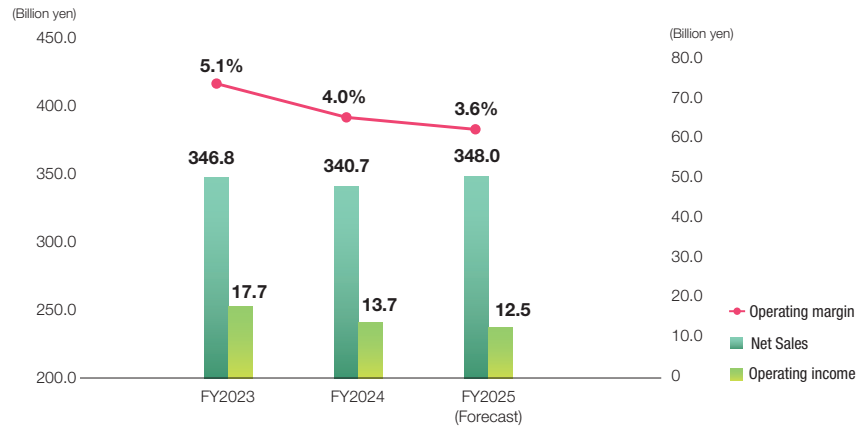


Strengthening the Business Model

Bearing and others

Performance targets



Overview

By consolidating the bearings business, which was previously handled separately for automotive, industrial machinery, and aftermarket, and by maximizing the use of management resources, we are working to further expand the aftermarket business, flexibly respond to electrification needs, and shorten development times.

For the aftermarket, we are expanding inventories of our best-selling products and meeting a wide range of requests for immediate delivery via optimal allocation and increased production capacity through integrated OEM and aftermarket operations, external purchasing, and expanded production outsourcing. We also aim to transform from selling hardware only to adding software and services by expanding the equipment condition monitoring business for customers.

For industrial machinery OEM, we have classified the eight major industries as either expanding or maintaining categories * as well as setting our sights on new industries. For the expanding categories, we are boosting production capacity and promoting sales; for maintaining categories, we are improving costs and selling prices; and for challenge industries, our approach is based on market research to set target regions and customers. For automotive OEM, as a response to electrification, we are developing bearings adapted to needs that are at a higher level in EVs than conventional vehicles such as speed, low torque, and electrical corrosion resistance, leading to improved profit due to growing sales of high value-added new products.

*Expansion sectors: Machine tools, electric motors and generator, aerospace Maintenance sectors: Construction machinery, agricultural machinery, gearboxes, rolling stocks, wind turbine

Main products and services

Remote technical support services		NTN Portable Vibroscope		Technical training / maintenance tools	
Mining machinery	Metal industry equipment	Paper-making machinery	Food processing machinery	Cement equipment	
ULTAGE spherical roller bearings with high-strength cage EMA Type	ULTAGE sealed four-row tapered roller bearings CROU..LL Type	ULTAGE spherical roller bearings Type EA, Type EM	Bearing units stainless series	Plummer blocks	
Construction machinery	Agricultural machinery	Gearboxes	Aerospace	Machine tools	
Applications for resource mining and civil engineering	Helping ensure stable food production	Helping ensure high robot productivity	Used for worldwide jet engine applications	Helping ensure high machining precision	
Wind turbine	Rolling stock	Automobiles	Electric motors and generator		
Support rotation of main shafts, gearboxes, generators, etc.	Wind Doctor Improve wind turbine utilization rate through condition monitoring	Helping ensure safety of worldwide high-speed railways	High-speed bearings and electrical corrosion resistant bearings for EVs and HEVs		
			Low dust generation bearing for servo motors		

Strengthening the Business Model **Bearing and others**

Progress Update on “DRIVE NTN100” Final from Executive Officer



Experiencing the results of structural reform

In the bearing and others business, we have developed a competitive edge based on its responsiveness to major OEM customers. We have differentiated ourselves by earnestly facing exacting requirements for technical added value, quality, supply capacity, and price, and by responding accurately. However, due to intensifying price competition, it has become difficult to secure sufficient profitability.

We have a history of prioritizing orders above all and pursuing market share expansion. However, with CEO Eiichi Ukai’s appointment in 2021, we switched to fundamentally reviewing our existing mindset. With the recognition that securing appropriate profits is essential for sustainable business growth, internal mindset transformation has centered on frontline sales departments. Good results have begun to emerge in the first year of “DRIVE NTN100” Final.

