously the recent social and environmental issues related to our supply chain, we are promoting responsible procurement activities that not only comply with various laws and regulations, such as the Subcontracting Act, but also give due consideration to human rights and the environment.

CSR and sustainability procurement initiatives

To foster CSR and sustainability measures across the supply chain, we issued our CSR and Sustainability Procurement Guidelines and have been distributing copies to suppliers.

The CSR and Sustainability Procurement Guidelines set the rules that our suppliers are requested to comply with concerning the environment, human rights and labor, business continuity planning (BCP), business ethics, information security, occupational health and safety, and product quality and safety. We ask our suppliers to put them into practice together with the Niterra Group. We also ask our suppliers to distribute copies of the Guidelines to their own suppliers.

To monitor the status of implementation by the suppliers, we conduct surveys every two years using a check list and provide feedback on the results. For the survey we conducted in fiscal 2021, we received responses from 82% of the subject suppliers. For some suppliers, we held interviews with management and provided other follow-ups, thereby asking for improvement.

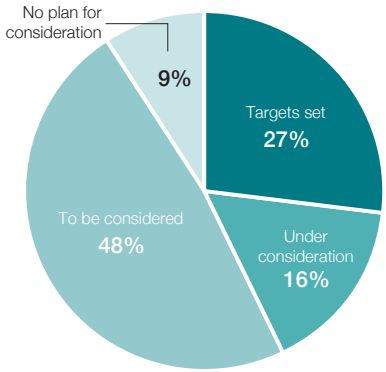
Encouraging suppliers toward carbon neutrality

In order to work toward carbon neutrality throughout our supply chain, we ask our suppliers to set greenhouse gas reduction targets and cooperate in our surveys about CO_2 emissions related to products for the Group. In our FY2022 survey on this topic, we held briefing sessions on the context around carbon neutrality, our Group's initiatives, our procurement stance toward carbon neutrality, and our intention to support our suppliers, requesting their understanding and cooperation.

• Setting reduction targets for greenhouse gases

The CSR and Sustainability Procurement Guidelines that we issue to our suppliers stipulate that suppliers set greenhouse gas reduction targets and take action to achieve them. In the FY2022 survey, 27% of suppliers had already set CO_2 reduction targets, and we will encourage suppliers that have not yet set targets to do so.

Status of supplier CO_2 emissions reduction target-setting (in FY2022)



• CO_2 emissions surveys on products for the Group

In FY2022, we began surveys to ascertain the amount of CO_2 emissions at our suppliers as they pertain to our Group, and will maintain these surveys going forward.

• Supporting suppliers in reducing CO_2 emissions

We help our suppliers to reduce their CO_2 emissions through support measures such as conducting energy saving diagnostics and introducing energy saving case studies and subsidies.

*For more details about green procurement, conflict minerals, and sustainability training, please see our website: https://ngkntk.disclosure.site/en/themes/179/

Basic Philosophy on Corporate Governance

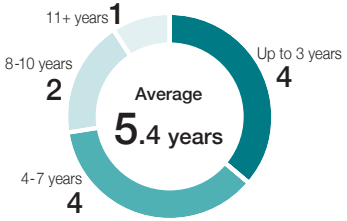
Guided by our corporate philosophy under the slogan "With established trust and confidence inside and outside the company, we aim to contribute to the peoples of the world by creating and putting at their disposal new values for the future", we have established, and are working to enhance, our corporate governance system to promote management aimed at increasing our corporate value over the medium to long term. Our basic view on corporate governance is to build relationships of trust with our shareholders, customers, business partners, employees, local communities, and other stakeholders through management that ensures fairness and a high degree of transparency, and to develop and operate management framework and internal control system to achieve sustainable growth through efficient and sound management.

Corporate Governance System

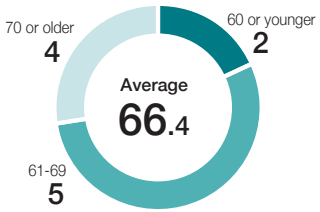
The Company has selected a company with an Audit and Supervisory Committee for the purpose of further enhancing discussions on management policies and strategies at the Board of Directors, strengthening the supervisory function, and further speeding up management decision-making and execution of business. Each organization is set up within the framework of a company with an Audit and Supervisory Committee.

Corporate Governance Highlights

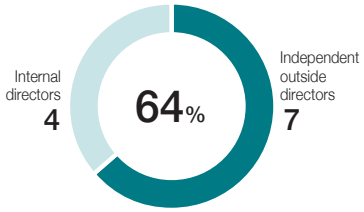
Directors' years of service*



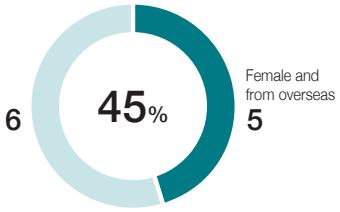
Age



Percentage of independent outside directors

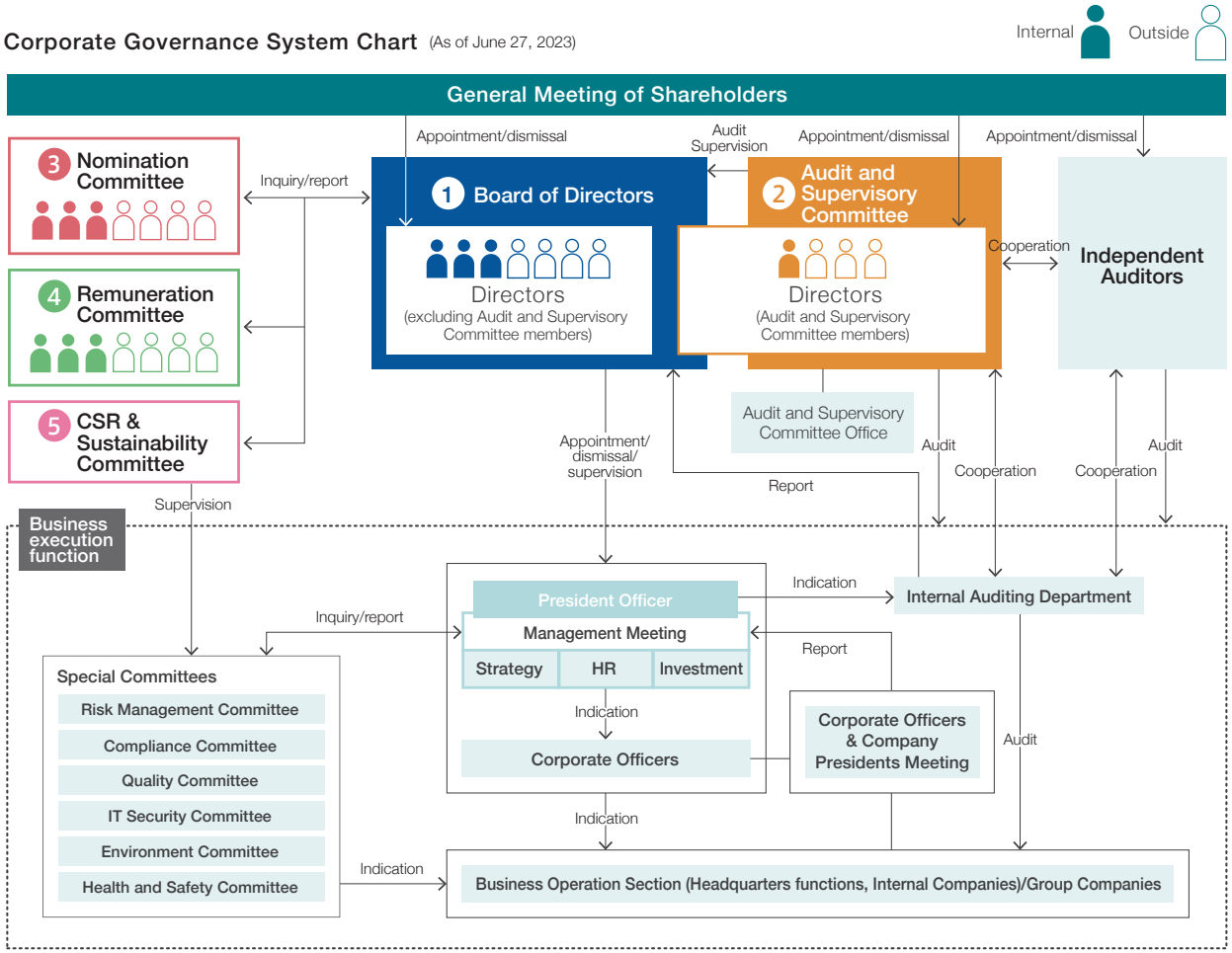


Percentage of female and directors from overseas



*Years of service for directors who served as Audit and Supervisory Committee members prior to becoming a director are presented as the sum of their tenure in those two roles.

Corporate Governance System Chart (As of June 27, 2023)

