



## Overview of the Financial Results for the Year Ended March 2024

Executive Vice President & CFO and Representative Member of the Board

Hidefumi Yoshimura

Thank you for taking the time out of your busy schedule to attend our financial results briefing today.

## Overview of the Financial Results for the Year Ended March 2024



										(1	00 million ye
			FY2022	FY2	023	Vs. FY2022	Results Vs. N	/lid-term plan	FY2024	Forecast Vs. P	revious year
			Results	Mid-term plan	Results	Results	Results	Ratio	Forecast	Variance	Ratio
Net Sales			6,932	6,500	7,669	736	1,169	15.2%	7,800	130	1.79
Operating Profit		288	400	346	58	-54	-15.4%	400	54	15.49	
Ratio			4.2%	6.2%	4.5%	0.4%	-1.6%		5.1%	0.6%	
Ordinary Profit			373	420	478	104	58	12.2%	470	-8	-1.7
Ratio		5.4%	6.5%	6.2%	0.9%	-0.2%		6.0%	-0.2%		
Profit Attributable to Owners of Parent		s of	215	250	391	176	141	36.2%	400	8	2.19
Extraordinary profits/losses			-70		90	160	90		85	-4	-5.39
EPS - Earning Per S	hare (unit: yen)		94.50	-	173.27	78.77	173.27	-	180.62	7.35	
ROE - Return On Eq	uity		6.4%	8.0%	10.4%	4.0%	2.4%		9.7%	-0.7%	
Average Rate	US\$		135.0	100.0	144.4	9.5	44.4		148.0	3.6	
	Thai Baht		3.7	3.2	4.0	0.3	0.8		4.0	-0.0	
Current Rate	US\$	This year	133.5	100.0	151.4	17.9	51.4		145.0	-6.4	
		Previous year	122.4	-	133.5	11.1	133.5	-	151.4	-	
	Thai Baht	This year	3.8	3.2	4.1	0.3	0.9		4.0	-0.1	
		Previous year	3.4	-	3.8	0.4	3.8		4.1	-	

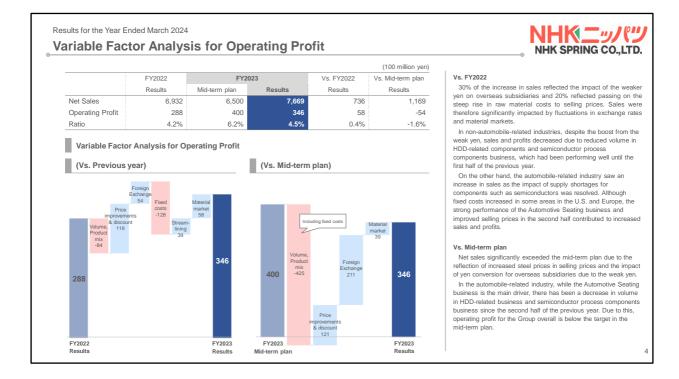
First, I would like to provide an overview of the financial results.

For the fiscal year ended March 2024, net sales were 766.9 billion yen, operating profit was 34.6 billion yen, ordinary profit was 47.8 billion yen, and net profit attributable to the shareholders of the parent company was 39.1 billion yen. The exchange rates are as listed.

Compared to the targets in the 2023 mid-term plan, we exceeded the targets for all items except for operating profit.

Additionally, the forecast for the fiscal year ending March 2025 is net sales of 780 billion yen, operating profit of 40 billion yen, ordinary profit of 47 billion yen, and net income of 40 billion yen.

3

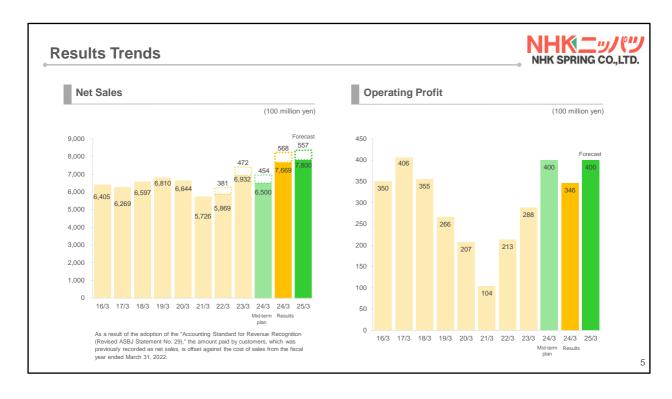


Here is a graph showing the factors influencing operating profit for the fiscal year ended March 2024.

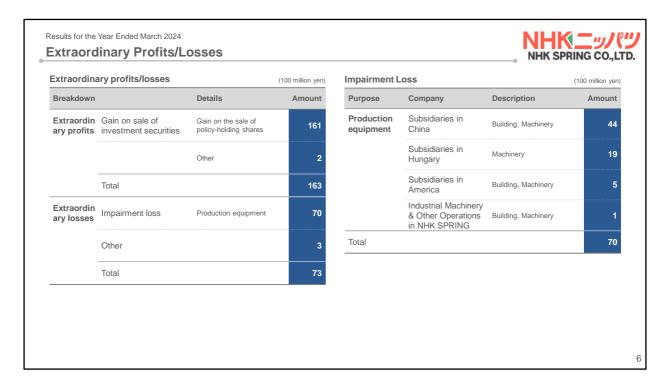
Compared to the previous fiscal year, the variation in sales and composition differences showed an increase in volume for the automobile-related business, but a significant decrease in volume for the HDD-related business and semiconductor process components business, resulting in a decrease of 8.4 billion yen in profit.

Additionally, although there was an increase in fixed costs due to the increase in automobile-related business volume, inflation impacts, and base pay increases, there were profit-increasing factors such as cost recovery, sales price improvements, factory streamlining, and exchange rates, resulting in a profit increase of 5.8 billion yen compared to the previous fiscal year.

Compared to the mid-term plan, despite significant growth in the automotive seating business, other businesses saw a decrease in volume, especially the precision springs & components business, including HDD-related business and semiconductor process components business. Despite profit-increasing factors like exchange rates and sales price improvements, we fell short of the mid-term target by 5.4 billion yen.



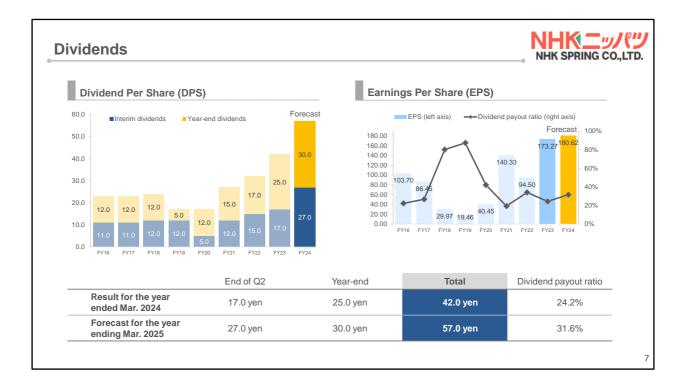
Next, I would like to discuss the performance trends. Although operating profit did not reach the target of the 2023 mid-term plan, it has been recovering steadily since the bottom in the fiscal year ended March 2021.



Here is the status of extraordinary profits and losses.

While we recorded a gain of 16.1 billion yen from the sale of investment securities, we also recorded an impairment loss of 7 billion yen.

The breakdown of the impairment loss is as shown, with significant amounts recorded for subsidiaries in China and Hungary.



Next, I would like to discuss the trend in dividend amounts.

For the fiscal year ended March 2024, the year-end dividend has been increased by 2 yen from the initial plan to 25 yen, with an annual total of 42 yen.

For the fiscal year ending March 2025, we plan to further increase the dividend to 27 yen at mid-term and 30 yen at year-end, for an annual total of 57 yen.



## Financial Results for the Year Ended March 2024

Let's take a closer look at the financial results for the fiscal year ended March 2024.

Results for the year ended March 2024

### **Net Sales/Operating Profit by Business Segment**



						(100 million yen)
		FY2022	FY2	2023	Vs. FY2022	Vs. Mid-term plan
		Results	Mid-term plan	Results	Results	Results
Automotive	Net Sales	1,468	1,210	1,711	243	501
Suspension Spring	Operating Profit	-27	30	15	43	-14
	Ratio	-1.9%	2.5%	0.9%	2.8%	-1.6%
Automotive	Net Sales	2,737	2,400	3,241	503	841
Seating	Operating Profit	73	80	191	118	111
	Ratio	2.7%	3.3%	5.9%	3.2%	2.6%
Precision	Net Sales	1,594	1,790	1,617	22	-173
Springs & Components	Operating Profit	114	180	71	-43	-109
	Ratio	7.2%	10.1%	4.4%	-2.8%	-5.7%
Industrial	Net Sales	1,131	1,100	1,099	-32	-1
Machinery & Others	Operating Profit	127	110	68	-59	-42
	Ratio	11.3%	10.0%	6.2%	-5.1%	-3.8%
Total	Net Sales	6,932	6,500	7,669	736	1,169
	Operating Profit	288	400	346	58	-54
	Ratio	4.2%	6.2%	4.5%	0.4%	-1.6%

### Vs FY2022

The automobile-related industry showed an overall increase in sales due to the resolution of the impact of semiconductor shortages.

Automotive Suspension Springs turned profitable as improved selling prices in the second half offset increased fixed costs in the U.S. and Europe.

Automotive Seating saw an increase in the number of units ordered from each customer, resulting in the highest ever operating profit.

Precision Springs & Components saw a decrease in profits due to reduced quantities of HDD-related components, despite a recovery in the automobile-related industry and the boost from the weak yer.

Industrial Machinery & Others saw decreased sales and profits, primarily due to reduced quantities in semiconductor process components and the leisure sector.

### Vs. Mid-term plan

While the Automotive Seating business is the main driver, due to the failure of the North American Automotive Suspension Springs business to achieve its profit target and a decrease in volume in HDD-related components and semiconductor process components, operating profit for the Group overall is below that of the mid-term plan.

First, I would like to discuss net sales and operating profit by business segment. Compared to the previous fiscal year, the automobile-related businesses such as automotive suspension springs and automotive seating saw an increase in sales, with the automotive suspension springs business turning profitable. The automotive seating business recorded its highest ever profit.

