



We will transform our business structure and thereby become a company capable of securing profits.

Director
Representative Executive Officer, President
CEO (Chief Executive Officer)

Eiichi Ukai

With the steady implementation of our Medium-term Management Plan “DRIVE NTN100” Phase 2, we are promoting the transformation of our business structure and accelerating initiatives designed to strengthen our financial framework and build a resilient corporate structure capable of responding to changes in the business environment. We recognize that we still face many challenges, but we also see positive signs. For example, our aftermarket and industrial machinery businesses are showing expansionary trends, and the Americas and Europe regions returned to profitability in the fourth quarter of the fiscal year ended March 31, 2023. In this, the final year of “DRIVE NTN100” Phase 2, we will focus even more intently on the key issues of the Medium-term Management Plan, and thereby transform ourselves into a company capable of securing profits. I therefore wish to take this opportunity to bring our stakeholders up to date on our current status and outlook.

Fiscal year ended March 31, 2023: Results and Issues

The NTN Group reported net sales of 774.0 billion yen and operating income of 17.1 billion yen in the fiscal year ended March 31, 2023. With increases in income and profit, we enjoyed solid improvements in performance compared to the previous fiscal year, which was heavily impacted by the COVID-19 pandemic. Moreover, our aftermarket and industrial machinery businesses marked record-high net sales and operating income. These businesses are benefitting from recovering demand and foreign exchange rates. Even before I became president, I was in charge of both businesses, and from the very beginning, we focused on earning power. We strove to reduce costs as much as possible within the company, and then engaged in repeated negotiations with customers and revised prices in unprofitable businesses. These efforts are now bearing fruit.

However, overall operating income fell far short of our announced figure of 26 billion yen. Consequently, we have not met the expectations of our investors and other stakeholders, a fact that I take very seriously.

Our operating income was lower than expected for changes in the external environment and other reasons. Chief among them were adjustments in production that we made in anticipation of a slow recovery in automotive market demand, higher-than-expected energy costs, additional price increases for various materials as a result of those costs, and our acceptance of suppliers' demands for higher prices. While changes in the external environment were also a factor, a challenge we must undertake is the revitalization of our automotive business, which accounts for more than 60% of our Group's net sales but which has been in the red for four fiscal years. A major point we must take to heart is that we were unable to generate adequate profits despite the fact that driveshafts and hub bearings—mainstay products that account for about 80% of our automotive business—have a significant impact on our business performance. We will endeavor to secure profits from driveshafts and hub bearings by strengthening our cost competitiveness and passing on rising costs to sales prices.

To strengthen our cost competitiveness, we will continue making unrelenting efforts to reduce costs through procurement reforms, production reforms, and other initiatives. One of the measures we will take is to promote new procurement of parts with cost competitiveness or cost advantages in terms of tariffs after quality evaluations. We will strive to reduce variable costs by using parts with higher cost competitiveness, which we will do after obtaining approval from automakers, our customers, to make process changes.

As for passing on rising costs to sales prices, some customers have had harsh words for us during price negotiations. Nonetheless, some other customers

tell us that they want to continue doing business with NTN and urge us to notify them if we are struggling with a problem. I therefore get the sense that they appreciate the value of our company. We will use this as a springboard for strengthening trust with our customers. Negotiating with customers is never easy, but we are determined to press forward with price negotiations, including for businesses that we have not yet passed on higher costs to sales prices in fiscal year ended March 31, 2023.

Outlook for fiscal year ending March 31, 2024 and the Next Medium-term Management Plan

For the fiscal year ending March 31, 2024, we are forecasting net sales of 810 billion yen and operating income of 30 billion yen. The aftermarket and industrial machinery businesses are expected to reach record highs by continuing to pass on rising costs to sales prices and revising prices in unprofitable businesses. Meanwhile, in the automotive business, we will aim to achieve year-on-year increases in sales and profit and break free from operating losses as easing semiconductor shortages lead to a recovery in automobile production.

In comparison with the initial targets of the Medium-term Management Plan ending in the fiscal year ending March 31, 2024, we anticipate that net sales will expand but operating income will fall off the target of 42 billion yen or more by 12 billion yen. Likewise, although our operating margin is gradually rising, it will remain at 3.7% for the fiscal year ending March 31, 2024, compared to the target of 6% or more.

Thus, we will be unable to achieve the Medium-term Management Plan's initial targets. Nonetheless, I see it as management's responsibility to make achievement happen early in the new Medium-term Management Plan, which will start in the fiscal year ending March 31, 2025. We are making thorough preparations during the current fiscal year and will proceed with a concerted Group-wide effort under the new Medium-term Management Plan.

Specifically, we reworked the organizational structure of our head office in April 2023. The key component of this reorganization was the establishment of the Group Management Headquarters and the SCM Strategy Headquarters. In particular, the SCM Strategy Headquarters has a framework that consistently manages operations related to overall supply chain management, from procurement to production, supply and demand control (production control), logistics, and other areas. By consolidating functions to achieve efficiency and overall optimization, and by strengthening the Group's management functions, we will make steady progress in business reformation aimed at improving profits.

Promoting reform in production and all other operations

Although production reform is something we have been working on for years, our efforts have tended to remain at partial optimization. Consequently, some production facilities are seeing better productivity, but production line takt time (production time per single product) happened to stay unimproved. In contrast, the production reform we are currently undertaking aims for optimization in all areas, including the reduction of work-in-process inventories from the standpoint of cash flow management. Our goal is to change how we approach Monozukuri and also to change the mindset of the employees working on site. We are endeavoring to execute fundamental reforms with the advice of a company that has long tackled similar production issues and achieved positive results.

In addition, we revamped our IT core system in an undertaking aimed at comprehensively grasping all information pertaining to our domestic supply chain. We now have the ability to analyze product costs, sales prices, and profits in a timely manner.

We intend to move boldly in transforming our business portfolio through these changes to our organizational structure and IT core system. We already have a firm vision of what we want to achieve. I will share the details with you when we make a formal decision.

Increasing profitability by enhancing brand value

I believe brand value will be an important topic in our pursuit of more profitable business going forward. Especially in the aftermarket segment, it is attractive as a business since we have an ability to take the initiative in pricing. On the other hand, a brand power in the market is a key factor in determining prices.

When I was posted to Singapore, I encountered something that left a strong impression on me. When I compared our price of a particular product with those of our competitors, I discovered that our product sold at a lower market price than theirs, even though they were almost identical in performance and quality. The only thing that can account for this difference in price is brand value. Suppose a customer has a bearing break and needs a new one right away, and a supplier has the ability to deliver one quickly and also offer solutions to the problem. There are many customers who are willing to pay a higher price for that kind of ability. This experience—this concept—is what led me to strongly advocate the importance of “availability” to NTN employees every day.

Our goal is to be the price leader in the aftermarket segment. In such a business model, it is important that we have a large inventory of products on hand so that we can deliver them as quickly as possible when

customers need them.

At the same time, if we are going to make it our business to propose solutions that promptly address the various issues our customers face, then we must have personnel with the experiences and skills to execute those solutions—in other words, field engineers. Strengthening capabilities in this area cannot be accomplished overnight, but I believe we must work toward this goal through education, training, and practical activities.

Medium- to-long-term business outlook

In our mainstay automotive business, we will focus on adjusting amid the shift to electric vehicles (EVs). Many people are concerned that the shift to EVs will reduce the number of parts that must be supplied. But as I have said in the past, for NTN Group—whose main products are driveshafts and hub bearings used in EV drive units—the shift will be rather advantageous.

In addition to our existing products, we have already developed a high-speed deep groove ball bearing that achieves the highest rotation speed in the industry, making it suitable for “e-Axle” drive systems for EVs and motors and transmissions for hybrid electric vehicles (HEVs). Moreover, because EVs have better acceleration and require higher vibration damping performance, we are also developing electric modules and other components that are adapted to the unique behavior of EVs. We will create high-added-value products through efforts like these.

Looking at scheduled mass production start-ups over the next three years, we anticipate that the ratio of products we make for HEVs and EVs, which have higher added value than those for internal combustion engines (ICE), will increase. We are currently working on a variety of projects, which I will share with you as soon as they can be announced to the public.

In terms of sustainability, I believe an important question for the coming age will be how to make products that remain usable for long periods of time. Moreover, even products that have long service lives will eventually reach a point when they can no longer be used as is. We will therefore need to detect product conditions quickly and perform maintenance to ensure even longer service life. In other words, I believe “maintain” leads to “sustain.”

Traditionally, the NTN Group’s business has focused mainly on manufacturing and marketing bearings and other forms of hardware. However, we are now stepping up efforts to attach sensors to hardware to collect data around them during operation and link it to monitoring services through software. I believe this will translate into new profit opportunities.

Specifically, we offer condition monitoring systems for various types of equipment, such as bearings in wind turbines and bearings in machine tool spindles (rotating shafts). We have also commercialized a diagnostic report business for bearings using NTN Portable Vibroscope.

We are also developing “Talking Bearing™” with built-in sensor functions without any changes in bearing volume or appearance. Fully exploring this concept will allow us to provide high-added-value solutions our competitors cannot match.

One possibility for the future is the application of big data on operating conditions that is gathered through sensors. This capability will allow us to notify customers of predicted equipment malfunctions before they occur and to offer new added-value services linked to planned preventative maintenance.

Furthermore, if we can accurately predict the service life of parts based on equipment operating hours and other factors using big data, we will be able to forecast demand. What bearings will be needed? When will they be needed? And how many will be needed? Being able to read demand will allow us to also read inventory levels, which will naturally lead to more precise planning of inventories, production, and procurement. In other words, we will be able to develop “pull”-type marketing strategies by obtaining accurate information from the market. This business model is the exact opposite of the “push”-type model, in which production plans are prepared by anticipating demand based on rule of thumb. This is the kind of digital transformation (DX)-led business structure reform that our Group aims to achieve.

Enhancing sustainability by practicing ESG management

In 2015, NTN signed the United Nations Global Compact. In line with this, we continue striving to realize ten principles in four areas—human rights, labour, environment, and anti-corruption—that we consider to be universal values. Aspiring to tackle environmental issues, we launched a Carbon Neutrality Promotion Project in July of last year. Then, in April of this year, executed a reorganization that involved establishing a Carbon Neutrality Strategy Promotion Department in the Group Management Headquarters to bring this project into closer alignment with management. We will continue to formulate and promote strategies to achieve carbon neutrality under this new structure.

Human capital management has become a hot topic in recent years. Based on our belief that “the company is its people,” we recognize that strengthening our human resource base is essential for sustainable growth and are therefore striving to develop diverse human resources, taking “prosperous human development” as one of the ESG issues. In addition, we started holding Executive Officer-led “town hall meetings” this year. I have communicated face-to-face with employees in Japan and overseas on numerous occasions, and now our Executive Officers are more proactively visiting their respective departments to listen to employees in the workplace. In this way, we are finding out what troubles all employees have. We are endeavoring to enhance communication by clearly identifying what we can do as



a company and providing feedback.

In the area of corporate governance, NTN transitioned from a Company with a Board of Company Auditors to a Company with a Nominating Committee, etc., in June 2019. Under this structure, we are striving to enhance our corporate value over the medium and long term. The Board of Directors is now chaired by a female Outside Director. In addition, the Nominating Committee, Compensation Committee, and Audit Committee are all chaired by Outside Directors. In this way, we are employing a structure designed to strengthen governance and increase corporate value.

NTN’s purpose and push to higher corporate value

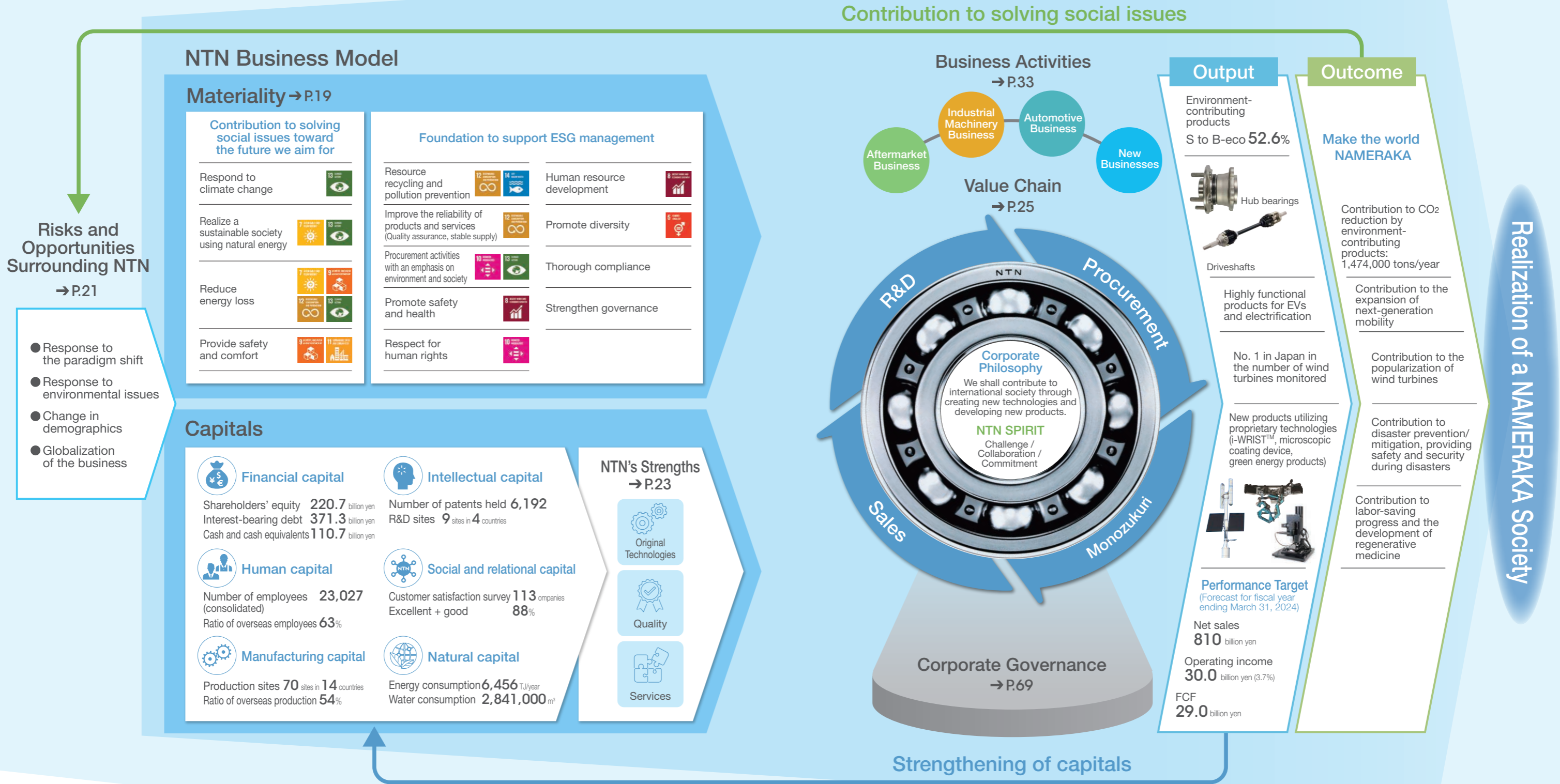
While pushing forward with efforts to reform our business structure over the past year, I reflected upon NTN’s mission and purpose as a citizen of the world. Specifically, I thought about how, for over a century, we have been supplying the world with products that minimize energy consumption by reducing friction, and that this fact is linked to our contribution to the global environment and forms the foundation of our Group’s business.

