

01

Value Creation

Nitterra
Value Creation

In 01, we will explain Nitterra's value creation, including Where We Stand Today explained in quantitative terms, the Message from the President, and our Value Creation Process.

Where We Stand Today (as of March 31, 2024)

Group revenue



614.4 billion yen

Paid-in capital



47,869 million yen

Operating income ratio



17.5%

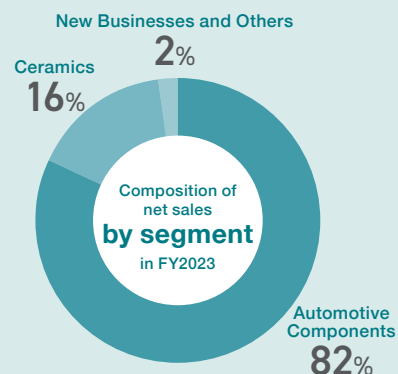
Return on equity (ROE)



13.8%

Return on invested capital
(ROIC)

9.5%

Composition of
net sales

Number of employees



Non-consolidated

3,622

Consolidated

15,980



Main products

Global share in spark plugs
Global share in oxygen sensors

No.1

* Our estimate as of the end of March 2023



Operating locations

Japan

32 locations

Overseas

61 locations



Global expansion

Number of countries where
our products are sold

approx. 145

Overseas sales ratio

85%

Overseas employee ratio

approx. 47%



We aim to be a company capable of solving social issues by promoting business portfolio management that leverages our core competences to strengthen current businesses and establish new business pillars.

Takeshi Kawai, Representative Director, President and COO

Proposing Solutions to Various Social Issues through Our Businesses

Soaring energy prices and supply crises, international conflicts that have revealed global divisions, inflation, the sluggish Chinese economy, and other issues continue to create a strong sense of uncertainty. It is within this context that we are beginning to see changes in the “EV shift,” which some refer to as a once-in-a-century revolution within the automotive industry. Even as EV sales are slowing mainly in Europe and North America, factors such as the emergence of highly price competitive Chinese EVs are accelerating a reorganization of the industry. According to surveys in the major markets, while sales of fully-electric EVs have declined from their peak as a percentage of total EV sales, sales of HEVs and PHEVs* are on an upward trend.

Though the situation in each country and region differs based on its energy situation, the suspension or reduction of subsidies for buying EVs, and other factors, most agree the market for EVs has levelled off now that an equilibrium has been reached between those looking to buy EVs and the infrastructure that supports their use. This may be in part due to criticism that, due to carbon emissions from their production and from the generation of the electricity they use, EVs do not necessarily lead to reduced environmental impact in areas where alternatives to fossil fuels are not the primary source of energy.

While it is not clear in what way EVs will spread, or which energy source will become the mainstream, the trend toward diversification of fuels used and a shift to clean energy is not likely to change. For this reason, the Nitterra Group is continuing to work towards achieving carbon neutrality.

At a time when the Japanese automobile industry was in its infancy, we pioneered the domestic production of spark plugs. We remain committed to creating environmentally friendly, high-performance spark plugs and exhaust gas sensors with an eye on changes in society, pursuing the possibilities of ceramics, which is our core technology, and providing products that contribute to solving social issues.

* PHEV: Plug-in Hybrid Electric Vehicle, HEV: Hybrid Electric Vehicle

Aiming to Become a Speedier Organization with an Assumption of Change

In 2020, we formulated our 2030 Long-term Management Plan “NITTOKU BX.” Based on an assumption that demand for internal combustion engine parts such as spark plugs and sensors, which are our main products, will peak in the mid-2030s, the plan aims to create a business portfolio by 2030 in which the ICE business (currently accounting for 80% of sales) accounts for 60%, with the non-ICE business accounting for 40%. We are currently working to strengthen current businesses and establish new business pillars in accordance with this plan. One of the focus points of NITTOKU BX is Environment & Energy. In this area, we are working on the commercialization of hydrogen, which is attracting attention as an alternative energy source that does not emit CO₂, as well as carbon cycle projects related to the separation, recovery, and utilization of CO₂.

To symbolize our desire and commitment to creating a sustainable society and becoming a company that lets the Earth shine, we changed the name of our Group from NGK SPARK PLUG to Niterra in FY2023. The name Niterra combines “niteo,” which means “shine” in Latin, and “terra,” which means “earth.” In other words, the name Niterra reflects our desire to be a company that brightens the Earth by taking on new challenges that increase its social significance.

Based on NITTOKU BX, we started the current Medium-term Management Plan in FY2021 with the slogan “Break to change. Change to create.” In implementing the plan, we focused on fostering an awareness among employees that things would be changing. While this awareness has gradually taken hold within the company, I believe that mobilizing the Group as a whole will require experiencing both a sense of change and a series of successes. FY2024 is the last fiscal year of the

current Medium-term Management Plan. While discerning what must be retained and what needs to be significantly changed, we will work to create systems and organizations that will enable us to take speedier action based on a “sense of crisis with an assumption of change.”