In the precision springs & components business, although there was a recovery trend in the automobile-related industry, a decrease in volume in the HDD-related business led to a decline in profit.

In the industrial machinery & other operations, a decrease in semiconductor process components and a decrease in the leisure sector led to a decline in both sales and profit.

Compared to the mid-term plan, the automotive seating business saw a significant increase in profit, but the decrease in profit for the HDD-related business and semiconductor process components business was substantial, resulting in overall operating profit unfortunately falling short of the mid-term plan.

9

Results for the year ended March 2024

### **Net Sales/Operating Profit by Region**



						(100 million yen)
		FY2022	FY2	2023	Vs. FY2022	Vs. Mid-term plan
		Results	Mid-term plan	Results	Results	Results
<ul><li>Japan</li></ul>	Net Sales	3,910	4,090	4,377	466	287
	Operating Profit	247	270	299	51	29
	Ratio	6.3%	6.6%	6.8%	0.5%	0.2%
<ul><li>Asia</li></ul>	Net Sales	1,867	1,500	1,869	1	369
	Operating Profit	104	110	79	-25	-30
	Ratio	5.6%	7.3%	4.2%	-1.4%	-3.1%
America &	Net Sales	1,153	910	1,423	269	513
Europe & Others	Operating Profit	-63	20	-31	31	-51
	Ratio	-5.5%	2.2%	-2.2%	3.3%	-4.4%
Total	Net Sales	6,932	6,500	7,669	736	1,169
	Operating Profit	288	400	346	58	-53
	Ratio	4.2%	6.2%	4.5%	0.4%	-1.6%

### Vs. FY2022

Japan saw a volume decrease in HDD-related components and semiconductor process components, but sales and profits increased due to positive contributions from the weak yen and increased sales in the automobile-related business centering on the Automotive Seating business.

In Asia, the automotive sector in Thailand continued to perform well, but due to a decrease in orders for automobile-related components in China and HDD-related components in Thailand and China, profit and loss performance fell below the previous year's results.

In Europe, America, and other regions, there was a rise in personnel expenses, etc., but measures to improve selling prices made a positive contribution, and the extent of the loss was smaller than the previous year.

### Vs. Mid-term plan

In Japan, sales decreased, especially for HDD-related components, semiconductor process components, and integrated metal substrates, but the Automotive Seating business in particular drove increased sales and profits.

In Asia, the mid-term plan was not met mainly due to reduced quantities of automotive-related components and HDD-related components in China.

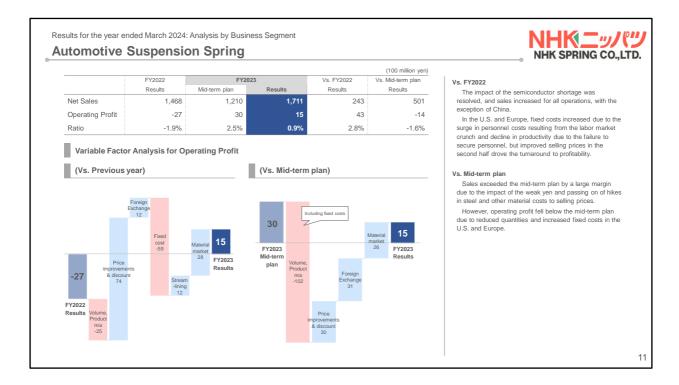
Sales increased in the U.S., Europe, and other regions due to the conversion impact of the weak yen and the reflection of increased steel prices in selling prices. However, higher labor costs and delayed productivity improvements prevented achieving the targeted return to profitability.

10

Next, I would like to discuss net sales and operating profit by regional segment. In Japan, despite a decrease in the HDD-related business and semiconductor process components business, an increase in automobile-related businesses, mainly automotive seating, led to an increase in both sales and profit.

In the Asia region, a decrease in profit was primarily due to the impact of the China business.

In the U.S. and Europe, although the deficit was reduced due to passing on materials and energy costs to customers, the impact of rising labor costs and delays in productivity improvements unfortunately prevented a return to profitability.



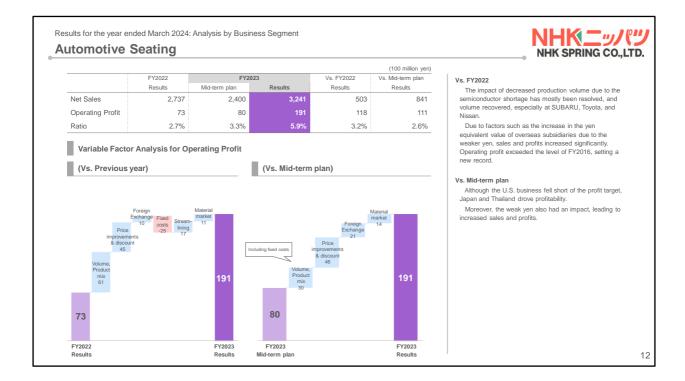
Next, let's look at the business segments in detail.

First, the automotive suspension springs business.

An increase in automobile production due to the resolution of semiconductor shortages and recovery of material market conditions and inflation impacts led to an increase in sales and profit in regions outside of China compared to the previous fiscal year.

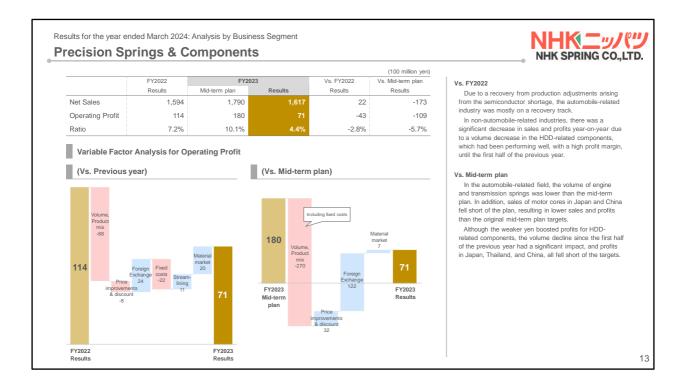
In the U.S. and Europe, although fixed costs increased significantly, recovery of inflation impacts and improvements in sales prices in the second half of the fiscal year reduced the deficit, resulting in the overall automotive suspension springs business turning profitable.

Compared to the mid-term plan, there was a significant increase in sales due to the impact of yen depreciation on currency translation and the reflection of rising material market prices in sales prices, but the decrease in order volumes and the increase in fixed costs, particularly in the U.S. and Europe, led to profits falling short of the target.



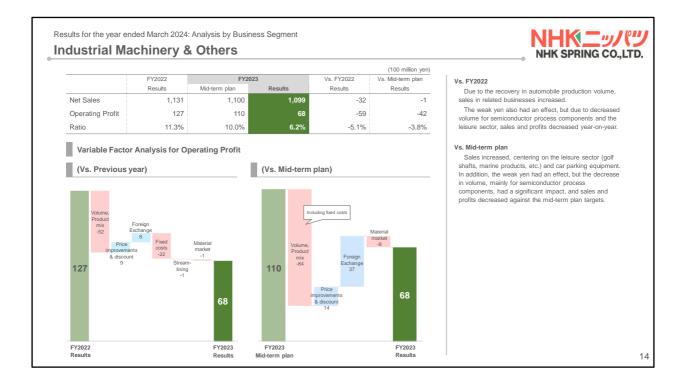
Next is the automotive seating business.

Both in comparison to the previous fiscal year and the mid-term plan, there was an increase in volume, with higher development fee income and improved sales prices leading to a significant increase in both sales and profit.



Next is the precision springs & components business.

In the automobile-related industry, there was a general recovery trend excluding China, but in non-automobile-related industries, the slowdown in the HDD-related business, which had been strong up until the first half of the previous year, led to an increase in sales but a decrease in profit compared to the previous fiscal year. Compared to the mid-term plan, there was a significant decline in sales in both the automobile-related and non-automobile-related industries. While yen depreciation had a positive impact on profits, both sales and operating profit fell short of the mid-term targets.



Next is industrial machinery & other operations.

While there was a recovery in sales in the automobile-related industry, the significant decrease in volume in the semiconductor process components business and the leisure-related components business led to a decrease in both sales and profit compared to the previous fiscal year.

Similarly, compared to the mid-term plan, the significant decrease in volume in the semiconductor process components business resulted in operating profit falling short of the target.



## Financial Forecast for the Year Ending March 2025

Next is the performance forecast for the fiscal year ending March 2025.

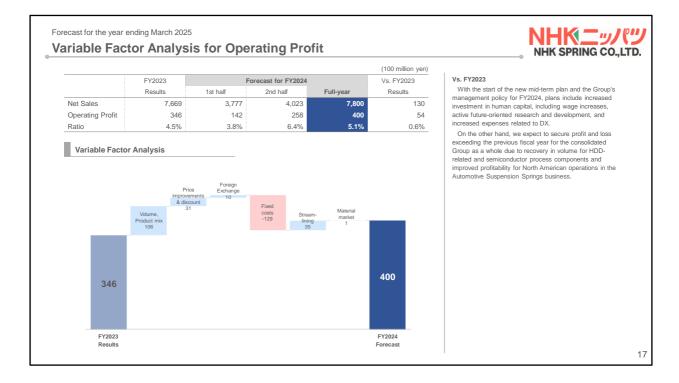
### Forecast for the year ending March 2025



			FY2023	E	orecast for FY2024	4	Vs. FY20	(100 million yer
			Results				Results	Ratio
			Results	1st half	2nd half	Full-year	Results	Ratio
Net Sales			7,669	3,777	4,023	7,800	130	1.7%
Operating Profit			346	142	258	400	54	15.4%
Ratio			4.5%	3.8%	6.4%	5.1%	0.6%	
Ordinary Profit			478	195	275	470	-8	-1.7%
Ratio			6.2%	5.2%	6.8%	6.0%	-0.2%	
Profit Attributable	ofit Attributable to Owners of Parent			150	250	400	8	2.19
Extraordinary profits/losses			90	-	85	85	-4	-5.39
EPS - Earning Per Share (u	ınit: yen)		173.27	-	-	180.62	7.35	
ROE - Return On Equity			10.4%	-	-	9.7%	-0.7%	
Average Rate	US\$		144.4	-	-	148.0	3.6	
	Thai Baht		4.0	-	-	4.0	-0.0	
Current Rate	US\$	This year	151.4	-	-	145.0	-6.4	
		Previous year	133.5	-	-	151.4	-	
	Thai Baht	This year	4.1	-	-	4.0	-0.1	
		Previous year	3.8	-	-	4.1	-	

As mentioned at the beginning, for the fiscal year ending March 2025, which is the first year of the new mid-term plan that the president will explain later, the plan is for net sales of 780 billion yen, operating profit of 40 billion yen, ordinary profit of 47 billion yen, and net income of 40 billion yen.