Over the next 50 to 100 years, our mission with respect to climate change and other global issues will be to help solve those issues by providing products and services while limiting the environmental footprint of our business wherever possible. I am confident that the accumulation of such activities will bear fruit and ultimately enhance our Group’s corporate value.

Lastly, I know that our price book-value ratio (PBR) is below 1.0 and must be improved. This is a matter we are discussing internally. We want to continue being a company that produces things we can leave to future generations with pride. With this in mind, we will move forward, striving to become a company valued by society and capable of increasing its economic value while appropriately returning profits to all of its stakeholders, including investors, shareholders, customers, employees, business partners, and society at large. I respectfully request your continued support for NTN in this endeavor.

Our Group has identified materiality to address the SDGs in order to solve social issues, and is developing business activities based on its corporate philosophy throughout the value chain by leveraging the management capital it has accumulated over its more than 100-year history and the uniqueness of NTN it has fostered.

By providing products and technical services, including bearings and driveshafts, and by creating environmental and social value, we aim to realize a “NAMERAKA Society” where people can easily lead a secure and fulfilling life in harmony with nature. We will continue to promote ESG management to achieve sustainable growth and contribute to solving social issues.



Risks and Opportunities Surrounding NTN
→ P.21

- Response to the paradigm shift
- Response to environmental issues
- Change in demographics
- Globalization of the business

NTN Business Model

Materiality → P.19

Contribution to solving social issues toward the future we aim for

- Respond to climate change
- Realize a sustainable society using natural energy
- Reduce energy loss
- Provide safety and comfort

Foundation to support ESG management

- Resource recycling and pollution prevention
- Human resource development
- Improve the reliability of products and services (Quality assurance, stable supply)
- Promote diversity
- Procurement activities with an emphasis on environment and society
- Thorough compliance
- Promote safety and health
- Strengthen governance
- Respect for human rights

Capitals

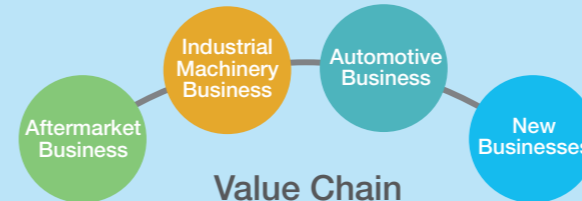
- Financial capital**
Shareholders' equity 220.7 billion yen
Interest-bearing debt 371.3 billion yen
Cash and cash equivalents 110.7 billion yen
- Human capital**
Number of employees 23,027 (consolidated)
Ratio of overseas employees 63%
- Manufacturing capital**
Production sites 70 sites in 14 countries
Ratio of overseas production 54%
- Intellectual capital**
Number of patents held 6,192
R&D sites 9 sites in 4 countries
- Social and relational capital**
Customer satisfaction survey 113 companies
Excellent + good 88%
- Natural capital**
Energy consumption 6,456 T.J/year
Water consumption 2,841,000 m³

NTN's Strengths → P.23

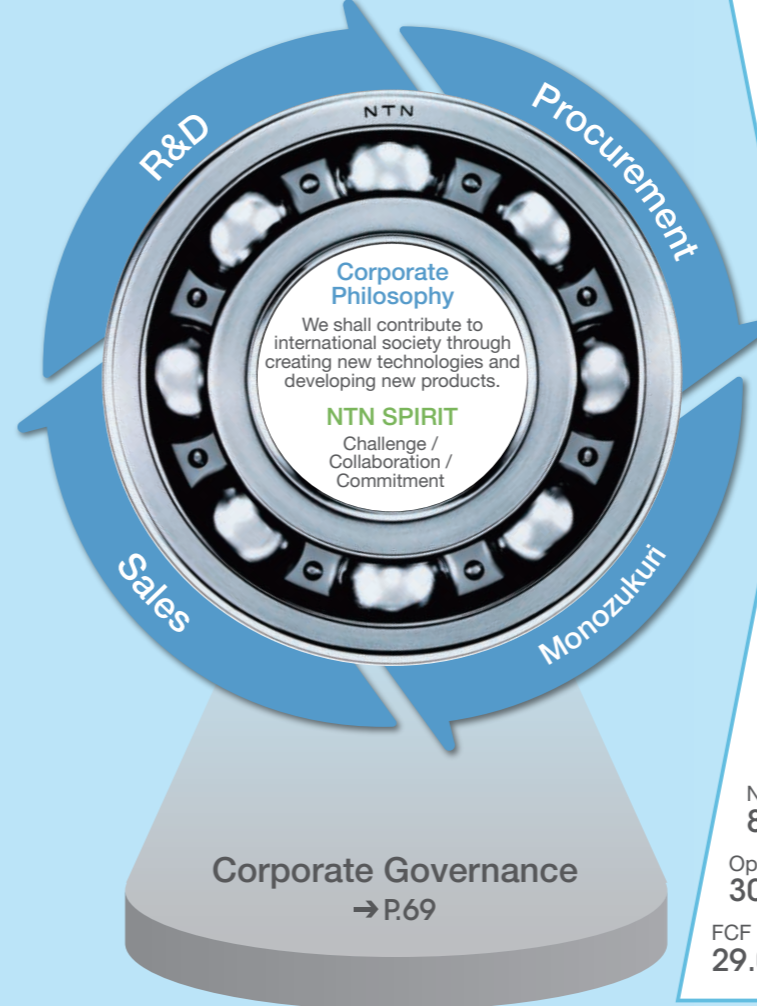
- Original Technologies
- Quality
- Services

Contribution to solving social issues

Business Activities → P.33



Value Chain → P.25



Output

- Environment-contributing products
S to B-eco 52.6%
- Hub bearings
- Driveshafts
- Highly functional products for EVs and electrification
- No. 1 in Japan in the number of wind turbines monitored
- New products utilizing proprietary technologies (i-WRIST™, microscopic coating device, green energy products)

Outcome

- Make the world NAMERAKA**
- Contribution to CO2 reduction by environment-contributing products: 1,474,000 tons/year
- Contribution to the expansion of next-generation mobility
- Contribution to the popularization of wind turbines
- Contribution to disaster prevention/mitigation, providing safety and security during disasters
- Contribution to labor-saving progress and the development of regenerative medicine

Performance Target
(Forecast for fiscal year ending March 31, 2024)

- Net sales 810 billion yen
- Operating income 30.0 billion yen (3.7%)
- FCF 29.0 billion yen

Strengthening of capitals

Realization of a NAMERAKA Society

In March 2015, we signed the United Nations Global Compact, which is a global framework for the international community to realize sustainable growth, and we are aiming to achieve the SDGs.

In December 2020, we identified 13 items of materiality that the Group should prioritize to address in response to the SDGs, and we are driving efforts to achieve the targets set for each materiality. Our initiatives toward materiality are outlined in a roadmap for realizing a “NAMERAKA Society,” and progress is regularly reviewed by the Sustainability Committee, which includes members from across the organization, and reported to the Board of Directors as appropriate.

The identified materialities are also linked to the NTN corporate philosophy of “We shall contribute to international society through creating new technologies and developing new products.” By promoting materiality initiatives, we aim to realize a “NAMERAKA Society” through the Group’s sustainable growth and the creation of environmental and social value.



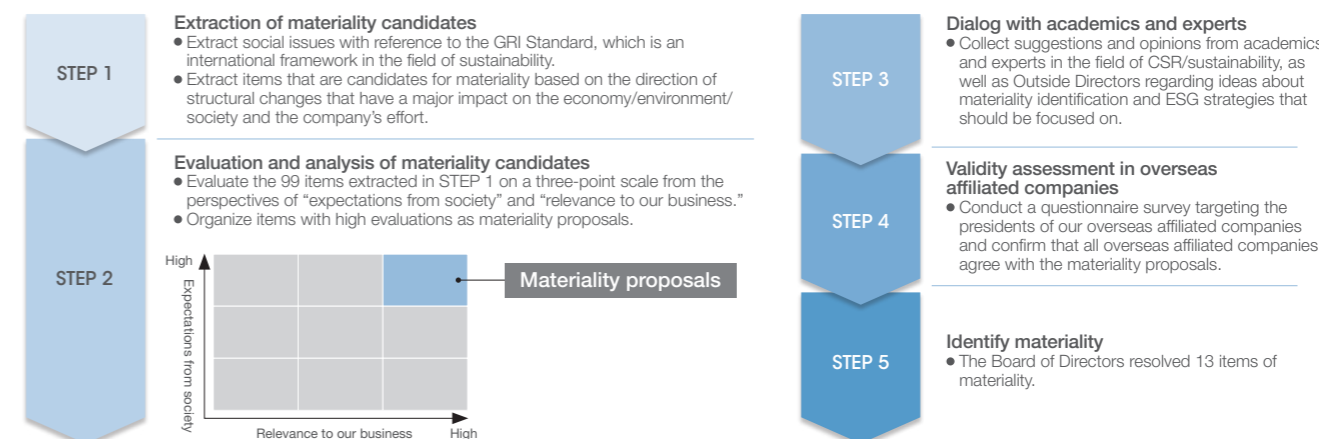
Contribution to solving social issues toward the future we aim for

	Materiality	Related SDGs	Target FY
Environment	1 Respond to climate change	13	FY2030 FY2035 FY2050
	2 Realize a sustainable society using natural energy	7, 13	FY2022 FY2023 (★)
	3 Reduce energy loss	7, 9, 12, 13	FY2022 FY2023 (★)
Social	4 Provide safety and comfort	9, 11	FY2022 FY2023 (★)

Foundation to support ESG management

	Materiality	Related SDGs	Target FY
Environment	5 Resource recycling and pollution prevention	12, 14	FY2022 FY2023 (★)
Social	6 Improve the reliability of products and services (Quality assurance, stable supply)	12	Continue FY2023 FY2023 (★)
	7 Procurement activities with an emphasis on environment and society	10, 13	Continue
	8 Promote safety and health	3	FY2022 Continue
	9 Respect for human rights	10	FY2022 Continue
	10 Human resource development	8	Continue
	11 Promote diversity	5	FY2023 December 2024
Governance	12 Thorough compliance		Continue
	13 Strengthen governance		Continue

Identification process



Target	Actual results of FY2022	Detail page
<ul style="list-style-type: none"> Reduce CO2 emissions in business activities (Scope1, 2) → 50% reduction (Compared to the FY2018) Reduce CO2 emissions in business activities (Scope1, 2) → Achieve carbon neutrality Reduce CO2 emissions in business activities (Scope3) → Achieve carbon neutrality 	<ul style="list-style-type: none"> Scope1, 2 Reduction of 22.6% compared to the FY2018 Scope3 Develop and promote action plans 	→ P.53
<ul style="list-style-type: none"> Development related to products and services that contribute to the stable operation of wind turbines → FY2022 Completion of development themes Development related to products and services that contribute to the stable operation of wind turbines → FY2023 Completion of development themes 	<ul style="list-style-type: none"> Launch a one-stop service that provides everything from bearing supply to abnormality detection and maintenance for wind turbines, etc. 	→ P.52
<ul style="list-style-type: none"> Development related to low friction, miniaturization and weight reduction of products for automobiles and industrial machinery → FY2022 Completion of development themes Development related to low friction, miniaturization and weight reduction of products for automobiles and industrial machinery → FY2023 Completion of development themes 	<ul style="list-style-type: none"> Development of high speed deep groove ball bearings for EVs and HEVs, etc. 	→ P.50
<ul style="list-style-type: none"> Development related to robot-related modules → FY2022 Completion of development themes Raise awareness of independent power supply units and implement proposal activities for disaster mitigation and disaster prevention 	<ul style="list-style-type: none"> Development of Rotary Actuator Type Hand, etc. N² N-CUBE was adopted by several municipalities (e.g., circulating flush eco-toilets, bus stop waiting areas, etc.) 	→ P.57
<ul style="list-style-type: none"> Development related to robot-related modules → FY2023 Completion of development themes Raise awareness of independent power supply units and conduct sales activities for disaster mitigation and local revitalization 		

Target	Actual results of FY2022	Detail page
<ul style="list-style-type: none"> Water consumption intensity → 4.30 m³/million yen (Japan) 3.14 m³/million yen (Overseas) Waste generation intensity → 164 kg/million yen (Japan) 279.4 kg/million yen (Overseas) Recycling rate → 97.9% (Japan) 97.5% (Overseas) Water consumption intensity → 3.98 m³/million yen (Global) Recycling rate → 96.0% or more (Global) 	<ul style="list-style-type: none"> 4.36 m³/million yen (Japan) 2.83 m³/million yen (Overseas) 159.7kg/million yen (Japan) 251.0 kg/million yen (Overseas) 98.7% (Japan) 96.2% (Overseas) 	→ P.58
<ul style="list-style-type: none"> Maintain high level of customer satisfaction → More than 90% of responses for “Excellent” and “Good” Maintain 100% certification for quality management systems (ISO9001/IATF16949) *Applies to domestic and overseas consolidated manufacturing subsidiaries (excluding bases that have not started mass production). 	<ul style="list-style-type: none"> “Excellent” + “Good”: 88% Maintain 100% certification 	
<ul style="list-style-type: none"> Number of participants in specialized quality education courses → 100 or more Progress in restructuring the domestic core systems Production area → Completed the introduction to all sites (For sales and logistics, financial accounting, human resources and salaries, and technology areas, already introduced in FY2021) Start of the information security emergency response system (NTN-CSIRT) 	<ul style="list-style-type: none"> 145 Introduction completed at 7 production sites → On track to complete implementation during FY2023 	→ P.60
<ul style="list-style-type: none"> Conduct CSR questionnaires for suppliers continuously and maintain and improve achievement level of results 	<ul style="list-style-type: none"> Result Achievement 87% 	→ P.61
<ul style="list-style-type: none"> Continue operation of occupational safety and health management system → 6 domestic manufacturing affiliates have acquired GSC certification Maintain “White 500” certification for Health and Productivity Management Organization (Large enterprise category) 	<ul style="list-style-type: none"> 2 companies have acquired certification → 4 companies that have not yet acquired the certificate are continuing their efforts to complete the achievement during FY2023 Accreditation maintained for three consecutive years 	→ P.66
<ul style="list-style-type: none"> Achievement of the annual plan of the Risk Survey targeting manufacturing sites → 100% Analyze and evaluate the results of questionnaires of overseas affiliates Survey on the situation of foreign workers working in Japan (Monitoring) 	<ul style="list-style-type: none"> Degree of achievement 100% Analysis and evaluation completed Started counting the number of foreign workers (monthly) 	→ P.67
<ul style="list-style-type: none"> Number of participants in “NTN Next Leader Program” → 50 Holding of “NTN PROUD AWARD” as ESG Corporate Award Ratio of female managers → 9% for NTN Ratio of male childcare leave acquisition → 30% 	<ul style="list-style-type: none"> 59 First Global Congress to be held in June 2023 4.4% for NTN 37.2% 	→ P.63,88 → P.65
<ul style="list-style-type: none"> Annual number of Compliance Committee meetings held → 2 Helpline recognition level in survey of compliance awareness → 85% or more *Raise the target to 90% or more in FY2023, and promote initiatives 	<ul style="list-style-type: none"> 2 88.4% 	→ P.77
<ul style="list-style-type: none"> Enhance Corporate Governance 	<ul style="list-style-type: none"> Enhance Corporate Governance 	→ P.71

*Targets marked with “continue” in the target FY are targets we will aim to achieve each year, and (★) are newly set targets.

Value Creation Story | Risks, Opportunities and Measures

NTN Group analyzes risks and opportunities for each business environment such as the global trend of carbon neutrality, the accelerating electrification to achieve the carbon neutral goal, labor shortages and human rights issues, and takes countermeasures in line with the materiality. In order to respond to drastic changes in the external environment, we are implementing regular reviews on anticipated risks and opportunities.