Achieving Record-High Revenue and Operating Profit through Action in Response to Market Change

In FY2023, we achieved record highs in both revenue and operating profit, achieving the Medium-term Management Plan performance goals of 600 billion yen in revenue and 100 billion yen in operating profit one year ahead of schedule. Factors behind this good performance include the tailwind provided by the weak yen, a YoY increase in the production of automobiles equipped with internal combustion engines, which are the main base of our business, and our success in passing-through inflation-related cost increases. Since FY2021, we began speedily conducting price negotiations in response to soaring prices of the precious metals we use as raw materials for our high-performance plugs. Since that time, we have continued to negotiate prices commensurate with the various cost increases. I attribute the above praiseworthy actions to the fact that, in FY2021, we introduced the in-house company system to clarify where responsibility and authority lies and that these and other measures have led to employees adopting an attitude of taking a personal interest in changes in the market environment and taking proactive action.

The forecast for FY2024, which assumes the yen will appreciate to 140 yen to the dollar and 150 yen to the euro, plans for record-high revenues and operating profits. This is based in part on an expectation of successful price pass-throughs by the Automotive Components Group. It is also based on an expectation of increased revenue in the ceramics business due to factors such as a recovery in the semiconductor market, which was poor in FY2023, as well as increased sales in the medical business.

As for our shareholder returns policy, starting in FY2024, we newly adopted dividend on equity ratio (DOE) as an indicator that is less susceptible to the effects of a single year's performance. We will achieve stable shareholder returns through a hybrid dividend structure that combines a stable portion with a minimum DOE of around 4% with a performance-linked portion with a target dividend payout ratio of around 10%.



Optimizing and Streamlining Our Internal Combustion Engine Product Production System

The third year of the Medium-term Management Plan that started in FY2021 has ended. In the existing ICE business, we have worked towards the goal of maximizing cash generation through efficiency improvements. In FY2023, we signed a memorandum of understanding with DENSO CORPORATION beginning discussions and deliberations on the acquisition of its spark plug business and exhaust gas oxygen sensor-related businesses. Optimizing our internal combustion engine product production system will ensure a stable supply of products, and also create economies of scale. I believe that this will in turn contribute to solving social issues by, among other things, reducing the environmental impact of production processes for the industry as a whole.

Internally, we are working to integrate our plug part numbers and enhance our order management system. In the U.S., we began trials of a production system based on demand forecasting, which had a number of effects including reduced inventory levels. We plan to take advantage of the



current opportunity provided by steady production and sales volumes to deploy the system globally, improving efficiency and accuracy.

Leveraging our Core Technology to Create and Develop New Businesses

We have been creating and nurturing new businesses in four priority areas: Environment & Energy, Mobility, Medical, and Communication. With FY2024 being the last fiscal year of the current Medium-term Management Plan, we are selecting and concentrating on businesses with higher probability of success, engaging in investment and product development towards full-scale commercialization starting with areas and businesses that have a high affinity with our strength, which is ceramics-related technologies. One such product we received many inquiries about and have put into production is EV motor bearing balls made using silicon nitride, a ceramic material. The demand for this product is increasing as EVs are operating on increasingly higher voltages. Another development in the area of silicon nitride is heat dissipation substrates for power semiconductors, which is one of our leading potential businesses.

In another area, Niterra Group subsidiary MORIMURA SOFC TECHNOLOGY Co., Ltd.* has been working on mass production of solid oxide fuel cells (SOFC) since 2020. At the same time, we have been

working on the development of devices for solid oxide electrolysis cells (SOEC) and the creation of alternative energy businesses including the methanation of hydrogen generated with SOECs. Towards the realization of a hydrogen-powered and carbon-cycling society, we launched the “SUIISO no MORI” (Hydrogen Forest) Project in May 2024 to invest in start-ups and support technological development and growth. As part of this project, we established a testing field in our Komaki Plant. We are considering the future possibility of engaging in open innovation with some of the startups, including conducting joint development projects with them, as well as allowing them to utilize our assets to launch their businesses. Another business endeavor we have decided to take on is the land-based shrimp aquaculture business, which leverages our decades of sensor technology expertise to manage water quality. This business contributes to the creation of a sustainable society by focusing on the world hunger problem, and more specifically the problem of limited water resources. In order to further accelerate commercialization of this business, we established a new company comprised of people who are strongly motivated to make it a success in the spirit of Dokuritsu-Jiei (believe in one's own ability, and take actions by oneself). I hope to link these businesses peripheral to our core technology together and develop them into the second pillar of our business after the ICE business.

* The company is a joint venture between Noritake Co., Limited, Toto Ltd., NGK Insulators, LTD., Morimura Bros., Inc., and Niterra Co., Ltd.