The exchange rates are as listed.



The factors influencing operating profit include investments in human capital such as base pay increases, increased costs for future-oriented R&D, and DX-related expenses, all contributing to an increase in fixed costs.

On the other hand, we expect a recovery in the HDD-related business and the semiconductor process components business, planning for an operating profit of 40 billion yen, exceeding the previous fiscal year.

Forecast for the year ending March 2025

### **Net Sales/Operating Profit by Business Segment**



						(	100 million ye
		FY2023	Fo	precast for FY202	4	Vs. FY2023	
		Results	1st half	2nd half	Full-year	Results	Ratio
Automotive Suspension	Net Sales	1,711	865	935	1,800	88	5.29
Spring	Operating Profit	15	4	38	42	26	162.6
	Ratio	0.9%	0.5%	4.1%	2.3%	1.4%	
Automotive	Net Sales	3,241	1,516	1,584	3,100	-141	-4.4
Seating	Operating Profit	191	43	73	116	-75	-39.3
	Ratio	5.9%	2.8%	4.6%	3.7%	-2.2%	
Precision Springs & Components	Net Sales	945	483	507	990	44	4.8
	Operating Profit	6	9	31	40	33	505.5
	Ratio	0.7%	1.9%	6.1%	4.0%	3.3%	
Disk Drive	Net Sales	671	359	381	740	68	10.1
Suspension	Operating Profit	64	58	58	116	51	79.7
	Ratio	9.6%	16.2%	15.2%	15.7%	6.1%	
Industrial	Net Sales	1,099	554	616	1,170	70	6.4
Machinery & Others	Operating Profit	68	28	58	86	17	26.2
	Ratio	6.2%	5.1%	9.4%	7.4%	1.2%	
Total	Net Sales	7,669	3,777	4,023	7,800	130	1.7
	Operating Profit	346	142	258	400	54	15.4
	Ratio	4.5%	3.8%	6.4%	5.1%	0.6%	

### Change in Segment Classification

Revising decision-making for resource allocation, performance management divisions, and reporting systems to management to better match actual business conditions, and changing the reporting segments starting from FY2024.

Previous: Precision Springs & Components

New: Classified into "Precision Springs & Components" and "DDS"

(DDS=Disk Drive Suspension)

### Vs. FY2023

Automotive Suspension Springs are expected to see decreased profits in Japan and Mexico, but increased sales and profits due to improved selling price activities in U.S. operations.

Automotive Seating is expected to see decreased sales and profits due to reduced unit numbers from model changes, decreased development income, and increased research and development expenses.

Precision Springs & Components are expected to see increased sales and profits due to expanded sales of motor cores and quantity recovery in overseas operations.

DDS and Industrial Machinery & Others are expected to see increased sales and profits due to quantity recovery in HDD suspensions, semiconductor process components, and golf shafts.

18

Here is the forecast for net sales and operating profit by business segment. Starting this fiscal year, in line with the start of the new mid-term plan, we will change the business segment classifications, separating the precision springs & components business into the precision springs & components business and the DDS (Disc Drive Suspension) business.

This change aims to provide investors with a clearer understanding of each business' state.

Regarding the fiscal year ending March 2025 by business segment, we plan for increased sales and profit in all businesses except for the automotive seating business compared to the fiscal year ended March 2024.

Forecast for the year ending March 2025

### **Net Sales/Operating Profit Forecast by Region**



							(100 million ye
		FY2023 Forecast for FY2024			Vs. FY	′2023	
		Results	1st half	2nd half	Full-year	Results	Ratio
<ul><li>Japan</li></ul>	Net Sales	4,377	2,083	2,282	4,365	-12	-0.3%
	Operating Profit	299	68	166	234	-65	-21.8%
	Ratio	6.8%	3.3%	7.3%	5.4%	-1.5%	
<ul><li>Asia</li></ul>	Net Sales	1,869	960	1,023	1,983	113	6.19
	Operating Profit	79	85	86	171	91	115.9%
	Ratio	4.2%	8.9%	8.4%	8.6%	4.4%	
America & Europe &	Net Sales	1,423	734	718	1,452	28	2.0%
Others	Operating Profit	-31	-11	6	-5	26	
	Ratio	-2.2%	-1.5%	0.8%	-0.3%	1.9%	
Total	Net Sales	7,669	3,777	4,023	7,800	130	1.79
	Operating Profit	346	142	258	400	54	15.49
	Ratio	4.5%	3.8%	6.4%	5.1%	0.6%	

### Vs. FY2023 Japan

A profit boost due to the weak yen and volume recovery for HDD-related and semiconductor process components are anticipated, but since the profits of the Automotive Seating business, which represents a large part of the Group's business, will be less than last year, we expect sales and profits to decrease for Japan overall.

### Asia

We expect sales and profits to increase year-on-year due to increased volume of HDD-related components in Thailand and China and recovery of the automobilerelated business in China.

### America & Europe & Others

We expect the extent of losses to shrink year-onyear due to sales price improvements and streamlining efforts. Since we expect to post one-time expenses due to new product launches at some Mexican operations, we expect a slight operating loss for the U.S. and Europe segment overall.

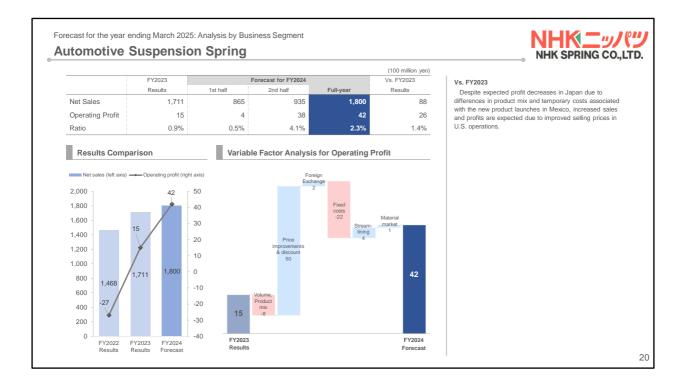
19

Regionally, Japan is expected to see a decrease in both sales and profit due to the impact of the automotive seating business.

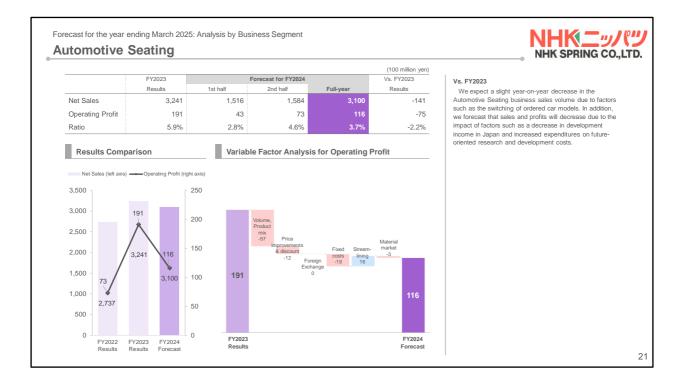
In Asia, we expect increased sales and profit due to the sales growth of the HDD-related business in Thailand and China, as well as a slight recovery in the automobile-related business in China.

In the U.S. and Europe, while we expect to incur one-time costs associated with the launch of new products in Mexico, we plan to reduce the deficit through sales price improvements and factory streamlining.

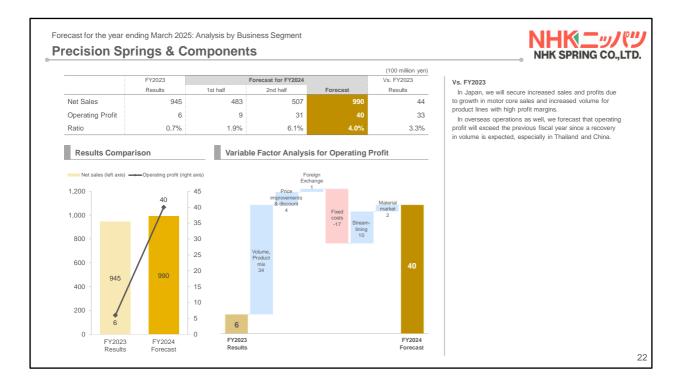
Next, we will look at each business segment.



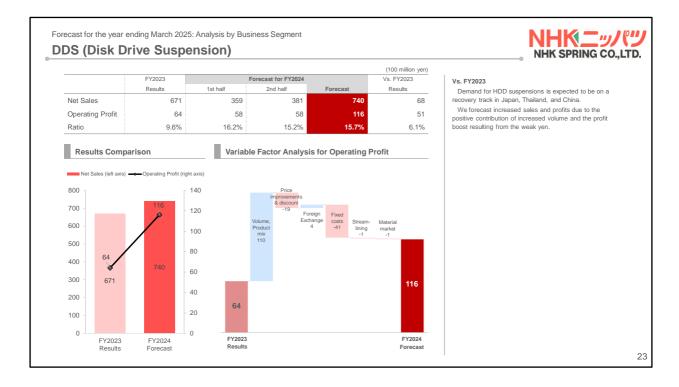
In the automotive suspension springs business, as mentioned earlier, we expect one-time costs associated with the launch of new products in Mexico. Despite the profit impact of product mix differences in Japan, we plan for increased sales and profit in this segment due to reduced deficits in the U.S. and Europe and recovery in the China business.