NTN's Business Environment	Risks for the Company	Opportunities for the Company	Main Measures	Materiality				
Response to paradigm shift	Spread of next-generation mobility	<ul style="list-style-type: none"> ● Decrease in the total number of bearings used per unit ● Demand for higher performance products such as lighter weight products ● Reorganization of the automotive industry 	<ul style="list-style-type: none"> ● Expansion of sales channels due to entry of new EV manufacturers ● Expanding sales opportunities for driveshafts and hub bearings that support not only gasoline-powered vehicles and HEVs but also axle/drivetrain of EVs ● Increase in ASP (average sales price) due to size-up of driveshafts corresponding to the motor's output characteristics 	<ul style="list-style-type: none"> ● Using driveshafts' patented technologies to propose products that are smaller and lighter ● Growing demand for high performance products for EVs ● A possibility of growth in demand for parts replacement as car sharing increases the operating rate of vehicles 	<ul style="list-style-type: none"> ● Provide lighter-weight, higher efficiency driveshafts and low friction hub bearings ● Provide next-generation mobility modules for EVs ● Concentrate production of high performance products for EVs (Wakayama Works) 	<ul style="list-style-type: none"> ● Develop hydrogen-related products ● Promote production reform and reorganization aimed at improving the productivity ● Strengthen the automotive aftermarket business 	2, 3, 4, 6	
	Electrification of industrial machinery	<ul style="list-style-type: none"> ● Reduced use of bearings due to electrification of internal combustion and hydraulic equipment 	<ul style="list-style-type: none"> ● Demand for high performance products such as higher efficiency products ● Increasing demand for high value-added products such as bearings with built-in sensors 	<ul style="list-style-type: none"> ● Strengthen development of products for electrification and high value-added products ● Provide next-generation mobility modules for industrial machinery 	<ul style="list-style-type: none"> ● Develop hydrogen-related products ● Promote production reform and reorganization aimed at improving the productivity ● Strengthen the automotive aftermarket business 	3		
	Spread of AI and IoT	<ul style="list-style-type: none"> ● Difficulty in securing digital talent, for which demand is increasing ● Rationalization of distributor network ● Securing of aftermarket demand using industrial IoT Platforms (PFs) (missed demand opportunities outside PFs) 	<ul style="list-style-type: none"> ● Advances in equipment-related manpower saving ● Rising demand for bearings with sensors ● Growing demand for analysis and analytical technologies 	<ul style="list-style-type: none"> ● Development of new fields ● Introduction of smart factories in the company 	<ul style="list-style-type: none"> ● Provide service solutions through CMS technology, etc. ● Develop service-oriented business that lead to product sales and transform into new business formats ● Strengthen CAE analysis technology ● Develop "Talking Bearings"™ (= use of sensors for bearings) ● Provide robot-related modules such as i-WRIST™ in response to labor-saving issues 	<ul style="list-style-type: none"> ● E-commerce based on the new IT core system ● Realization of smart factories including Wakayama Works ● Strengthen external collaboration 	2, 4	
	Spread of infectious diseases (COVID-19)	<ul style="list-style-type: none"> ● Decrease in scale of sales due to economic stagnation ● Crisis of business continuity ● Damage to employees' health and safety 	<ul style="list-style-type: none"> ● Shutdown of business activities due to the spread of infectious diseases within the workplace ● Disconnection of supply chain 	<ul style="list-style-type: none"> ● Growing demand for manpower-saving technologies ● Utilizing microscopic coating technologies for drug discovery 	<ul style="list-style-type: none"> ● Life science-related R&D centered on microscopic coating technology ● Provide robot-related modules such as i-WRIST™ in response to labor-saving issues ● Promote the work style reform 	<ul style="list-style-type: none"> ● Develop hydrogen-related products ● Promote production reform and reorganization aimed at improving the productivity ● Strengthen the automotive aftermarket business 	4, 8, 10	
Response to environmental issues	Reduction in CO2 emissions	<ul style="list-style-type: none"> ● Rising procurement and energy costs ● Decline in product needs due to the declining usage of general-purpose machinery ● Requirements for carbon neutrality in business activities 	<ul style="list-style-type: none"> ● Suspension of dealing with customers and deterioration of corporate image in the event of failure to respond to the demands of society 	<ul style="list-style-type: none"> ● Increasing demand for wind turbines, including offshore ones ● Increasing demand for railways ● Increasing demand for green energy products 	<ul style="list-style-type: none"> ● Increasing needs for improvement of fuel efficiency (electricity consumption efficiency) ● Expansion of next-generation mobility (EVs, hydrogen-related) 	<ul style="list-style-type: none"> ● Increase sales of large bearings and CMSs for wind turbines ● Increase sales for rolling stock ● Expand sales of green energy products ● Promote development of environment-contributing products ● Promote energy conservation in production facilities ● Introduction of renewable energy 	<ul style="list-style-type: none"> ● Develop lighter-weight, higher efficiency driveshafts and low friction hub bearings ● Provide next-generation mobility module ● Develop hydrogen-related products 	1, 2, 3
	Requests for energysaving machinery	<ul style="list-style-type: none"> ● Decrease in the number of parts where bearings are used due to changes in the energy transmission type and structure of machines ● Establishment of a new mechanical structure that does not require bearings 	<ul style="list-style-type: none"> ● Increasing demand for energy-saving products ● Responding to new needs 	<ul style="list-style-type: none"> ● Provide compact, lightweight and low-torque products ● Product development utilizing original technologies 	<ul style="list-style-type: none"> ● Develop and provide long operating life products ● Strict control of environmentally hazardous substances contained in products ● Expand bearing refurbish business and MRO business 	3		
	Reduction in environmental impact	<ul style="list-style-type: none"> ● Decrease in corporate image/ESG rating when environmental impact cannot be reduced ● Cost increase due to incurrence of costs by suppliers and limitation on suppliers that can meet environmental standards 	<ul style="list-style-type: none"> ● Development of new customers through compliance with advanced environmental and customers' standards ● Increasing demand for high-quality, long operating life products 	<ul style="list-style-type: none"> ● Promotion of environment-friendly business activities ● Pursuit of circular economy 	<ul style="list-style-type: none"> ● Selection of business partners that can comply with green procurement and CSR procurement standards ● Reduce environmental impact in manufacturing processes (conserve water, increase the recycling rate, reduce the use of hazardous materials, etc.) 	<ul style="list-style-type: none"> ● Develop and provide long operating life products ● Strict control of environmentally hazardous substances contained in products ● Expand bearing refurbish business and MRO business 	5, 6, 7	
	Response to natural disasters	<ul style="list-style-type: none"> ● Shutdown due to a disaster ● Spillage of oil, chemical substances, etc. caused by natural disasters ● Disconnection of supply chain 	<ul style="list-style-type: none"> ● Increasing demand for emergency power source ● Expansion of partnerships 	<ul style="list-style-type: none"> ● Formulation of BCPs and BCP drills at the NTN Group ● Provide independent power supply utilizing renewable energy-based power generation and storage technologies 	<ul style="list-style-type: none"> ● Develop and provide long operating life products ● Strict control of environmentally hazardous substances contained in products ● Expand bearing refurbish business and MRO business 	2, 4, 8		
Changes in demographics	Medium-to long-term labor shortage	<ul style="list-style-type: none"> ● Impact of a human-dependent production system on stability of operations 	<ul style="list-style-type: none"> ● Accelerating labor saving and automation of production lines 	<ul style="list-style-type: none"> ● Provide robot-related modules such as i-WRIST™ in response to labor-saving issues ● Realization of smart factories including Wakayama Works ● Promote and maximize the diversity of employees 	<ul style="list-style-type: none"> ● Promote production reform and reorganization ● Promote the work style reform 	4, 6, 8, 10, 11		
	Growth of emerging countries	<ul style="list-style-type: none"> ● Entry of emerging manufacturers ● Soaring procurement prices due to the entry of competitors ● Shortage of limited materials and resources 	<ul style="list-style-type: none"> ● Expansion of sales opportunities due to increasing demand ● Increasing demand for new driveshafts due to transition to front-wheel drive (FF) vehicles ● Increasing demand for high performance products that meet environmental regulations 	<ul style="list-style-type: none"> ● Stable supply of basic products ● Global production supporting optimal supply 	<ul style="list-style-type: none"> ● Realize the best mix of global and local procurement 	6		
	Issue of business succession	<ul style="list-style-type: none"> ● Suppliers and sales distributor going out of business 	<ul style="list-style-type: none"> ● Start of business with new suppliers 	<ul style="list-style-type: none"> ● Support business continuity through dialog with suppliers ● Develop new business partners 	<ul style="list-style-type: none"> ● Reorganize suppliers and shorten supply chain 	6, 7		
Globalization of the business	Trade friction and tariffs	<ul style="list-style-type: none"> ● Sluggish global demand ● Disconnection of supply chain caused by dependence on one country (China risk, etc.) 	<ul style="list-style-type: none"> ● Downward pressure on profits due to higher tariff costs ● Rapid exchange-rate fluctuations 	<ul style="list-style-type: none"> ● Expanding opportunities to supply products and services utilizing global networks 	<ul style="list-style-type: none"> ● Realize the best mix of global and local procurement through procurement reform 	6		
	Prevention of child labor (human rights)	<ul style="list-style-type: none"> ● Stopping the supply of parts ● Suspension of dealing with customers and deterioration of corporate image in the event of failure to respond to human rights issues 	<ul style="list-style-type: none"> ● Improvement of corporate image through active response to human rights issues 	<ul style="list-style-type: none"> ● Promote human rights due diligence ● Globalization of compliance ● Implement various training programs in compliance with laws and regulations in each region 	<ul style="list-style-type: none"> ● Start business with new suppliers ● Acquire new human resources 	6, 7, 9, 12		
	Response to conflict minerals	<ul style="list-style-type: none"> ● Deterioration of quality ● Suspension of dealing with customers and deterioration of corporate image in the event of failure to respond to conflict minerals issues 	<ul style="list-style-type: none"> ● Improvement of corporate image through active response 	<ul style="list-style-type: none"> ● Promote human rights due diligence ● Implement CSR questionnaire surveys of suppliers 	<ul style="list-style-type: none"> ● Respond to conflict minerals surveys conducted by customers ● Stable supply of adapted products 	6, 7, 9		
	Rise of low-cost products	<ul style="list-style-type: none"> ● Intensified price competition due to aggressive sales by emerging manufacturers ● Loss of sales opportunities ● Loss of brand value due to lower prices 	<ul style="list-style-type: none"> ● Growing demand for high performance, highly functional products due to lower quality of products on the market ● Demonstrating competitive advantage through differentiation of products and services 	<ul style="list-style-type: none"> ● Expand product lineup and inventory ● Develop markets for the aftermarket business ● Promote development of service-oriented businesses ● Active outsourcing of general-purpose products 	<ul style="list-style-type: none"> ● Integrated sales strategy in aftermarket and industrial machinery businesses ● Differentiation by services 	6		

Materiality → P.19

NTN is committed to investing the management capital it has accumulated over our 100+ year history to strengthen its strengths in original technology, quality, and service for future growth. NTN also deploys these strengths in each of its businesses to conduct business activities that meet the needs of the world.

Invested Capital

Number of patents held: 6,192
Enhanced correspondence education and training system for technical personnel development

R&D sites: 9 sites in 4 countries
Global structure supporting high technological capabilities

R&D expenditures: 18.7 billion yen
Ratio of R&D expenditures to net sales: 2.4%
Invested in R&D for sustainable growth

Number of employees (consolidated): 23,027

Production sites: 70 sites in 14 countries
•Eight representative teams from around the world participated in the Global QC Circle Convention
•69 teams from all over the world entered NTN PROUD AWARD

Energy consumption: 6,456 TJ/year
Promotion of CO₂ emissions reduction and renewable energy introduction

Capital investment: 22.3 billion yen
Manufacturing process to maintain and improve quality

Customer satisfaction survey: 113 companies, Excellent + Good: 88%
•The number of technical service car visits for the fiscal year ended March 31, 2023 was 235
•Held 335 aftermarket Webinars

Production sites: 70 sites in 14 countries
In addition to global production, "FIRST", a system for the immediate delivery of popular products, is in operation

SG&A expenses: 108.8 billion yen
SG&A expenses that support service with high levels of satisfaction

NTN's Three Strengths

Tribology technology

- We are strong in manufacturing technologies such as heat treatment, precision machining, and precision measurement, which are indispensable for bearing manufacturing, and we pursue tribology technology through bearing R&D.
- We develop and sell not only rolling bearings, but also sliding bearings, electrical and mechanical parts, and unit/module products combining them as composite material products, using a wide range of materials such as resin, sintered metals, magnetic materials, etc., and advanced technologies such as fluid dynamic pressure technology



Sensing technology

- Development and supply of products equipped with high-resolution rotation sensors and double-row magnetic rings, which are the extension of NTN Europe's ASB® (Active Sensor Bearing) technology, the world standard
- Developed monitoring services for large wind turbines using the Condition Monitoring System (CMS) and achieved the top market share in Japan with more than 200 units installed through extensive support

Product quality

- High reliability proven by a long track record of supplying products for applications that support human life, such as the Shinkansen and aerospace, by developing a quality control system that won the Deming Prize, the first of its kind in the Japanese machinery industry
- Achieving the world's top class share in axle/drivetrain products that support safe driving



Personnel and work quality

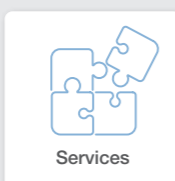
- Human resource development for passing on know-how through the Global QC Circle Convention, the NTN Technical Skills Competition, and the TQM Convention
- Encouraging ESG activities by employees with the NTN PROUD AWARD

Global network

- Providing products and services to customers from approximately 200 locations in 34 countries around the world
- Responding to market needs in each region through a four-pole global R&D system

Problem-solving customer responsiveness

- No.1 aftermarket share in Japan with the largest distributor network in Japan
- Providing remote technical support services globally
- Contribution to solving all kinds of customer issues by providing detailed support (from products to solutions)



Future Direction

- Differentiation through evolution of cultivated technologies, including low friction and multifunctional hub bearings
- Development of products to achieve carbon neutrality, such as hydrogen-related products

- Responding to new CASE market needs such as autonomous driving and sharing
- Development and advancement of AI algorithms to predict remaining useful life
- Development of "Talking Bearings™," which incorporate a sensor in the bearing that transmits abnormalities

- Stable supply of high-performance products
- Expanding the sophistication of quality control using IoT and AI to the manufacturing sector, including suppliers

- Strengthening the development of human resources who can "think and act by themselves" to achieve workplace goals
- Our corporate philosophy is instilled in our employees around the world

- Sales expansion in the Middle East and Africa regions

- Providing advanced preventive maintenance services through the use of big data
- Expanding remote technical support services and online technical workshops for end-users

Deployment of Strengths in Each Business

Aftermarket business → P33

Expansion of services through hardware + software
In the aftermarket for all types of machinery, the need for maintenance services and solution businesses for entire facilities rather than just bearings is expanding, driven by the spread of AI and IoT.
NTN has the No. 1 share of the domestic aftermarket with its leading distributor networks and services, and has also expanded its overseas network. In the future, we will expand our services by utilizing our sensing technology and other know-how and digital technologies to capture further demand.

Industrial machinery business → P35

Addressing climate change
Renewable energy is increasingly being deployed to achieve a carbon-neutral and decarbonized society.
We are strong in large bearings for the main shafts of wind turbines, and we also have the largest market share in Japan for condition monitoring systems (CMS) for wind turbines. In addition, we also sell green energy products that utilize our proprietary blade technology, which we expect to grow as the market expands.