Leveraging the Strategic Port Folio Dept. to Better Manage Allocation of Resources to New Businesses

In the area of strengthening our management foundations, we have steered towards reforms that ensure the principle of competition continues to function in the face of a changing market environment. This includes the introduction of the in-house company system mentioned earlier, as well as a new personnel system. In order to manage our entire business portfolio, which is the future of our group, we established a new Strategic Port Folio Dept. in the Global Strategy Division of our headquarters. This department will carefully examine the future potential of new businesses launched by each of our companies, discuss whether to continue or withdraw from the business, and engage in selection and concentration in order to enhance our management of resource allocation. In this final fiscal year of the current

Medium-term Management Plan, we intend to speedily optimize our business portfolio and raise employee awareness of the need to ensure our new businesses become established.

Making Well-considered Decisions and Having the Courage to Take On Challenges, and the Courage to Withdraw

The sincerity of our employees' attitudes is one of our strengths. Even in a time of such change, I want our employees to cherish this attitude, not be afraid to take on new challenges, and have the unwavering strength to learn from failure and to get back up again. This is the message I occasionally convey to them. It is by first building the pillars of a small business and experiencing one small success that these pillars grow to the thick pillars of a bigger business. The continuation of this process will lead to the development of a culture that is both unique to the Niterra Group and in accordance with the changing times. In order to realize such a virtuous cycle, I would like to provide opportunities for dialog with employees where everyone can boldly express their ideas and opinions.

My personal management mottos are, “there is more to be gained by taking on a challenge and falling than by sitting and waiting to die,” and “if the odds are 60%, take the bet.” However, winning bets are made with information and knowledge, so we will continue to collect and scrutinize data meticulously, and when it is time to withdraw from a business, we will do so without hesitation. I want to have both the courage to take on challenges, and the courage to withdraw.

As the last fiscal year of the current Medium-term Management Plan, FY2024 is a preparatory period during which we will both generate solid results while also examining the content of the next Medium-term Management Plan. As set forth in our vision for 2040, we will “Change Drastically Beyond the Current Way” with a goal of achieving a size that will allow us to respond to a variety of demands from society in collaboration with our external network. In this way, we will grow into a company capable of further contributing to solving social issues.

I encourage you, our stakeholders, to look forward to the next five-year Medium-term Management Plan, and I ask for your continued support and guidance.



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

Establishment of a society where global environmental issues/ international affairs/economic development and resolution of social issues are compatible

Social issues and external environment

Change drastically beyond the current way

Outcomes

▶ P.13

Stakeholder Returns

Social Impacts

Outputs

▶ P.32-37

Automotive Components

Plugs
Sensors

▶ P.32

Ceramics

Semiconductor packages
SPE
Medical (oxygen concentrators), etc.

▶ P.35

New Businesses

SOFC cell stacks
Silicon nitride ceramic bearing ball, etc.

▶ P.37

Customers



Employees



Partners



Shareholders and Investors



Local Communities



Global Environment



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

Business Activities

▶ P.4

Sources of Competitive Advantage

Various applied technologies with ceramic materials and ceramic technology at the core

Global production and sales system

Focus Areas

Environment & Energy

Medical

Mobility

Communication

2030 Long-term Management Plan "NITTOKU BX"

▶ P.22

Medium-term Management Plan 2021-2024

▶ P.26

Break to change. Change to create.

Medium-term Management Plan 2025-2029

Extend for the future. Spread out to exceed.

Management Innovation (DX)

Clarification of Responsibilities and Authorities

Willful Cultural Change

Priority Issues

▶ P.15

Environment ■ Responding to climate change ■ Providing environmentally friendly products
Society ■ Development of technologies, products, and businesses for contributing to the resolution of social issues ■ Global human resource management
Governance ■ Corporate governance ■ Risk management ■ Compliance ■ Information security

Basic Approach

▶ P.2

Corporate Philosophy

Commitment/Management Policy/
Action Guideline

CSR and Sustainability Charter

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

Inputs (Six Management Capitals)



Financial Capital

Encourage management for our next stage of growth while aiming to improve capital efficiency

- Operating cash flow: 118,179 million yen
- Ratings: AA- (R&I), AA- (JCR)
- Equity ratio attributable to owners of the parent: 65.4%
- Interest bearing debt: 190,840 million yen



Manufactured Capital

Production systems that provide stable, high-quality, and highly reliable products

- Bases in Japan: 32
- Bases overseas: 61
- Capital expenditures: 41,173 million yen



Intellectual Capital

Various applied technologies, expertise and innovative creation with ceramics material technologies and ceramics at the core

- R&D expense: 27,848 million yen
- R&D expense ratio: 4.5%
- Patents owned: 5,188
- 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): 15,980
- Ratio of employees overseas: Approx. 47%
- Ratio of employees with overseas secondment experience: 10.3%
- Number of DX Training participants: Basic training 7,516; Selective training 50.
- Number of female managers: 41