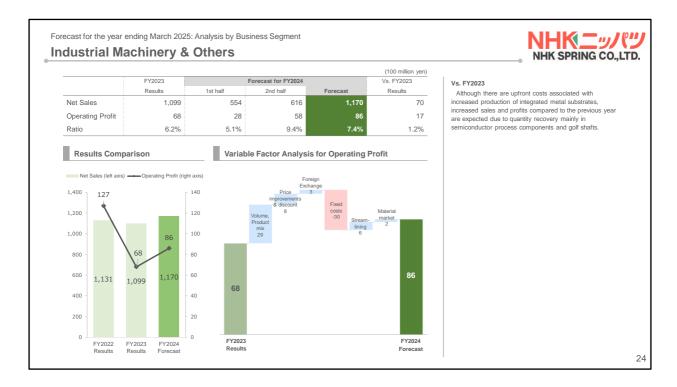
In the automotive seating business, we expect a decrease in volume compared to the fiscal year ended March 2024 due to model changes in ordered vehicles. Additionally, the decrease in development fee income and the increase in R&D expenses for the future will impact the business, resulting in a forecast of decreased sales and profit.



For the precision springs & components business, starting from the fiscal year ending March 2025, the Disk Drive Suspension business is separated, and the figures for the fiscal year ended March 2024 on this page also exclude the Disk Drive Suspension business. We plan for increased sales and profit due to the expansion of motor core sales and an increase in the volume of high-margin products.



The Disk Drive Suspension business, which started to recover from the third quarter of the fiscal year ended March 2023, is expected to continue its recovery, and we plan for increased sales and profit.



In industrial machinery & other segments, we expect increased fixed costs, including advance expenses for future production increases in the metal substrate business. However, we plan for increased sales and profit due to the recovery in semiconductor process components and golf shafts.

This concludes the explanation of the financial results for the fiscal year ended March 2024 and the performance forecast for the fiscal year ending March 2025.



# Review of the FY2023 Mid-term Plan and FY2026 Mid-term Plan

President & COO
Representative Member of the Board

Kazuhisa Uemura

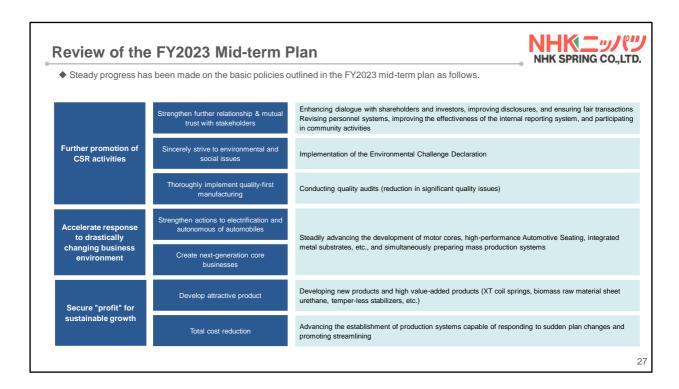
Next, Uemura will explain the review of the 2023 mid-term plan and the 2026 mid-term plan.

Hereafter, the 2023 mid-term plan and the 2026 mid-term plan will be abbreviated as 23MT and 26MT, respectively.



## Review of the FY2023 Mid-term Plan

First, I would like to provide a review of the 23MT.



In the 23MT, we focused on three basic policies: "Further promotion of CSR activities," "Accelerate response to drastically changing business environment," and "Secure "profit" for sustainable growth." Despite the highly volatile environment over the past three years, we made steady progress and, as Yoshimura explained earlier, largely achieved our plan.



Next, I would like to provide an update on the progress of the three projects launched last year.

Background a	nd Project Measure	S NHK SPRING CO.,LTD.			
Automotive		Profitability Improvement Project			
Suspension Springs	Achieving profitability	Price improvement of Automotive Suspension Springs Negotiation of appropriate price for cost increase Productivity improvement			
		SUBARU Project			
Automotive Seating	Improving customer satisfaction	Establishment of a management system with QCDD Development of seats adapted to needs			
		Motor Core Project			
Motor Core	Further acceleration of electrification	Expand new sales by leveraging strengths Accelerate business by increasing competitiveness and differentiation			

The objectives and measures of each project are as shown.



# Profitability Improvement Project (Automotive Suspension Springs)

30

First, I would like to provide an explanation of the automotive suspension spring Profitability Improvement Project.

### **Details of Measures**



### Increasing the value of Automotive Suspension Springs

Price improvement
Price pass-through of inflationary increases

### **Labor productivity improvement**

Productivity improvement based on rising labor costs
Thorough manpower saving

### **Equipment productivity improvement**

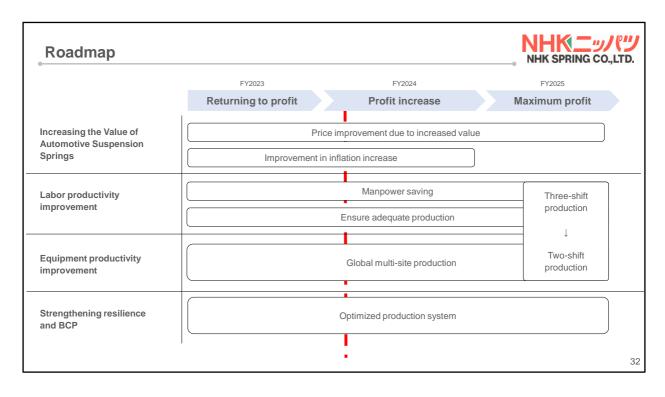
Aim for optimal production between sites based on global utilization rates

### Strengthening resilience and BCP

Review of global supply structure for stable supply and production flexibility

3

The measures for maximizing automotive suspension spring profits are as shown.



The automotive suspension springs business finally turned profitable in the fiscal year ended March 2024. The main reasons were the recovery of cost increases due to inflation and improvements in sales prices.

However, in the U.S., the labor market remains tight, and productivity has not increased as planned due to rising labor costs and low employee retention rates. We are reviewing the optimal production system and gradually shifting part of the production from the U.S. to other countries.

We will continue to strengthen activities aimed at further value enhancement and increase profits for the fiscal year ending March 2025.



# SUBARU Project (Automotive Seating)

30

Next is the automotive seating SUBARU Project.

### NHK =""/("") NHK SPRING CO.,LTD. **Customer Evaluation** Q: Quality C: Cost Quality creation from the development and Eliminate design rework and design stages achieve cost targets D: Delivery date D: Development Clarification of processes and driving Pursuit of the essence of seating progress by Project Manager Virtual development Establishment of Project Management (PM) structure Centralized management of the entire project progress and a single point of contact with the client Specialized teams focus on their own tasks to improve efficiency **Customer Evaluation** Received the "Production Supply Contribution Award"

The main objective of the SUBARU Project is to enhance customer satisfaction. As explained at the briefing six months ago, the newly launched model last year was developed with thorough project management to eliminate rework compared to the previous model, improving appearance quality and eliminating unnecessary costs.

Even after the launch, by maintaining close communication with customers, we ensured flexible production responses and reliable supply to customers, receiving high evaluations including the "Production Supply Contribution Award."

We will continue to promote these activities for the next model to further enhance customer satisfaction.



# Motor Core Project (Precision Springs)

35

The third project is the Motor Core Project.

### **Details of Measures**



### Establishment of global production system

- -Responding to increased orders-
- Start of operation of the new production building (Atsugi Plant)
- Start of construction of the new plant (Mexico)

### Increased die fabrication capacity

- · Increase and train more designers
- · Expansion of machining facilities
- · Add design and manufacturing base in Thailand
- Strengthening collaboration with Japanese suppliers

### **Development of new construction methods**

- Considering mass production line for interlockless lamination
- Establishing mass production for glue bonding core method
- · Developing new interlock-less + methods
- · Considering and proposing added value

### Proactive response to prototypes

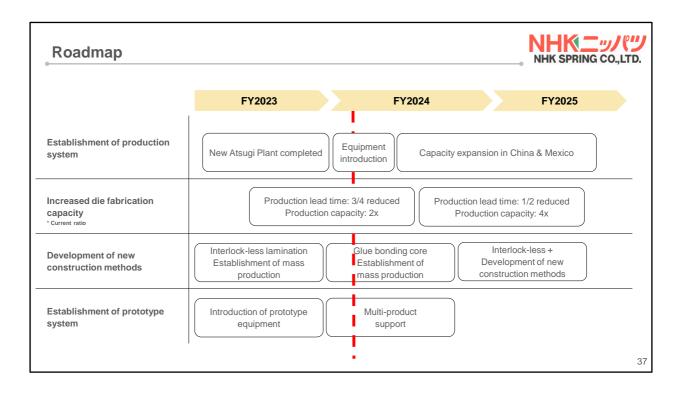
- · Reinforcement of design system
- · Reinforcement of prototype production system
- Introduction of dedicated large press machine for prototype production
- Integrated response from prototyping to mass production

36

The purpose of this project is to respond to the electrification of vehicles.

Although there is a temporary slowdown in battery EV demand, we expect it to expand steadily in the long term.

In this context, we are steadily strengthening production capacity and die fabrication capabilities, developing new production methods, and responding to new prototype requests.



Regarding the production system, a new production building was completed at the Atsugi Plant in Japan last fall. Currently, equipment is being installed, and mass production is scheduled to start in July next year.

Additionally, we have begun constructing a new plant in Mexico. Meanwhile, we are closely monitoring the trends of Japanese OEM manufacturers in China.

Other measures are progressing as planned.



# FY2026 Mid-term Plan

Next, I would like to explain the 26MT.



The basic policies of the 26MT have been created and communicated within the Group, as shown in this poster.



As the NHK Spring Group, we will respect all stakeholders, including employees, and contribute to society by promoting business and sustainability activities in an integrated manner. Additionally, we will return to the basics of business, working together as a team to "purchase appropriately, manufacture accurately, and market and sell properly."

### FY2026 Mid-term Plan Business Goals (Sales and Profit)



(100 million yen)

	FYE '24/3 (FY2023) Results	FYE '27/3 (FY2026) Plan	Results	Ratio
Net Sales	7,669	8,500	830	10.8%
Operating Profit	346	520	173	50.1%
Ratio	4.5%	6.1%	1.6%	
Ordinary Profit	478	570	91	19.2%
Ratio	6.2%	6.7%	0.5%	
Profit Attributable to Owners of Parent	391	430	38	9.7%

Planning for increased sales of substrates for components for electric vehicles and motor cores in the automotive market.