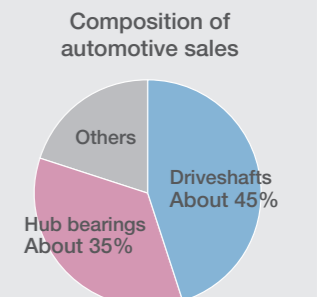
Robotization
At manufacturing sites, there is a growing demand for labor savings and further efficiency gains due to labor shortages.
We are contributing to manpower saving and automation through high value-added products such as sensor-integrated bearings and Multi Track Magnetic Rings in addition to the i-WRIST™ wrist joint module based on CVJ technology. With the increasing demand for robotization, we expect to expand sales of related products.

Automotive business → P37

Adaptation to EVs
As the automotive market demands environmental responsiveness, fuel efficiency and CO₂ emission regulations for automobiles are being tightened in many countries, and the shift to EVs and electrification is accelerating at the initiative of governments.

We boast the world top class share of the market for hub bearings, which support tire rotation, and driveshafts, which transmit the rotation of engines and motors to tires, and our strength lies in our high technological capabilities and dominant market share in automotive axle/drivetrain products.

Driveshafts and hub bearings are our main products, accounting for approximately 80% of our automotive sales, and are essential not only for internal combustion engine vehicles (ICEVs) but also for electric vehicles such as HEVs and EVs, and demand is expected to continue growing. We will pursue further weight reduction, higher efficiency, and lower friction, and provide highly functional products to ensure our superiority in the market.



Value Creation Story | Strengths and Materiality Initiatives along the Value Chain

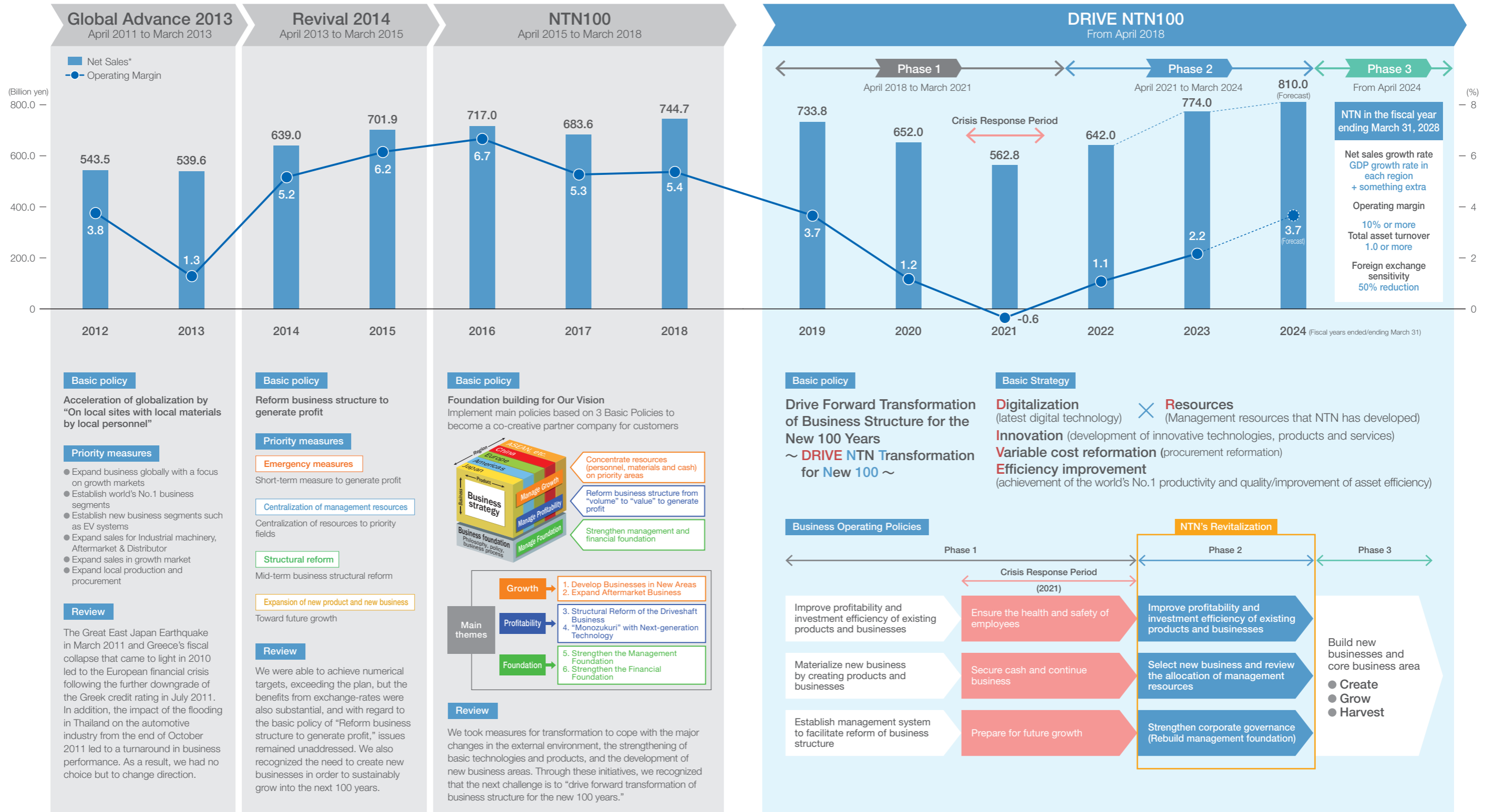
The Group is promoting initiatives in line with the materiality to respond to the SDGs by leveraging its strengths in R&D, procurement, Monozukuri (manufacturing), sales, and each of these processes. In developing business activities based on our corporate philosophy of “we shall contribute to the international society by creating new technologies and developing new products,” we create value in the value chain, leading to sustainable growth.



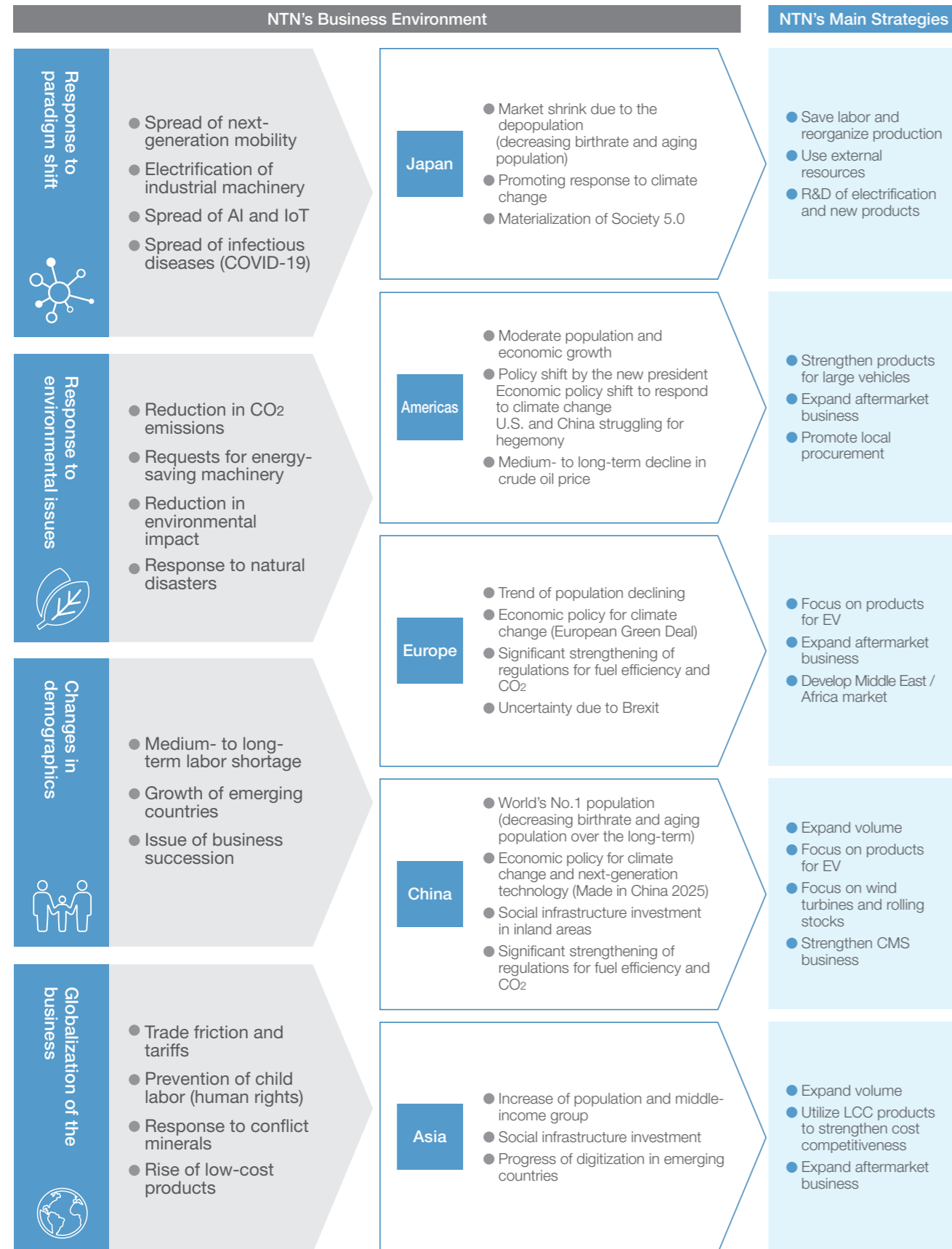
Connecting to new R&D themes



In 2018, when we celebrated our 100th anniversary, we launched the Medium-term Management Plan "DRIVE NTN100" to drive forward transformation of the business structure for the new 100 years. For the three years from the fiscal year ended March 2022 to the fiscal year ending March 2024, we are working on various measures as initiatives for the Medium-term Management Plan "DRIVE NTN100" Phase 2.



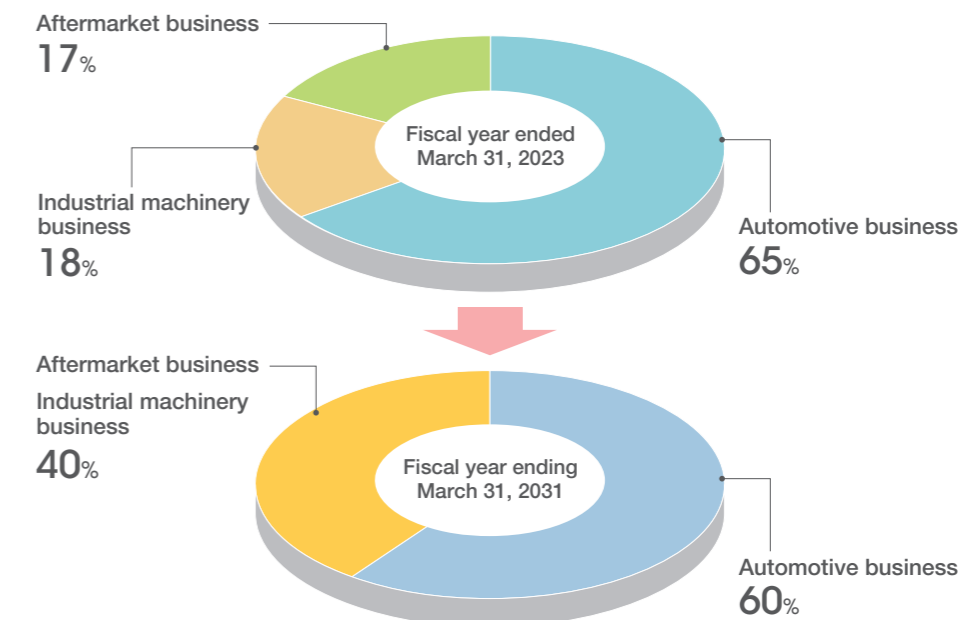
* "Loyalty," which was previously included in "non-operating income," has been changed to be included in "net sales" from the fiscal year ended March 31, 2021. The period for retroactive adjustment is after the fiscal year ended March 31, 2017, which is subjected to audit by an audit firm.



We categorize NTN's main businesses into a "Creation sector," "Growth sector," and "Harvest sector" and concentrate management resources on these sectors. As to business portfolio, we focus on expansion of aftermarket business.

	Industrial machinery business	Aftermarket business	Automotive business
Creation sector Establish new areas for future growth	<ul style="list-style-type: none"> ● Life sciences (drug discovery and regenerative medicine) ● Hydrogen energy market ● Expand market for wrist joint robots ● Condition Monitoring (CMS) 	<ul style="list-style-type: none"> ● Expand sales in the Middle East and Africa ● Develop "Talking bearing" and "Thinking bearing" 	<ul style="list-style-type: none"> ● Products adapting to electrification ● eHUB, sHUB ● Electric brake
Growth sector Expand businesses Concentrate resources	<ul style="list-style-type: none"> ● Green energy products ● Robot / gearbox ● Wind turbines (ultra-large size bearing) ● Machine tools (European market) ● Rolling stock (Chinese market) 	<ul style="list-style-type: none"> ● From product sales business to service-oriented business ● Strengthen MRO ● Bearing refurbish business ● Failure detection 	<ul style="list-style-type: none"> ● Products adapting to electrification ● Electric module products ● Existing products fitting EV ● Low friction, higher efficiency
Harvest sector Secure stable profit	<ul style="list-style-type: none"> ● Improve profitability by enhancing cost competitiveness ● Construction machinery (electrification and high-performance products) ● Agricultural machinery (sales expansion of CVJ for industrial machinery) ● Aerospace 	<ul style="list-style-type: none"> ● Secure saleable inventory ● Highly competitive products (BU, etc.) ● Use of overseas production and external procurement 	<ul style="list-style-type: none"> ● Focus on the vehicle segment where NTN's strengths can be utilized ● Optimize customers portfolio ● Secure volume in growth markets
Reduce fixed cost and expand supply capacity by outsourcing manufacturing (breaking away from self-sufficiency) of standard products such as ball bearings			

Business composition ratio



NTN's basic stance on R&D

With the goal of contributing to the realization of a carbon-neutral society, our group is promoting research and development based on two pillars: the evolution of our core products, such as rolling bearings, hub bearings, and driveshafts, and the application of our accumulated technologies to new areas, or exploration.

We will accelerate our contribution to the international society by promoting the following six areas set forth in the Mid-term Management Plan "DRIVE NTN100" Phase 2, while strengthening external collaboration with the NTN Next Generation Research Alliance Laboratory, Osaka University, which started its new structure in April 2023.

Executive Officer CTO (Chief Technology Officer) **Masaki Egami**



Six target areas to invest R&D resources

1 Service/solution

The need for predictive maintenance through equipment condition monitoring is increasing at manufacturing sites. While maintaining the standard size of a rolling bearing, we have developed a "Talking Bearing™" that incorporates a sensor, power generation unit, and wireless device to measure temperature, vibration, and rotational speed, and transmit the obtained data wirelessly. Talking Bearings™ are products that do not require special equipment design or wiring for installation and facilitate the introduction of equipment condition monitoring, contributing to improved production efficiency and stabilized quality at production sites. In addition, a bearing diagnostic application compatible with the industrial IoT platform "Edgexross" has been developed and a free trial version is now available. Industrial PCs and related equipment with the basic software installed are loaned free of charge for a certain period of time to users who are considering building an IoT system to experience the usefulness of this application.

In the future, we will work to expand our service business by integrating AI analysis technology with bearing technology to further enhance the functionality of condition monitoring.



