

**Briefing Materials of  
Financial Results  
for Q2 FY2025  
(Interim Period)**

**TSE Prime: 5991  
NHK Spring Co., Ltd.  
November 28, 2025**



Consolidated Financial Results for the  
First Half Ended September 30, 2025  
Forecast of Consolidated Results for the  
Year Ending March 31, 2026

Executive Corporate Officer & CFO      Osamu Ikejiri

Thank you very much for taking time out of your busy schedules to attend our financial results briefing today.

I'm Osamu Ikejiri, and I would like to begin by explaining our consolidated financial results for Q2 and our outlook for the full year.

Consolidated Financial Results for the  
First Half Ended September 30, 2025

## Results for 1st Half Ended September 30, 2025



Automotive-related market: Production volume decreased year-on-year both in Japan and overseas.  
 Information and communications-related market: Although the global production volume of HDDs decreased year-on-year, the total demand for our main product, HDD suspension, increased.

(100 million yen)

	FY2024 1st half results	FY2025 1st half		Results	
		May forecast	Results	Vs. FY2024 1st half	Vs. May forecast
<b>Net Sales</b>	<b>3,912</b>	<b>3,910</b>	<b>3,939</b>	<b>27</b>	<b>29</b>
<b>Operating Profit</b>	<b>229</b>	<b>172</b>	<b>185</b>	<b>-44</b>	<b>13</b>
Ratio	5.9%	4.4%	4.7%	-1.2%	0.3%
<b>Ordinary Profit</b>	<b>269</b>	<b>200</b>	<b>198</b>	<b>-71</b>	<b>-2</b>
Ratio	6.9%	5.1%	5.0%	-1.9%	-0.1%
<b>Interim Profit Attributable to Owners of Parent</b>	<b>215</b>	<b>150</b>	<b>139</b>	<b>-76</b>	<b>-11</b>
Extraordinary profits/losses	20	-	-	-20	-
Average Rate					
US\$	152.3	145.0	146.6	-5.7	1.6
Thai Baht	4.2	4.4	4.4	0.2	0.0
Current Rate					
US\$					
This year	142.7	145.0	148.9	6.2	3.9
Previous year	151.4	149.5	149.5	-1.9	-
Thai Baht					
This year	4.4	4.4	4.4	0.1	0.0
Previous year	4.1	4.6	4.6	0.5	-

First, let me give you an overview of our consolidated financial results for Q2.

As you can see, we recorded increased sales and reduced profit compared to the same period last year. Although net sales and operating profit climbed compared to our forecast in May, ordinary profit and interim net profit attributable to owners of the parent decreased.

As for the market environment, the automotive-related market saw a YoY decline in production volume both in Japan and overseas, while the information and telecommunications-related market suffered from a decline in global production volume of hard disk drives, or HDDs, but a surge in overall demand for HDD suspensions, our mainstay products.

Results for 1st Half Ended September 30, 2025

## Variable Factor Analysis for Operating Profit



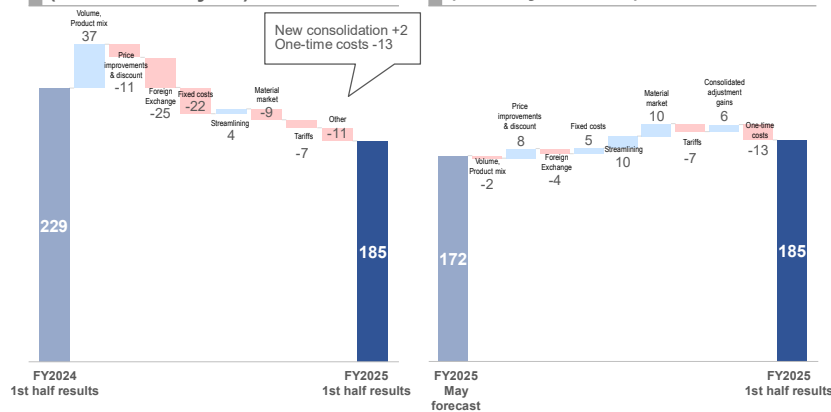
(100 million yen)

	FY2024 1st half results	FY2025 1st half May forecast	Results	Vs. FY2024 Results	Vs. May forecast
Net Sales	3,912	3,910	3,939	27	29
Operating Profit	229	172	185	-44	13
Ratio	5.9%	4.4%	4.7%	-1.2%	0.3%

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024 1st half

Although sales increased due to strong performance in the HDD-related field and increased volume in the semiconductor-related field, operating profit fell below that of the same period of the previous year due to profit pressure from foreign exchange rates, increased fixed costs, and one-time expenses in the U.S.