41

Next, I would like to explain the sales and profit forecast for the 26MT. As shown in the materials, for the fiscal year ending March 2027, we expect increased sales in both the automobile-related and information and communication-related markets, and plan to improve profit margins by promoting automation and improving productivity. In each business, we will steadily implement the measures set out in the mid-term plan and aim to achieve net sales of 850 billion yen and operating profit of 52 billion yen.

Anticipating a recovery in demand for HDD-related components and semiconductor process components in the information and communication market.

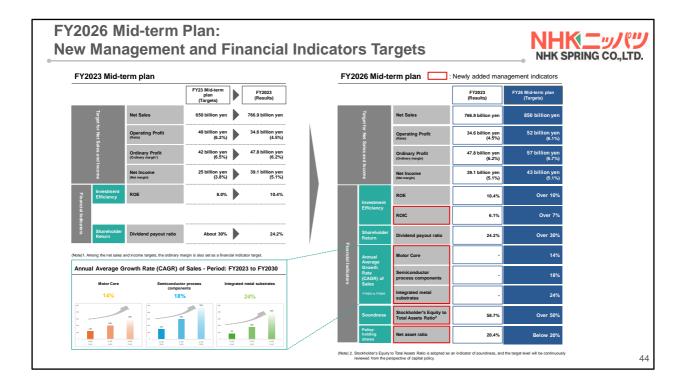
<sup>◆</sup> Promoting automation and improving productivity to increase profit margins.

						NHK SPRING CO,LT	
		FYE '24/3 (FY2023) Results	FYE '27/3 (FY2026) Plan	Increase/ Decrease	Growth Rate	Operating Profit Factors for the differences	
Automotive	Net Sales	1,711	1,738	26	1.5%	<ul> <li>Increased sales and profits through the establishment of a stable production and supply system across all global operations.</li> </ul>	
Suspension	Operating Profit	15	52	36	225.1%	Contributed to profit growth through the promotion of new technology and product development, and manufacturing reforms.	
Spring	Ratio	0.9%	3.0%	2.1%		Reconstructed two U.S. bases to achieve profitability.	
Automotive	Net Sales	3,241	3,071	-170	-5.3%	Despite decreased sales and profits, steady profit secured in existing businesses by strengthening responses to customer needs.	
Seating	Operating Profit	191	120	-71	-37.2%	Strengthening responses to easierne needs.     Strengthening competitiveness to secure orders for successor models.	
	Ratio	5.9%	3.9%	-2.0%			
Precision	Net Sales	945	1,050	104	11.1%	development of new products.	
Springs &	Operating Profit	6	43	36	550.9%		
Components	Ratio	0.7%	4.1%	3.4%		DUSINESSES.	
Disk Drive	Net Sales	671	1,171	499	74.3%	<ul> <li>Increased sales and profits through streamlining, focusing on HDD suspensions and micro contactors, which are expected to recover in the market.</li> </ul>	
Suspension	Operating Profit	64	190	125	194.3%	contactors, minor are expected to receive in the market.	
	Ratio	9.6%	16.2%	6.6%			
Industrial	Net Sales	1,099	1,470	370	33.7%	<ul> <li>Increased sales and profits through a focus on semiconductor process components and integrated metal substrates.</li> </ul>	
Machinery &	Operating Profit	68	115	46	68.8%	Ending the chemical products business and transferring/consolidating equipment among	
Others	Ratio	6.2%	7.8%	1.6%		Japanese bases.	
	Net Sales	7,669	8,500	830	10.8%		
Total	Operating Profit	346	520	173	50.1%		
	Ratio	4.5%	6.1%	1.6%			

Sales revenue by product segment is as shown.

						(100 milli
		FYE '24/3 (FY2023) Results	FYE '27/3 (FY2026) Plan	Increase/ Decrease	Growth Rate	Operating Profit Factors for the differences
<ul><li>Japan</li></ul>	Net Sales	4,377	5,053	675	15.4%	<ul> <li>In the automobile-related industry, although reduced profits are expected in the Automotive Seating business, sales expansion of motor cores and in-vehicle integrated metal substrates, which are the next growth businesses, is anticipated.</li> </ul>
	Operating Profit	299	340	40	13.7%	<ul> <li>In non-automobile-related industries, operating profit is expected to increase due to the growth in quantities of HDD-related components, semiconductor process</li> </ul>
	Ratio	6.8%	6.7%	-0.1%		components, and leisure sector products.
<ul><li>Asia</li></ul>	Net Sales	1,869	2,098	228	12.2%	<ul> <li>Particularly driven by the HDD-related component business in Thailand and Chir</li> <li>Increased sales and profits are expected due to the recovery in quantities of HD related components from fiscal 2024 onwards and the growing demand for nearl HDDs.</li> </ul>
	Operating Profit	79	168	88	112.1%	
	Ratio	4.2%	8.0%	3.8%		
America & Europe &	Net Sales	1,423	1,349	-74	-5.2%	Continuously promoting productivity improvement and price negotiation efforts due to inflation.     Oblimizing the global production system to ensure stable production and maximize
Others	Operating Profit	-31	12	43	0.0%	profits.  Making the U.S. bases, which are a challenge, profitable.
	Ratio	-2.2%	0.9%	3.1%		
Total	Net Sales	7,669	8,500	830	10.8%	
	Operating Profit	346	520	173	50.1%	
	Ratio	4.5%	6.1%	1.6%		

Sales revenue by regional segment is as shown.

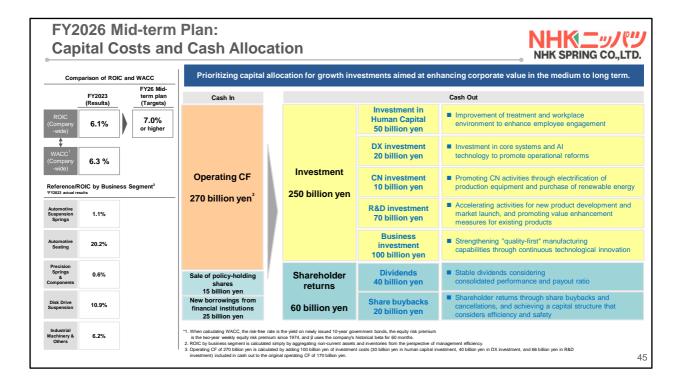


Next, I would like to explain the new management and financial performance targets set for the 26MT.

The left side shows the financial indicators and targets set in the 23MT, and the right side shows the financial indicators and targets set in the 26MT. We aim for an ROE of over 10%. The newly established ROIC (Return on Invested Capital) target is over 7%, up from the current 6.1%.

We have positioned the motor core, semiconductor process components, and metal substrate businesses as growth businesses, targeting an annual average growth rate of sales (CAGR) of 14%, 18%, and 24%, respectively, by the fiscal year ending March 2031. In addition, to avoid the risk of excessive leverage with the introduction of ROIC, we have set a soundness indicator of a minimum ratio of stockholder's equity to total assets of 50%. We will set goals from multiple perspectives of profitability, efficiency, soundness, and growth, and aim to comprehensively enhance them.

The significance of introducing the new indicators and their impact on employees are detailed in the Appendix, so please review it later.



Next, I would like to provide an explanation of capital costs and cash allocation. Regarding capital costs, the current WACC (Weighted Average Cost of Capital) is 6.3%. As mentioned earlier, the current ROIC (Return on Invested Capital) is 6.1%. In the 26MT, we aim for a ROIC of 7%, exceeding the WACC. The ROIC by business segment for the fiscal year ended March 2024 is listed in the bottom left of the table for your reference.

Next is cash allocation.

The total amount of cash inflows and outflows is estimated to be 310 billion yen. The breakdown is as shown. In addition to growth investments and R&D investments, we aim to enhance long-term corporate value by actively engaging in human capital investment, DX investment, and carbon neutrality investment. For shareholder returns, we plan to allocate 60 billion yen over three years. Of this, the total dividend amount is 40 billion yen, with a target dividend payout ratio of over 30%. We aim to strengthen proactive shareholder returns.

### **Efforts to Address Global Environmental Issues**



Theme	Mid-term Plan Goals (FY2026 Goals)
Reduction of CO <sub>2</sub> emissions	<ul> <li>CO<sub>2</sub> emissions: 103,000 tons-CO<sub>2</sub> *1 (33% reduction compared to FY2013)</li> </ul>
	Energy saving, electrification/conversion to electric vehicles, technological innovation, introduction of renewable energy, and purchase of renewable energy  Plan to reduce 75,000 tons-CO <sub>2</sub> against the trend CO <sub>2</sub> emissions of 178,000 tons-CO <sub>2</sub> due to production increase
Reduction of industrial waste volume	• Industrial waste volume: 33 tons *2 (73% reduction compared to FY2013)

<sup>\*1</sup> Target: Company and Japanese Group companies, SCOPE1+SCOPE2

4

I will now introduce initiatives for addressing global environmental issues. In 2021, we declared the "NHK Spring Group Environmental Challenges," aiming to achieve carbon neutrality and zero industrial waste by 2039. As an interim goal, we have set targets for the 26MT. By the final year of the 26MT, fiscal 2026, we aim to reduce  ${\rm CO}_2$  emissions to 103,000 tons, a 33% reduction from fiscal 2013, and reduce non-resource industrial waste to 33 tons, a 73% reduction from fiscal 2013.