Strengthening cost competitiveness is a challenge that NTN must always pursue as a manufacturer. Since prices are influenced by market conditions and competitive trends, they cannot be determined by us alone. On the other hand, cost reduction can be achieved through our efforts. This is an eternal theme for manufacturers and also the source of competitive edge. Currently, we are reforming our production in pursuit of overall optimization including existing supply chains. In addition to reducing work-in-process inventory, we will collaborate with highly competitive suppliers including those from China and India to achieve further cost reduction.

Do not underestimate emerging market manufacturers

What we should particularly watch from the perspective of price competition is the rise of emerging market manufacturers, led by China. Having been

Policy

- ① Expand aftermarket business
- ② Improve profits in bearing OEM business
- ③ Develop products for electrification and strengthen market competitiveness by reviewing application standards and design criteria
- ④ Enlarge service solutions

Main strategy

Expand aftermarket business

- **Strengthen supply capability**
 - Expand external purchasing and outsourcing
 - Optimal allocation and expansion of production capacity through integrated OEM and aftermarket operation
 - Expand inventories of popular products for the aftermarket
- **Strengthen engineering services**
 - Strengthen “bearing life cycle management” through integrated OEM and aftermarket operations
 - Expand sales by expert organization for engineering solutions
 - Expand service business such as bearing diagnosis and refurbishment

Improve profits in OEM business

- **Improve asset efficiency by reorganization of production bases in the Americas, Europe, China and Japan**
- **Drastic review on costs through production at optimal sites**
- **Price increases and reduction in unprofitable businesses**
- **Develop new products that meet market needs and introduce them to the market speedily**

■ **Bearing life cycle management**

“Resin Mold Insulated Bearing” for e-Axle

Strengthening the Business Model **Bearing and others**

stationed in China until March 2025, I felt firsthand how serious they are that “they can no longer be underestimated.” They have a strong will to challenge global brands including NTN head-on and make the world recognize their capabilities.

This corporate attitude reminds me of Japanese companies during the high economic growth period. We also moved desperately and with relentless determination to compete with Western companies. Now, they are filled with the same spirit as we had then, trying to do everything they can with all their might.

In a situation where emerging market manufacturers, as challengers, are catching up rapidly without stopping, there is only one path we should take: to continue chasing new horizons ourselves. We must now pursue new themes. If we remain complacent thinking that we can just keep on doing business as usual, it will only be a matter of time before they catch up. Rather than taking a defensive stance, we must run ahead with the determination to achieve our stated goals. As long as we continue to challenge ourselves, I am confident that we can stay out in front and achieve further growth.

Expanding the aftermarket business

In our business operations, we have often prioritized servicing OEM and sometimes underprioritized aftermarket support. During times of peak OEM demand, the supply of aftermarket products has at times been delayed. For example, we allocate 70% to 80% of production capacity at our plant to OEM and the rest to the aftermarket as part of our efforts to optimize overall capacity. Even this kind of framework has been inadequate to date.

To overcome this situation, we are currently clarifying supply allocations for OEM and the

aftermarket, and establishing a system to supply necessary products to sales departments focusing on the aftermarket in a stable manner. This enables us to respond quickly to orders that were previously lost due to supply delays, maximizing sales opportunities. This is one of the aims of changing the organization to a product-based structure.

While aftermarket inventory levels have been steadily improved, what is truly important is not securing inventory itself, but utilizing it to grow aftermarket sales and generate profits. Particularly for popular standard products, we have built a system capable of immediate delivery, contributing to improved customer satisfaction and profitability.

After establishing a supply system for finished products, the next challenge is appropriate holding of work-in-process. For products where long lead times were barriers despite predictable demand and profits, we will build a system that responds to diverse customer needs by strategically holding work-in-process to shorten the lead time from inquiry to delivery, leading to higher sales.

Achieve differentiation through enhanced engineering services

Regarding bearings, we have emphasized engineering support and troubleshooting for industrial machinery in general. Particularly in OEM support, we have built a system to provide detailed customer support from the development stage, carefully listen to needs, and appropriately deploys this internally to create optimal proposals. The sales engineering department plays the core role in this process.

For example, when some technical condition is requested for hydraulic equipment, we propose new added value that exceeds customer expectations

based on the know-how we have developed. We have achieved differentiation with our capacity to provide solutions that go beyond mere problem-solving, with the technical capabilities to commercialize them. We harness the know-how inherited from our predecessors and further developed to respond to diverse customer needs.