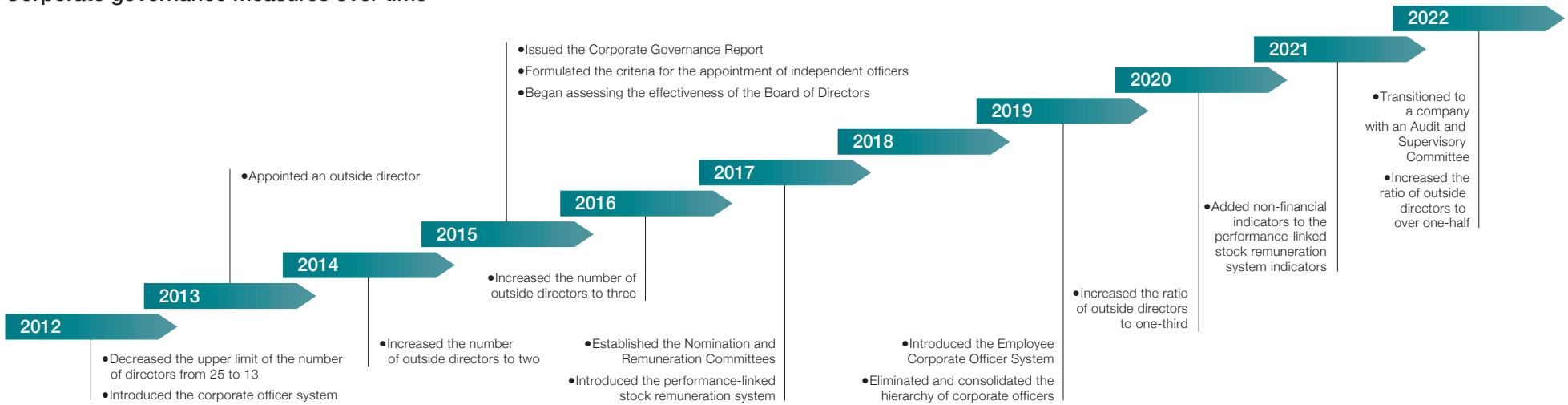


For ① to ⑤, see details on ▶ P.63

Overview of Major Organizations

	①Board of Directors	②Audit and Supervisory Committee	③Nomination Committee	④Remuneration Committee	⑤CSR and Sustainability Committee
Purpose	The Board of Directors deliberates and makes decisions on important management issues such as basic management policies and medium-term management strategies, and supervises the status of business execution by management and the status of internal control systems by receiving reports from the Representative Director and President and other parties.	The Audit and Supervisory Committee audits and supervises the directors' business execution as an independent organization on the behalf of shareholders. The Audit and Supervisory Committee also confirms the appropriateness and suitability of the nominations and remuneration of directors (excluding directors who are Audit and Supervisory Committee members) by attending Nomination Committee and Remuneration Committee meetings and forming opinions on these matters.	To ensure reasonableness and transparency with regard to director and corporate officer nomination, the Nomination Committee, consulted by the Board of Directors, deliberates on the appointment of directors, which will be proposed at the general meeting of shareholders, as well as on the appointment and dismissal of representative directors, executive directors, and corporate officers, and then delivers its opinions to the Board of Directors.	To ensure reasonableness and transparency with regard to director and executive officer nomination, the Remuneration Committee, based on the Board of Directors' request for opinions, deliberates on matters related to remuneration of directors (excluding directors who are Audit and Supervisory Committee members) and corporate officers (excluding employment-type corporate officers), as well as the appropriateness of the proposed remuneration of each director and executive officer, and delivers its opinions to the Board of Directors.	To promote sustainability management in the Group, the CSR and Sustainability Committee, based on the Board of Directors' request for opinions, deliberates to identify priority issues in each area of ESG (Environment, Society, and Governance), delivers its opinions and advice to the Board of Directors, and supervises activities of each specialized committee.
Chair	Chairman of the Board Shinichi Odo	Full-time Audit and Supervisory Committee Member Mikihiko Kato	Chairman of the Board Shinichi Odo	Chairman of the Board Shinichi Odo	Member of the Board (Outside Director) Chiharu Takakura
Membership	11 directors (including 7 outside directors)	4 directors who are Audit and Supervisory Committee members (including 3 outside directors)	3 representative directors and 4 outside directors (excluding directors who are Audit and Supervisory Committee members) *The 4 directors who are Audit and Supervisory Committee members also attend	3 representative directors and 4 outside directors (excluding directors who are Audit and Supervisory Committee members) *The 4 directors who are Audit and Supervisory Committee members also attend	Member of the Board (Outside Director) Chiharu Takakura Executive Vice President Toru Matsui Full-time Audit and Supervisory Committee Member Mikihiko Kato Executive Officer Hiroyuki Maeda
Meetings Held	FY2022:12	FY2022:10 (after our transition to a company with an Audit and Supervisory Committee on June 24, 2022)	FY2022:3	FY2022:1	FY2022:5
Status of Specific Activities in FY2022	In FY2022, in addition to regular matters such as resolutions stipulated by laws and regulation or articles of incorporation, the Board of Directors deliberated on matters such as the progress of the Medium-term Management Plan, business and growth strategies for individual businesses, capital and financial strategies, brand and philosophy systems, the state of Group governance, revisions to human rights policies, and the effectiveness of the Board of Directors.	In FY2022, in addition to deliberations at Audit and Supervisory Committee meetings and attendance of each Audit and Supervisory Committee member at Board of Directors meetings, interviews with directors, corporate officers, and managers of business and internal control units, and regular liaison meetings with the Internal Auditing Office were conducted to improve audit effectiveness. In addition, the standing Audit and Supervisory Committee member confirmed the effectiveness of internal controls and the status of business execution by attending important meetings such as the CSR and Sustainability Committee and the Corporate Management Committee and through regular liaison meetings with Group company auditors, and made reports at Audit and Supervisory Committee meetings.	In FY2022, the Nomination Committee, based on the Board of Directors' request for opinions, deliberated mainly on the composition of the Board of Directors, the content of proposals to be submitted to the general meeting of shareholders for the election of directors, the appointment of representative directors and executive directors, the appointment and dismissal of corporate officers, and succession plans for senior management, and delivered its opinions to the Board of Directors.	In FY2022, the Remuneration Committee deliberated and reported mainly on evaluations of corporate and individual performance, the resulting individual remuneration for each director (excluding directors who are Audit and Supervisory Committee members) and corporate officers (excluding employment-type corporate officers), the policy for determining remuneration and other matters for directors after the transition to a company with an Audit and Supervisory Committee, and the design of performance-linked remuneration.	In FY2022, the CSR and Sustainability Committee deliberated on its activity policy, activity goals for the period of the Medium-term Management Plan, sustainability management, revisions to human rights policies, and disclosure of non-financial information, and also invited outside experts to give lectures to enhance the knowledge and perspective of the committee.

Corporate governance measures over time



Roles and Structure of the Board of Directors

The Board of Directors plays the following roles to help the company achieve sustainable growth and increase its corporate value on a medium- to long-term basis, thereby increasing its profitability, capital efficiency and others:

- **Deliberates and makes decisions on the basic management policies, medium- to long-term management strategies and other important managerial issues**
- **Builds and improves the environment to help the management team take risks appropriately**
- **Supervises the management team in a highly effective manner from an independent and objective standpoint**

The Company's Board of Directors believes that it is important for the Board to comprise diverse human resources with different backgrounds, including specialized knowledge and experience, in order to achieve sustainable growth and increases in corporate value over the medium to long term. The Board is made up of human resources with extensive experience, high levels of knowledge, and advanced specialization, with consideration given to gender, nationality, work experience, and age, to achieve a good balance according to the business environment at a given time. In addition, by making up the majority of the Board of Directors with outside directors who have experience and specialized knowledge gained under environments that differ from the company, the Board can strengthen its supervisory function and engage in deliberations from various perspectives in an effort to ensure transparency and objectivity in decision making.

Director candidates are not excluded from consideration on the basis of their race, ethnicity, nationality, country of birth, cultural background, etc.

Skill Matrix of Directors

Considering the business and management system of the Group, the Board of Directors identified the knowledge and experience which it should possess from "Basic areas from the perspective of important management decision-making and business execution supervision" and "Areas that need to be particularly promoted and supervised to realize the medium-term management plan." According to this, Directors are assigned in well-balanced manner with consideration for diversity.

Skill Matrix of Directors*1

Name	Position	Independence	Experience/Knowledge/Expertise										Composition of each Committee		
			Management	Finance/ Accounting	Governance/ Legal/ Risk management	Experience overseas	Technology/R&D	Sales/Marketing	New Business/ M&A	HRD/HR	IT/DX	SCM	Nomination Committee	Remuneration Committee	CSR and Sustainability Committee
			*2						*3						
Shinichi Odo	Representative Director Chairman of the Board		○		○	○		○	○		○		○	○	
Takeshi Kawai	Representative Director, President & Chief Operating Officer All Divisions		○		○		○		○		○	○	○	○	
Toru Matsui	Representative Director, Executive Vice President		○		○	○		○	○			○	○	○	○
Mackenzie Donald Clugston	Outside Director	●			○	○				○			○	○	
Miwako Doi	Outside Director	●					○		○		○		○	○	
Chiharu Takakura	Outside Director	●			○	○				○			○	○	○
Takayoshi Mimura	Outside Director	●	○		○	○		○					○	○	
Mikihiko Kato	Director Full-time Audit and Supervisory Committee Member		○	○		○				○			Attends the meeting	Attends the meeting	○
Kanemaru Yasui	Outside Director Audit and Supervisory Committee Member	●		○	○								Attends the meeting	Attends the meeting	
Fumiko Nagatomi	Outside Director Audit and Supervisory Committee Member	●			○								Attends the meeting	Attends the meeting	
Christina L. Ahmadjian	Outside Director Audit and Supervisory Committee Member	●	○		○	○				○			Attends the meeting	Attends the meeting	

*1: The above matrix represents the areas of expertise that we expect from each director and does not represent all of the knowledge and experience that they possess.
*2: Areas fundamental for critical decision-making in the management and supervision of business operations
*3: Areas that require active promotion and supervision to realize the Medium-term Management Plan

Roles and Independence of Outside Directors

To enhance the supervisory function of the Board of Directors and to ensure the transparency and objectivity of decision-making through discussions from multifaceted viewpoints, outside directors make up the majority of the Board of Directors, which comprises diverse talent who have abundant experience, tremendous insight and a high degree of professionalism. We appoint all the independent outside directors as independent officers and notify the Tokyo Stock Exchange and the Nagoya Stock Exchange of their appointment. In order to ensure that candidates have neither special relationships with the management team and major shareholders nor conflicts of interest with general shareholders, we designate those who meet all the followings as independent officers: our own criteria for the appointment of independent officers; the requirement of independent officers set by the Companies Act; and the rules and regulations stipulated by the financial instruments exchanges.
Outside directors attend the Board of Directors meetings and non-statutory advisory bodies to demonstrate their supervisory function by becoming involved in the important decision-making of the company from an independent standpoint, while providing advice from an overall perspective based on their abundant experience and insight when formulating and confirming the progress of medium- to long-term management policies at the Board of Directors meetings. Outside directors who are Audit and Supervisory Committee members serve as a supervisory and auditing function based on their independence and expert knowledge.

Title	Name	Reason for appointment	FY2022 Frequency of attendance	
			Board of Directors	Audit and Supervisory Committee
Outside director	Mackenzie Donald Clugston	As a diplomat, he has a great deal of global experience and expertise in international affairs and trade. As an outside director, he oversees business execution by the Company's management team and provides advice to the team, and we have selected him as an outside director with the expectation that he will continue to fulfill his role.	12/12	—
Outside director	Miwako Doi	She has an abundance of experience and an outstanding record as a researcher in the field of information and communication and has been engaging in advanced research both in academia and in the private sector. As an outside director, she oversees business execution by the Company's management team and provides advice to the team, and we have selected her as an outside director with the expectation that she will continue to fulfill her role.	12/12	—
Outside director	Chiharu Takakura	She has an abundance of experience and knowledge in organizational development and human resource development through her experience as a consultant in these fields and her experience in key positions in the personnel departments of many global companies, including international pharmaceutical companies. As an outside director, she oversees business execution by the Company's management team and provides advice to the team, and we have selected her as an outside director with the expectation that she will continue to fulfill her role.	12/12	—
Outside director	Takayoshi Mimura	He has long been involved in management from both an executive and supervisory perspective, including serving as a business manager and chairman of the board of directors at an operating company, and has a high degree of insight into corporate management and corporate governance. In addition, he has an abundance of experience in the medical device field and global business from his long involvement in the medical device business and the cultivation of overseas markets. We have selected him as an outside director in the expectation that he will oversee business execution by the Company's management team and provide advice to the team based on his insight and experience.	—	—
Outside director, Audit and Supervisory Committee member	Kanemaru Yasui	He has expert knowledge and experience accumulated over many years as a certified public accountant. We have selected him as an outside director who is an Audit and Supervisory Committee member with the expectation that he will supervise and audit the company's overall management based on his expert insights as an outside director who is an Audit and Supervisory Committee member, and that he will provide appropriate advice for overall management.	12/12	10/10
Outside director, Audit and Supervisory Committee member	Fumiko Nagatomi	She has expert knowledge and experience accumulated over many years as a lawyer. We have selected her as an outside director who is an Audit and Supervisory Committee member with the expectation that she will supervise and audit the company's overall management based on her expert insights as an outside director who is an Audit and Supervisory Committee member, and that she will provide appropriate advice for overall management.	12/12	10/10
Outside director, Audit and Supervisory Committee member	Christina L. Ahmadjian	Based on her extensive experience and deep insight as a researcher of corporate management, corporate governance, and organizational culture and her involvement in management as an outside director in many companies, we have selected her as an outside director who is an Audit and Supervisory Committee member with the expectation that she will supervise and audit the company's overall management based on her expert insights as an outside director who is an Audit and Supervisory Committee member, and that she will provide appropriate advice for overall management.	9/10*	10/10

*Board of Directors meetings held after taking office as an outside director on June 24, 2022

Succession Plan

The Board of Directors engages in the formulation and implementation of the succession plan, designed to discover and cultivate future CEOs and other business leaders. The members of the Board see to it that sufficient time and resources are committed to developing their successors in a planned manner.