#### ▽Vs. May forecast

Despite one-time expenses in the U.S., operating profit increased due to the accumulation of sales price improvements and streamlining efforts, as well as consolidated adjustment gains related to inventories.

Next, here are the factors affecting our operating profit.

On a YoY basis, our sales jumped, owing to the surge in the volume of HDDs and semiconductor-related components, but our operating profit was lower YoY due to the impact of the weakening of the yen in the foreign exchange market, increased fixed costs, and onetime expenses in the US.

Compared to our May forecast, we managed to secure an increase in profit thanks to the improvement of selling prices and recovery of market expenses, despite the onetime expenses in the US.

Results for 1st Half Ended September 30, 2025

## Non-operating Profits/Losses



Non-operating profits/losses			(100 million yen)			
Breakdown		FY2024 1st half results	FY2025 1st half		Vs. FY2024 Results	Vs. May forecast
			May forecast	Results		
Non-operating profits/losses	Exchange rate profits/losses (Japan)	-28	-8	-1	27	7
	Exchange rate profits/losses (Asia, America & Europe & Others)	35	-3	-24	-59	-21
	Dividend income	16	16	17	1	1
	Equity in profits/losses of affiliates	10	6	4	-6	-2
	Other	7	16	16	9	0
	Total	40	27	12	-28	-15

### ▽Exchange rate profits/losses

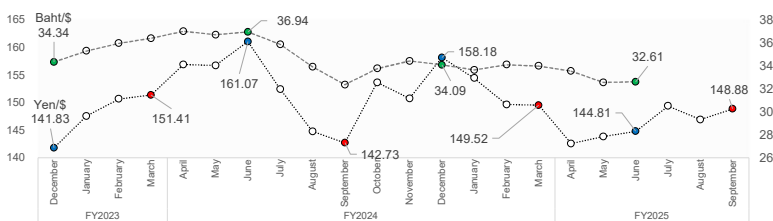
In the first half of the previous fiscal year, the exchange rate fluctuated rapidly toward a stronger yen and a weaker dollar toward the end of the month, resulting in foreign exchange losses at business sites in Japan. However, at companies with a December fiscal year-end, the baht mainly appreciated against the dollar toward the end of June, resulting in foreign exchange gains.

On the other hand, in the current period, although fluctuations in the yen/dollar rate from the beginning to the end of the period remained small, companies with a December fiscal year-end recorded foreign exchange losses as the baht mainly depreciated against the dollar toward the end of June.

[Breakdown of the year-on-year difference in exchange rate profits/losses by base (100 million yen)]

	1H FY2024 (Results)	1H FY2025 (Results)	Vs. FY2024 Results
NHK Spring	-26	-1	25
NHK Spring Thailand	26	-21	-48
Mexico	4	-1	-5
Other	2	-1	-3
Total	7	-25	-33

### ▽Dollar-Yen/Dollar-Baht exchange rate fluctuations



Here are our non-operating profits and losses.

With regard to foreign exchange gain or loss, as shown on the right, we slipped to a foreign exchange loss in the current fiscal year compared to the gain we posted in the previous fiscal year due to the impact of some of our business sites.

Results for 1st Half Ended September 30, 2025

## Net Sales/Operating Profit by Business Segment



		(100 million yen)				
		FY2024 1st half results	FY2025 1st half May forecast	FY2025 1st half Results	Vs. FY2024 Results	Vs. May forecast
■ Automotive Suspension Springs	Net Sales	835	790	830	-5	40
	Operating Profit	-6	-3	3	9	6
	Ratio	-0.8%	-0.4%	0.4%	1.1%	0.7%
■ Automotive Seating	Net Sales	1,508	1,435	1,420	-88	-15
	Operating Profit	54	28	20	-34	-8
	Ratio	3.6%	2.0%	1.4%	-2.2%	-0.6%
■ Precision Springs & Components	Net Sales	498	510	508	10	-2
	Operating Profit	17	9	13	-4	4
	Ratio	3.4%	1.8%	2.6%	-0.8%	0.8%
■ Disk Drive Suspension	Net Sales	519	585	600	81	15
	Operating Profit	126	110	120	-6	10
	Ratio	24.3%	18.8%	20.1%	-4.2%	1.3%
■ Industrial Machinery & Equipment, & Other Operations	Net Sales	550	590	580	30	-10
	Operating Profit	37	28	28	-9	0
	Ratio	6.9%	4.7%	4.9%	-2.0%	0.1%
Total	Net Sales	3,912	3,910	3,939	27	29
	Operating Profit	229	172	185	-44	13
	Ratio	5.9%	4.4%	4.7%	-1.2%	0.3%