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. This provides possible business relationships with nearly 80% of more than 70,000 maintenance shops across Japan
- Investments in startups: 24 companies
- Global sales presence: Approx. 145 countries



Natural Capital

Electricity, raw materials, water resources, etc., required for business activities

- Electricity: 442,680,000 kWh
- Raw material input: 50,000 tons
- Water input: 1,460,000 m³

Business Activities

▶ P.4

Outputs

▶ P.32-37

Outcomes (Return to Stakeholders and Social Impact)

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



- Stable shareholder returns
- Increase share price and market capitalization

Local Communities



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

Global Environment



- Reduce CO₂ emissions
- Reduce our environmental footprint across the value chain

Environment & Energy

Energy and environmentally friendly



Mobility

Fun and convenient mobility



Medical

Bring advanced medical care to people all over the world



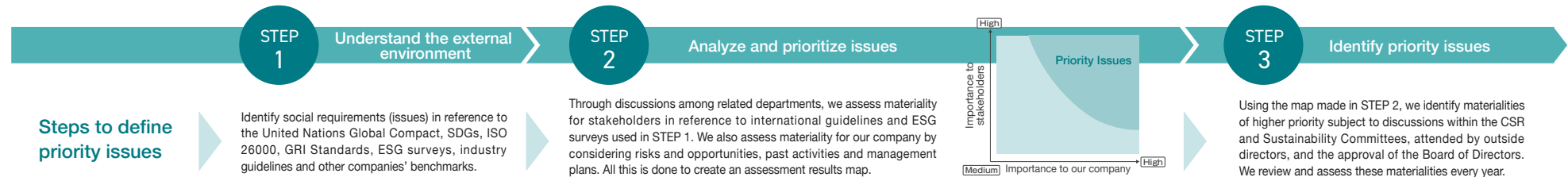
Communication

High-speed communication to connect the real and the virtual



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 the Niterra Group's growth.



Social issues and external environment

Global environmental issues

- Climate change
- Decarbonized and carbon-circulating society
- Biodiversity
- Environmental destruction
- Circular economy

International issues

- Protectionism
- International conflict
- Emerging economies
- Global South
- 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



Environment

Reduction of greenhouse gas emissions (through investments in energy conservation, renewable energy technologies, and environmentally friendly technologies)	Risk Opportunity
Efficient use of CO ₂ for a decarbonized and carbon-circulating society	Opportunity
Expansion of environmentally friendly products	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 (carbon tax, recycling regulations, chemical regulations, etc.)	Risk Opportunity



Society

Decline in the number of internal combustion engine vehicles	Risk
Expanding demand for automobiles in emerging economies and the Global South	Opportunity
Change in people's preferences regarding transportation means and consumption	Risk Opportunity
Development of technologies, products, and businesses for contributing to the resolution of social issues	Opportunity
Securing diverse human resources	Risk Opportunity
Diversification of work styles and values	Risk Opportunity
Well-being	Opportunity
Respect for human rights	Risk
Maintenance of the Quality Management System	Risk



Governance
























Diversification of management personnel	Risk Opportunity
Stable procurement of raw materials	Risk
Geopolitical risks	Risk
Disasters caused by earthquakes and climate change	Risk
Implementation of compliance	Risk
Measures for information security (cyberattacks)	Risk

Short term* Medium term* Long term*

* 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 vision of our Long-term Management Plan

The priority issues identified are listed in the table below.

See Review of Priority Issues Activities for more details ▶ P.42-43

	Priority Issues	Reasons for Identification as a Priority Issue	Major Initiatives	Goals and Outputs (FY2029)	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	<ul style="list-style-type: none"> CO₂ emissions: 30% reduction from the FY2018 level by FY2030 	▶ P.47	  
	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	<ul style="list-style-type: none"> Sales ratio of precious metal plugs: at least 50% Sales ratio of wide range oxygen sensors: at least 50% 	▶ P.42	  
 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	<ul style="list-style-type: none"> Dissemination of high-efficiency distributed power supply systems with an eye on the use of CO₂-free hydrogen fuel 	▶ P.42	  
			Development of applications for lead-free piezoelectric materials	<ul style="list-style-type: none"> Promoting substitution for lead-based piezoelectric materials 	▶ P.42	
			Development of sensing IoT business	<ul style="list-style-type: none"> Improving operational efficiency through automation, optimization and generalization 	▶ P.42	
			Carbon neutrality as a service	<ul style="list-style-type: none"> Establishing and introducing a synthetic fuel (methane) production system 	▶ P.44	
	Global human resource management	The Group acknowledges that employees are the most important management resources. We believe that the development of the Group can be achieved by respecting the diversity and individuality of our approximately 16,000 employees around the world and creating an environment in which each of them can play an active role.	Promotion of employment of women, foreign nationals, and careers	<ul style="list-style-type: none"> Percentage of female/foreign national/mid-career employees in managerial posts: 25% 	▶ P.56	  
			Examination of a new personnel system	<ul style="list-style-type: none"> Improved results of employee satisfaction surveys 	▶ P.54	
 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	<ul style="list-style-type: none"> Percentage of female and foreign national directors: at least 30% 	▶ P.61	 
			Increasing the ratio of outside directors	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Establishing a risk management system that contributes to management decision making 	▶ P.74	 
	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	<ul style="list-style-type: none"> Conducting compliance awareness surveys and disclosing the results 	▶ P.75	
	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	<ul style="list-style-type: none"> Establishing an information security management system 	▶ P.77	  