Specific involvement by the Board of Directors

In addition to confirming the operation of succession plans through the Nomination Committee, the representative directors and other outside directors are actively involved in human resource development by participating in management human resource development programs as lecturers and observers.

Details of measures to discover and cultivate human resources

In FY2022, we launched the "Management Sparring Dojo," a management human resources development program aimed at cultivating the competencies and viewpoints required for management by talent who will become our next management team (members of the Corporate Management Committee). This program is designed to provide participants with the knowledge (including ESG, science, geopolitics, etc.) that a manager should have, as well as the attitude and thinking required of a manager. In addition, through the HAGI Program for global next-generation managerial human resource development and the Nittoku Business School selective training program, we are continuously striving to discover and develop human resources who will lead the next generation of management.

Evaluation of the Effectiveness of the Board of Directors

The company conducts an annual evaluation of the effectiveness of the Board of Directors in order to verify whether the Board of Directors is properly fulfilling its expected functions and to continuously improve its effectiveness. In FY2022, we conducted a questionnaire survey of directors to evaluate the composition and operation of the Board of Directors, deliberation of management and other strategies, and oversight of business execution. The results of this survey were used to evaluate the effectiveness of the Board of Directors.

Method of evaluation

Evaluation was conducted by the Board of Directors based on a survey of directors.

Survey items

- Composition and operation of the Board of Directors
- Deliberation of management and business strategies
- Corporate ethics and risk management
- Monitoring of business execution and evaluation/remuneration of management
- Dialogue with shareholders and investors

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Evaluation at the Board of Directors

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Confirmation of issues

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Study of issue action policy

Overview of evaluation results for FY2022	We confirmed that effective measures are being taken in the following areas: •The roles and functions of the Board of Directors and management in charge of business execution were clarified, and we confirmed that the Board of Directors comprises members who have the knowledge, skills, experience, and diversity necessary to fulfill their roles and functions. •The Board of Directors has established suitable internal controls and risk management structures in the Group to ensure proper compliance and support risk taking and supervises the status of operations through the Internal Auditing Office, Sustainability Committee, and subordinate committees. •To ensure that decisions regarding the appointment and dismissal of management are appropriately carried out, the Nomination Committee appropriately evaluates management's execution of duties from the perspective of sustainable growth and corporate value. •The Board of Directors has confirmed that the design of the management remuneration scheme is consistent with the company's management and business strategies and is balanced with short- and long-term objectives and non-financial indicator targets. •To ensure that remuneration is set in a manner that provides appropriate incentives, the Remuneration Committee has evaluated that the execution of duties by management is appropriate from the perspectives of sustainable growth and enhancement of corporate value. •The Board of Directors implements appropriate improvement measures regarding key issues identified through evaluation of the effectiveness of the Board of Directors and strives to enhance its effectiveness.

FY2021 evaluation		FY2022 evaluation	
Issues recognized	•Further enhancing deliberation within the Board of Directors regarding medium to long term management strategies and monitoring of the Medium-term Management Plan •Improving the prior distribution of materials and provision of explanations to outside directors	**Issues recognized**	•Improving information and explanations provided to the Board of Directors regarding medium- to long-term management strategies •Strengthening oversight of management succession plans by the Board of Directors and Nomination Committee
Action status	With respect to further enhancing deliberation within the Board of Directors regarding medium to long term management strategies and monitoring of the Medium-term Management Plan, in FY2022, in conjunction with the transition to a company with an Audit and Supervisory Committee, in addition to the existing categories of items to be resolved and items to be reported, a new category of items were introduced to be discussed at the Board of Directors meetings, namely, items for discussion and consultation, with the aim of discussing medium- to long-term management policies. In addition, the Board of Directors reviewed its decision-making criteria in order to delegate the authority to make decisions on individual business operations to the executive side. Furthermore, the Board of Directors regularly reports on the progress of the Medium-term Management Plan. With regard to improving the prior distribution of materials and provision of explanations to outside directors, we focused on prior explanations to outside directors on important matters to be discussed at the Board of Directors meetings, thereby enhancing and streamlining the discussions at the meetings.	**Action Policies**	As the focus of the Board of Directors' deliberations shifts from individual business execution to medium- to long-term themes, the information provided to the Board of Directors has been improved accordingly to further enhance the quality of deliberations. The Company has set improving information and explanations provided to the Board of Directors regarding medium- to long-term management strategies as an issue to further improve the quality of deliberations. Going forward, efforts will be made to improve the content of Board of Directors meeting materials and advance explanations of Board of Directors meeting proposals, and to devise methods for providing information. With respect to strengthening oversight of management succession plans by the Board of Directors and Nomination Committee, information sharing will be enhanced with members of the Board of Directors and Nomination Committee through such measures as reporting on the status of succession planning efforts, including the managerial human resource development program.

Remuneration for Officers

Basic policy

Remuneration for directors (excluding directors who are Audit and Supervisory Committee members and outside directors) and corporate officers is paid based on the policy of providing them with additional motivation to contribute to improving the company's business performance on a medium- to long-term basis and growing the corporate value, while ensuring they have a shared interest with shareholders by holding company shares themselves. The remuneration consists of fixed remuneration paid in the form of cash; bonus, which is linked with the company's single-year business performance, etc.; and performance-linked stock remuneration paid in accordance with each person's position and level of achievement against the performance targets set in the medium-term management plan and others. Remuneration of directors who are Audit and Supervisory Committee members and outside directors comprises only fixed remuneration. Our Remuneration Committee acts as an advisory body to the Board of Directors. It deliberates on the remuneration policies, procedures, and systems for directors (excluding directors who are Audit and Supervisory Committee members and outside directors) and corporate officers as well as the appropriateness of the amount of remuneration planned to be paid to each director (excluding directors who are Audit and Supervisory Committee members) and corporate officers, and submits the results to the Board of Directors to ensure the rationality and transparency of the decisions made concerning the remuneration of directors (excluding directors who are Audit and Supervisory Committee members and outside directors) and corporate officers. In FY2022, the committee met one times.

Example of remuneration payment

In the case of 100% achievement of key performance indicators (KPIs)

Policy on the payment of bonus

As for bonuses, in addition to the base amount set for each position, an amount is paid to each person, decided comprehensively in consideration of the quantitative targets set for corporate performance such as consolidated revenue and consolidated operating income ratio, which reflect the results of sales activities, and based on the qualitative evaluation of the individual performance of the person. The Company uses consolidated operating income, which reflects the results of operating activities, as an indicator for the calculation of bonus amounts, in order to ensure bonuses are tied to the Company's performance and to raise awareness of the need to contribute to the improvement of the Company's performance. The bonus amount is calculated based on the rate of increase or decrease of consolidated operating income for the current fiscal year against past fiscal years and based on the qualitative evaluation of individual performance.

Performance-linked stock remuneration system

We introduced the performance-linked stock remuneration for directors (excluding directors who are Audit and Supervisory Committee members and outside directors) and corporate officers (excluding employment-type corporate officers) to further clarify the link between the compensation of directors and the value of the Company's stock, and to have them share interests with shareholders, so as to incentivize them to contribute to the improvement of the Company's medium- to long-term performance and to increasing corporate value. Under the system, the Board Incentive Plan (BIP) is adopted, where points are given to directors based on their position and the level of achievement against the targets set in the Medium-term Management Plan. Points are calculated according to the method stipulated in share granting regulations, which were determined by the Board of Directors after the deliberation of the Remuneration Committee. After the end of the period, shares of the company and money in the amount equivalent to the value of the shares are to begiven or granted based on granted points. Indicators against which the achievement of the performance targets is assessed are set based on single-year performance goals, medium-term performance goals, and non-financial measures goals. The single-year performance goals are based on consolidated revenue and consolidated operating income, which reflect the results of sales activities. The medium-term performance goals are based on the targets set in the Medium-term Management Plan, which are consolidated revenue, consolidated operating income, and ROIC, an indicator of whether we have efficiently earned profits relative to invested capital. For non-financial measures goals, sales from non-ICE business and rate of reduction of CO_2 emissions are used as indicators to reflect the results of efforts for sustainable growth and corporate value enhancement, and to facilitate the transformation of our business portfolio.

Type and details of remuneration for officers

	Fixed remuneration	Bonus	Performance-linked stock remuneration
Details of remuneration	Fixed remuneration is determined holistically according to the position and responsibilities, by taking into account peers' levels, the company performance, and the level of employee salaries, and then paid monthly.	Bonus is determined based on a comprehensive consideration of the base amount for each position, by taking into account quantitative targets for the degree of achievement of Company performance goals as well as qualitative evaluations of individual performance, and is paid at a certain time each year.	The Board Incentive Plan (BIP) is adopted, where the company shares and money in the amount equivalent to the value of the shares of the company are given or granted to directors at the end of the period set for the system, based on their positions and level of achievement against the targets set in the Medium-term Management Plan, etc.
Indicators against which the achievement of performance targets is assessed	—	•Change in consolidated operating income for the current fiscal year versus past fiscal years •Qualitative evaluation of individual performance	Single-year performance goals: Consolidated revenue, consolidated operating income Medium-term performance goals: Consolidated revenue, consolidated operating income, ROIC Non-financial measures goals: Sales from non-ICE business, rate of reduction of CO_2 emissions
How to determine payment	—	Payment is determined within the range of 0% to 200% based on the achievement of the company performance target and assessment of individual performance.	The ratio of the fixed portion to the performance-linked portion is set to be 3:7, in the case of 100% achievement of each indicator. The performance-linked portion is determined within the range of 0% to 200%, according to the achievement of each indicator.
Recipients	Directors, Corporate Officers	Directors (excluding directors who are Audit and Supervisory Committee members and outside directors), Corporate Officers	Directors (excluding directors who are Audit and Supervisory Committee members and outside directors), Corporate Officers (excluding employment-type corporate officers)*

*An Employee Stock Ownership Plan (ESOP) Trust has been adopted for employment-type corporate officers.