### ▽Vs. FY2024 1st half

The automotive suspension springs business returned to profitability due to an increase in certain car models in Thailand and a reduction in deficits in the U.S. and Europe. However, the automotive seating business saw a significant decline in sales and profits due to volume decreases in Japan and Thailand as well as product mix differences and one-time expenses in the U.S. Although the HDD-related business and semiconductor process components continue to show an upward trend, profits declined due to the increased burden of future investments, including personnel costs, and the negative impact of the baht's appreciation on profits.

### ▽Vs. May forecast

The automotive seating business saw a decrease in profits due to lower production volumes in Japan and a greater-than-expected increase in one-time costs in North America, but other segments secured operating profits in line with or exceeding expectations.

This table is a summary of our business results for the first of FY2025 by business segment.

The automotive suspension spring segment returned to profitability, while the automotive seating segment suffered from a significant decline due to reduced volumes.

The DDS segment continued to drive our business results, while the precision springs & components segment & the industrial machinery & equipment and other operations segment saw sluggish growth due to increased labor costs, depreciation, and other future investment burdens, as well as exchange rates.

Results for 1st Half Ended September 30, 2025

## Net Sales/Operating Profit by Region Segment



		(100 million yen)				
		FY2024 1st half results	FY2025 1st half		Vs. FY2024 Results	Vs. May forecast
			May forecast	Results		
● Japan	Net Sales	2,194	2,233	2,194	0	-38
	Operating Profit	154	91	117	-37	26
	Ratio	7.0%	4.1%	5.3%	-1.7%	1.3%
● Asia	Net Sales	1,014	1,049	1,076	61	27
	Operating Profit	113	98	108	-5	10
	Ratio	11.2%	9.3%	10.1%	-1.2%	0.7%
● America & Europe & Others	Net Sales	702	628	668	-34	40
	Operating Profit	-38	-17	-40	-1	-23
	Ratio	-5.5%	-2.7%	-6.0%	-0.5%	-3.3%
Total	Net Sales	3,912	3,910	3,939	27	29
	Operating Profit	229	172	185	-44	13
	Ratio	5.9%	4.4%	4.7%	-1.2%	0.3%

### ▽Vs. FY2024 1st half

#### ● Japan

Although DDS volume increased, decreased volume in the automotive-related business and increased fixed costs resulted in a significant decrease in profit compared to the same period of the previous year.

#### ● Asia

Although sales volume of HDD suspensions increased, profit fell below the same period of the previous year due to the impact of lower selling prices, profit pressure from the appreciation of the baht, and a decline in automobile production volume due to the sluggish market in Thailand.

#### ● America & Europe & Others

Although the deficit in the automotive suspension springs business narrowed, operating profit did not improve as a result of the decline in profit in the automotive seating business.

### ▽Vs. May forecast

#### ● Japan

Although production volume decreased for most automotive-related companies, profit increased due to the recovery of increased expenses and consolidated adjustment gains related to inventories.

#### ● Asia

Although demand in the Thai automotive market remains sluggish, profit increased due to efforts to limit the impact of lower selling prices for HDD-related parts.

#### ● America & Europe & Others

Although volume increased, the deficit expanded due to one-time expenses in the automotive seating business and the burden of tariffs.

Next, here are the results by region.

In Japan, on a YoY basis, despite the volume growth in DDS, profit still declined YoY due to lower volume and higher fixed costs in the automotive-related sector. However, profit was higher than our May forecast.

As for Asia, on a YoY basis, although there was an increase in DDS volume, profit fell below the previous year's level due to the drop in selling prices accompanying the switch from prototypes to mass production, the appreciation of the Thai baht and the Hong Kong dollar, and the sluggish automotive market in Thailand. However, profit was higher compared to the May forecast.

In America, Europe, and other regions, on a YoY basis, the deficit in the automotive suspension spring segment narrowed, but the overall improvement was not achieved due to a decline in the automotive seating segment. Compared to the May forecast, the deficit in such regions widened.

In summary, sales in Japan and Asia were more solid compared to our initial forecast in May, but in America, Europe, and other regions, business results



struggled due to onetime costs and tariff burdens on advance purchases.