We are also strengthening our aftermarket sales through our know-how. Many customers have some kind of problem with the bearings used in their production equipment, and there are cases where they may be considering switching from other companies' bearings to our own. However, since bearings are key parts responsible for the rotation of machines, there is a risk that their production will stop in the event of a problem. That is why customers are cautious about switching bearings that were originally used in equipment and machinery. They strongly demand a prompt and accurate response in the event of a stoppage.










To meet such customer expectations, NTN is educating engineers at distributors and, when necessary, we as the manufacturer step forward to directly respond to high-difficulty problems. For customers, being unable to respond appropriately when machinery equipment trouble occurs is the greatest problem. Conversely, if we can respond with agility to such situations, it becomes a major competitive advantage. We will further strengthen this type of response and provide value to customers in both quality and speed of aftermarket engineering services.

Strengthening the Business Model Bearing and others

Optimal response to the customer's circumstances

Looking at the sales overview by industry of bearing and other business, there is generally a growth trend. First, for high-spec machine tools, we are strengthening our response to the market recovery and expect sales increases. For aerospace, robust demand continues after the pandemic. For railway rolling stock, we see continued sales expansion corresponding to strong demand recovery centered on the Chinese market. For construction machinery, which is our volume zone, although market recovery has been delayed, we expect demand to come back in the second half of this fiscal year. On the other hand, for wind power generation, the sales decline is expected to continue in the Chinese market, and for automotive, we anticipate weak sales in the Americas and Europe.

Sales overview by industry

	FY23 vs FY24 vs FY25(Forecast)		
 Construction machinery	↑	↑	Despite a sluggish market, sales will increase for certain customers
 Aerospace	↑↑	↑	Market conditions are firm, and our sales are expected to increase
 Agricultural machinery	↓↓	↓	Market conditions are subdued, and sales are expected to be sluggish
 Gear box	↓↓↓	↑↑	Market conditions show signs of recovery, demand recovery expected
 Rolling stock	↑↑	↑↑	Stable demand in Japan, increased sales to China
 Machine tool	↓	↑	Sales are expected to increase due to the market recovery trend
 Wind turbine	↓↓↓	↓↓	Sales in China expected to continue to decline
 Automobile	↓	↓	Sluggish sales in the Americas, Europe and China
 Aftermarket	→	↑↑	Inventory adjustment completed, sales will increase due to sales expansion measures, etc.

By region, bearings have a higher production ratio in Japan than CVJ & Axle, and we are moving forward with production reorganization. Building a system to flexibly respond to changes in market conditions and secure higher profits is an urgent task. For aftermarket, we will enhance the common inventory of popular

products while harnessing our distributor sales networks as we strive to expand sales.

The US market shows persistent demand for special bearing units in the food industry. To capture competitor market share, we will strengthen our inch-size lineup and stainless steel products with strong corrosion resistance. Since it is also a market with strong needs for bearing and equipment maintenance, we aim to achieve sales growth by offering solutions that leverage strengths such as sensing technology and the Condition Monitoring System.

Meanwhile, in Europe, price competition has intensified due to the economic downturn in Germany, which is a major market for industrial machinery, and we have begun reviewing our price strategy. In Europe, powerful rivals reign as market leaders. As an option to achieve overall business expansion under such harsh conditions, we are also considering a price strategy to flexibly adapt to market prices and increase market share.

As to China, we regard it as a supplier with strong technical competence. Since it already has excellent cost performance at this point, we are collaborating as partners to strengthen the cost competitiveness of our products. In sales, although it is a harsh market environment with the rise of local manufacturers, the need for high quality will increase in this huge and growing market, so we will respond appropriately.

For developing markets in India and ASEAN, we are strengthening initiatives toward sales growth such as expanding utilization of the common inventory of popular products and appropriate global price control. We also hope that India will become a parts supplier and we are seeking partners able to assure quality and meet our requirements.

Urgency is the top priority issue

This fiscal year, the second year of “DRIVE NTN100” Final, the business environment has changed significantly from the time the plan was formulated. A symbol of this is the US tariff issue. External factors such as exchange rates fluctuate daily, and the most important way to deal with such uncertainty is to act with urgency and speed.

The origin of my strong awareness of the importance of speed lies in my experiences during my assignment in China. Immediately after taking on the role, the economic outlook was unclear due to the impact of COVID-19, and I was cautiously trying to assess the situation. However, the situation deteriorated at a speed far faster than I could have imagined, and I keenly felt that acting with any delay leads to major risks.