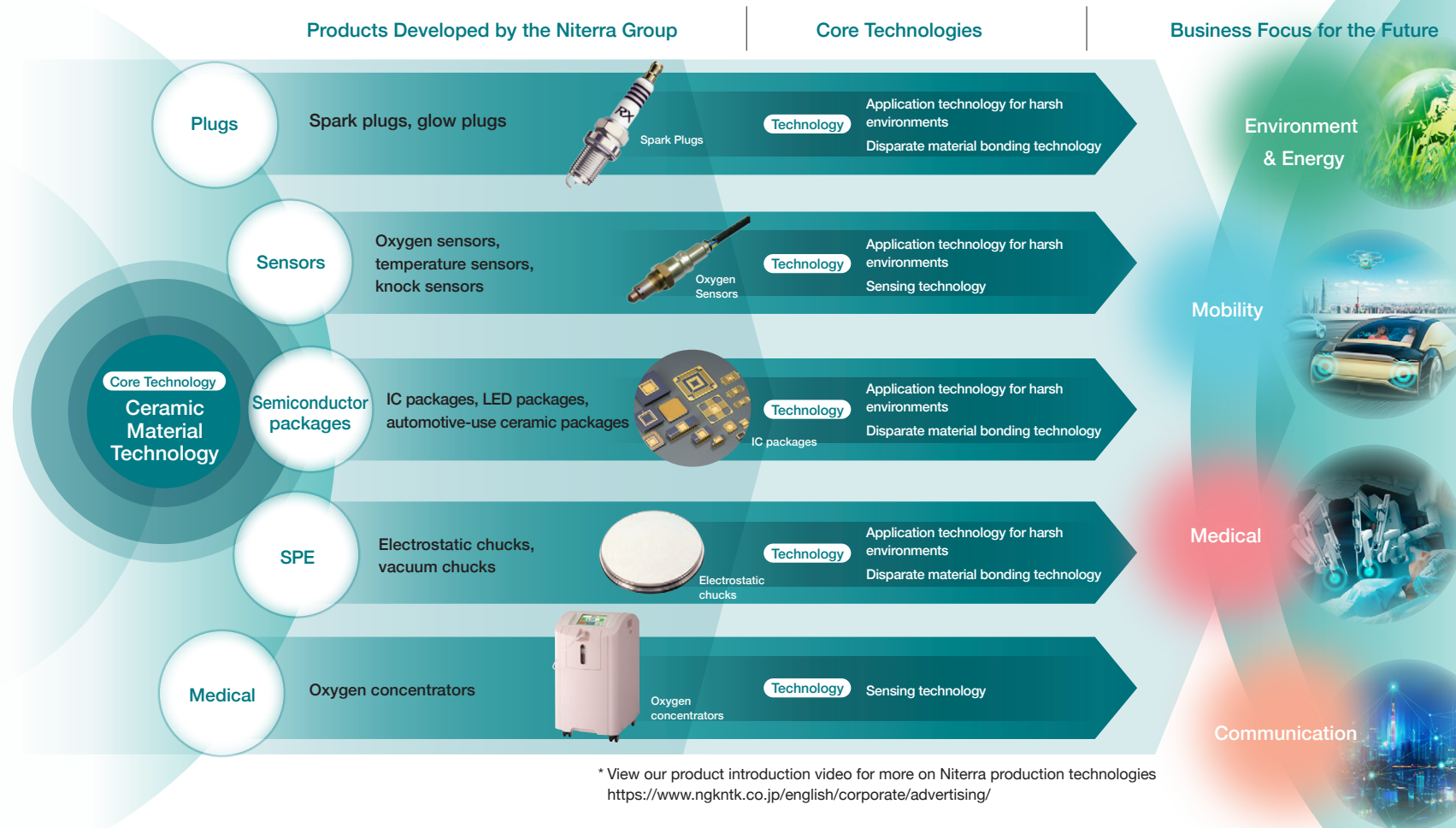
* Goals and Outputs are set for the last year of the Long-term Management Plan, unless a different fiscal year is indicated in the table.

In our more than 80 years of history, we have cultivated a wide variety of applied technologies with ceramic material and ceramics at their core.