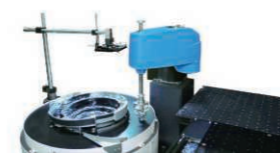
Talking Bearing™

2 Robot-related module

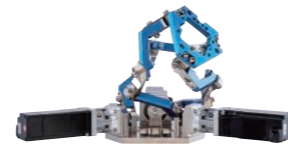
We have launched the TRINITTE™, our unique feeder for picking robots that supplies parts from a rotating disk and automatically resupplies parts even if they are missed, and it has been well received. We have developed a compact and lightweight "Rotary Actuator Type Hand" for picking robots to be used in combination with TRINITTE™. When attached to a SCARA robot, picking can be performed from the side or diagonally. This product can significantly reduce the number of parts missed, and it realizes stable and continuous picking of parts with an inexpensive equipment configuration.

In the i-WRIST™ wrist joint module for robots, the maximum weight capacity has been increased from 1 kg to 3 kg to accommodate a wider range of end-effectors than before, which has been well received.

We will continue to propose module products for robots that contribute to the promotion of efficiency and automation as a measure to reduce manpower at manufacturing sites.



TRINITTE™ cooperatively connected with a picking robot



i-WRIST™ IWS series



Bearing with Insulating Coating

Applied areas in parallel axis e-Axle (red circle)

3 Next-generation mobility module

To achieve carbon neutrality, the electrification of automobiles and EVs is essential, and we are developing module products that will contribute to the further enhancement of rolling bearing functionality and performance, as well as to the electrification of automobiles.

We have developed and started providing samples of "Bearing with Insulating Coating" and "Creepless Bearing" to suppress electrical pitting of bearings and wear of aluminum housings, which are increasingly required as electric drive units become smaller and higher voltages are applied. In addition, we have developed a rolling bearing that achieves a dmn value* of 2.2 million as a further high-speed response to "High Speed Deep Groove Ball Bearings for EVs and HEVs," which support the miniaturization of motors.

We will continue to develop products that anticipate market needs and contribute to the shift to EVs, autonomous driving, and carbon neutrality by leveraging our core competencies and incorporating next-generation technologies.

* dmn value: An index of bearing rotational performance; bearing pitch circle diameter (mm) x rotational speed (min⁻¹)

"DRIVE NTN100" Phase 2

Investing R&D resources in six target areas

R&D Direction

- Carbon neutrality (Reduction of environmental impact and decarbonization)
- Pursuit of safety, security, and comfort

NTN's Intellectual Property Strategy

The Group's intellectual property is a source of creating new value, and we are promoting the appropriate protection and utilization of intellectual property rights globally in line with our business and R&D strategies.

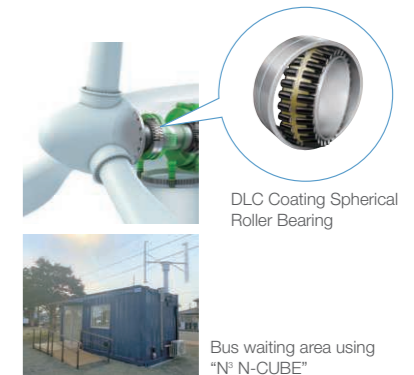
In addition to intellectual property rights that will help maintain and strengthen the competitiveness of our core products, we will create intellectual property that will ensure pioneer profits by utilizing the IP landscape in new areas. In the field of energy supply including wind power generation in GX*, our group has obtained many patents among bearing manufacturers. Production technology and software are also important technologies that we will protect and utilize through our open/closed strategy to improve our competitive advantage.

*GX: Green Transformation

4 Renewable Energy-related

The main shaft bearings are becoming larger in diameter in line with the increasing size of power generation equipment, particularly for offshore wind turbines. We have developed a market for Asymmetrical Spherical Roller Bearings with a DLC (diamond-like carbon) coating on the roller surface for superior wear resistance, contributing to the stable operation of wind turbines.

Meanwhile, we are developing the N³ N-CUBE, a mobile power supply using natural energy, for the market. For the purpose of disaster prevention and regional infrastructure development, the product is used in evacuation centers during disasters, emergency food and medical supplies storage warehouses, waiting rooms at bus stops in locations where it is difficult to install grid power, flush toilets with freestanding treatment tanks, and workstation facilities. With increasing awareness of safety and security, it is expected to be applied to a wide range of applications. We continue to contribute to the creation of a safe and secure community for local residents.



DLC Coating Spherical Roller Bearing

Bus waiting area using "N" N-CUBE"

5 Hydrogen-related

Hydrogen is attracting attention as a next-generation energy source, and technological development is being actively pursued globally in all aspects of its utilization, including production, transport, storage, and use. We are developing the application of products used in high-pressure hydrogen compressors for hydrogen stations, which are indispensable for the widespread use of fuel cell vehicles (FCVs). Mechanical parts used in hydrogen-related equipment are used in special environments such as hydrogen exposure and high pressure, requiring higher reliability and durability.

We have started sample production and delivery of Hydrogen Embrittlement Resistant Bearings with longer service life achieved by special heat treatment technology to prevent premature failure of rolling bearings caused by hydrogen. In addition, resin products developed using our composite material technology have been adopted as sealing components for hydrogen environments, and we are working to further improve their performance through industry-academia collaboration.

We will continue to promote the development of technologies and products applicable to FCVs and equipment for various infrastructure facilities necessary for the social implementation of hydrogen.



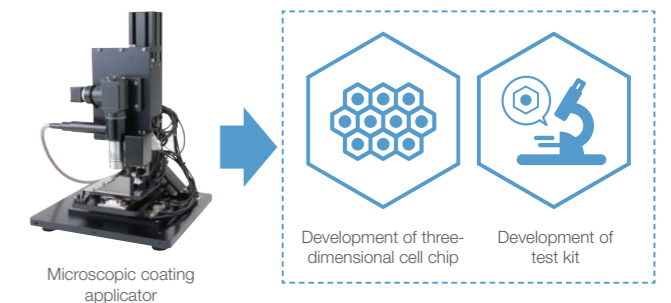
Hydrogen Embrittlement Resistant Radial Bearing

Hydrogen Embrittlement Thrust Bearing

6 Life Science-related

As one of the applications of our proprietary microscopic coating applicator, which excels in the quantitative and fixed positional application of high-viscosity liquids, we are developing cell chips with human iPS-derived cells coated on a plate. Using this device, it is possible to form three-dimensional cellular tissue, and it has been shown that the response is more similar to that of the human body than conventional two-dimensional tissue. It is expected to replace animal experiments using mice and other animals for safety evaluation in the drug discovery process.

We will continue our manufacturing research for further functionalization and mass production of 3D cell chips to contribute to improving efficiency and speeding up the development of next-generation drug discovery.



Microscopic coating applicator

Development of three-dimensional cell chip

Development of test kit

Aftermarket Business

Aiming at both share expansion and profit ratio improvement

Executive Officer **Etsu Harima**



In our aftermarket business results in the fiscal year ended March 2023, both sales and operating income marked a record high, with an operating margin of 16.6%. We understand these results as outcomes of our continued price increase activities, including price list revision, to enable us to reflect higher prices of raw materials, energies, etc. in selling prices, as we did in the previous fiscal year. However, we are still behind global competitors in terms of the market share in the global market, and I think there is room for us to increase the sales profit ratio further.

With regard to standard catalog products, expansion of fast-moving items inventory and development of a prompt delivery system will lead to a wider sales opportunity. Therefore, we will increase the number of sales companies accessible to FIRST, a system for the immediate delivery of popular products, while expanding inventories of popular products for the aftermarket. I think we can increase our sales further by improving inventories of popular products and developing an immediate delivery system for orders from all over the world.

As for MRO (Maintenance, Repair and Overhaul) projects, we put our focus on relatively large bearings such as those for steel manufacturing and paper manufacturing machines. In addition to standard products, which are facing harsher price competition under commoditization, we will strengthen sales activities for high value-added bearings by leveraging NTN's strengths. We will also focus on responding to new demands by enhancing our supply capacity for the aftermarket through production transfer to overseas, as

well as expanding our production capacity at domestic plants. In response to demand for replacement of automotive-related bearings and constant-velocity joints, we are implementing activities appropriate for each locality, with a view to transferring our headquarters functions to Europe, a center place of our sales.

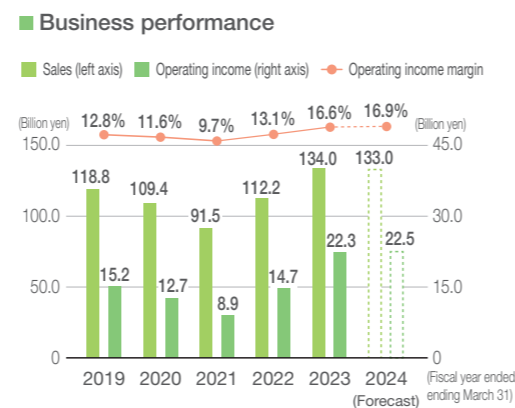
We are also promoting expansion from products to services, in other words, innovation to businesses that will make profit by adding various services to bearings. More specifically, we have started measurement of operating data of industrial machinery and facilities using "Talking Bearing™" with built-in sensors and generators, and analytical and diagnostic report services for measurement data obtained by using NTN Portable Vibroscope. In remote technical support services, we have enabled engineers in Japan to provide advice on equipment for overseas users via monitors. Through steady implementation of a series of these initiatives, we will establish a business model for providing even better services, beyond simply selling bearings.

In our future aftermarket business, we will focus on providing high added-value by not only enhancing the "availability" of inventories through the FIRST immediate delivery system for general-purpose products but also improving "solutions" through combination of various services. In the aftermarket business, which is indispensable for higher productivity and stable operation of customer equipment, we are creating a system that is not significantly affected by fluctuations in market demand. With our eyes on capturing further global demand, etc., we will strive to achieve an even higher profit ratio.

Results for the fiscal year ended March 31, 2023 and forecast for the fiscal year ending March 31, 2024

Net sales for the fiscal year ended March 31, 2023 totaled 134.0 billion yen as a result of year-on-year growth in all regions, including overseas and Japan, due to a recovery in demand from the COVID-19 pandemic and strengthened supply capacity, despite the impact of the situation in Ukraine. Operating income was 22.3 billion yen, a record high for both net sales and operating income, as a result of efforts to absorb cost increases caused by external factors such as surging raw material and energy prices, which were passed on to selling prices.

For the fiscal year ending March 31, 2024, we are forecasting net sales of 133 billion yen, down 1 billion yen year on year, due to the still uncertain situation in Ukraine and the risk of a global economic recession, but excluding the impact of exchange rates, we are forecasting 103% year on year volume growth. In the current fiscal year, we will continue to strengthen our supply capacity for the aftermarket, as we did in the previous fiscal year, and at the same time, we will continue to raise prices by revising the price list and other means in order to pass on higher inflationary costs to selling prices, aiming to improve profit margins.



"DRIVE NTN100" Phase 2 strategy

Initiatives to be focused on during the three-year period (From the fiscal year ended March 31, 2022 to the fiscal year ending March 31, 2024)

- By sharing sales strategies across different types of businesses, concentrate resources on important industries
- Strengthen organizational structure to improve supply capacity, service response, and profitability
- Strengthen e-commerce
- Promote business development in the service-oriented business

2020	2021-2023	2024-
Rebuild revenue base		From products to services
Increasing the brand value		
Strengthen product-and-service business Expand bearing refurbish business Use of NTN Portable Vibroscope (In addition to sales of devices, analysis report business)		Commercialize the condition monitoring of customers' equipment by utilizing sensor technology and IoT and grasp the demand for bearing aftermarket
Strengthen service response Strengthen technical support functions in overseas sales companies (ASEAN and India regions) Technical service units activities and technical seminars for distributors Further strengthen measures against counterfeit bearings		Develop and expand technical service through the use of remote support cameras
Strengthen the ability to supply Maintain available stock for aftermarket Prioritize production capacity for aftermarket (use of new IT core system) Expand use of overseas manufacturing sites and external procurement		Accelerate "Made by NTN" by actively utilizing products manufactured overseas Strengthen the network system with distributors and expand e-commerce
Strengthen structure and organization Expand sales in growing industries through integrated response from OEM to aftermarket Improve profitability by short-term concentration through task force activities for key market Strengthen sales structure in the Middle East and Africa (A sales company established in UAE in January 2021)		Relocate automotive aftermarket's headquarters functions to Europe Expand sales in potential markets such as China through the use of resources in Europe

TOPICS

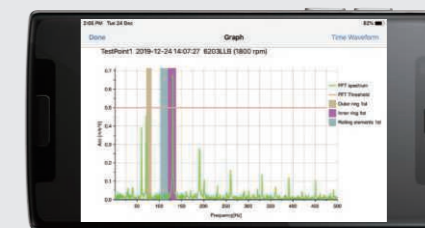
Initiatives to strengthen supply capacity

We are working to enhance our brand value to expand our aftermarket business. One of these measures is to strengthen supply capacity for the aftermarket. In order to ensure a stable supply of popular products to our global distributor network, which is one of NTN's strengths, we are expanding our "FIRST" system for immediate delivery of popular products for the aftermarket. FIRST is a system that keeps an inventory of popular products for aftermarket and automatically supplies bearings to NTN Group sales companies according to actual sales.

In terms of production, we are shifting to overseas production of standard small radial ball bearings in order to expand supply capacity. We promise to provide global quality by "Made by NTN", maintaining the same quality as products manufactured in Japan even if they

are manufactured overseas. We are also expanding our production facilities in Japan for medium-sized radial ball bearings to supply for the aftermarket in a timelier manner.

In addition to product supply, we are also working to strengthen our aftermarket service. NTN Portable Vibroscope is easily portable and can be used to diagnose the condition of equipment and bearings periodically. For the purpose of preventive maintenance of operating facilities, we have started a business to provide customers with a "diagnostic report service" in Japan by analyzing the data measured by this device. We have received numerous inquiries since we launched promotional activities for this business on the web in March 2023. We plan to expand this business globally.





Industrial Machinery Business

Enhancing the profitability through strategic expansion

Executive Officer **Etsu Harima**

In the industrial machinery business, both of our sales and operating income hit a record high in the fiscal year ended March 31, 2023. The operating margin was over 5%, partly due to our continuous cost reduction activities, price increases in unprofitable businesses, and influence of exchange rates. However, we are far from satisfied with these figures, and have already recognized issues for improvement in all fields of production, sales, and technologies. By addressing these issues properly, we think that the operating margin will improve further.

As specific measures, we will shift from the strategy of pursuing the scale of sales through low-margin, high-volume sales. In terms of bearings, we regard ourselves to be reaching a point of transition from offering a comprehensive collection of products, like department stores, to focusing on markets where we can demonstrate our value.

On the other hand, we are also required to respond to higher costs, such as raw materials, fuels, and labor. We need to take a two-way strategy of continuing activities for productivity improvement and cost reduction while reflecting higher costs in product prices. For unprofitable businesses, price increase and scale reduction are required, together with strategies for fighting out in focused growth markets. As for general bearings, we will concentrate on offering added value, by assuming growth of competitors in China and India.

Markets we think we should focus on in the future include construction machinery, agricultural machinery, and industrial robots, for which growing demand are expected, as well as infrastructure-related markets such as wind power generation and rolling stock.

With the current trend of decarbonization, big business opportunities will emerge if a shift from

internal combustion engines to motors advances also in construction machinery and agricultural machinery. This is because many of motor manufacturers are already our customers in the industrial machinery industry, so we are promoting initiatives that will surely connect this competitive advantage to outcomes.