Total amount of remuneration, etc. paid to officers, total payment amount by remuneration type, and the number of recipients (for FY2022)

Category	Total amount of remuneration paid (millions of yen)	Total payment amount by remuneration type (millions of yen)			Number of recipients (persons)
		Fixed remuneration	Bonus	Bonus Performance-linked stock remuneration	
Directors (excluding directors who are Audit and Supervisory Committee members) (of which, outside directors)	494 (61)	328 (61)	111 (—)	55 (—)	12 (5)
Directors who are Audit and Supervisory Committee members (of which, outside directors)	70 (35)	70 (35)	—	—	4 (3)
Audit & Supervisory Board members (of which, outside Audit & Supervisory Board members)	17 (10)	17 (10)	—	—	4 (3)

(Notes) 1. The total amount of bonuses and performance-linked stock remuneration are both the amounts expensed in FY2022.
2. The above includes remuneration for three directors and two Audit & Supervisory Board members (including one outside Audit & Supervisory Board member) who retired at the conclusion of the 122nd general meeting of shareholders.

Measures to Strengthen Functions of Audit and Supervisory Committee

Establishment of the Audit and Supervisory Committee Office

To support the execution of duties by the Audit and Supervisory Committee, the Audit and Supervisory Committee Office was established, and four employees were assigned to the office full-time. These employees receive instruction from the Audit and Supervisory Committee members, liaise and coordinate internally, and gather and provide the necessary information. The Audit and Supervisory Committee Office works under the supervision and direction of the Audit and Supervisory Committee and their independence in relation to supervision and direction from directors (excluding directors who are Audit and Supervisory Committee members), corporate officers and employees is ensured. In addition, transfers, personnel evaluations, etc. require the prior consent of the Audit and Supervisory Committee.

Coordination with the Internal Auditing Office

The Audit and Supervisory Committee and Internal Audit Department meet regularly and as necessary to exchange information on audit policies, audit plans, audit implementation status, and other matters and to work in close collaboration with one another. In particular, the standing Audit and Supervisory Audit Committee member and the Audit and Supervisory Committee Office and the Internal Audit Department hold monthly meetings to strengthen mutual cooperation. In addition, Audit and Supervisory Committee members or Audit and Supervisory Committee Office staff attend audits conducted by the Internal Audit Department when necessary, and the Internal Audit Department conducts investigations and makes reports as requested by the Audit and Supervisory Committee.

Stocks Held for Reasons Other than Pure Investment Purposes

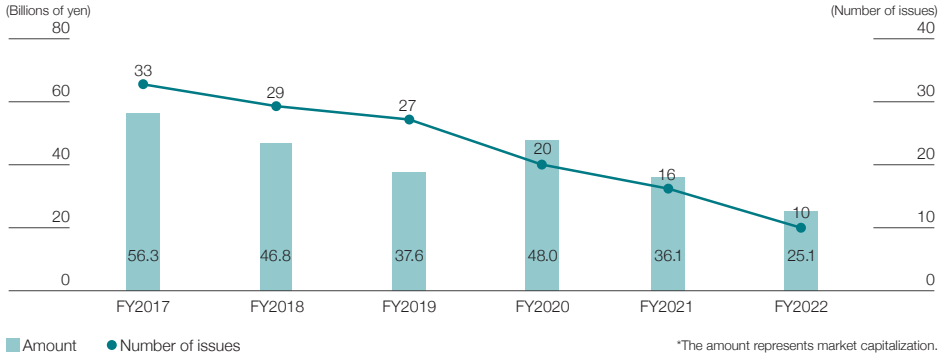
Policy on the stocks held for reasons other than pure investment purposes

Niterra holds the stocks of its suppliers and others basically to maintain and enhance stable business relationships with them, when the company decides that holding the stocks will help increase its corporate value after verifying the economic rationality from medium- to long-term viewpoints. The Board of Directors annually checks whether it is rational and useful in terms of enhancing its corporate value to keep the stocks individually for each of the investee companies, in consideration of the capital cost and comparing the related risks and returns on a medium- to long-term basis. When the Board decides that the company should not continue to hold any of the stocks, the company will sell them as appropriate, in consideration of the market trend.

Criteria for the exercise of voting rights

For the exercise of voting rights for the stocks owned by our company, we will decide whether to exercise the rights for each item of the agenda, considering whether it will contribute to increasing the corporate value of the investee company and of our own company. In particular for the selection of directors, appropriation of retained earnings and other items that have a large impact on shareholder value, we will exercise the voting rights according to the criteria set for the rights.

Stocks Held for Reasons Other than Pure Investment Purposes (listed stocks)



*The amount represents market capitalization.

Training for Officers

We provide the directors with sufficient assistance to fulfill their expected roles and responsibilities where applicable. For the internal directors, we encourage them to take external seminars to acquire additional knowledge to meet their obligations, while the internal directors and corporate officers are required to attend an executive training session to share the managerial issues and seek out the solution. In order for the outside directors to deepen understanding of the Group, each department explains the businesses and operations in addition to providing them with opportunities to visit major sites of the businesses. Directors who are Audit and Supervisory Committee members periodically take external sessions to gain understanding of what roles the Audit and Supervisory Committee members fulfill, the audit methods, the relevant laws and regulations, and financial accounting knowledge required for the accounting audit.

Enhancement of Group Governance

Niterra has corporate officers who were locally recruited at its regional headquarters (RHQs) for the Americas and EMEA in order to ensure that speedy and accurate managerial decisions are made at bases closer to the markets they serve in view of the company's globally expanding business environment. We have also formed unique governance teams at the RHQs to build an optimal decentralized system on a group-wide basis and enhance corporate governance as the entire Group. Moreover, the Global Group Governance Division is in place as an organization that audits the effectiveness of the Group's governance as an entity that is separate from its business execution. This organization formulates and implements measures to carryout audits on the management of Group companies and RHQs and on the core business operations of each department. It also formulates and implements measures to enhance internal control across the Group and thus plays an important role for the enhancement of the Group's governance.

Executive Officers

Directors (as of July 1, 2023)

Representative Director, Chairman of the Board

Shinichi Odo

Born April 3, 1954

April 1977: Joined our company
February 2003: General Manager of Overseas Aftermarket Sales & Marketing Dept., Sales and Marketing Div., Automotive Components Gr.
July 2005: President, NGK SPARK PLUGS (U.S.A.), INC. (Now Niterra North America, Inc.)
June 2007: Member of the Board
June 2010: Member of the Board (Managing Director)
June 2011: President
April 2012: President & CEO
April 2016: Representative Director & Chairman of the Board President & Chief Executive Officer
April 2019: Representative Director & Chairman of the Board (up to today)
May 2020: Chairman of the Japan Auto Parts Industries Association (JAPIA)

Shares held: 36,108
Years in office: 16

Representative Director, President, Chief Operating Officer
All Businesses, Global Strategy Div., Global Group Governance Div., and Strategy PF Office

Takeshi Kawai

Born October 13, 1962

April 1987: Joined our company
February 2011: General Manager of Sensor Engineering Dept. II, Sensor Div., Automotive Components Gr.
April 2012: Corporate Officer
April 2015: Managing Officer
June 2015: Member of the Board, Managing Officer
April 2016: Member of the Board, Senior Managing Officer
April 2019: President & Chief Operating Officer (up to today)

Shares held: 18,432
Years in office: 8

Representative Director, Member of the Board,
Executive Vice President, Assistant to President,
Sustainability Strategy Dept., Scientific Research Laboratory,
Niterra Ventures Company

Toru Matsui

Born February 14, 1962

April 1984: Joined our company
April 2011: President of NGK SPARK PLUG EUROPE GmbH (Now Niterra EMEA GmbH)
October 2013: General Manager of OEM Sales & Marketing Dept., Sales and Marketing Div., Automotive Components Gr.
December 2014: President of NGK SPARK PLUG (SHANGHAI) CO., LTD. (Now Niterra (Shanghai) Co.,Ltd.)
April 2015: Corporate Officer
July 2016: President of NGK SPARK PLUG (SHANGHAI) TRADING CO., LTD. (Now Niterra Trading (Shanghai) Co., Ltd.)
April 2018: Managing Officer
June 2018: Member of the Board, Managing Officer
April 2019: Member of the Board, Executive Vice President
April 2020: Representative Director, Member of the Board, Executive Vice President (up to today)

Number of shares: 12,254
Years in office: 5

Member of the Board (Outside Director)

Mackenzie Donald Clugston

Born June 19, 1950

June 1982: Joined the Department of Foreign Affairs and International Trade of the Canadian Government
August 2000: Canadian Consul General in Osaka
August 2003: Minister, Embassy of Canada in Japan
August 2009: Ambassador of Canada to Indonesia, Timor-Leste, and the ASEAN
November 2012: Ambassador of Canada to Japan
June 2016: Outside Director, KAMEDA SEIKA CO., LTD. (up to today)
September 2016: Specially Appointed Professor, Kwansei Gakuin University (up to today)
June 2017: Outside Director, Idemitsu Kosan Co., Ltd.
March 2018: Outside Director, Sapporo Holdings Limited (up to today)
June 2019: Member of the Board (Outside Director), NGK SPARK PLUG CO., LTD. (Now Niterra Co., Ltd.) (up to today)

Shares held: 0
Years in office: 4

Member of the Board (Outside Director)

Miwako Doi

Born June 2, 1954

April 1979: Joined Tokyo Shibaura Electric Co., Ltd. (currently Toshiba Corporation)
July 2005: Senior Fellow, Corporate Research & Development Center, Toshiba Corporation
July 2008: Chief Fellow, Corporate Research & Development Center, Toshiba Corporation
April 2014: Auditor, National Institute of Information and Communications Technology, an Incorporated Administrative Agency (currently, a National Research and Development Agency) (up to today)
June 2015: Outside Director, Nomura Research Institute, Ltd.
April 2017: Executive Director, Nara Institute of Science and Technology (up to today)
June 2019: Outside Director, Isetan Mitsukoshi Holdings Ltd. (up to today)
April 2020: Vice President, Tohoku University (up to today)
June 2020: Outside Director, Subaru Co., Ltd. (up to today)
Member of the Board (Outside Director), NGK SPARK PLUG CO., LTD. (Now Niterra Co., Ltd.) (up to today)

Shares held: 2,267
Years in office: 3

Member of the Board (Outside Director)

Chiharu Takakura

Born December 22, 1959

April 1983: Joined the Ministry of Agriculture, Forestry and Fisheries
May 1992: Obtained an MBA from Georgetown University (U.S.A)
August 1993: Consultant, Sanwa Research Institute Corp.
July 1999: Planning Manager, Human Resources Division, Pfizer Japan Inc.
October 2006: General Manager of Human Resources Department, Human Resources and Communication Division, Novartis Pharma K. K.
July 2014: Corporate Fellow, General Manager, Global Human Resources Dept., Ajinomoto Co., Inc.
April 2020: HR Advisor, ROHTO Pharmaceutical Co., Ltd.
June 2020: Director, Head of Well-being Management Promotion Division, ROHTO Pharmaceutical Co., Ltd.
June 2021: Outside Audit & Supervisory Board Member, NGK SPARK PLUG CO., LTD. (Now Niterra Co., Ltd.)
April 2022: Director, Chief Human Resource Officer, ROHTO Pharmaceutical Co., Ltd.
June 2022: Member of the Board (Outside Director), NGK SPARK PLUG CO., LTD. (up to today)
June 2023: Outside Director, Nomura Real Estate Holdings, Inc., and Mitsui Sumitomo Insurance Co., Ltd. (up to today)

Shares held: 945
Years in office: 2 (including 1 year as an outside auditor)

Member of the Board (Outside Director)