We aim to transform our business portfolio by strengthening and utilizing these technologies to create new businesses in four business domains: Environmental & Energy, Mobility, Medical, and Communication.

Commercialization Strategy Utilizing Our Core Technologies

To achieve the portfolio transformation described in our 2030 Long-term Management Plan “NITTOKU BX,” we will actively work to strengthen our core technologies and create new businesses that leverage them. 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.



COLUMN Commitment to Quality That Supports Technology

We are all committed to producing consistent products

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



Magoemon Ezoe, the first president, demanded discipline and a high level of commitment from his employees to produce products without variation that consistently delivered the performance desired by customers. Each employee is dedicated to performing their job at their workplace to produce quality products. This tradition, embodied in our basic traits “quality products” and “involvement by all,” is still alive and well at Niterra.

TOPICS Ceramic Material Technology

We established “Niterra x Tohoku Univ. MIRAI no ME Co-creation Research Center” with Tohoku University, a national university corporation. The center will continuously create innovative ceramic materials designed at the atomic and molecular scale by maximizing the use of “NanoTerasu,” a high-brightness synchrotron radiation facility that began its operation in April 2024. Furthermore this will be done by integrating it with cutting-edge measurement technologies such as electron microscopes, as well as computational and information sciences.



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.

Strong Overseas Sales of over 80%

Beginning with our entry into Brazil in 1959, we have steadily expanded our overseas sales channels ahead of other Japanese companies. Today, we operate 32 bases in Japan and 61 overseas corporate entities, including manufacturing companies, sales companies, technical centers, and other facilities. Our robust 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 32 Offices in Japan 61 Offices Overseas, and in 145 Countries and Regions



TOPICS

Employee Comments

Y.Y., Administration Section, Production Department, Niterra (Shanghai) Co., Ltd.

I am a member of the Administration Section of the Production Department. I have been with the company for 13 years. What I pay special attention to in my work is the management of delivery dates to customers. This is because it affects not only customer satisfaction, but also the reputation of the company. To meet deadlines, it is essential to have trust and mutual support among team members. Even when we face a difficult situation, we actively work together to solve the problem. We hope to continue to grow and shine with Niterra as we are inspired by the philosophy of teamwork and innovation that Niterra promotes.



B.E., National Sales Manager, Aftermarket Division, Niterra North America, Inc.

I highly value the dynamic nature of my company and its constant evolution. Our strong brand history provides a solid foundation for us to innovate and adapt in a rapidly changing marketplace. Cooperation and solidarity with team members is another important factor for me. The spirit of mutual support and cooperation with my colleagues is the impetus that drives us to achieve excellence. We not only achieve our goals but push the boundaries to ensure that Niterra remains at the forefront of the industry. I am proud to be part of a team that embodies dedication, innovation, and shared success.



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. [Human Capital Management ▶ P.51](#)

We maintain reliable quality.

K.Y.,
IGNITE Company



Our main products, spark plugs, are made of metal and ceramics. Used as insulators, ceramics must withstand the harsh environment of high temperatures, high pressures, and high voltages in engines. To maintain the quality of insulators, which are critical parts of the engine, I evaluate products and analyze data on a daily basis.

I was involved in the start-up of a new insulator manufacturing plant. Based on the knowledge and experience I had gained since joining the company, I worked on creating manufacturing conditions and new management methods, with a focus on quality. I still remember the sense of accomplishment I felt when the plant was up and running. I am also currently working on reducing the baking time of insulators by 20% to reduce CO₂ emissions. I would like to use my accumulated knowledge of insulators to propose a quality-oriented process design that maintains the existing quality and production stability even when conditions change. I am committed to maintaining the quality of our spark plugs, which have the largest market share in the world, so that our customers can continue to use them with confidence.

We will try to develop new products by utilizing our accumulated know-how.

Y.K.,
Business Implementation Division



We are developing silicon nitride heat sinks for power semiconductors used in electric vehicles and industrial equipment, leveraging our technology for silicon nitride products such as glow plugs and bearing balls.

We face one challenge after another when developing a new product. For example, ceramic and metal are bonded together in heat sinks, but it has been difficult to establish a technology for bonding materials with completely different properties without defects. However, we have accumulated the know-how through the development of many ceramic products. We solved the bonding challenge by exchanging information with our Group's engineers and by using our machinery. The joy I experienced at that moment, and the sense that we were getting closer to commercialization have been motivating me to do my job as an engineer.

It is predicted that the market for heat sinks will expand in the future, and the demand for silicon nitride heat sinks will also increase. I would like to deepen my technical knowledge so that I can develop products that are attractive to customers. This will help us gain a larger market share.

We will collaborate with external organizations to ensure that our core technologies continue to evolve.

T.H.,
Strategic Portfolio Office, Global Strategy Division



I have been a researcher engaged in ceramic analysis and development for many years. With my knowledge and experience, I am currently involved in the preparation of the next Medium-term Management Plan. In addition, at Tohoku University, I promote and oversee joint research with other universities and research institutions.