## Automotive Suspension Spring

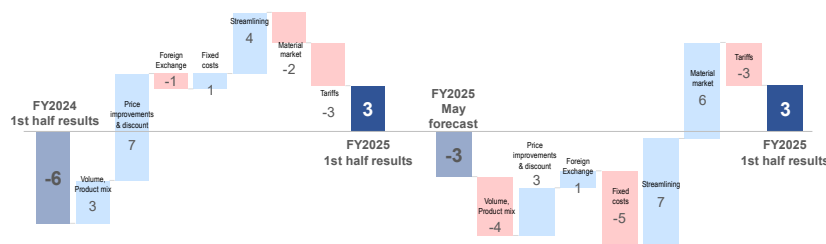
(100 million yen)

	FY2024	FY2025 1st half		Vs. FY2024	Vs. May
	1st half results	May forecast	Results		
Net Sales	835	790	830	-5	40
Operating Profit	-6	-3	3	9	6
Ratio	-0.8%	-0.4%	0.4%	1.1%	0.7%

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024 1st half

Although profits decreased in Japan due to a decline in exports, etc. and despite the sluggish automotive market, profits increased overall due to increased volume for some car models in Thailand as well as the accumulation of sales price improvements and streamlining efforts.

#### ▽Vs. May forecast

In the America and Europe region, profits decreased due to increased fixed costs associated with increased volume and the impact of tariffs. However, in Thailand, the volume shortfall against the plan was offset by sales price improvements and streamlining efforts, resulting in improved operating profit.

This is the status of each segment.

In the automotive suspension spring segment, while profit decreased YoY due to lower exports from Japan and other factors, overall profit increased owing to the higher volumes in Thailand, improved selling prices, and cost recovery.

Compared to our initial forecast in May, profit went down due to higher fixed costs resulting from increased volumes in the US and Europe and the impact of tariffs, but the improvement in selling prices and the accumulation of rationalization measures contributed to this segment's return to profitability.

## Automotive Seating

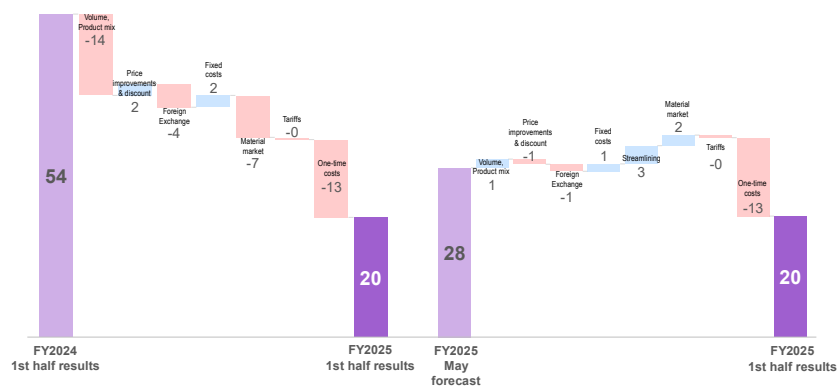
(100 million yen)

	FY2024 1st half results	FY2025 1st half May forecast	FY2025 1st half Results	Vs. FY2024 Results	Vs. May forecast
Net Sales	1,508	1,435	1,420	-88	-15
Operating Profit	54	28	20	-34	-8
Ratio	3.6%	2.0%	1.4%	-2.2%	-0.6%

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024 1st half

Production volume decreased across the board both in Japan and overseas, and in North America, the vehicle model and product mix deteriorated. One-time expenses also had a significant impact, resulting in lower sales and profits.

#### ▽Vs. May forecast

Production volume decreased at most domestic car manufacturers. Despite efforts to reduce fixed costs, sales and profits decreased due to one-time expenses in North America.

Next is the automotive seating segment.

Compared to the same period of the previous year, this segment's sales and profit fell due to the decline in volumes both in Japan and overseas, as well as the deterioration in the mix of models and types of products in North America and the onetime expenses incurred for suppliers.

Compared to the May forecast, the onetime expenses in North America were heavy, resulting in a decrease in profit.