With regard to industrial robots, the demand has been growing for the purpose of labor-saving, and robot arm reducers, one of its indispensable components, are indeed a collection of bearings. We will respond to new demands by providing bearings necessary for realizing high-accuracy movement.

As for wind power generation, a long design life of 20 years or more is required, and thus extra-large sized bearings to be built into such equipment must ensure an extremely high quality and reliability. In this regard, we have strength of our competitive advantage recognized in the big Chinese market. We will differentiate ourselves and provide high added value by using CMSs (condition monitoring systems) that realize timely replacement of bearings through monitoring. We consider wind power generation to be a promising market, partly because Japan also seems to focus on offshore power generation in the future.

For rolling stock application, which requires high quality and reliability, China is likewise an important market for us. In the Chinese market, domestic production of main parts such as bearings has been promoted as a national policy, to which we need to pay attention regarding its future development. We will continue to focus on launching new products and services in growing markets to further improve our operating margin.

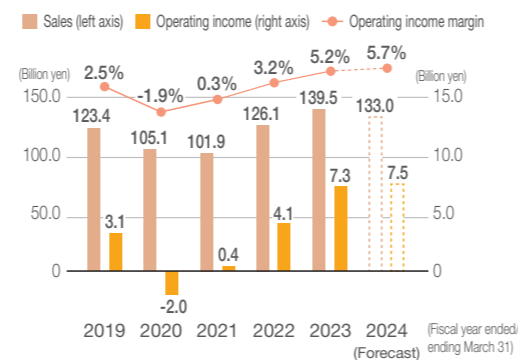
Results for the fiscal year ended March 31, 2023 and forecast for the fiscal year ending March 31, 2024

In the fiscal year ended March 31, 2023, sales reached a record high of 139.5 billion yen on the back of increased sales for construction machinery due to increased mining demand and for aircraft due to a recovery in passenger demand. Although there were increases in proportional costs such as steel and energy prices, record operating income of 7.3 billion yen was achieved due to activities to pass on selling prices and the impact of foreign exchange rates.

In the fiscal year ending March 31, 2024, the demands of aircraft and gearbox are expected to remain strong. On the other hand, for wind power generation, with the peak demand in 2020, the demand adjustment phase is expected to continue in the current fiscal year.

Under these assumptions, we will work to further improve profit margins. We will continue to pass on inflationary costs, raise prices and withdraw from unprofitable businesses, and engage in cost reduction activities such as procurement of low-cost parts, including those made in India, mainly for bearings for wind power generation and rolling stock.

Business performance



“DRIVE NTN100” Phase 2 strategy

Initiatives to be focused on during the three-year period (From the fiscal year ended March 31, 2022 to the fiscal year ending March 31, 2024)

- Select target areas
- Improve selling price and reduce or withdraw from unprofitable areas
- Reduce costs by procuring materials and parts from optimal locations (actively utilize materials from China and India)
- Expand sales of Wrist Joint Module “i-WRIST™”
- Expand service / solution business (CMS)
- Expand renewable energy-related products

	2020	2021-2023	2024-	
		Rebuild the revenue base	VS FY2020	
			Growth strategy to respond to market change	
Creation sector	Robot-related business (i-WRIST™)	Gain large customers Promote acquisition of overseas certified standard	↑↑↑	Expand overseas business Develop new applications and derivatives
	Service / solution business (CMS)	Establish maintenance service for wind turbine bearings and overseas expansion	↑↑↑	Gain bearing demand by leveraging CMS technology
	Gearbox	Develop RV gearbox bearing Expand sales of elastic bearings for wave motion gears	↑↑↑	Expand sales in China (Follow changes in the industry)
Growth sector	Wind turbine	Focus on capturing demand in China Drive sales and profit increase	↑↑↑	Improve profitability by capturing aftermarket demand Expand production capacity
	Machine tools	Expand sales of machine tools in China and India Utilize products manufactured in a plant in Germany to sell them on the European market	↑↑	Expand CMS needs due to spread of IoT Expand sales of bearings with sensors
	Rolling stock	Promote drastic cost reduction measures including local production in China	↑↑	Capture demand for railway network expansion and subway in China
Harvest sector	Construction machinery	Utilize competitive materials and components Adapt to electrification, shift to high function products	↑	Follow changes in social structure and infrastructure Make sure to capture demand for electrification
	Agricultural machinery	Expand sales of high value-added products Expand sales of CVJ for industrial machinery	↑	
	Aerospace	Withdraw from or reduce unprofitable projects Improve profitability by concentrating production in NTN Europe	→	Earn profits in MRO market Expand sales for space industry

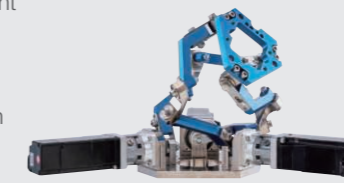
TOPICS

Wrist joint module “i-WRIST™” IWS series improved portability

A new grade “IWS-C01” with improved portability of the “IWS series” of i-WRIST™ wrist joint modules has been developed. The maximum payload has been increased from 1 kg to 3 kg, enabling a wider range of end-effectors to be mounted and products to be handled than in the past, and contributing to automation and streamlining of various manufacturing processes as well as labor savings at production sites.

Specifically, when controlling the posture of products with i-WRIST™ in visual inspection applications, it is possible to handle not only small and lightweight plastic parts, but also most products that are heavy enough to be handled by human hands, such as small aluminum die-cast parts. In addition, when “i-WRIST™” is controlled by an end-effector attached to it, it can be equipped with large lighting and a high-performance camera, enabling detection of finer scratches and dents. In addition to visual inspection, the system can also be utilized in processes where the load on the end-effector fluctuates greatly, such as deburring.

Through further performance improvement and application development of “i-WRIST™”, NTN will contribute to automation, efficiency, and quality stabilization at manufacturing sites.



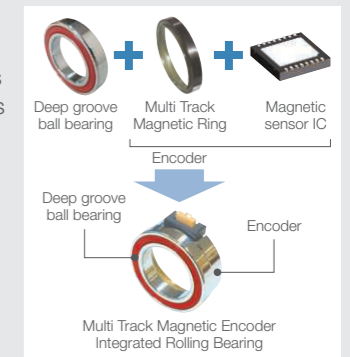
i-WRIST™ IWS series

Development of “Multi Track Magnetic Encoder Integrated Rolling Bearing”

As a product that supports the expansion and diversification of robot demand, we have developed a “Multi Track Magnetic Encoder Integrated Rolling Bearing” that has excellent environmental resistance and is capable of high-precision angle detection. A magnetic ring and sensor are attached to the deep groove ball bearing that supports the joint mechanism of the robot to provide detection of rotational speed, direction, and absolute angle, contributing to improved robot performance, smaller and lighter weight, and reduced man-hours for assembly and set-up. In addition, magnetic encoders have excellent environmental resistance, enabling high detection accuracy even in operating environments where dust and oil are present.

The developed product integrates a bearing and a magnetic encoder, eliminating the need for mounting and setup work for the rotary encoder and coupling, and facilitating robot assembly. The bearing dimensions and load capacity are the same as those of general bearings and can be applied to a wide range of robot types.

NTN will propose this new product to robot manufacturers, etc., and promote the expansion of the robot peripheral module field.



Automotive Business

Provide unique suggestions to quickly resolve customer issues
Aiming to be a leading manufacturer in the power/drive train system

Executive Officer **Hideaki Miyazawa**



The automotive business has been in the red for four consecutive fiscal years since 2019. Two main reasons exist for this: the external environment and internal responses. External factors, which had a great impact, were the spread of the COVID-19 pandemic, subsequent semiconductor shortages, and unprecedented cost increases. First of all, due to the COVID-19 pandemic, the production of automobiles itself shrank from 95 million units to 75 million units per year, and demand for our products disappeared as a result.

Just as the COVID-19 pandemic subsided and automotive manufacturers were about to ramp up production, they were hit with a semiconductor shortage. The semiconductor shortage has become more of an issue as the shift from ICEs to EVs and electrification has increased the number of semiconductors needed per vehicle to about seven times the previous number.

In addition, the rising cost of steel and other materials, as well as rising energy costs, have rapidly increased our manufacturing costs.

The failure to respond adequately to these changes in the external environment was another major reason for the deficit. In other words, we were unable to pass on increased costs to customers during the period, and, on the production side, we were unable to respond flexibly to rapid changes in demand, which resulted in a build-up of work in progress. Although we have been affected by many external circumstances, we are still ashamed of the fact that we have been in the red for some time.

So how will NTN's automotive business withstand the revitalization in the future? The shortage of semiconductors is not yet over. However, automobile production is recovering, reaching 85 million units. We are determined to make a profit in the fiscal year ending March 31, 2024, and we are determined to promote our business.

Fortunately, the trend toward EVs and electrification is a positive factor for us. In EV and electrification, demand for hub bearings and driveshafts, which account for about 80% of sales in the automotive business,

is expected to increase as the shift to all-wheel drive continues. Despite increased battery weight due to electrification, reasonable electric cost is required, so reducing parts weight is essential. Also, unlike ICEs, EVs increase output simultaneously and require each part to be rigid against larger torque. This allows us to leverage our technological strengths to meet the conflicting weight reduction demands and improved durability.

In parts supply, price competition with Low Cost Countries (LCCs), mainly from emerging countries, is intensifying. In this competitive environment, we will develop a differentiation strategy based on value, not price. Our unique value proposition lies in our ability to deliver proposals that directly solve customer problems with an amazing speed. The backbone of our problem-solving capabilities is the accumulation of technical expertise that we have gained over many years of handling global projects, a level of expertise that is unrivaled by LCCs. We will develop our business at an appropriate price by having our customers recognize the unique added value that we offer as value.

At the same time, by promoting procurement and production reforms within the company and working to shorten and appropriate the supply chain, we will strive to reduce the retention time of semi-finished products, quickly cash in merchandise, and reduce inventories. In particular, we will accelerate the use of low-cost materials and parts that we have not yet been able to penetrate deeply. On the production side, we will further strengthen productivity improvement activities to minimize total cost increases even as unit prices of procured goods and energy rise, thereby promoting a different design and production philosophy from the past.

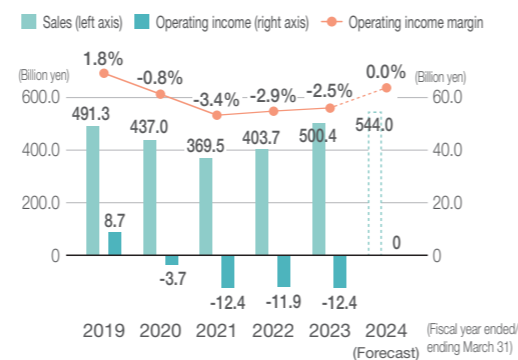
In order to promote a series of measures, negotiations with customers are essential. As I did before the COVID-19 pandemic, I will personally travel overseas to meet with customers to deepen my understanding of this issue. Return to profitability at all costs through continuously implementing a series of measures. I know it is my responsibility.

Results for the fiscal year ended March 31, 2023 and forecast for the fiscal year ending March 31, 2024

For the fiscal year ended March 31, 2023, net sales were 500.4 billion yen due to a gradual recovery in automobile production and the impact of passing on inflationary costs to selling prices, although semiconductor supply shortages continue. However, in addition to soaring energy and procurement material costs globally, sales in the China region fell more than 50% below expectations due to the disruption caused by the zero-COVID-19 policy and the termination of the passenger car purchase tax reduction program, resulting in a significant decline in operating income of -12.4 billion yen.

Although the outlook for sales in the fiscal year ending March 31, 2024 remains uncertain, we expect sales to increase as the supply shortage of semiconductors gradually eases and automobile production is expected to recover as in the previous fiscal year. To improve profits, we will continue to thoroughly implement price revisions, including withdrawal from unprofitable businesses, as well as 100% price shifting of inflationary costs, including those carried over from the previous fiscal year. Furthermore, we will accelerate procurement reforms and expand our procurement network, especially in emerging countries, while ensuring quality.

Business performance



“DRIVE NTN100” Phase 2 strategy

Initiatives to be focused on during the three-year period (From the fiscal year ended March 31, 2022 to the fiscal year ending March 31, 2024)

1 Strengthen the profit structure

- Promote variable cost reduction through procurement reformation
- Reduce manufacturing fixed cost by reforming Monozukuri and improving productivity
- Reduce fixed cost by utilizing RPAs and improving the organizational structure and systems
- Thorough selling price management, reduction and withdrawal from unprofitable areas (regions and products)

2 Optimize portfolio to support sustainable growth

- Develop high performance and high value-added products responding to the environment, EVs, and electrification
- Expand sales of electrification products
- Order winning activities aimed at portfolio optimization and concentrated investment in focus segments

	2020	2021-2023	2024-	Estimated effects of EV/electrification
	Promote earning improvement NOT relying on the merit of scale		Strategy for sustainable growth	
Basic products	Driveshafts (CVJ) 	Deepen production reforms (streamlining) under way in Japan Horizontal expansion of production reforms to global manufacturing bases Concentrated investment in high-performance products and automation	Shift to large-sized SUV/PUP and EVs Secure volume in growth markets Advantage Small, lightweight, high efficiency, low vibration	No effects, stable growth
	Axle / hub bearings 	Carefully select capital investments that are directly linked to differentiation and competitiveness Devote energy into enhancing cost-competitiveness with a focus on variable cost Develop differentiated products complying with regulations for EVs, fuel efficiency and CO ₂	Develop differentiated high value-added products Realign portfolio based on customers and vehicle segments Advantage Super low friction	No effects, stable growth
	Bearings 	Strengthen sales activities especially for high-performance applications especially in Japan and China Focus on enhancing production capacity and cost competitiveness Promote use of external partners on production of standard type products	Invest resources in high performance bearings through the selection Advantage Super high speed, ultra-low friction	Flat sales, Toward high performance products
New areas (Electrification)		Increase production of gearboxes for electric hydraulic brakes Promote cost reduction (Shorten assembly CT / Promote production in China / Use Chinese materials) Develop new products for integrated electrical modules	Expand sales of electric oil pumps Commercialize eHUB/ sHUB Commercialize electric brakes	Increase volume Grow together

TOPICS

We have been shifting our sales to BEVs and large SUVs, where we can take advantage of the technological superiority of our products, and our activities are beginning to bear fruit.

(1) Started mass production of highly efficient fixed type constant velocity joint “CFJ”

With stricter CO₂ regulations and the rapid shift to BEVs, we have begun mass production of high-efficiency fixed constant velocity joints (CFJs), which contribute significantly to reducing vehicle CO₂ emissions and improving electricity costs.



(2) Expand sales of compact and lightweight “R series” driveshafts for rear end

The “R Series” is the world’s smallest and lightest rear CVJ product, with a 30% weight reduction and a 3 to 5% reduction in outer ring outer diameter compared to conventional products. Since the start of mass production in 2018, sales have steadily increased, and this year, the adoption of BEVs for European premium brands is expanding.



(3) Started mass production of “3rd Generation Tapered Roller Hub Bearings”

Mass production of the third generation tapered roller hub bearing with integrated hub shaft and inner ring for front wheels of commercial vehicles for Europe, which combines high rigidity and light weight.

(4) Started mass production of driveshafts and hub bearings for BEVs of Japanese automobile manufacturers

Mass production of driveshafts and hub bearings for flagship BEVs of several Japanese automakers has started in Japan and overseas.

(5) Development of various solution bearings for e-Axle

High-speed rotating bearing dmn value*2.2 million achieved

Our high-speed deep groove ball bearings for e-Axle have achieved a high-speed rotation dmn value* of 2.2 million under oil lubrication.