Ceramics are materials that have always grown and evolved with mankind. Their function varies depending on the composition and the way they are made. The possibilities for combinations are endless. Traditionally, accelerating the development and design of ceramics has been considered difficult compared to other materials because they have been developed through trial and error based on the experience and knowledge of developers. To expand opportunities to meet this challenge and develop innovative materials that respond rapidly to societal needs, we collaborate with external research institutions to integrate our ceramic materials development technologies with cutting-edge analytical technologies and knowledge.

We are committed to advancing our ceramic materials development methods to ensure that our core technologies continue to evolve.

Dialogue: The President and Three Outside Directors

How should we redefine our “strengths” in order to transform ourselves? Discussion on how to foster a corporate culture that encourages taking on new challenges.

As we approach the five years of our next Medium-term Management Plan, how should we achieve the “Change Drastically Beyond the Current Way” set forth in our Vision 2040? What should we consider our strengths and what should we change? Three outside directors and Takeshi Kawai, Representative Director and President, discuss these issues in an open dialogue.

Takeshi Kawai
Representative Director, President,
and Chief Operating Officer

Miwako Doi
Outside Director

Chiharu Takakura
Outside Director

Takayoshi Mimura
Outside Director

By Leveraging Our Inherited DNA and Strengths, We Will Combine Business Activities with a Sense of Transformation That Has Begun to Take Root

Kawai With ceramics at the core of our more than 80-year history, we provide high-performance spark plugs and sensors that meet society's needs. At the same time, we are managing our portfolio, including the creation of new businesses that leverage our technological and other strengths to optimize and update our business. We are also working to foster a corporate culture that encourages taking on new challenges. New businesses are gradually beginning to take off. However, I feel that we still have some way to go to achieve the “Making Changes That Are

Not Just an Extension of the Past” as stated in our 2040 Vision. What should we sharpen as our strengths and what should we change? In this dialogue, we would like to clarify these issues with your input as outside directors. First, please tell me your honest opinion of our company today.

Doi During these five years as an outside director, I feel that I have gradually seen the results of your efforts to fulfill the slogan of the current Medium-term Management Plan, “Break to change. Change to create.” Let me tell you an experience. Last year and this year, I had the opportunity to visit several overseas offices and talk to young employees. We had various discussions in connection with the change

of the English trade name to “Nitterra,” which conveys the Company's message to the world, “Becoming a company that brightens the Earth.” During these discussions, I was asked questions such as how they should change now that everything, from environmental considerations to the manufacturing process, was undergoing major changes. This gave me a sense of the young employees' awareness of change.

Mimura I became an outside director in FY2023, and over the past year, I strongly feel that the Company has changed its corporate composition with an awareness of the need for transformation. For example, Nitterra used to hire new graduates as full-time employees and train them to maintain its unique technologies. Now, Nitterra is

From an era when technology led the world to an era when fun and uniqueness will change society.



significantly changing its organizational culture by proactively recruiting and promoting mid-career employees to bring in a new style. When this sense of transformation is extended to business activities, you can more clearly visualize the next stage to strive for.

Takakura I recently had the opportunity to trace the history of the Morimura Group, the roots of Nitterra. I was once again impressed that Ichizaemon Morimura had been promoting the value of “Shikai-Keitei” (all people of the world working together as brothers and sisters) since the early Meiji era. Nitterra’s unwavering strengths in technology, as well as in global production and sales systems, are based on these values. I believe that in the future it will be necessary to look closer at the inherited core competence and redefine it as a “strength” that is appropriate for the times.

Set Concrete, Exciting Goals and Try Transformations in a Backcasting Approach

Kawai In recent years, there has been a major shift from “an era when a serious commitment to manufacturing was highly valued and technological progress led the world” to “an era where the pursuit of fun and uniqueness is changing society.” Our company also needs to transform itself to respond to changing times, and not only maintain its traditional strengths. To this end, I believe it is important to have a renewed awareness of our cherished shared values. These include “Dokuritsu-Jiei” (believing in one’s own abilities and working on one’s own initiative) and “Soshi-Kantetsu” (having an unyielding will and working hard), in addition to the “Shikai-Keitei” mentioned by Mr. Takakura.

Takakura While seriousness is a strength, it can also be a weakness. In trying to achieve transformation without losing the good parts, the most important impetus is actually self-affirmation or self-confidence. When you are truly confident in yourself, you are ready to face challenges. You can also critique yourself in a positive way to find out what you lack now and how you need to change. The key is to overcome your lack of confidence and fear of failure and unleash your potential. My belief is that it is the management’s responsibility to guide employees to make the best use of their individual talents.