<sup>\*2</sup> Target: Company and Japanese Group companies, non-recyclable materials

### **Efforts Towards Human Capital Management**



Theme	Measures
Rewarding Workplace	<ul> <li>Introduction of recruitment methods to secure personnel with multifaceted thinking</li> <li>Abolition of seniority elements and review of treatment</li> <li>Renewing the education system aimed at eliminating individual dependency</li> </ul>
Comfortable Workplace	<ul> <li>Increasing disposable time through operational efficiency using systems</li> <li>Preparing working conditions to maximize employee performance</li> </ul>
Safe and Secure Company	<ul> <li>Reducing heavy labor and strengthening health consultation services</li> <li>Eradicating harassment to maintain employee morale</li> </ul>

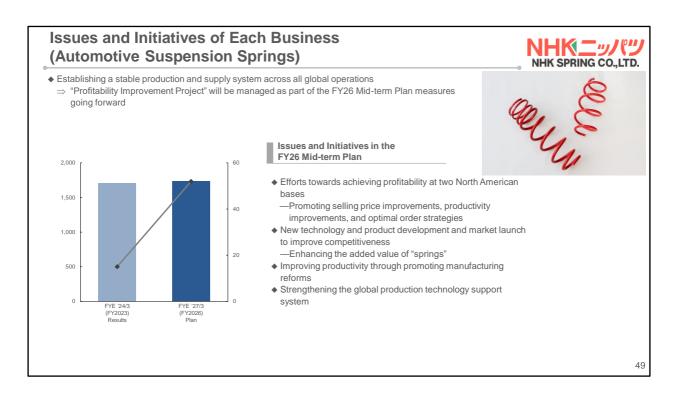
We will also strengthen our efforts on HR-related measures focusing on human capital management.

Under themes such as building a safe and secure company and a rewarding and comfortable workplace, we will focus on building an organization and system where highly motivated, ideal personnel can thrive.



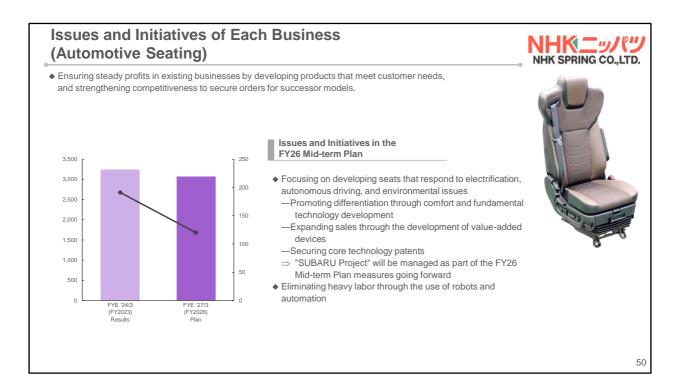
# FY2026 Mid-term Plan (By Business Segment)

Next, I will provide an explanation of plans by business segment.



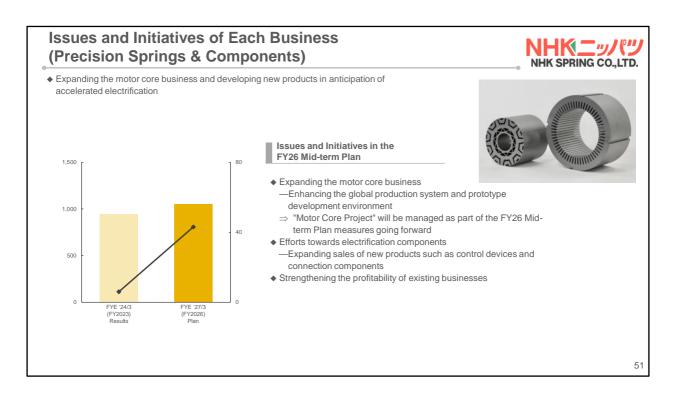
First, the automotive suspension springs business.

We plan to establish a stable production and supply system at all global bases. Particularly, we will focus on achieving profitability at the two North American bases, which remain our greatest challenge.



Next, the automotive seating business.

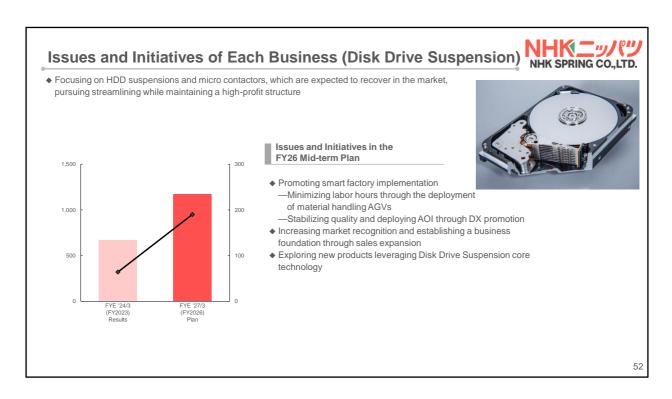
For the fiscal year ending March 2027, we expect a slight decrease in both sales and profit compared to the fiscal year ended March 2024. We will develop products that meet customer needs, secure revenue in existing businesses, and strengthen competitiveness to win orders for next-generation models.



Next, the precision springs & components business.

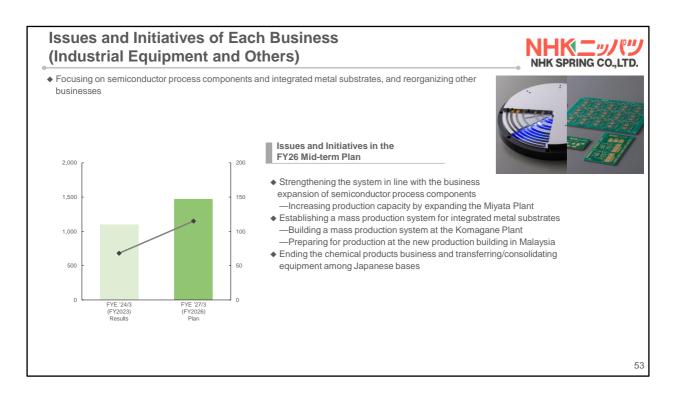
This business will expand the motor core business and promote new product development in anticipation of accelerated vehicle electrification.

From this fiscal year, the business segment classifications have changed. Part of the traditional precision springs & components business has been separated into the Disk Drive Suspension business, which I will explain. The figures for the fiscal year ended March 2024 in the materials are from after the Disk Drive Suspension business was separated.



Next is the Disk Drive Suspension business.

Disk Drive Suspension stands for Disc Drive Suspension. This business primarily produces HDD (Hard Disc Drive) suspensions and micro contactors, and it has high profitability. We expect significant increases in both sales and profit towards the fiscal year ending March 2027.



Next is industrial machinery & other operations.

This business primarily produces semiconductor process components and integrated metal substrates. We are currently preparing to increase production capacity for both, expecting substantial growth in the future. Therefore, we anticipate significant increases in both sales and profit for this business as a whole towards the fiscal year ending March 2027.



Finally, please review the Group's basic policies for the 26MT again. Our company aims to maximize corporate value with the mottos "Respect for People & contribute to society" and "Further promotion of sustainability" as part of the mid-term plan.

That concludes this presentation. Thank you for your attention.



# **Supplementary Materials**



Review of the FY2023 Mid-term Plan

# Comparison of equipment investment and depreciation costs: Mid-term plan vs. actual results



(100 million yen)

			,
		FY2023	FY2023
	Mic	d-term plan	Results
Capital	Japan	536	567
Investments	Overseas	343	314
	Total	880	882
Depreciation & Amortization	Japan	535	460
	Overseas	349	395
	Total	885	855

5/

# **Progress Status of Each Business** (Automotive Suspension Springs)



- · Despite the impact of semiconductor shortages and soaring steel prices, the balance improved over three years.
- In North American operations, fixed costs increased due to rising labor rates and worsening employment conditions, but selling price improvement negotiations helped secure an operating profit for the spring business as a whole.

Results Comparison (100 million yen) Sales (left axis) —Operating Profit (right axis) 2.000 250 1.711 200 1,500 1,210 100 1,020 1.000 50 15 (50) (46) 0 (100)FY2020 Results FY2023 Mid-term plan FY2023

#### Issues and Initiatives of the FY23 Mid-term Plan

### ◆Creating new technologies and new products

Developed XT coil springs, which are 34% lighter than conventional products that withstand the same load, through new taper molding

# ♦ Deficit operations in U.S. change to profitable, and profitability improvement in European operation

The situation remains challenging due to rising labor costs and delays in productivity improvement. Continuously promoting profit improvement.

#### **♦ Building up optimize production** structure

Completed transfer of the leaf spring assembly process to an affiliated company

Considering changes in the number of production shifts and reviewing the global supply system for coil springs and stabilizers

#### ◆Thorough manufacturing cost reduction

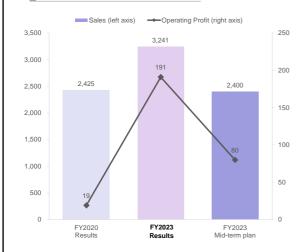
Continuing efforts to reduce fixed costs and promote streamlining.

### **Progress Status of Each Business (Automotive Seating)**



• Despite the impact of semiconductor shortages, sales and operating profit significantly exceeded the mid-term plan due to the subsequent recovery in unit numbers.

Results Comparison (100 million yen)



Issues and Initiatives of the FY23 Mid-term Plan

- ◆ Steady reaction to Model change Smooth response as planned
- ◆ Improve profitability in North America new plant Completed transfer to the new plant Improved profitability through logistics improvements, etc.
- Reduce development cost and lead time, by improving analyze technologies

Continuing activities aiming to halve the static strength test

- ◆ Steady reaction to required quality level from customers Promoting further level-ups through review of development procedures and introduction of AI visual inspection
- ♦ Developing new seat required in Auto-driving era

  Promoting the development of unique items required for autonomous driving

### **Progress Status of Each Business (Precision Components)**



- · In the automotive-related business, motor cores in Japan and China and springs for engines and transmissions were underperforming.
- In the information and communication-related business, the decline in HDD demand since the second half of 2022 had a significant impact.

### Results Comparison (100 million yen)

### Sales (left axis) → Operating Profit (right axis) 2,000 250 1,790 1.616 200 1.500 1.385 150 1,000 100 500 50 0 FY2023 Mid-term plan FY2020 Results FY2023 Results

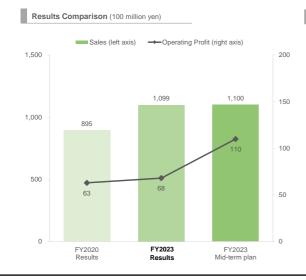
#### Issues and Initiatives of the FY23 Mid-term Plan

- ◆ Steady reaction to EV tend acceleration
  - · Strengthening motor core production capacity in Mexico
  - · Expanding thin plate springs for HEVs and EVs
- Adequate reactions to nearline HDD demand increase, and increasing sales share
  - Further productivity improvement anticipating the recovery of HDD demand
- ◆ Cost reductions by Productivity improvement and applying Al Promoting data processing and analysis using Al

# **Progress Status of Each Business** (Industrial Machinery & Others)



 Although there was growth in the automotive and leisure-related businesses, the significant impact of the decline in demand for semiconductor manufacturing equipment since the second half of 2022 prevented the achievement of the mid-term plan goals in the final year.