*dmn value: An index of bearing rotational performance; bearing pitch circle diameter (mm) x rotational speed (min⁻¹)

CreepLess Bearing Development

For e-Axle, which is becoming smaller and lighter, we have developed a creep-less bearing that uses the industry’s first method to stop progressive wave type creep generated by outer ring distortion.

Development of bearings with insulating coatings

By applying an insulating coating to the outer ring outer diameter and width surface of the bearing, we have developed a bearing with an insulating coating that can withstand voltages of 100 V or more, thereby suppressing the occurrence of electrical corrosion and making it suitable for 800 V batteries.

Control Increase of Fixed Costs / Improve Asset Turnover

To revitalize our company, we urgently need to improve our cash flow through overall optimization of production. In production restructuring, we are concentrating management resources on products and processes in which we can demonstrate our strengths, and we are promoting the realization of streamlined production and increased throughput in production reform.

Reorganization of production

Concentrate management resources in products/processes where NTN can leverage its strength

Reorganize domestic production bases of radial bearings

- Outsource production of standard type products to overseas bearing manufacturer (Break away from "self-efficiency")
- For special products, implement reorganization of production with a new Wakayama Works playing a central role

Basic policy on production reorganization

The market environment surrounding NTN is rapidly changing against the backdrop of the transition to a decarbonized society, including the shift to electrification and EVs in the automotive market and the expansion of the renewable energy business in the industrial machinery market. Based on the growth strategy of each business headquarters, we will reorganize the production system in Japan from the viewpoint of product axis and base axis to

enhance profitability by optimizing the entire supply chain.

In the production reorganization, we will freeze investment in capacity expansion in principle, curb costs by utilizing management resources for withdrawn and downsized products, and shift to investment in natural disaster risk and safety measures, as well as in maintenance and renewal of facilities.

Production reorganization plan and progress

In "DRIVE NTN100" Phase 2, we are promoting the reorganization of production of radial bearings, one of our core products. Competition in the market for standard radial bearing products is expected to increase further due to the rise of LCC products and increasing commoditization. In October 2022, we began to expand production outsourcing (approx. 5 million pcs/month) to our affiliated company, TUNG PEI INDUSTRIAL CO., LTD. Utilizing the production capacity and high efficiency production of the company, we will strengthen the supply capacity of products for the aftermarket and reduce investment in maintenance and renewal of production facilities, thereby enhancing profitability. The expansion of outsourcing to TUNG PEI INDUSTRIAL CO., LTD. is planned to be completed by October 2024, and we will continue to strengthen cooperation with this company as one of our main manufacturing bases for radial bearings.

On the other hand, the market for high-performance products with high-speed rotation, low vibration, and insulation performance is expected to expand due to the ongoing shift to electrification and EVs in automobiles against

the backdrop of the transition to a decarbonized society. We have positioned high-performance products such as "high-speed rotation and low torque" and "low noise and low vibration" as one of our priority products, and have started to consolidate high-performance products to Wakayama Works, Ball Bearing Plant of Iwata Works, and NTN Mie Corporation, which is the main manufacturing base for medium-sized radial bearings. We will differentiate ourselves from our competitors by introducing the latest production technology to ensure our competitive advantage in terms of technical responsiveness and price competitiveness.

The space and management resources created by the reorganization of radial bearing production will be used to establish a highly efficient production system by consolidating manufacturing bases for tapered roller bearings, needle roller bearings, and precision bearings, and to enhance profitability by redefining the product portfolio. In addition, we will establish a foundation for future manufacturing systems by locating bases in consideration of the risk of natural disasters such as earthquakes and tsunamis.



Wakayama Works to consolidate high-performance products



Delivering "speedy" "satisfaction" to customers through DX

Production reform

Realize streamlined production and increase throughput

Promote overall optimization (rationalization of the entire SCM) instead of partial optimization (rationalization by process)

- Led by a dedicated promotion organization
- Horizontal expansion of lean production system
- Develop human resources to promote reform

Results and progress in the fiscal year ended March 31, 2023

For about three years since the start of activities, we have promoted activities mainly at domestic business sites, expanding the number of locations to 24.

The model numbers and lines targeted at each location have reduced lead times, and some locations have seen an improvement in inventory turnover, a management indicator. At the Large Bearing Plant of Kuwana Works, throughput increased 12.5% and inventory turnover increased 5% (both compared to the previous year), and at the NTN Kamiina Corp., inventory reductions due to process streamlining and associated reductions in external warehouse costs resulted in improved profits.

However, on a company-wide basis, the company has not completely broken away from a structure that is susceptible to demand fluctuations and other external environmental influences, and its indicators have been sluggish. Therefore, we have been accelerating "surface" activities that fill the two axes of "expansion from model numbers to others" and "development of activities that connect the entire supply chain."

In particular, during the last fiscal year, we have been fully

engaged in activities covering the entire supply chain from our manufacturing sites to each other and from suppliers to sales. In ball bearing supply chain optimization activities, we have launched initiatives to shorten lead times in cooperation with suppliers.

In addition, we have also started activities in the global supply chain, and for export semi-finished products at the Iwata CVJ Plant, we are working to establish a system for back-sailing based on actual demand in North America, leading to a reduction in work-in-process inventory at the plant in North America. In the case of bearings for rolling stock in China, the change of transportation routes and the use of a new warehouse have produced significant results: transportation lead time -39%, transportation cost -78%, and inventory at local sales companies -33%.



Ball bearing supply chain optimization activity kickoff

Strengthening tripartite activities

In order to accelerate the speed of production reform, which is "management reform," it is essential to have a tripartite system of management, promoters, and practitioners.

A video message from the President is posted on the company website to communicate throughout the company the roles played by each level and the president's strong desire for the activities.

The management level (general managers of each production site, presidents of affiliated companies etc.), having made progress in fostering a general mindset, is working to strengthen specific "behavioral" management for reform.

For promoters and practitioners, we provide group training sessions where they can interact with other promoters to

obtain hints for solving problems and promoting activities, strengthen ties with their peers, and build a relationship of mutual learning.

We also hold study sessions for sales divisions to learn the importance of collaboration between production and sales. After the study session, there were cases where information was shared with the manufacturing division from a different angle, leading to activities to build the entire supply chain across related divisions.



Internal website: message from the President

Issues and priority measures for the fiscal year ending March 31, 2024

This fiscal year is a key year toward the new medium-term management plan, and we will promote reform activities focused on numerical values and the harvesting of results in order to improve the cash conversion cycle.

In Japan, we will create scenarios for KPI achievement at each production site and strengthen follow-up on the "surface" side in order to make reform activities at production sites more self-reliant (rules, system development, and human resource development).

We will also expand the aim from data analysis to multiple targets that maximize effectiveness, and accelerate the development of the entire supply chain activities from procurement to sales for popular products with long lead times across suppliers and production sites.

As for activities linking Japan and overseas, we will accelerate PSI (production, sales, and inventory) visualization targeting the reduction of overseas semi-finished product inventory, and develop a system that is resistant to demand fluctuations. Particularly, for small-lot aftermarket products, we will design and manage strategic inventories on a global basis to reduce lost sales opportunities and achieve high profit margins.

In anticipation of full-scale global reform activities starting in the next fiscal year, we have already started production reform activities in each region, starting with China and ASEAN countries. We will establish a promotion system for each region, utilizing local consultants.

In the basic operations of "buying," "producing," and "selling" we will strengthen cost competitiveness in the process of "buying" materials and parts by reducing variable cost and procurement reform. In the second year of "DRIVE NTN100" Phase 2, we achieved results that were largely in line with our targets through procurement reforms, even as costs continued to rise more than expected.

In the fiscal year ending March 31, 2024, our focus will be placed on [1] Realize the best mix of global and local procurement, [2] Expand and accelerate centralized purchasing and [3] Strengthen management by category, whose global activities have been limited due to reasons such as the impact of COVID-19 pandemic, and we aim to ensure successful achievement within this fiscal year by clarifying policies and strategies under the leadership of Japan.



(1) Realize the best mix of global and local procurement (optimal procurement)

In the past, we promoted activities based on the policies of "local procurement in each region" and "China as an export base for procurement," however, due to the soaring labor costs in Europe and the U.S. after COVID-19 pandemic, weakening of the yen, and the trading friction between China and the US, we believe that local procurement and China as an export base are no longer our optimal solutions. Therefore, in "DRIVE NTN100" Phase 2, in addition to Japan and China, we added South Korea, which has long been a major procurement source for European locations, and India, whose drastic growth in the future can be expected, and

we have initiated our activities based on these countries as global procurement bases. Most recently, we have successfully exported bearing parts from India to Japan and North America, and have also started exports from South Korea to Japan and North America. In the fiscal year ending March 31, 2024, we will strengthen our collaborative systems with local suppliers and expand "optimal procurement," and at the same time, instead of placing too much importance on a single base, we will promote dual-sourcing and multi-sourcing to achieve cost reductions and stable procurement.

(2) Expand and accelerate unification of contract operations (centralized purchasing)

Previously, the production control section of each site was in charge of supplier selection and quotation, and in Japan, we have assigned these operations to the purchasing departments at our head office. By the fiscal year ended March 31, 2023, centralized purchasing of all axle products and about 50% of ball bearings and CVJs has also been completed. This centralized purchasing has facilitated cross-organizational selection of suppliers and the development of new suppliers, and in particular, for ball bearings, smooth transfer of small products to

Tung Pei Industrial Co., Ltd. can be facilitated. In the fiscal year ending March 31, 2024, we will use AI and other technologies to strengthen price data analysis for products and parts that have been centrally purchased, and aim for digital transformation of quotation operations. Also in China and India, where local procurement is main purchasing means, we will visualize and standardize procedures so that similar measures can be implemented in these countries.

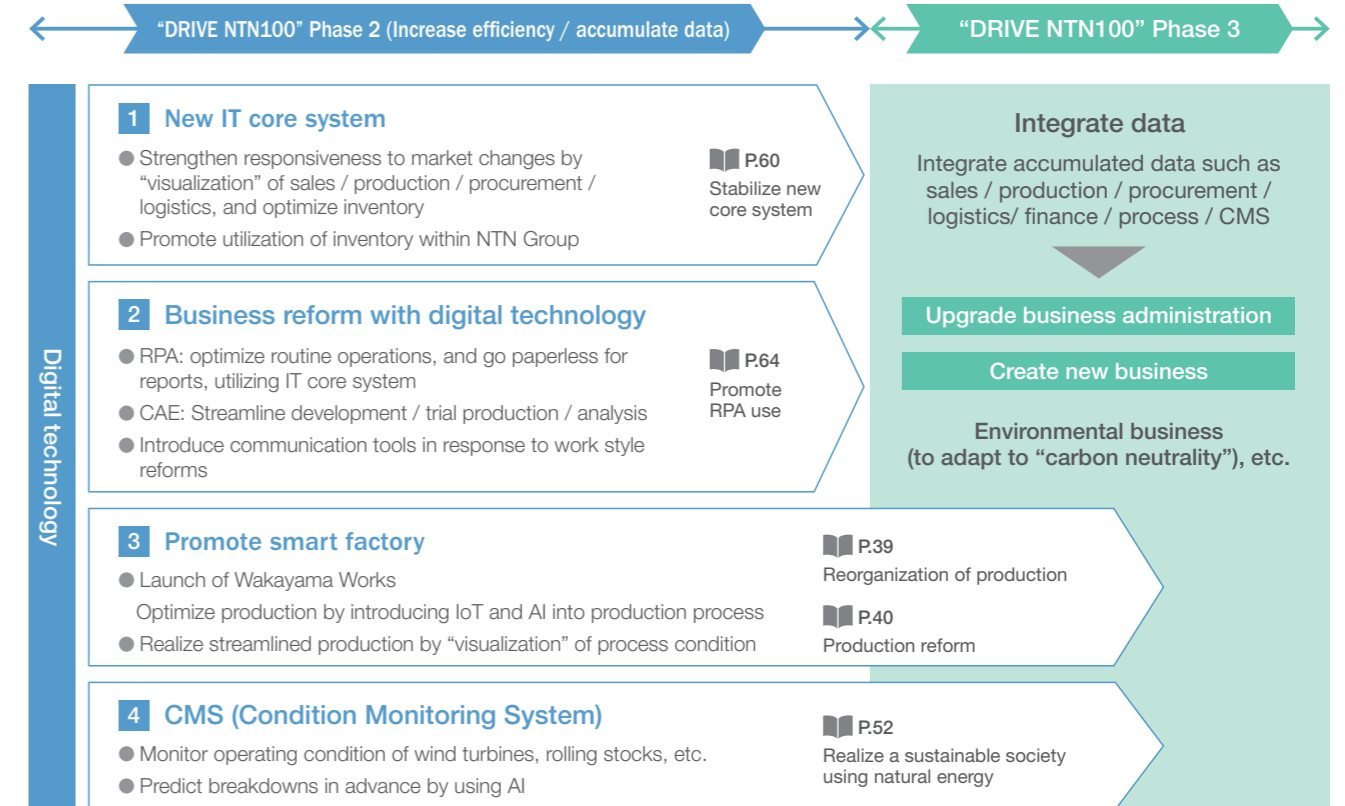
(3) Strengthen management by category

Mainly in Japan, we are planning and implementing a procurement strategy that considers the latest external environment by categorizing products and parts. In addition, as material prices and procurement availability change significantly due to the influence of the external environment, sharing information by category with procurement personnel of each region has become increasingly important. In the purchasing division at our head office, we increase the number of personnel engaged in procurement planning/strategy,

and by improving the quality and quantity of information shared globally, we are making the best decisions and selections.

In fiscal year ending March 31, 2024, we will globally disseminate the strategies planned and drafted in Japan, and by sharing information more frequently globally, we aim to establish management by category and to achieve procurement that is not affected by the external environment as much as possible.

In the Medium-term Management Plan, "DRIVE NTN100" Phase 2, the NTN Group's basic strategy is to accelerate the transformation of its business structure by integrating digital technology with the Company's accumulated management resources. Based on this basic strategy, we are promoting the sophistication of business management through the renewal of our IT core system. We support the formulation of global sales strategies by building a system that enables an instant grasp of the profit and loss status of each region, business, and product type, and by visualizing the profit and loss status. In addition, we are optimizing inventory holdings to respond immediately to demand fluctuations by visualizing the supply chain, and in the manufacturing process, we are promoting a smart factory by introducing IoT and AI, overall optimization, and streamlining. For customers, we are working to create and expand new businesses by expanding the introduction of condition monitoring systems (CMS) that monitor operating conditions of the wind turbines, etc., and by providing advance prediction of failures by combining AI.



Shorten development time and increase efficiency by promoting Digital Transformation of design work

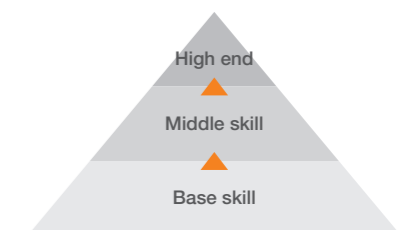
Aiming to shift from numerical analysis to explain experimental results to numerical analysis that can replace experiments, we are working to incorporate advanced analytical techniques and to develop and improve analytical systems that incorporate the know-how of dedicated engineers so that even ordinary design engineers can perform the same level of analysis as analytical engineers. In "DRIVE NTN100" Phase 2, the following technological developments have improved convenience and shortened product design lead times.

- Automation of analysis processes required for design and introduction of optimal design technologies
- Reduce calculation time by designing a system that makes effective use of computing resources and by modeling appropriately
- Visualization of input/output, creation of support tools/templates for complicated input work

In addition, we are also working to analyze design information and computational data using AI and visualization tools to create new value that contributes to design.