Mimura Traditional manufacturing companies have long had an established process for improving their core technologies and extending their reach to create new products. What is required today, however, is the ability to plan for business development. This includes materializing what the company can do to solve social problems and bringing in resources that the company lacks from outside sources. I also come from a manufacturing background, but in my previous job I expanded the business through mergers and acquisitions to complement the technological development. On the other hand, Nitterra has expanded its domain with proprietary technologies and products that competitors cannot match. In order for Nitterra to further develop in the future, it must acquire not only technologies but also planning skills.

Doi Whether in experimentation or development, engineers find it easier to accumulate results in a forecasting approach than to set a goal first. However, that approach would make it difficult to “Change Drastically Beyond the Current Way.” Given that the pursuit of fun drives the era, it is critical to engage all employees in thinking about and setting a specific and exciting goal, for example, “This is what the Nitterra Group will be in 2050.” To reach that goal, they think about what to change and what to do from a backcasting perspective. This approach will be effective, won’t it? Some attempts may not be commercialized immediately, but you can continue trial-and-error efforts to create new businesses, while the existing businesses are performing well. It is important that engineers work diligently to satisfy customers. However, I think it is also important to go a step beyond that style. In other words, to foster a culture where they enjoy themselves first.

Positive self-criticism drives transformation.



Every Employee Is Encouraged to Think for Themselves and Develop Their Own Vision for the Future

Kawai The current Long-term Management Plan was also formulated using a backcasting approach. However, I don't feel that every employee embraces the true meaning of the plan. After all, if they do not think and describe their own vision of what they want to be, they will have no will, no cause, and much less fun. For this reason, we focus on developing human resources who can act to bring about changes and also change themselves (self-disciplined creative human resources).

Mimura I don't think a perfect vision needs to be created from the beginning. Japanese companies are said to lack creativity, but the visions of overseas start-ups and other companies start out as dreamlike, non-financial goals. They gradually materialize and become financial goals. When it comes to creating and developing human resources that can dream and create visions of the future, it is essential

It is essential to develop generalists who have a bird's-eye view of the entire business.



to develop engineers into generalists who have a bird's-eye view of the entire business, not just to help them master the technology.

Doi In addition, if it is difficult to require many skills from one person, it would be helpful to create a system that allows team members to complement each other on a project-by-project basis. For example, startups present their goals and the resources they currently lack to judges at competitions and other events in order to attract investment and additional human resources, for example, a researcher dedicated to technological development, a vision creator, and someone who is good at obtaining budgets.

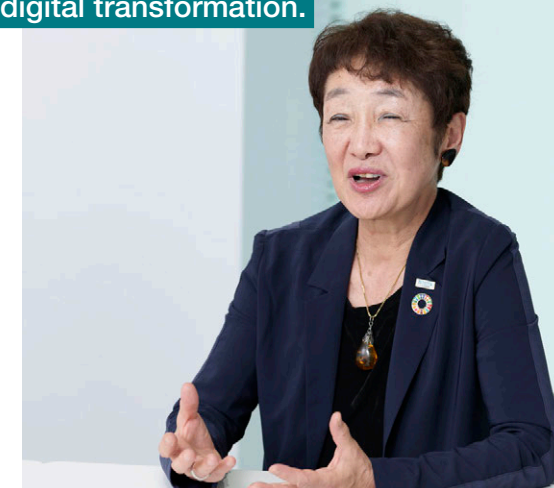
Leverage Cutting-Edge Technologies and Drive Digital Transformation to Improve Productivity and Make Innovations

Takakura To move away from traditional forecasting thinking, I think it is necessary to create a system that optimizes operational efficiency through AI and other technologies. This will allow employees to use the time saved to communicate with people in other departments or study other areas of expertise. The Company needs to further advance digital transformation for its future. I think it is important to promote the use of technology in terms of improving productivity in areas other than product development.

Mimura It is also important to consider what the entire Company should be so that it can move forward with digital transformation toward that direction. As Mr. Doi mentioned earlier, while existing businesses are still strong, you must visualize where you are going and then aggressively pursue further transformation. As an outside director, I will also actively make suggestions.

Doi Even in cases where it is difficult for an individual employee to develop a vision on their own, they can now consult generative AI for feedback. To set a vision and link it to innovations, you should actively use cutting-edge technologies to think about how to drive digital transformation.

To link to innovations, actively use cutting-edge technologies to drive digital transformation.



Gain Successful Experience, Build Up Confidence and Advance Further Transformation

Kawai Thank you for your feedback regarding various challenges. Nitterra is such a diverse and inclusive company that they appointed me, a maverick, as president. We must protect and enhance the business and products that are the legacy of our predecessors. At the same time, we must consider new workforce design and training policies. For example, we can create a team that is agile to meet a challenge. I believe that our Company's typical approach is to first gain new successful experience in a field, build confidence, and ensure steady progress. We will stabilize new businesses to some degree within FY2024, and will continue to take on challenges tirelessly from a medium- to long-term perspective.