Takayoshi Mimura

Born June 18, 1953

April 1977: Joined Terumo Corporation
June 2002: Corporate Officer, Terumo Corporation
June 2003: Member of the Board, Corporate Officer, Terumo Corporation
June 2004: Member of the Board, Executive Officer, Terumo Corporation
June 2007: Member of the Board, Managing Officer, Terumo Corporation
April 2008: Member of the Board, Managing Officer, Supervisor of Hospital Company, Sales Administration Department, Terumo Corporation
June 2009: Member of the Board, Managing Officer in China and Asia, Terumo Corporation
April 2010: Member of the Board, Managing Officer, General Representative of China, Terumo Corporation
June 2010: Member of the Board, Senior Managing Officer, Terumo Corporation
August 2011: Chairman and General Manager, Terumo (China) Holdings Co., Ltd.
April 2017: Representative Director & Chairman of the Board, Terumo Corporation
June 2021: Chairman of the Japan Federation of Medical Devices Association
April 2022: Advisor to the Board, Terumo Corporation
June 2022: Advisor of Terumo Corporation, Outside Director of Autobacs Seven Co., Ltd., and Mitsui Chemicals Inc. (up to today)
June 2023: Member of the Board (Outside Director), Niterra Co., Ltd. (up to today)

Shares held: 0
Years in office: Newly appointed

Member of the Board,
Full-time Audit and Supervisory Committee Member

Mikihiko Kato

Born August 18, 1962

April 1985: Joined our company
February 2012: General Manager, Corporate Planning Dept.
August 2012: President of Cerâmica E Velas De Ignição NGK Do Brasil Ltda. (Now Niterra do Brasil Ltda.)
October 2015: General Manager, Corporate Planning Dept.
April 2016: Corporate Officer
June 2017: Member of the Board, Corporate Officer
April 2019: Member of the Board, Executive Officer
April 2022: Member of the Board
June 2022: Member of the Board, Full-time Audit and Supervisory Committee Member (up to today)

Shares held: 10,956
Years in office: 6

Member of the Board (Outside Director),
Audit and Supervisory Committee Member

Kanemaru Yasui

Born February 22, 1951

March 1981: Registered as a Certified Public Accountant
April 1999: Representative Partner, Central Audit Corporation
September 2006: Partner, Misuzu Audit Corporation
August 2007: Representative Partner, AZSA & Co. (currently KPMG AZSA LLC.)
June 2008: Managing Partner, Director of Nagoya Branch, AZSA & Co. (currently KPMG AZSA LLC.)
June 2013: Retired from KPMG AZSA LLC.
July 2013: Director of Yasui Certified Public Accountant Office (up to today)
June 2014: Outside Director, NICHIHA Corporation Member of the Board (Outside Director), NGK SPARK PLUG CO., LTD. (Now Niterra Co., Ltd.)
June 2022: Member of the Board (Outside Director), Audit and Supervisory Committee Member (up to today)

Shares held: 3,601
Years in office: 9

Member of the Board (Outside Director),
Audit and Supervisory Committee Member

Fumiko Nagatomi

Born November 28, 1952

April 1981: Registered as an attorney and joined Hachisuka Law Firm
March 1989: Left Hachisuka Law Firm
April 1989: Opened Nagatomi Law Firm (up to today)
May 2006: Outside Auditor, UCS CO., LTD.
June 2016: Audit & Supervisory Board Member (Outside Corporate Auditor), Chubu Electric Power Co., Inc. (up to today)
June 2017: Outside Audit & Supervisory Board Member, NGK SPARK PLUG CO., LTD. (Now Niterra Co., Ltd.)
June 2022: Member of the Board (Outside Director), Audit and Supervisory Committee Member (up to today)

Shares held: 3,219
Years in office: 6 (including 5 years as an outside auditor)

Member of the Board (Outside Director),
Audit and Supervisory Committee Member

Christina L. Ahmadjian

Born March 5, 1959

January 1995: Assistant Professor, Columbia Business School
October 2001: Associate Professor, Graduate School of International Corporate Strategy, Hitotsubashi University
January 2004: Professor, Graduate School of International Corporate Strategy, Hitotsubashi University
June 2009: Outside Director, Eisai Co., Ltd.
April 2010: Director of Research, Graduate School of International Corporate Strategy, Hitotsubashi University
April 2012: Professor, Graduate School of Commerce and Management, Hitotsubashi University
June 2012: Outside Director, Mitsubishi Heavy Industries Ltd.
June 2014: Outside Director, Japan Exchange Group, Inc.
April 2018: Professor, School of Business Administration, Hitotsubashi University Business School
June 2018: Outside Director, Sumitomo Electric Industries, Ltd. (up to today)
March 2019: Outside Director, Asahi Group Holdings, Ltd. (up to today)
June 2021: Outside Director, NEC Corporation (up to today)
April 2022: Emeritus Professor, Hitotsubashi University (up to today)
Specially Appointed Professor, Rikkyo University
June 2022: Member of the Board (Outside Director), Audit and Supervisory Committee Member, NGK SPARK PLUG CO., LTD. (Now Niterra Co., Ltd.) (up to today)

Shares held: 165
Years in office: 1

*Years served as auditors are included for directors that served as auditors before their appointment.
*Number of shares held are current as of March 31, 2023. Shares include individual shares in Niterra Executive Shareholding Association.

For more information on Directors, please visit the following website.
https://www.ngkntk.co.jp/english/corporate/profile/executive/index.html

It's urgent that we transform our business portfolio. We're using our collective wisdom to find the best way forward.

Outside Director
Kanemaru Yasui

Outside Director
Fumiko Nagatomi

Outside Director
Miwako Doi

Outside Director
Mackenzie Donald Clugston

The role of outside directors based on their background and expertise

Yasui I believe our role as outside directors is to use our knowledge and state our opinions on how the Company should increase corporate value. What is corporate value? There are many ways to address that question. Perhaps my perspective as a CPA strongly colors my view, but basically, I think corporate value is the discounted present value of a company's future earned profits. However, we should recognize that increasing corporate value requires not only financial perspectives but also the non-financial, such as consideration for human rights. At the same time, I believe that Niterra has made progress diversifying its outside directors, and as a result, the Board of Directors is better able to discuss issues from a variety of perspectives at meetings.

Nagatomi When we discuss issues at board meetings, it is important to consider how those issues will affect corporate value. As a lawyer by profession, I often speak from a risk management and compliance perspective. I recognize that I am expected to speak based on my experience in these areas. The elements of corporate value and the factors that cause corporate value to go up or down are more diverse than in the past. It's not only financial results; non-financial factors such as a company's position in society and its reputation and trust from society are of increasing weight. In this sense, risk management and compliance are becoming more and more important, and I am committed to speaking from my knowledge and experience.

Doi I got a technical background in the manufacturing industry, and I've conducted research from the user's point of view, especially in the field of human interface technology. I think that's why I am so interested in the perspective of the stakeholders on the other side of the business. Reflecting on the comments that came before, when it comes to corporate value, I ask myself, "Which stakeholders' value is being affected?" For example, besides profit and capital efficiency and other values that shareholders and investors expect, we must also consider the value to employees, such as how the business is changing. And the value to each stakeholder can change over time. I also try to speak about how things should be in the future, which is a way of thinking I developed as a researcher.

Clugston Overseas expansion will be key to Niterra's growth, so it's important to talk about the regions and businesses to invest in. That could include business acquisitions overseas. As an outside director, our role is not only to decide whether a project is worth investing in, but also to ask whether it's an appropriate investment in light of the Company's vision. We should be asking whether it is appropriate to take on that business opportunity and whether we are truly capable of doing this. I believe that is my role and will help increase corporate value.

Further improving the effectiveness of the Board of Directors

Doi We've made significant operational improvements for energizing the Board of Directors and making it more effective. If there is anything that needs more improvement, it might be the awareness of those on the executive side when explaining items on the agenda. Perhaps it can't be helped, but I believe that when executives explain their agenda, they are often talking about business execution. But meetings of the Board of Directors are supposed to be a place to talk about stakeholders, risks, and other factors when management decisions are made. So, those on the executive side should consciously explain things on behalf of the president. They should explain from the president's perspective. Besides that, we need to have a management perspective on how the issue being discussed will be positioned to achieve the goals of the medium- to long-term business plan, what the risks are, and what impact it will have on stakeholders.

Yasui I agree with that. For example, if we're discussing an investment, naturally we need to talk about the return, such as how long it will take to recover the investment. At the same time, we can't neglect to discuss the impact of that investment on stakeholders. If we're debating an investment, a decision on whether to take the risk naturally follows, but we should carefully examine which stakeholders will be affected and how they'll be affected if we take on that risk. For the sake of Board effectiveness, we need to spend more time talking about how actual initiatives relate to the medium- to long-term management plan and what, if any, impediments there are to achieving the plan's goals. However, I believe that the transition to a company system has enhanced our effectiveness, in part due to the transfer of authority. The Audit and Supervisory Committee analyzes the time spent on deliberations at Board of Directors meetings, and their results show this is clearly the trend.

Clugston And whenever the Board is deliberating, it's important to understand how the issues under discussion fit into the medium- to long-term business plan. So, the executive side really needs to provide effective explanations of items being discussed, and this is all the more important as more authority moves to the executive side. Some information is implicitly understood by executives, but that information too must be shared at Board meetings then debated and judged on how this impacts the overall management plan. Now that outside directors make up a majority of the Board, the executive team needs to think about how it communicates with them instead of just doing things the same way.

Nagatomi By shifting to a company system, we've transferred more authority to the executives, so the Board is spending less time talking about specific business issues like capital investment, even if they're on the agenda. On the flip side, we spend more time on issues like M&As and the progress of medium- to long-term management plans, which really should be discussed at length. So, this change allows more deliberation time for those things that need it. I feel that the Board of Directors is certainly more effective now.

Also, I sit on the Nomination Committee and Remuneration Committee as a member of the Audit and Supervisory Committee. From that position, I believe that Niterra has the means to ensure that decisions on directors' nomination and remuneration are rational and transparent. I'm convinced we have a solid basis for making evaluations and that this is functioning well. One of my major roles on the Remuneration Committee, after the basic structure of the remuneration system is explained to us, is to make sure that things are operating as required by that system.

Yasui I too sit on the Nomination Committee and Remuneration Committee as a member of the Audit and Supervisory Committee. Of course, it's important for the Remuneration Committee to discuss the remuneration system itself – details like the ratio of the fixed portion of remuneration to the performance-linked portion. But the basis for evaluation also includes things like the percentage of sales that come from non-ICE business operations and how we can reduce CO_2 emissions. So, our system is also set up to incentivize actions in those areas.

Initiatives for succession planning and human capital improvements

Yasui The Board has been discussing successor training and it seems that the whole company is working on this issue. One specific example is the Management Sparring Dojo. It's a management personnel development program that we launched in FY2022 after the Board of Directors discussed it. I hope that the Nomination Committee will continue to view the results of these initiatives positively while discussing successor training in depth.