## Precision Springs & Components

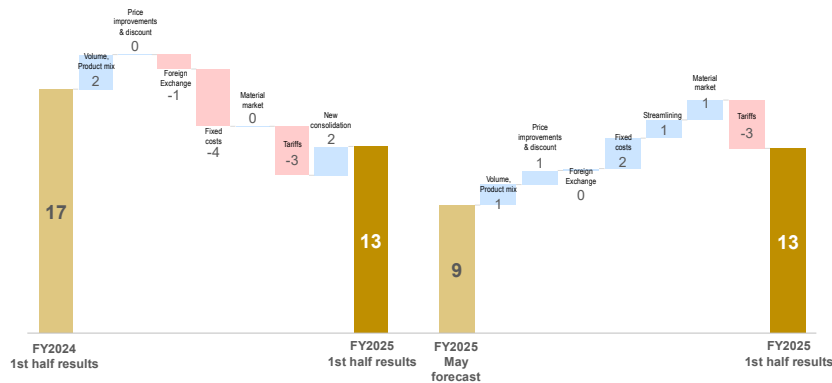
(100 million yen)

	FY2024 1st half results	FY2025 1st half May forecast	FY2025 1st half Results	Vs. FY2024 Results	Vs. May forecast
Net Sales	498	510	508	10	-2
Operating Profit	17	9	13	-4	4
Ratio	3.4%	1.8%	2.6%	-0.8%	0.8%

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024 1st half

Although sales increased due to the increased volume of HDD mechanical components and the consolidation of the Indian subsidiary, profit fell below the level of the same period of the previous year due to the increased burden of future investments, including labor costs.

#### ▽Vs. May forecast

Although profit in Japan fell below expectations, profit increased due to increased volume in Thailand, resulting in increased profit despite lower sales.

Next is the precision springs & components segment.

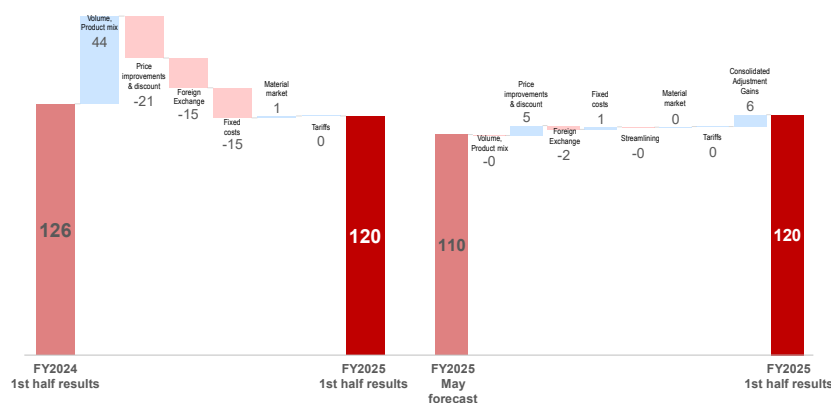
Sales increased YoY, owing to such factors as the expansion in the volumes of hard disk mechanism parts and the consolidation of our Indian subsidiary. However, the profit level was lower than the previous year, owing to the increased burden of future investments, such as personnel costs and depreciation expenses.

Compared to our May forecast, despite the increase in tariffs on exports to North America, the other variable aspects improved, so this segment ended with lower sales but higher profit.

**DDS(Disk Drive Suspension)**

(100 million yen)

	FY2024 1st half results	FY2025 1st half May forecast	Results	Vs. FY2024 Results	Vs. May forecast
Net Sales	519	585	600	81	15
Operating Profit	126	110	120	-6	10
Ratio	24.3%	18.8%	20.1%	-4.2%	1.3%

**Variable Factor Analysis for Operating Profit****(Vs. Previous year)****(Vs. May forecast)****▽Vs. FY2024 1st half**

Demand for high-capacity HDDs for data centers continued, and sales volume of HDD suspensions increased year-on-year. However, sales increased while profits decreased due to the impact of lower selling prices, profit pressure from foreign exchange rates, and the increased burden of future investments, including labor costs.

**▽Vs. May forecast**

Although sales volume of HDD suspensions was slightly lower than expected, increased sales and profits were secured through the suppression of selling price declines and consolidated adjustment gains related to inventories.

This is the status of the DDS segment.

On a YoY basis, volumes in this segment expanded, owing to the solid performance of high-capacity hard disk suspensions for data centers. However, the segment still recorded increased sales and reduced profit, owing to price reductions, the impact of the Thai baht and Hong Kong dollar exchange rates, and the rise in fixed costs.

Compared to our May forecast, volume was generally in line with our forecast, but it exceeded our forecast due to the suppression of selling price reductions and the consolidated adjustments on inventories.