DX human resource development

We offer AI and data literacy courses to promote the use of data and digital technologies to solve business issues and to transform organizations, with 782 participants taking courses in the fiscal year ended March 31, 2023. By actively increasing the number of participants in each age group and workplace, we will expand the base of AI literacy, data analysis, and other digital literacy applications throughout the company. The program offers a variety of learning opportunities depending on the level of the participants, and by offering an advanced course, we aim to develop human resources who can make advanced use of data analysis and machine learning.





Toward establishing a business foundation for enabling sustainable growth as a global company

Executive Officer, CFO (Chief Executive Officer)

Masaaki Yamamoto

An urgent task for achieving the NTN Revitalization Scenario is to realign our automotive business. We have set a target of eliminating the operating loss in the fiscal year ending March 31, 2024, by thoroughly passing on inflationary costs to sales prices, reducing variable costs through procurement reforms, and continuing to control fixed costs.

Actual results for the fiscal year ended March 31, 2023, and forecast for the fiscal year ending March 31, 2024

Actual results for the fiscal year ended March 31, 2023

1 Key points

For the fiscal year ended March 31, 2023, net sales were 774.0 billion yen (up 20.6% year on year), operating income was 17.1 billion yen (up 149.2%), ordinary income was 12.0 billion yen (up 76.8%), and profit attributable to owners of parent was 10.4 billion yen (up 41.2%). However, compared with the forecasts announced in October 2022, operating income fell short by 34.2%, ordinary income was 47.6% lower, and profit attributable to owners of parent was 13.6% lower. The shortfall in profits compared with our forecasts was mainly due to production adjustments made in the fourth quarter with a focus on cash flow in anticipation of a delay in the recovery of demand from automotive customers; an additional rise in variable costs, including accepting price increases from suppliers; and also to insufficient progress on raising our sales prices. On the other hand, we controlled fixed costs amid fluctuating sales and improved both free cash flow and our net D/E ratio. By steadily carrying out various measures, we met our announced targets in these areas.

In terms of profit/loss by business segment, the automotive business suffered severe results, continuing to post an operating loss for the fourth consecutive fiscal year. This was mainly due to additional increases in variable costs, failure to raise sales prices, and lockdowns that affected the high-margin Chinese

business. In contrast, the aftermarket business and industrial machinery business each posted record-high operating income, achieving the operating margin targets set in the Medium-term Management Plan “DRIVE NTN100” Phase 2 one year ahead of schedule. We have resumed dividend payments for the first time in three fiscal years, paying an annual dividend of 5 yen per share.

2 Profit Analysis (year on year)

Breakdown of positive factors (60.7 billion yen)

The largest positive factor is the sales price level, accounting for 33.9 billion yen. We worked to pass on to our customers the higher steel prices as well as other inflationary cost increases such as higher variable costs and higher ocean freight rates. However, we did not meet some of our targets, mainly for our automotive customers. The scale effects of 12.1 billion yen arose from the impact of higher sales and production (9.9 billion yen), inventory valuation, and other factors. Adding the impact of exchange rates of 14.6 billion yen to this total, the positive factors amounted to 60.7 billion yen.

Breakdown of negative factors (50.4 billion yen)

In variable costs, we carried out cost reductions of 5.6

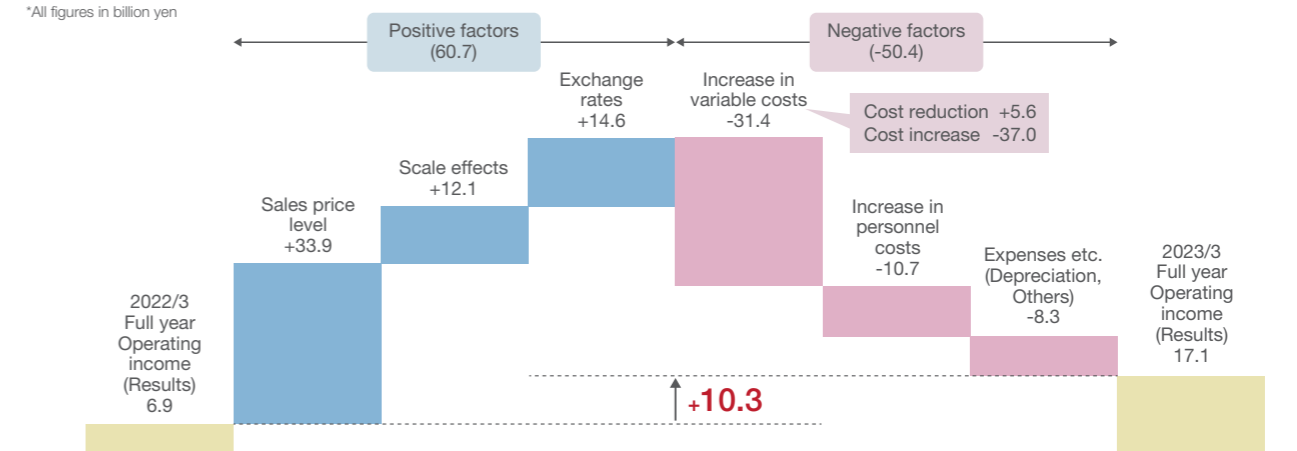
billion yen, including procurement reforms, in response to the 37.0 billion yen in price hikes of various materials including energy prices, resulting in a negative factor of 31.4 billion yen. Recently, compared to the 37.0 billion yen of cost increases in the previous fiscal year, the pace of steel price increases in particular has calmed down, but inflationary costs continue to rise.

In fixed costs, personnel costs increased by 10.7 billion yen, and expenses etc. rose by 8.3 billion yen, amounting to a negative factor of 19.0 billion yen. The increase in personnel expenses was mainly due to a 6.0

billion yen increase in the Americas due to special factors such as higher labor costs and disruptions in production. In terms of expenses and other costs, there were special factors such as a 7.5 billion yen increase in transportation costs mainly due to soaring ocean freight rates and a 1.8 billion yen increase in depreciation costs associated with the full-scale operation of IT core systems in Japan. Excluding these special factors, the increase in fixed costs was 3.7 billion yen, less than 15% of the 26.8 billion yen increase in volume-based sales.

Analysis of Operating Income (2022/3 Results vs 2023/3 Results)

*All figures in billion yen



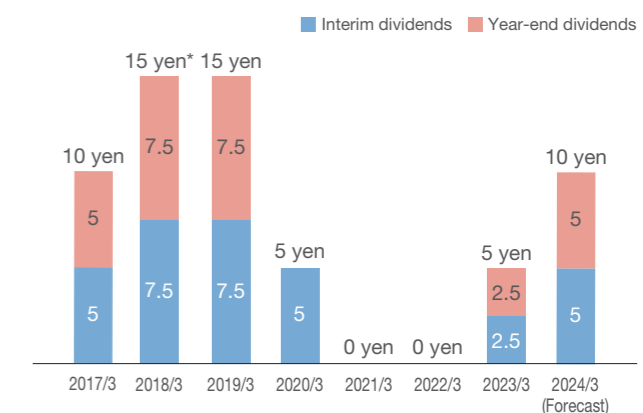
Forecast for the fiscal year ending March 31, 2024

1 Key points

Continuing on from the previous fiscal year, the key issues for the fiscal year ending March 31, 2024, will be to strongly drive the transfer of inflation costs to sales prices, and to steadily reduce variable costs, including procurement reforms and control fixed costs. Looking at the year ahead by business segment, it will be essential to maintain operating margins in the industrial machinery business, where sales volume is down from the previous year, and in the aftermarket business, where sales volume is flat. We must also eliminate operating losses in the automotive business, where we expect sales volume to grow as the semiconductor shortage eases, by both responding to increased production and implementing the above key issues. In addition, as a medium- to long-term initiative for enhancing the profitability of the automotive business, we plan to carry out a realignment of our organization and production, mainly in Europe and the Americas. For the fiscal year ending March 31, 2024, after factoring in some losses from restructuring and other factors, we project net sales of 810 billion yen,

operating income of 30 billion yen, extraordinary losses of 4 billion yen, and profit attributable to owners of parent of 11 billion yen. The Company plans to pay an annual dividend of 10 yen per share.

Return to Shareholders



*Including 100th anniversary commemorative dividends

2 Profit Analysis (year on year)

Breakdown of positive factors (31.7 billion yen)

The largest positive factor, in keeping with the previous year, is sales price levels, amounting to 22.9 billion yen. Scale effects are expected to be limited to 5.2 billion yen as a result of a conservative estimate of the impact of inventory reductions and of a deteriorating product mix as a result of higher ratio of automotive business. Although we expect an increase in expenses due to the increase in scale effects, we anticipate total expenses to decrease by 3.0 billion yen as marine transportation costs, which rose sharply in the previous fiscal year, begin to decline. This, together with a 0.5 billion yen impact from exchange rates, is expected to result in positive factors of 31.7 billion yen.

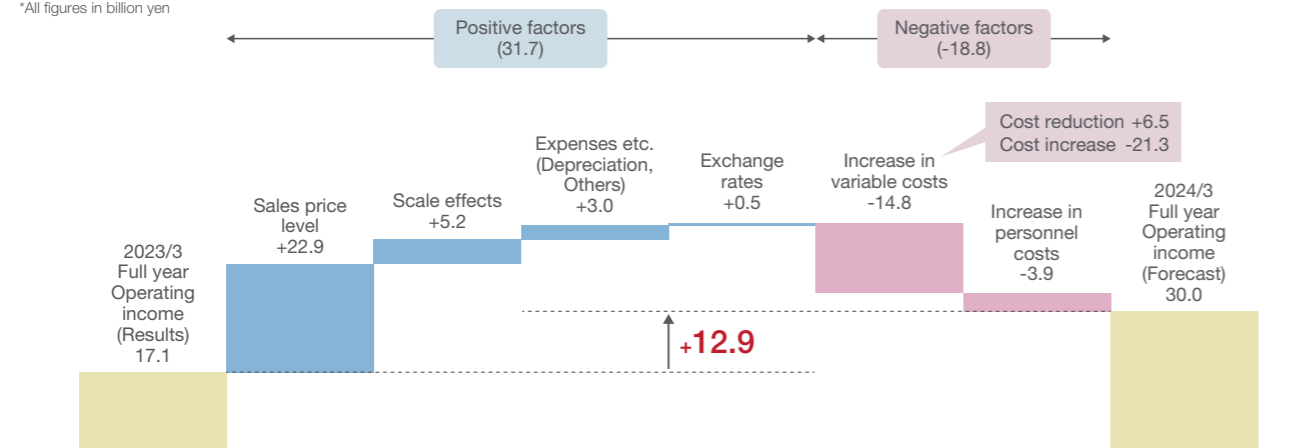
Breakdown of negative factors (18.8 billion yen)

In variable costs, we plan to carry out cost reductions of 6.5 billion yen, including procurement reforms, in response to 21.3 billion yen in price hikes of various materials including energy prices, resulting in a negative factor of 14.8 billion yen. Although the pace of steel price increases in particular has eased compared to the 37.0 billion yen of cost increases in the previous year, inflationary costs continue to rise.

As for fixed costs, we expect personnel expenses to lead to a negative factor of 3.9 billion yen. Labor costs are likely to increase mainly in Japan (1.4 billion yen) and Europe (1.6 billion yen) due to rising prices and other factors. In the Americas, however, where labor costs rose in the previous fiscal year due to soaring labor costs and production disruptions, we expect these cost increases to ease. The increase in fixed costs, which includes a 3.9 billion yen increase in personnel expenses and a 1.9 billion yen increase in expenses and other items excluding transportation costs, is set at 5.8 billion yen. This is based on our existing standard of limiting the increase to within 15% (6 billion yen) of the 40.1 billion yen increase in sales volume.

Analysis of Operating Income (2023/3 Results vs 2024/3 Forecast)

*All figures in billion yen



3 Comparison with Medium-term Management Plan targets

The fiscal year ending March 31, 2024, will be the final year our Medium-term Management Plan "DRIVE NTN100" Phase 2, aimed at strengthening our financial position. The business environment has changed drastically since we formulated the Medium-term Management Plan. This was mainly due to the situation in Ukraine as well as the economic slowdown in China stemming from lockdowns in response to the re-emergence of COVID-19. Prices of raw materials, energy, and other materials have soared. Prolonged semiconductor supply shortages have slowed the resumption of automotive production.

Despite these difficult conditions, we expect to meet the operating margin targets in the Medium-term Management Plan for the aftermarket business and for the industrial machinery business. However, we will not be able to achieve the operating margin target in the Medium-term Management Plan for the automotive business. This is due to the impact of soaring materials prices which continue to bring costs that we will have to pass on to sales prices.

Although we will not achieve our operating margin targets for the entire company due to the automotive business, whose sales volumes are large, we have been steadily improving our financial position through steady recovery of our performance each fiscal year, as well as the sale of idle assets, and robust financial management within the Group. As a result, we expect to achieve the Medium-term Management Plan targets for free cash flow, equity ratio, and net D/E ratio.

Although some of the goals set in the Medium-term Management Plan, such as ROIC of 5% and ROE of 8%, will be pushed back to the next fiscal year and beyond, we will continue our management to strive for corporate value creation.

Comparison with Medium-term Management Plan target

	FY2021/3 Results	DRIVE NTN100 Phase2 ①	FY2023/3 Results	FY2024/3 Forecast ②	② - ①
Net sales	562.8 billion	700.0 billion or more	774.0 billion	810.0 billion	110.0 billion
Operating income	-3.1 billion	42.0 billion or more	17.1 billion	30.0 billion	-12.0 billion
Operating margin	-0.6%	6% or more	2.2%	3.7%	-2.3pt
(Aftermarket)	9.7%	12.0%	16.6%	16.9%	+4.9pt
(Industrial machinery)	0.3%	4.0%	5.2%	5.6%	+1.6pt
(Automotive)	-3.4%	4.7%	-2.5%	0.0%	-4.7pt
FCF	18.5 billion	27.0 billion or more	20.4 billion	29.0 billion	2.0 billion
Inventory turnover ratio	3.2	4.1	3.2	3.7	-0.4
Equity to capital ratio	20.4%	20% or more	25.4%	25.8%	+5.8pt
Net D/E ratio	1.6	1.5 or less	1.2	1.1	-0.4
ROIC	-0.4%	5% or more	2.0%	3.6%	-1.4pt
ROE	-7.1%	8% or more	5.0%	5.0%	-3.0pt

Toward medium-to long-term growth

Our current Medium-term Management Plan ends in the fiscal year ending March 31, 2024, and the next three-year medium-term management plan will start from April 2024. Ahead of this, we carried out an organizational reform in April of this year with the aim of enhancing the strategic functions of the head office division. In the head office division, we will transform ourselves into an organization that can contribute to the business activities of the entire group. We will do this by enhancing our ability to formulate the head office and business divisions are in talks aimed at drawing up the next medium-term management plan. The next medium-term management plan will continue the measures set forth in the current Medium-term Management Plan. These include lowering the break-even point for sales (product/business portfolio reform, procurement reform, fixed cost control) and expanding cash flow (production and logistics reform). While we will not be able to achieve our medium-term management targets for ROIC of 5% and ROE of 8%, we will work to achieve these at the earliest possible date. In addition, we will steadily promote structural reforms

such as realigning our production as we work to further strengthen our financial position.

In addition, we plan to set and disclose targets for non-financial indicators such as promoting carbon neutrality and investing in human resources (human capitalism). We aim to increase corporate value by steadily improving our financial strength and non-financial indicators, and to achieve a P/B ratio of greater than 1 by engaging with investors to gain the appreciation of the stock market. I would like to thank all of our stakeholders for their continued support, guidance and encouragement.