Clugston Niterra offers generous human capital development programs. Besides Management Sparring Dojo, we've had a successor training program called HAGI in place for some time. Its focus is the development of the next generation of management personnel. This highly acclaimed

initiative identifies and fosters people who have potential, regardless of nationality, and provides them with opportunities and an environment to play an active role. I'm hopeful that these programs will continue to be used well into the future to develop the next generation of managers. Also, I've noticed that the Board's discussions on personnel strategy have really deepened since Ms. Takakura, who has a profound knowledge of this issue, was appointed as an outside officer. These discussions reinforce for me how important it is to have a diverse Board of Directors.

Doi Ms. Takakura has given us all sorts of advice on personnel strategy, and Niterra is having more in-depth discussions on succession planning and successor development programs, investment in human capital, education, and reskilling. And we are currently in the process of putting in place a framework for that. We're taking strong steps for successor training, like putting together a long list of candidates and introducing the Management Sparring Dojo mentioned earlier. I also think it's unique and progressive that Niterra provides an environment where outside directors can observe these successor training programs and that outside directors attend presentations by candidates for promotion to corporate officer.

Essential steps to transforming the business portfolio

Nagatomi The major challenge facing Niterra is the future of the ICE business. Gasoline and hybrid vehicles are still the mainstream, but in the long run, demand for products for internal combustion engines will steadily decrease. But it's also a fact that there is still enormous economic value in the ICE business right now. Under the circumstances, we believe that our management mission is to efficiently generate cash in the ICE business and to steer management so that the cash is effectively invested in the non-ICE business. In addition, as we expand our business domains, it will be even more important to practice risk management as it relates to the governance and management of Niterra's Group companies around the globe. For HR issues we'll have to be flexible, which includes appointing people from outside the Company, as there are limits to our self-sufficiency approach.

Clugston We must keep discussing Niterra's business portfolio transformation, with a strong awareness of shifting our axis from the ICE business to the non-ICE business. Granted, it will be difficult in some respects because the ICE business is currently generating cash. Niterra needs to nurture the seeds of future growth while developing many leaders of the next generation, and this needs to be done now while Niterra has solid business pillars and a sound financial position. Many challenges lie ahead if we're going to achieve that, but we are working on various initiatives that will be the foundation for our actions. Since some of those seeds are starting to sprout, I believe we have enough potential.

Yasui As Ms. Nagatomi pointed out, there are limits to how much we can rely solely on our own resources to ensure growth in new domains. At the same time, bringing in outside resources will raise another issue: Will Niterra's existing governance structure and methods still be effective? I think the deep discussions we are having on Group governance show that we are aware of this issue. Transforming our business portfolio has got to be our highest priority. To meet this challenge, we must decide in which areas to invest our currently plentiful management resources to usher in future growth. This topic takes up more Board discussion time than any other.

Doi That's certainly true. And as part of this we're looking globally for investment targets. Niterra has a long history of growth as a B2B enterprise, but as we seek new business domains, we need to consider B2C as well. The Company needs to take on domains where it might be hard to leverage past experience. Moreover, differences in culture and infrastructure involve governance risks as Niterra transforms the business portfolio. So, the Company needs to reinforce its foundation as an organization, which includes more sophisticated supply chains and practicing effective monitoring. I encourage Niterra to keep promoting employee diversity, which includes increasing the number of females and foreign nationals in management. At the same time, Niterra will need the Company's many rich management resources to transform the business portfolio and tap into the collective wisdom to become a sustainable company that helps to resolve social challenges.

Risk Management Policy

We adapt from a global viewpoint to changes in the management environment surrounding our group and to the diversification of risks and will foster risk management to reduce or avoid the loss of managerial resources, thereby improving our corporate value.

Action Guidelines

- We identify the risks that might hamper the achievement of our management targets from a global and long-term viewpoint and strive to prevent the actualization of these risks in a planned and organization-based manner.
- In the event that such a risk materializes, we strive to minimize the impact on our stakeholders, maintain their trust and prevent the recurrence of similar incidents.

Promotion System

For risk management, we have appointed the President as "Chief Administrator" and the Director in charge of the Business Management Dept. as "Promotion Manager," and are making efforts to improve and operate our risk management system that integrates the risk management to prevent risks and the crisis management to handle risks when they become obvious.
Moreover, we established the Risk Management Committee as an advisory committee, chaired by the corporate officer appointed by the Chief Administrator. The Risk Management Committee encourages the implementation, maintenance, and improvement of company-wide risk management under the supervision of the CSR and Sustainability Committee. ▶ P.62

Company-wide Risk Management

We assess risks by analyzing their degree of impact and likelihood of occurrence, as well as the status of countermeasures in place, to determine whether or not they will have a significant impact on business continuity and goals throughout the company. Any risks determined to require priority action are designated as priority risks and the Risk Management Committee checks on the status of mitigation activities for these risks. In addition to ESG risks, we assess the following risks to our business and other areas.

Business risks

1. World affairs and exchange rate fluctuation risks
2. Business environment risks
3. Product quality risks
4. Technological development risks
5. Intellectual property risks
6. Raw material procurement risks
7. Natural disaster risks
8. Climate change risks
9. Information security risks
10. Human resource securement risks
11. Legal, regulations, and litigation risks
12. Business investment risks
13. Infectious disease risks
14. Human rights violation risks

*For more information on our risk initiatives, please visit P.23 of our Annual Securities Report.
https://contents.xj-storage.jp/xcontents/AS06537/b37775e2/11fe/4986/a6ac/12201a1fddcc/20230901184529262s.pdf

Risk recognition — **Identify risks**
List the related risks for each operational process.

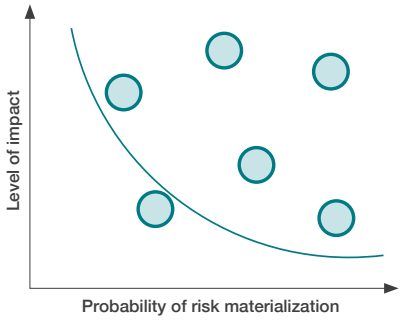
Risk analysis — **Analyze the impact of risks, probability of their materialization and how measures are taken against them**
Make analysis based on the evaluation results provided by the Business Management Dept. and other departments in charge of the risks.

Risk evaluation — **Evaluate and prioritize the risks based on the analysis results**
Based on the risk analysis results, select the candidates for priority risks.

Selection of priority risks — **Select particularly significant risks (priority risks) and departments in charge of the risks**
The Risk Management Committee selects the priority risks and the departments in charge of the risks.

Planning, implementing and monitoring of measures — **Plan, implement and monitor priority risk reduction activities**
The departments in charge of the risks plan and conduct risk reduction activities and the Business Management Dept. monitors the activities.

Review — **Evaluate the risk reduction activities to give instructions for improvement as needed**
The results of the risk reduction activities are reported to the Risk Management Committee, which evaluates the level of achievement and gives instructions for improvement as needed.



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Countermeasures

Analysis

Priority risks

Business Continuity Management (BCM)

We conduct BCM activities in preparation for possible earthquakes and other large-scale disasters. Specifically, we make efforts to control and reduce disasters on a group-wide basis through the formulation of business continuity plans (BCP). These plans will enable us to minimize damage in the event of a large-scale disaster and resume production as soon as possible if operations are suspended, thereby helping customers maintain their supply chains. In addition, we will continue our efforts to develop and maintain a system to prepare for unforeseen circumstances regarding infectious diseases such as COVID-19.

*For more on our major initiatives, visit the following website. https://ngkntk.disclosure.site/en/themes/183/

Compliance Policy

With recognition that Niterra is a member of society, we enhance corporate ethics and understand the spirit and meaning of laws, company regulations, international rules, and social norms in order to appropriately meet social demand and become a company trusted by the international community.

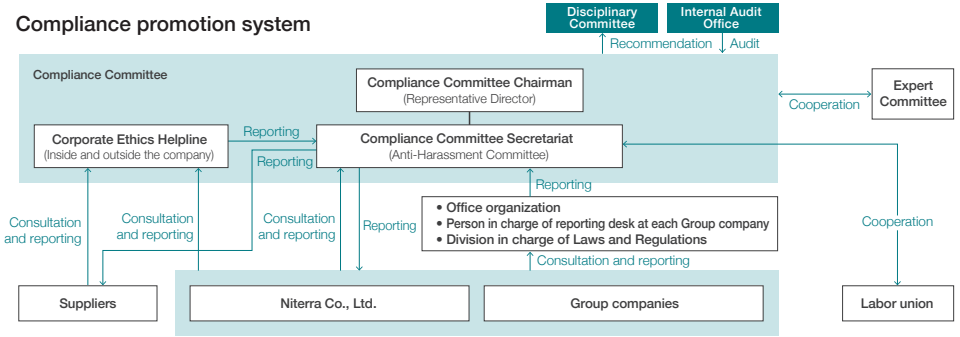
Action Guidelines

- We not only comply with laws and regulations, but also act in good faith with common sense and responsibility as a member of society.
- We regularly educate and raise the awareness of all our employees to impart a high level of ethics and correct knowledge, with which they can act voluntarily to prevent a violation.
- Should a violation occur, we will promptly investigate the causes and take remedial actions. We will strive to take appropriate countermeasures to prevent recurrence and fulfill our accountability.

Promotion System

We established the Compliance Committee chaired by the Representative Director to enhance compliance. This committee conducts activities under the supervision of the CSR and Sustainability Committee to prevent noncompliance issues. The Compliance Committee will also give instructions on measures to be taken in the event of a noncompliance incident and monitor their implementation.
The Compliance Committee formulates action plans based on the results of employee compliance awareness surveys and cooperates with each expert committee and group company to implement activities to encourage compliance. The committee additionally encourages efforts to prevent workplace harassment in the workplace and ensures that labor and management work thoroughly together on compliance.
The committee continuously provides compliance education and conducts awareness-raising activities for both executives and employees to increase their awareness of compliance. They additionally provide related information and raise and spread awareness through designated compliance facilitators at each department. ▶ P.62

Compliance promotion system



Internal Reporting System

We maintain the Corporate Ethics Helpline as an internal reporting system available to employees and suppliers seeking to receive consultation and/or make reports regarding compliance. We established the Compliance Committee Secretariat to serve as our internal channel. At the same time, we also establish channels through external expert service providers, enabling employees and suppliers to seek consultation and make reports outside work hours and on holidays, thereby improving user convenience. In addition, users have access to anonymous consulting and reporting, where we protect them from being identified or suffering disadvantages as a result of their reporting.
These channels accept consultations and reports when they become aware of any kind of compliance violation, including harassment and/or any other behavior that could lead to such a violation. We investigate any consultation or report received and promptly deal with any problems confirmed.
In FY2022, there were 97 consultations and reports, including those from Group companies. In addition, Niterra reviewed related regulations and reacquainted employees with our Corporate Ethics Helpline in accordance with the amended Whistleblower Protection Act of June 2022.

Compliance Initiatives

Prevention of corruption

As a company participating in the UN Global Compact, we strive to prevent corruption in line with the following statement made in our Corporate Code of Conduct: "We shall promote fair, transparent, free competition and sound trade. We shall also ensure that our relationships and contacts with government agencies and political bodies are of a sound and proper nature."
Our Compliance Guidebook, distributed to employees, defines rules on corruption prevention, such as the prohibition of involvement in political contributions or bribery. Subsequently, we provide the Conduct Guidelines Concerning the Giving and Receiving of Gifts and Entertainment to ensure employees do not engage in inappropriate behavior. We also confirm that the content and use of charitable donations do not violate the law. Overseas group companies also educate employees and conduct research on local laws.
In the unlikely case of a violation of the anti-corruption rules, the Compliance Committee will take the lead in addressing the issue. In FY2022, there were no violations of laws and regulations relating to corruption across the Group.