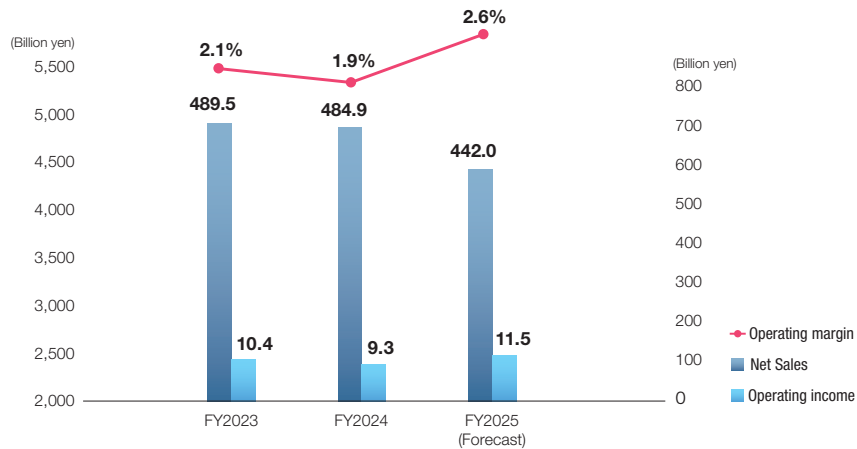
What I learned from this experience was the importance of always looking ahead and preparing multiple responses in advance. Asking myself “What if this situation occurs next?” and having options ready. Then, when the time comes, moving into action with immediate decision-making. Even if the first option does not work well, you can look to recover by trying the next option. Such speed of thinking and action is what is most necessary under rapidly changing conditions.

When considering a series of measures, I am always conscious of cost, which is an essential issue as a manufacturer. While technical response and inventory strategy are naturally important, during my assignment in China, I became convinced that cost competitiveness is an unavoidable challenge if we are to ultimately change the business landscape. Going forward, I intend to continue to work steadily to respond immediately to changes in the business environment with speed and urgency.

Strengthening the Business Model

CVJ & Axle bearing

Performance targets



Overview

With the ongoing shift toward electrification and EVs in the automobile market, there is growing demand for hub bearings and driveshafts that can help to extend the range of electric vehicles and offer strong control performance. These are flagship products of the CVJ & Axle bearing business.

As a specialist in power/drivetrain systems, NTN develops and supplies high-performance products that meet world-leading standards in low-friction performance, lightweight and compact properties, durability, and quietness, in response to rapidly growing needs for CASE (“Connected” cars, “Autonomous/Automated” driving, “Shared,” and “Electric”). By doing so, we contribute to the Earth’s environment by improving the fuel (or electrical) efficiency of vehicles, reducing CO₂ emissions.

We are also boosting supply to the aftermarket by expanding our line-up of products to include automotive aftermarket parts, with a focus on corner modules.

We will also strengthen our profit structure and build a lean business foundation by proportionately reducing costs through changes in design and procurement within the value chain, and by reducing fixed costs through production reorganization including consolidation or closure of factories in each region.

Main products and services

Hub bearings

Bearings that allow tires to rotate smoothly, and support the weight of the vehicle.



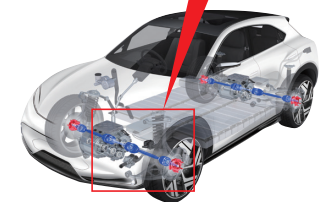
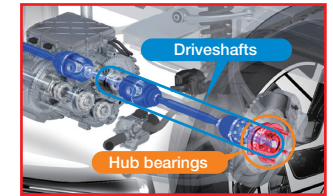
64% reduction in rotational friction
“Low Friction Hub Bearing V”

Driveshafts

Products that transmit the driving force of engines and motors to tires.



The world's highest level of efficiency during transmitting torque
High Efficiency Fixed Type CVJ “CFJ”



Development of products with even lower friction

Low Friction Hub Bearing

Roller type (GEN3 HUR)

Driveshafts

Hub joint module

Compact Lightweight Rear Driveshaft R Series

High Efficiency Fixed Type CVJ “CFJ”

Shudderless Sliding Type CVJ “PTJ”

Fixed type CVJ

Sliding type CVJ

Executive Progress Update on “NTN DRIVE100” Final



Steady improvement in profit

One year has passed since the establishment of the CVJ & Axle Bearing Business HQ. While the former Automotive Business HQ had recorded losses for four consecutive years from FY2019, the new business headquarters achieved a turnaround to profitability in FY2023. Steady results are also emerging in FY2024, the first year of the new Medium-term Management Plan.