### Issues and Initiatives of the FY23 Mid-term Plan

### ♦ Semi-conductor manufacturing machine parts

The prolonged slump in the memory market is expected to delay a full-scale demand recovery until FY2025 or later.

#### ◆ Integrated Metallic Substrate

Increasing production capacity in Japan (Komagane Plant) and Malaysia

### ♦ Pipe support & Security device

Promoting profit improvement through selection and concentration

#### Accelerate development speed, and expand sales by new products.

Developing showerhead products and next-generation thermal spray products



# FY2026 Mid-term Plan Assumptions

### Automobile production volume



			(Thousands of units)
		FY2023 Results	FY2026 Mid-term plan
Global	Japanese	25,400	28,100
	Other	63,200	70,400
	Total	88,500	98,500
Japan	Japanese	8,500	9,500
North	Japanese	4,300	4,500
America	Other	8,000	8,400
	Total	12,300	12,900
China	Japanese	3,900	3,500
	Other	26,000	28,200
	Total	29,900	31,700
Thailand	Japanese	1,600	1,500
	Other	300	500
	Total	1,900	2,000

- The impact of the COVID-19 pandemic and semiconductor shortages was almost resolved in 2023.
- Particularly in developed countries, the global economic growth rate is expected to slow down, with gradual growth anticipated from 2024 onwards.

### **HDD Production Volume, Total Demand for Suspensions**



	CY2023 Results	CY2026 Mid-term plan
HDD (Millions of units)	122	118
Suspension (Millions of units)	1,017	1,585

- Amid investment cuts due to economic uncertainty, focusing on AI investment and optimizing data center operations reduced HDD demand.
- Meanwhile, the global data volume continues to grow, and nearline HDD demand remains strong.
- The number of disks used per nearline HDD is increasing, and the number of suspensions is also expected to increase.

### **Semiconductor Manufacturing Equipment Market**



(Billions of dollars)

	FY2023 Results	FY2026 Mid-term plan
		·
Front-end	99	125
Back-end	9	13
After-service	24	37
Total	132	175

## Semiconductor Market Accelerated investment in Al generation

Accelerated investment in AI generation that uses a large amount of CPU and memory, and increased demand due to the electrification of automobiles.

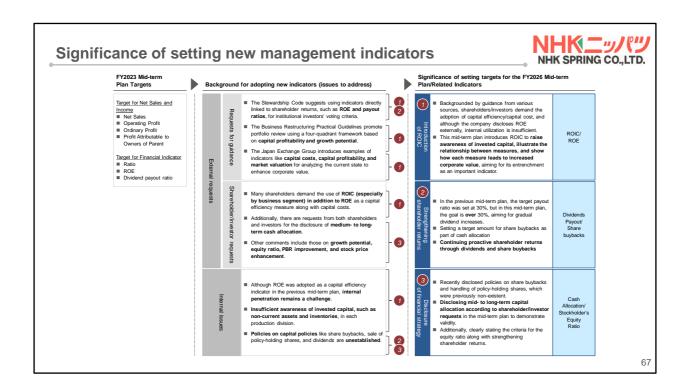
### Equipment Market

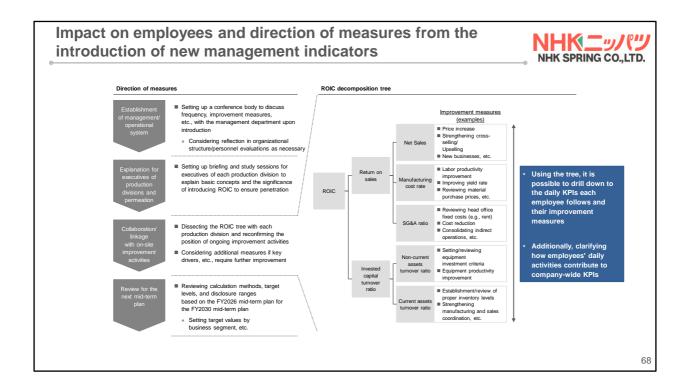
Expected full recovery from 2025 onwards, with 2023 to 2024 being the bottom.

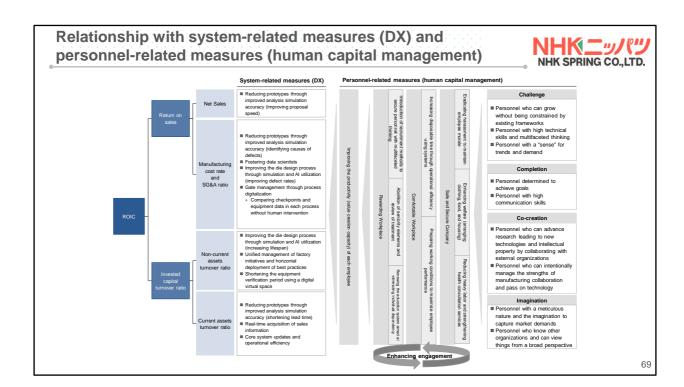
Factory construction plans are ongoing in various countries, with market expansion anticipated.



Responses to achieve management conscious of capital costs and stock prices







# Responses to achieve management conscious of capital costs and stock prices



### Current analysis

- PBR has been around 0.6 times in recent years, but currently, it is around 1.0 times.
- Understanding that this is due to the evaluation of past business activities and shareholder return measures.
- Analyzing that expectations from the capital market are rising for the enhancement of shareholder returns, growth strategies, and cash allocation disclosure in the FY2026 mid-term plan.



### Dialogue status with shareholders and investors



- Established a dedicated IR/SR department to strengthen dialogue with shareholders and investors
- Renewed the website and expanded disclosure information

Establishment of a dedicated department

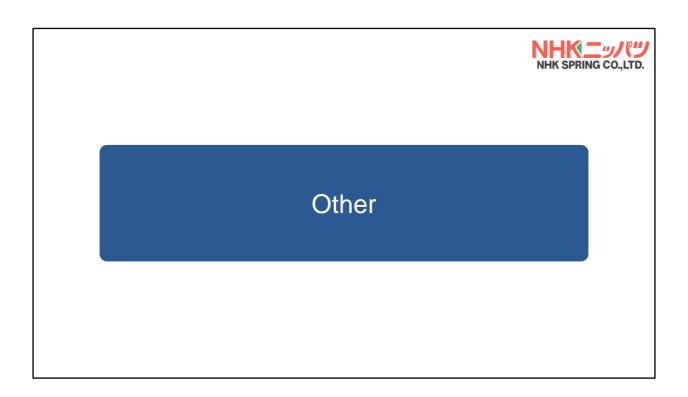
• Established the Corporate Communications Department in April 2022 to strengthen dialogue with shareholders and investors and expand disclosure information.

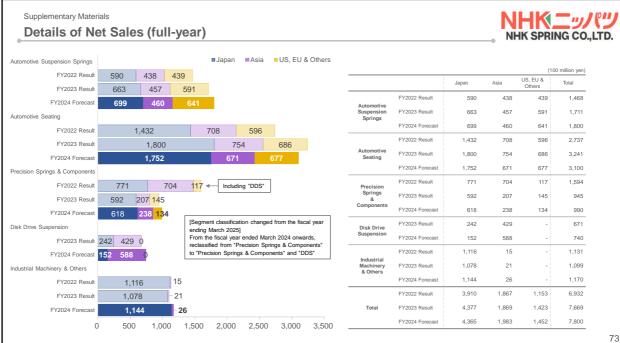
Strengthening dialogue with management

 Conducting financial results briefings, small meetings, and factory tours with the participation of the president

Main themes and points of interest in dialogues	Feedback implementation status
<ul> <li>Company's advantages and sales expansion status in growth businesses</li> <li>Responses to the electrification of vehicles</li> <li>Financial strategy, cash allocation</li> <li>Efforts to strengthen corporate governance</li> </ul>	<ul> <li>Summarizing the above opinions, questions, analyst reports, stock price trends, etc., feedback is provided to the executive meeting</li> </ul>

/



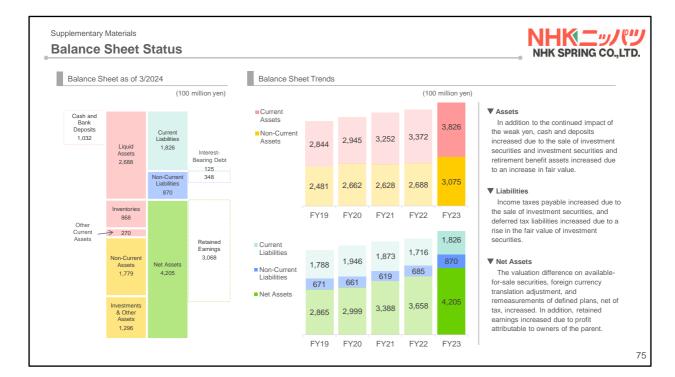


## **Assets Status**



(100 million yen)

						(100 111111011 )011)	
	FY2019	FY2020	FY2021	FY2022	FY2023	Increase/	
	Results	Results	Results	Results	Results	Decrease	
Total Assets	5,326	5,607	5,880	6,060	6,902	842	
Stockholder's Equity	2,709	2,839	3,226	3,492	4,050	558	
Stockholder's Equity to Total Assets Ratio	50.9%	50.6%	54.9%	57.6%	58.7%	1.1%	
Cash and Bank Deposits	745	793	921	729	1,032	303	
Interest-Bearing Debt	581	697	505	500	474	-26	
Net Cash	164	95	416	229	558	329	