Activities concerning competition laws

We take our violation of the Anti-Monopoly Act of Japan, uncovered in FY2014, seriously. As such, we established a system to promote compliance with competition laws and ensure legal compliance both within and outside the country. In Japan, we formulated the Anti-Monopoly Act Compliance Manual and distributed copies to employees while holding a range of related seminars internally for both executives and employees. Moreover, we have introduced an in-house e-mail inspection system to monitor and prevent recurring violations of the competition law. Our overseas Group companies are required to report the activity status regarding compliance with competition laws to Niterra on a regular basis. Our team in charge of competition laws and compliance visit overseas Group companies, audit their compliance systems and implementation status, and check whether local employees are sufficiently aware of the related rules. We additionally hold seminars featuring guest speakers. We will continue to educate and audit to ensure compliance with competition laws both in Japan and abroad.

Export control

We comply with domestic laws and regulations based on the Foreign Exchange and Foreign Trade Act in accordance with the multilateral export control regime (MECR) established for international peace and safety. In addition, we have established related internal rules and an in-house export control organization. We also conduct awareness-raising and inspection activities targeting departments engaged in export control, thereby ensuring and enhancing our export control in compliance with the related laws and regulations. We are working to prevent the destabilization of international affairs by focusing on preventing the outflow of sensitive technology as well as cargo that can be diverted to military use.

Compliance education and awareness raising

To raise awareness and knowledge regarding compliance, we continue to educate employees by using the Compliance Guidebook, which summarizes the rules concerning companies and society, and the Compliance Newsletter, which provides specific examples of compliance issues that could arise in our daily operations. In addition, we hold level-specific and theme-specific training. We conduct an employee compliance questionnaire to check their level of understanding of corporate rules and systems as well as to review corporate culture and compliance risks. In FY2022, we focused on improvement activities such as conducting interviews with departments facing issues based on the FY2021 questionnaire.

Information Security Policy

We regard all of our own information assets as one of our management resources. Through the proper protection and effective use of our information assets, we pursue healthy maintenance and development of our business.

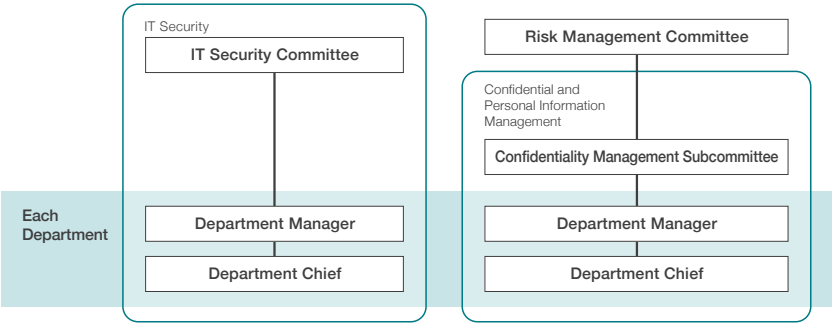
Action Guidelines

- We establish rules that clearly define the system and responsibilities for the protection and management of all information assets including the information we keep for our customers, the know-how and intellectual properties owned by our group, and personal information.
- We comply with laws, ordinances, and regulations regarding information security.
- We educate all executives and employees who handle information assets about the importance of information security, and about specific items to be observed.
- We continuously update the information infrastructure for the maintenance and improvement of the confidentiality, integrity, and availability of all information assets.
- We promote measures to prevent accidents in order to address the risks of information leakages associated with the continuous advancement and sophistication of information technology. Should an accident occur, we will strive to minimize the damage and take preventive measures against recurrence.

Promotion System

We established a promotion system for each area of IT security and confidential and personal information management. The CSR and Sustainability Committee supervises and works together with this system to strengthen information security.
We established the IT Security Committee (held at least twice a year) chaired by the Chief Administrator of the DX Strategy Department. Members include the head of the Information Systems Department, the head of the General Administration Department, and members of major departments such as the planning divisions of the headquarters organization and each company. The IT Security Committee encourages appropriate measures by confirming how information security activities are conducted across the Group.
We also established the Confidentiality Management Subcommittee (held at least once a year) under the supervision of the Risk Management Committee. This subcommittee is chaired by the Chief Administrator of the Business Management Department, while committee members include members of each department. The Confidentiality Management Subcommittee works to reduce risks in the management of confidential and personal information.
In addition, members and managers of each department assigned to IT security and confidential and personal information security lead information security activities in each department. ▶ P.62

Information Security Promotion System



Information Security Management System

In response to information security risks that threaten companies and organizations, we set information security as a priority issue (materiality) and are building an information security management system. In 2020, we obtained accreditation for the Trusted Information Security Assessment Exchange (TISAX), the German information security audit standard for the supply chain of the automobile industry. Group companies in the United States and China acquired TISAX certification in FY2021, while group companies in Thailand acquired certification in FY2022. With this, we have obtained certification at all planned bases.

Responding to Information Security Incidents

We have established a Computer Security Incident Response Team (CSIRT).
When an incident occurs, the CSIRT promptly organizes and confirms the facts, determines the level of the incident, and then responds. We also accumulate and share knowledge as a measure to prevent recurrence. In addition to responding after an incident occurs, we are also striving to defend in advance, and we are trying to improve the level and maturity.
We publish CSIRT Communication monthly to keep employees informed and aware of information security. When necessary to issue a highly urgent alert, we issue urgent communications on specific precautions to prevent the occurrence of any incidents.

Protection of Personal Information

As exemplified by the General Data Protection Regulation (GDPR) enforced in the EU and the Personal Information Protection Law in Japan, measures to protect personal information are enhanced globally. In response, the Niterra Group has set a range of internal rules to protect, manage and handle the personal information of its customers and employees.

04 Company Information and Data

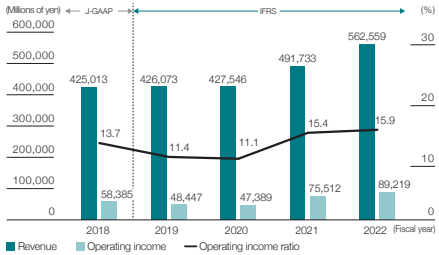
Financial Results Highlights for the Past 11 Years

	J-GAAP							IFRS			
											(Millions of yen)
(Fiscal year)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Revenue	302,798	329,758	347,636	383,272	372,919	409,912	425,013	426,073	427,546	491,733	562,559
Operating income (loss)	23,754	51,661	62,196	66,284	53,595	67,279	58,385	48,447	47,389	75,512	89,219
Ordinary income (loss)	27,674	54,960	67,907	64,483	55,559	69,094	59,258	—	—	—	—
Profit (loss) attributable to owners of the parent	20,909	32,704	36,753	30,815	25,602	44,335	42,638	33,698	38,367	60,200	66,293
Capital expenditures	24,012	41,034	36,372	45,339	36,328	37,591	56,587	51,004	33,444	29,589	31,335
Depreciation	12,798	11,567	13,337	16,834	19,601	20,920	23,979	31,952	34,700	37,940	39,194
R&D expenses	17,100	19,400	21,337	23,123	23,416	25,283	28,072	28,315	26,115	23,685	27,887
Cash flows from operating activities	26,194	54,697	36,593	56,465	49,764	65,707	43,704	59,787	63,397	71,910	69,305
Cash flows from investing activities	(15,442)	(61,148)	(12,865)	(82,331)	(53,410)	(26,422)	(48,380)	(52,926)	(42,523)	10,234	(37,375)
Free cash flows	8,456	3,541	13,995	(25,866)	6,335	29,636	(21,356)	4,627	41,398	69,713	34,382
Dividend payout	4,788	5,223	7,181	8,487	9,055	10,823	14,601	14,435	12,230	20,792	33,839
Total equity	268,309	302,793	343,380	341,044	354,710	388,115	401,505	399,737	451,626	517,988	563,739
Total assets	366,489	458,148	485,497	526,103	563,801	599,972	629,417	663,374	771,293	823,181	903,102
Interest bearing debt	27,418	57,339	46,153	80,212	99,275	98,115	110,755	152,946	197,194	165,268	198,222
											(Yen)
Earnings (losses) per share	96.06	150.26	168.88	141.60	119.44	209.37	204.74	163.06	188.59	296.04	326.09
Equity attributable to owners of the parent per share	1,223.41	1,381.38	1,566.80	1,557.16	1,660.06	1,837.46	1,917.04	1,946.10	2,206.18	2,530.01	2,772.61
Cash dividends per share	22.00	28.00	36.00	42.00	42.00	60.00	70.00	70.00	60.00	102.00	166.00
Operating income ratio (%)	7.8	15.7	17.9	17.3	14.4	16.4	13.7	11.4	11.1	15.4	15.9
Return on Sales revenue (%)	6.9	9.9	10.6	8.0	6.9	10.8	10.0	7.9	9.0	12.2	11.8
Gross profit on sales (%)	24.2	32.6	35.8	35.6	33.0	34.6	33.8	31.4	30.5	31.8	35.2
ROE (Return on equity) (%)	8.4	11.5	11.4	9.1	7.4	12.0	10.9	8.4	9.1	12.5	12.3
ROA (Return on assets) (%)	5.9	7.9	7.8	6.1	4.7	7.6	6.8	5.1	5.0	7.3	7.4
ROIC (Return on invested capital) (%)	5.8	11.0	11.6	11.4	8.5	10.0	8.2	6.3	5.5	7.9	8.6
Equity ratio (%)	72.7	65.6	70.2	64.4	62.5	64.3	63.4	59.7	58.2	62.5	62.4
Total asset turnover (%)	0.9	0.8	0.7	0.8	0.7	0.7	0.7	0.8	0.6	0.6	0.6
Dividend payout ratio (%)	22.9	18.6	21.3	29.7	35.2	28.7	34.2	42.9	31.8	34.5	50.9

Financial and Non-Financial Highlights

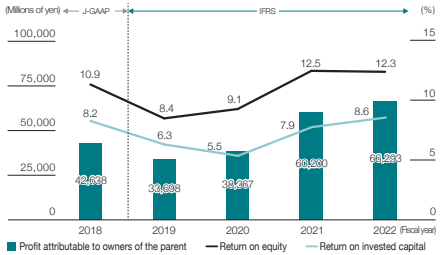
Financial Highlights

Revenue / Operating income / Operating income ratio



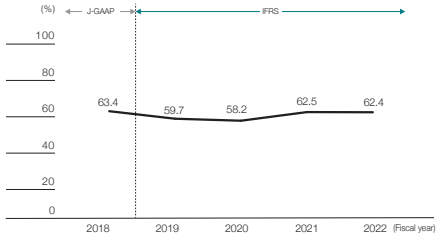
Although Automotive Components was affected by the lockdowns in China, we posted record revenues and operating income. Factors that boosted our profits include a recovery in automobile production due to partial improvement in the semiconductor shortage, steady sales of spark plugs for new car assembly, expansions in the scale of our ceramics business, and the strong depreciation of the yen in the foreign exchange market.