Through organizational restructuring, key metrics including the operating margin of CVJ & Axle Bearing Business HQ and inventory assets have been identified, and we have improved the transparency of metric management at the factory level. The transition to the business headquarters system has given us a more accurate picture of the overall state of the business, brought more visibility to business activities worldwide, and various reforms are gaining momentum.

One example of improvements is the optimization of the supply chain. This initiative requires comprehensive consideration that goes beyond simply selecting new suppliers with cost advantages. It includes customer quality management checks and obtaining approval for the establishment of a logistics network. As a result of establishing a team to take on supply chain optimization, tangible effects have begun to emerge, particularly in the North American market.

Another example of major improvement is the progress being made to pass through cost increases to pricing. Japanese corporate customers have shown understanding, given the context of public sentiment and government policy. We have also been able to gain the understanding of Western companies for price adjustments, by making evidence-based logical explanations over time, and as compensation for order volume reductions.

Policy

- ① Pass-on price and set selling prices appropriately
- ② Improve profit margin of existing projects by value chain reform
- ③ Ensure profits and return on investment expected when receiving new orders
- ④ Respond to EV market needs

Main strategy

Improve profits of OEM business

- Improve asset efficiency by reorganization of production bases in the Americas, Europe, China and Japan
- Improve unprofitable businesses and adjust prices in line with market conditions
- Deepen partnerships with customers based on problem-solving and proposal capabilities
- Procurement reform, design reform, and cost reduction by design not trapped in the conventional design concepts and reviewing materials
- Maximize profits by expanding external purchasing, and restructuring supply chain of parts and finished products
- Develop new products that meet market needs and bring them to market speedily

Expand aftermarket business

- Strengthen supply capability
 - Develop alternative products and outsource production
 - Expand product lineup through external purchasing
 - Enhance axle and CVJ-related kit products
- Relocate aftermarket headquarter functions to Europe and establish sales expansion system

Strengthening the Business Model CVJ & Axle bearing

These achievements certainly did not happen overnight. They are the result of persistent efforts by the sales division, which has maintained good relationships with customers for a long time, finally bearing fruit. Many customers now see our perspective, and by leveraging the systems we have built, we will achieve further profit improvement.

Bold approach to structural reform

Progress is ahead of schedule with structural reform. First, in the Americas, change has accelerated, starting with the closure of the Canadian factory. We are also restructuring across the Americas at a cost of 5.0 billion yen, for example closing the Brazil CVJ plant.

In Europe, we are proceeding with structural reform by investing 5.9 billion yen to close an axle plant in Germany and restructure CVJ plants in France and Germany, transferring some production capacity to Eastern Europe. In China, where Japanese manufacturers are struggling, we are also restructuring our axle plants and reducing fixed assets at CVJ plants.

Going forward, we will accelerate restructuring for optimal production to match the market characteristics of each region. While moderate growth is expected for the overall automotive market, we need to accurately respond to regional differences, such as the weak demand seen in Japan and Europe. We have already outlined a global restructuring plan for the CVJ & Axle bearing business and will now gain speed in the execution phase.

Positive impacts of business restructuring on OEM and aftermarket

Regarding the impacts of business restructuring on OEM, we will identify issues by establishing a system

integrating sales, technology, and production, and through centralized and transparent metric management. For example, in Japan, the issue of an aging workforce has emerged, making it necessary to advance labor-saving methods in factories along with rapid restructuring of production.

As to the automotive aftermarket, we are spreading our wings globally by transferring head office functions to the European region, which accounts for 65% of sales, and utilizing locally-developed know-how.

Progress so far has been smooth. To expand our lineup to include suspension components in addition to CVJs and axles as target products, we made a capital investment in La Tunisie Mecanique S.A. (LTM), which manufactures automotive shock absorbers in Tunisia. This has added shock absorbers, which are closely related to our corner module products such as driveshafts and axle bearings, to our lineup, leading to improved brand value for NTN in drivetrain and chassis systems.