# Capital Investment/Depreciation & Amortization by Business Segment



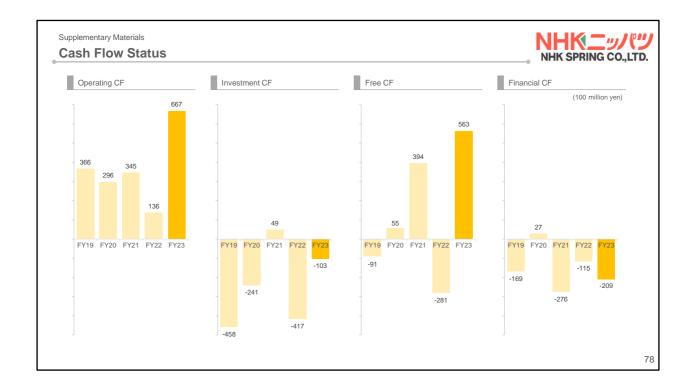
(100 million yen)

		FY2022 Results	FY2023 Results	FY2024 Forecast
Capital Investments	Automotive Suspension Springs	45		88
	Automotive Seating	46		61
	Precision Springs & Components	404		84
	Disk Drive Suspension	121	45	74
	Industrial Machinery & Others	58	82	163
	Company-wide sharing	9		42
	Total	280	370	512
	Vs. Previous year	20.7%	31.8%	38.4%
Depreciation & Amortization	Automotive Suspension Springs	66	63	66
	Automotive Seating	55		48
	Precision Springs & Components	440	47	53
	Disk Drive Suspension	113	63	68
	Industrial Machinery & Others	35		45
	Company-wide sharing	17		27
	Total	288	286	307
	Vs. Previous year	2.0%		7.1%

# Capital Investment/Depreciation & Amortization by Region



		FY2022 Results	FY2023 Results	FY2024 Forecast
Capital Investments	Japan	178	259	280
	Asia	61	75	172
	US, EU & Others	40	34	60
	Overseas total	102	110	232
	Total	280	370	512
Depreciation & Amortization	Japan	149	146	178
	Asia	86	92	38
	US, EU & Others	52	47	41
	Overseas total	139	139	129
	Total	288	286	307

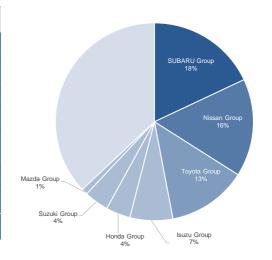


## Sales Breakdown to Each of the Major Car Makers



Major car makers	FY2022	FY2023
SUBARU Group	16%	18%
Nissan Group	15%	16%
Toyota Group	14%	13%
Isuzu Group	7%	7%
Honda Group	4%	4%
Suzuki Group	4%	4%
Mazda Group	1%	1%
Top 3 Companies	45%	

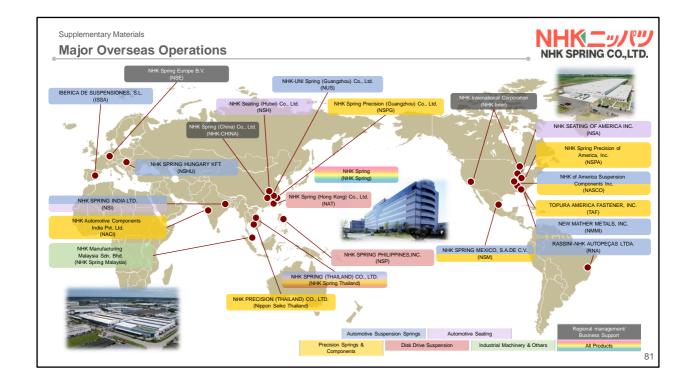
(Note) The percentages show share versus total net sales.



## Quarterly Sales Trends (Motor Core, Semiconductor Process Components, Integrated Metal Substrates, Leisure Sector)



		FY2022				FY2023					FY2024	
		1Q	2Q	3Q	4Q	Full- year	1Q	2Q	3Q	4Q	Full- year	Full- year
Precision Springs & Components	Motor Core	18	21	17	20	78	28	28	28	33	119	130
Industrial Machinery & Others	Semiconductor process components	60	70	64	38	235	31	40	39	41	154	171
	Integrated metal substrates	16	17	22	18	74	21	21	22	19	84	98
	Leisure Sector (Golf Shafts, Marine Products, etc.)	42	45	43	42	173	40	40	34	33	148	155



#### **Motor Core**



Motor Core
Stator Core
Rotor Core

NHK produce Motor Cores, which are laminated iron cores used in the motors—drive motors and/or power generators—for EV and HV vehicles.

They are made by some hundred layers of 0.25 to 0.35 mm thickness electromagnetic steel sheets which are stamped out one by one, and are fastened together by caulking or welding.

The motor core consists of the Rotor Core, which has a magnet inserted and serves as the rotating part of the motor, and the Stator Core, which is the fixed winding part.

Electric power from battery is supplied to the motors through inverters, and Rotor Cores—which contains magnets—are pulled and repelled by rotating magnetic field generated in the Stator Cores—which are wound with coils—, causing Rotor Cores high speed rotation.

Thin plate laminated iron cores can easily pass through magnetic field lines, and have ability to generate stronger magnetic force.

NHK Motor Cores are diameter of around 200 mm and height of around 150 mm, which is a relatively large size for the precision stamped products that NHK produce; but NHK has built up an ability over the many years, to produce dimensional accuracy as micron level, through our production of automotive parts and HDD (hard disk drive) parts, to be able to produce this kind of large, ultra-high precision stamped products.

The press dies essential for motor core production are designed, manufactured, and maintained entirely in-house, enabling the production of the same quality motor cores in our global operations in Mexico and China as well as our Atsugi Plant in Japan.

### Suspension for HDD (Hard Disk Drive) Read-Write Head







Suspensions for HDD are unique spring products, holding read-write head in Hard Disk Drive devices.

In these days, there are much more HDDs in the Data Center in the companies ,who operates SNS and/or Video sharing sites—rather than used in Personal computers—; In these Data Centers, Ultra-large capacity HDDs line up with unit of hundreds of thousands.

A lot of CLA type suspensions (Refer Note <sup>1, 2</sup>: hereinafter CLA) are used in these kind of HDDs; for example, in the picture (left), 18 pieces of CLA are used in 1 HDD equipment. The CLA is an Ultra-small actuator, built into the tip of the suspension, which moves read-write head. The CLA types can make finer movement at higher speed, rather than DSA type suspensions (Refer Note <sup>2</sup>: hereinafter DSA), a conventional product with a small actuator built into the center.

If you compare it to a human part, DSAs use up to the wrist, and CLAs use up to the fingertips; It has become an indispensable product for ultra-large capacity HDDs, by improving positioning accuracy and speed, with speedy & fine movements.

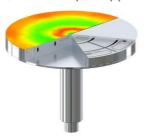
NHK Spring had started CLA mass-production from January 2016—first in the world—and have top share of the world.

\*Note 1 : CLA stands for "Co-Located Actuators" \*Note 2 : DSA stands for "Dual Stage Actuators"

### **Parts for Semiconductor Manufacturing Equipment**



Stage heater with multi-zone temperature distributio control function for film deposition equipment



■ Ceramics spray-coated cooling plate for etching equipment



In semiconductors, conductors and insulators are drawn in a fine and complicated pattern on a silicon substrate to form a circuit. NHK's semiconductor process components are used in the key processes of "film formation" and "etching" in semiconductor manufacturing.

NHK's stage heaters are widely used in film formation processes such as CVD and ALD\*. Mainly made of aluminum alloy and stainless steel, advanced joining techniques developed over many years allow for the realization of complex internal structures.

- \*CVD stands for Chemical Vapor Deposition
- \*ALD stands for Atomic Layer Deposition

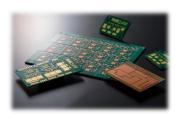
In making full use of our own heater element design technology and analysis technology for simulation, it is possible to arrange multiple heater elements, refrigerant channels, and heat insulating space, which enables to realize not only equalize temperature distribution, but also active temperature distribution control, that partially generates a difference in the range of several tens of degrees.

Regarding to etching equipment, we are manufacturing important stage parts called cooling plates, on which silicon wafers are loaded during process. Most of them are made from aluminum alloy; NHK have the strength of integrated production—from material procurement to precision processing and ceramic spray coating—, and applying our advanced bonding technology, common to the heater manufacturing.

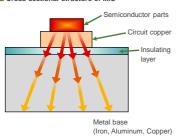
In these years, in addition to the parts at the bottom of the chamber—heater and cooling plate which support work in process wafers—, we have also focused on developing the parts of the upper side of the chamber—called shower heads, for the purpose of supplying required gas in the process—, and this sales are also increasing.

## **IMS (Integrated Metal Substrate)**





#### ■ Cross-sectional structure of IMS



Integrated Metal Substrates (IMS) are circuit plates, circuits are formed via an insulating layer on metal base, such as aluminum or copper, and their excellent heat dissipation are characteristic of IMS. Taking advantage of this heat-radiating performance, IMS is used in the fields of automotive, industrial, and consumer applications, to efficiently dissipate the heat generated by semiconductor components mounted on IMS.

In the automotive field, our products are increasingly used in DC-DC converters and charger modules for electric and hybrid vehicles, and we are aiming to use them in drive inverter circuits in their future. In industrial applications, in addition to general-purpose inverters and inverter circuits for air conditioners, our IMS are widely used as power modules inside power conditioners for renewable energy.

Our IMS is characterized by our strength in integrated production, from the development of high heat-dissipating and highly reliable insulating layers, to manufacturing and finishing into IMS.

We have been developing IMS since 1980s, and have been leading the industry by introducing high heat dissipation insulating materials to the market successively.





- The predictions and plans by NHK Spring Co., Ltd. listed in this document are forecasts related to future results and performance, and contain risks and uncertainties. Please note that the actual results may differ from the forecasts due to fluctuations in important variables, such as economic conditions, market trends, foreign exchange trends, and so forth.
- The data listed in this document is included for the purpose of providing information, it is not designed to encourage investment.
- The copyright for this document belongs to NHK Spring Co., LTD.
- The unauthorized reproduction or reprinting of this document is prohibited.