Profit attributable to owners of the parent / Return on equity / Return on invested capital



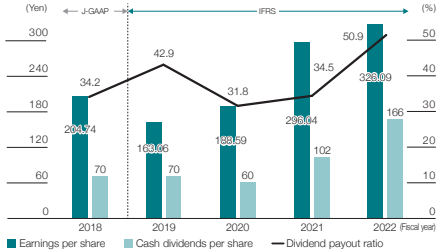
Inventories increased as the Ukraine crisis caused resource prices to soar and the zero-COVID policy in China caused a stagnant supply chain and prolonged supply constraints. Despite these setbacks, ROIC increased 0.7pt from the previous fiscal year due to the recovery in Automotive Components, increased sales of SPE products in the ceramics business, and higher profits resulting from the strong depreciation of the yen in the foreign exchange market.

Equity ratio attributable to owners of the parent



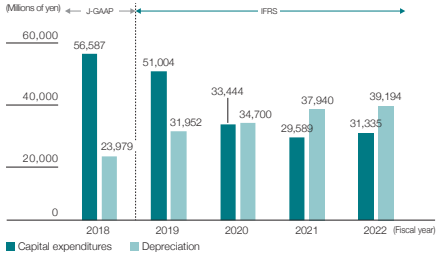
The equity ratio attributable to owners of the parents decreased by 0.1pt due to expansions in the scale of business, strategic stockpiling, and the size of our total assets, including inventories.

Earnings per share / Cash dividends per share / Dividend payout ratio



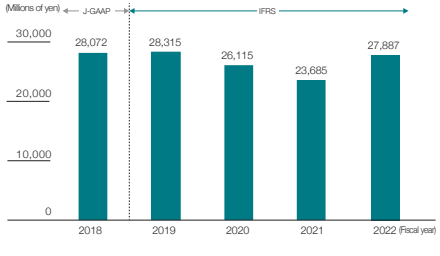
Our basic policy stipulates a 40% dividend payout ratio, as set forth in the medium-term management plan. Portions of capital exceeding appropriate capital levels are subject to shareholder return, including through share repurchases. As a result, the annual dividend for FY2022 increased 64 yen year on year to 166 yen.

Capital expenditures / Depreciation



Automotive-related activities will focus investments on improving the production efficiency of existing equipment and will continue to invest in the non-ICE business for medium- to long-term growth.

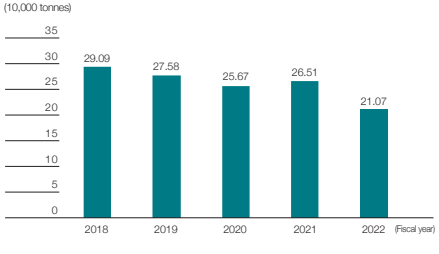
R&D expenses



The Company allocates approximately 5-6% of revenues to research and development expenses. This percentage reached 5.0% in FY2022.

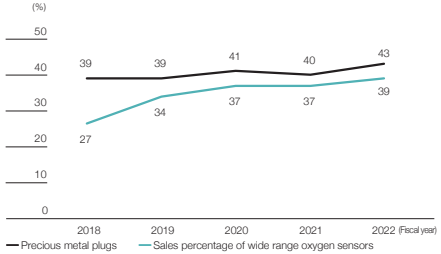
Non-financial Highlights

CO_2 emissions (Scope 1 and Scope 2)



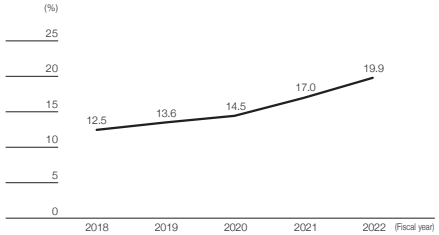
As a priority issue, we aim to reduce CO_2 emissions by 30% compared with FY2018 levels by FY2030. Progress in energy conservation and other CO_2 reduction measures is going as planned. As a result of this and our early adoption of solar power generation and CO_2-free electricity, we have surpassed our reduction targets, reaching a 27.6% reduction of FY2018 levels in FY2022.

Sales percentage of environmentally friendly products



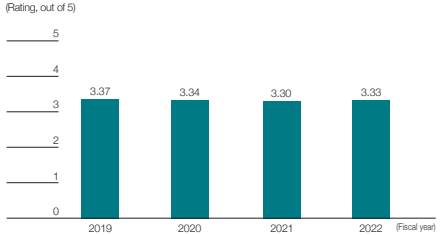
As a priority issue, we aim to increase the sales ratio of precious metal plugs and wide-range oxygen sensors by over 50%. These products are part of our environmentally friendly Nittoku Green Products. Sales ratios are gradually increasing towards this target.

Percentage of female / foreign-national / mid-career employees in managerial posts (non-consolidated)



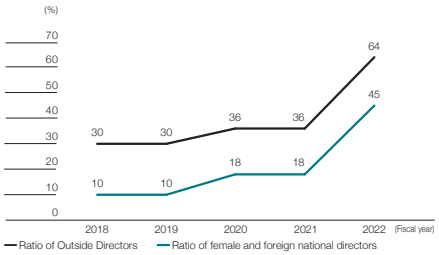
We endeavor to diversify management, including female managers. As a priority issue, we aim to increase the ratio of female, foreign nationals, and mid-career employees in managerial posts to 25%.

Employee satisfaction survey



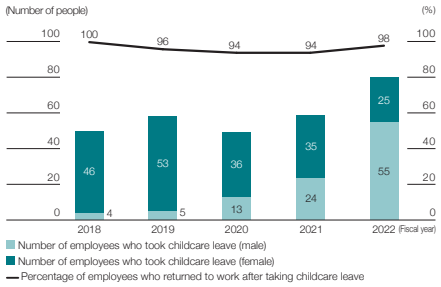
As a priority issue, we aim to improve the results of our employee satisfaction survey. Employee satisfaction levels rose slightly in comparison with last year. These results enable us to improve the workplace by understanding employee motivation and to what degree they feel a sense of burden from work.

Ratio of Outside Directors / ratio of female and foreign national directors



As a priority issue, we aim to increase the ratio of outside directors to more than one-third of all directors by FY2030. In addition, we aim to increase the ratio of female and foreign national directors to more than 30%. The Company achieved both of these targets as of FY2022.

Number of employees who took childcare leave / percentage of employees who returned to work after taking childcare leave (non-consolidated)



More male employees take childcare leave while their return-to-work rate after childcare leave remains high.

Corporate Profile and Stock Information

Corporate data (As of March 31, 2023)

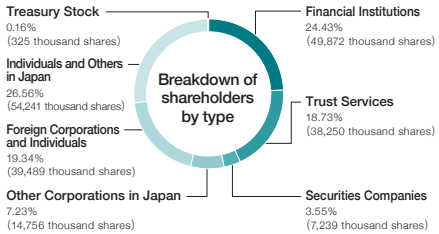
Niterra Co., Ltd.

Headquarters	1-1-1 Higashisakura, Higashi-ku, Nagoya 461-0005, Japan URBANNET NAGOYA NEXTA Bldg.
Established	October 1936
Number of employees	Non-consolidated : 3,534 Consolidated : 16,247

Number of shares and shareholders (As of March 31, 2023)

Paid-in capital	47,869 million yen
Total number of authorized shares	390,000,000
Total number of issued shares	204,175,320
Listed markets	Tokyo Stock Exchange (Prime Market) Nagoya Stock Exchange (Premier Market)
Shareholder registry administrator	Mitsubishi UFJ Trust and Banking Corporation
Accounting auditor	KPMG AZSA LLC
Number of shareholders	116,696

Breakdown of shareholders by type (As of March 31, 2023)

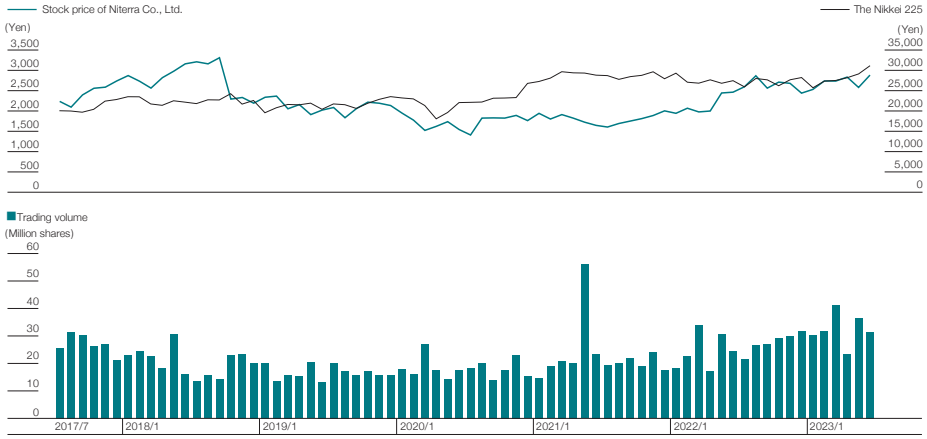


Major shareholders (As of March 31, 2023)

Name of shareholder	Number of shares held (thousand)	Ownership ratio (%)
The Master Trust Bank of Japan, Ltd. (trust account)	26,392	12.94
Meiji Yasuda Life Insurance Company	16,794	8.23
The Dai-ichi Life Insurance Company, Limited	16,752	8.21
Custody Bank of Japan, Ltd. (trust account)	7,238	3.55
National Mutual Insurance Federation of Agriculture Cooperatives	5,384	2.64
Nippon Life Insurance Company	3,563	1.74
TOTO Ltd.	3,433	1.68
Nomura Trust and Banking Co., Ltd. (investment account)	2,908	1.42
NTK Business Partners Shareholdings Association	2,797	1.37
JPMorgan Securities Japan Co., Ltd.	2,464	1.20

Note: Ownership ratio above is calculated excluding treasury stock.

Stock price and trading volume (as of June 30, 2023)



Note: Trading volume above does not include data for trading via the ToSTNet system.

Initiatives

- Climate change initiatives JAPAN CLIMATE INITIATIVE (JCI)
- GX League

Major awards and evaluations

For other awards, evaluations, and past track record, please visit our website.

https://ngkntk.disclosure.site/en/themes/190/

Corporate evaluation of ESG investment

2023 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX

2023 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)

Editorial Note

Thank you for taking the time to read our Niterra Report 2023. On April 1, 2023, we changed our English name to Niterra Co., Ltd., and our Group was reborn as the Niterra Group. We are committed to the sustainable enhancement of corporate value as a company that lets the earth shine. I hope this report will help deepen your trust and understanding of our company. Going forward, we will continue to disclose information in a timely and appropriate manner, and actively engage in dialogue with our stakeholders. We sincerely ask for your honest opinions and continued support for the Niterra Group.

Executive Officer
Corporate Communication Dept., Global Strategy Div.
Koji Suzuki

Administrative Office of Niterra Report 2023 Project

Contact us : https://www.ngkntk.co.jp/english/contact/

Niterra

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Corporate Communication Dept., Global Strategy Div.