Shock absorbers



LTM (Tunis, Tunisia)

We have set a target to increase the overall aftermarket sales ratio to 40% of the total by 2035. To achieve this, we plan to utilize know-how developed in Europe at sales companies in other regions. We have also dispatched automotive aftermarket personnel from Japan to Europe who provide support utilizing existing networks and sales tools. We plan to harvest the fruits of these endeavors starting this fiscal year.

Better profitability in a challenging business environment

Significant sales growth is not anticipated for the CVJ & Axle Bearing business in FY2025. The reasons are that vehicle production volumes are forecast to decline slightly worldwide and Japanese carmakers, which account for a high proportion of our sales, are expected to struggle. Falling sales are also expected in the Americas and Europe. Trade tariffs are a contributing factor.

Under these circumstances, while we expect lower revenues, we plan to improve profitability and increased profits. Our structural reform and steadily progressing production, design, and procurement reforms are beginning to bear fruit, and we feel confident about earnings improvement.

By region, while vehicle production volumes in China are trending upward, the rise of local carmakers means the prominence of Japanese carmakers is in relative decline. Therefore, we have changed our approach and are promoting value chain transformation in China. Specifically, we look at China as a production base and we aim to strengthen cost competitiveness by expanding parts procurement from local sources in China.

In the Indian market, where growth is anticipated, we are establishing a network for increased production.

Strengthening the Business Model CVJ & Axle bearing

We have already deployed technical personnel and are strengthening customer service for local manufacturers with the help of local staff. Additionally, we have begun establishing a platform for upgraded R&D functions, bringing in testing equipment. We plan to start testing next year. By enhancing our structure in the Indian market, we are setting the conditions to be able to deliver value to customers at pace. We are also focusing on India's potential as a procurement base, developing new suppliers while assessing quality and other factors.

Promoting initiatives to improve profits

As we seek improved profitability, we have organized "task teams" to address issues that had not been adequately dealt with before. We are working on topics such as reducing setup changeover times in factories and automating parts manufacturing and creating systems to enhance process transparency and problem-solving. We have also assembled a team with members from various departments to look at inventory asset reduction as a priority activity. Even though our sales are expected to decline in FY2025, our intention is to achieve a year-on-year profit increase through these initiatives.

Market conditions remain opaque and particularly close attention must be paid to US tariff movements. Under such circumstances, we will strengthen ourselves through structural reform, boosting our resilience to the external environments, and secure profitability.

Furthermore, we are accelerating toward 2035, aiming to become a leading manufacturer in power/drivetrain systems with superb problem-solving capability, proposal capability, and speed of response. CVJ is a key component in power/drivetrain systems,

and its importance remains unchanged even in EVs. To respond to EV market needs, we will develop technologies that surpass our competitors with high efficiency and compact lightweight design, while differentiating ourselves by our ability to offer rapid and accurate solutions and technical response capabilities to meet customer concerns.

By consolidating CVJ and axles into one business division, moreover, synergy effects have begun to emerge. CVJ and axles are fundamentally different components, and previously there was insufficient interaction between their respective departments. Now, as a result of integrating them into one business headquarters, the direction of travel is consistent, including development, and a host of initiatives is underway.

What will be most required by markets in future is technology combining CVJ and axles premised on electrification. We have formed a development team and are setting the foundations to become a leading manufacturer in power/drivetrain system. By building this organization, communication has revitalized and new initiatives have emerged. Development of a new mechanism combining CVJ and axles is underway. We plan to offer a new mechanism that can achieve clear differentiation in the market within the next 2-3 years.

Starting initiatives looking beyond 2027

In future developments, we will accelerate the turnaround to profitability in the automotive business after four consecutive years in the red to FY2023. The driving force for this is the structural reform and production, design and procurement reforms that we have tackled as a unified organization. What will also be necessary to further this series of reforms is problem-solving capability and speed.

Regarding the automotive market, sales negotiations have already been substantially completed for the next two years, so now the focus is on 2027 and beyond. The overarching theme in new negotiations will be sustainably securing profitability.

To this end, the mindset of each individual employee must change. Some employees may have questions such as, "We have worked hard, and the operating margin has increased. Despite this, must we still work on improving profit?" However, what is necessary is continuous profit creation, and the current situation is that our financial structure remains less than solid. We are being open about these challenges with employees, and we are determined to thoroughly implement structural reform.

NTN is sharing such messages with employees not only domestically in Japan but also at our overseas locations through town hall meetings. We shall unify the mindset globally to ensure our progress toward reforms and growth looking beyond 2027.



Town hall meeting