Results for 1st Half Ended September 30, 2025: Analysis by Business Segment

## Industrial Machinery & Equipment, & Other Operations



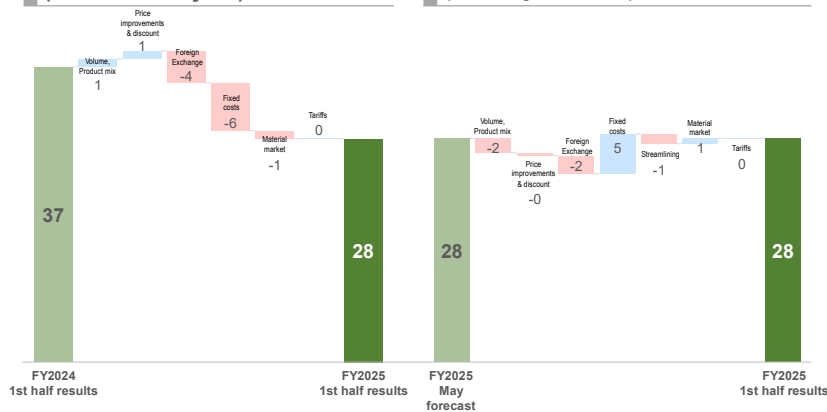
(100 million yen)

	FY2024	FY2025 1st half		Vs. FY2024	Vs. May
	1st half results	May forecast	Results		
Net Sales	550	590	580	30	-10
Operating Profit	37	28	28	-9	0
Ratio	6.9%	4.7%	4.9%	-2.0%	0.1%

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024 1st half

Although the volume of semiconductor process components increased year-on-year, volume in the integrated metal substrates business decreased due to sluggish demand growth. Overall, sales increased while profits decreased due to the withdrawal from the chemical products business, profit pressure from the stronger yen, and the increased burden of future investments, including personnel costs.

#### ▽Vs. May forecast

Although volumes of semiconductor process components and integrated metal substrates were lower than planned and sales decreased due to the slump in the leisure sector, results were generally in line with expectations due to reductions in fixed costs.

This is the situation of the industrial machinery & equipment & other operations segment.

On a YoY basis, while the volume of semiconductor process components increased, the strong yen and increased burden of future investments, in addition to the sluggish demand for metal substrates, resulted in higher sales but lower profit for this segment.

Compared to our May forecast, the volume of semiconductor process components and metal substrates fell short of our forecast, and the leisure sector was sluggish, but we made progress in reducing fixed costs, so the business results of this segment were generally as we expected.

This concludes the summary of our Q2 results.

Forecast of Consolidated Results for the  
Year Ending March 31,2026

## Forecast for the Year Ending March 2026

(100 million yen)

			FY2024 Results	FY2025		Results	
				May forecast	Latest forecast	Vs. FY2024 Results	Vs. May forecast
Net Sales			8,016	8,000	8,000	-16	
Operating Profit			521	470	470	-51	-
Ratio			6.5%	5.9%	5.9%	-0.6%	-
Ordinary Profit			579	530	530	-49	-
Ratio			7.2%	6.6%	6.6%	-0.6%	-
Profit Attributable to Owners of Parent			481	400	400	-81	-
Extraordinary profits/losses			16	-	-	-16	-
Average Rate	US\$		152.5	145.0	148.2	-4.3	3.2
	Thai Baht		4.3	4.4	4.5	0.2	0.1
Current Rate	US\$	This year	149.5	145.0	150.0	0.5	5.0
		Previous year	151.4	149.5	149.5	-1.9	-
	Thai Baht	This year	4.6	4.4	4.4	-0.2	-
		Previous year	4.1	4.6	4.6	0.5	

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Continuing on, I will discuss our full-year business results forecast.

For the full year, we forecast net sales of JPY800 billion, an operating profit of JPY47 billion, an operating profit ratio of 5.9%, an ordinary profit of JPY53 billion, and a net profit attributable to owners of the parent of JPY40 billion, all of which are unchanged from our May forecast.

With regard to foreign exchange assumptions, as you can see, we have set it at JPY150 per USD1 in H2 of the fiscal year. As a result, the average exchange rate for the full year has been set at JPY148.2 per USD1 and JPY4.5 per THB1.

As for the impact of the US tariff policy, we have factored in the recovery of JPY5.1 billion against the full-year overall tariff payment of JPY5.7 billion for the full year. As a result, there is a difference of JPY600 million, and we will continue to negotiate with our customers for this shortfall.



Forecast for the year ending March 2026

## Variable Factor Analysis for Operating Profit



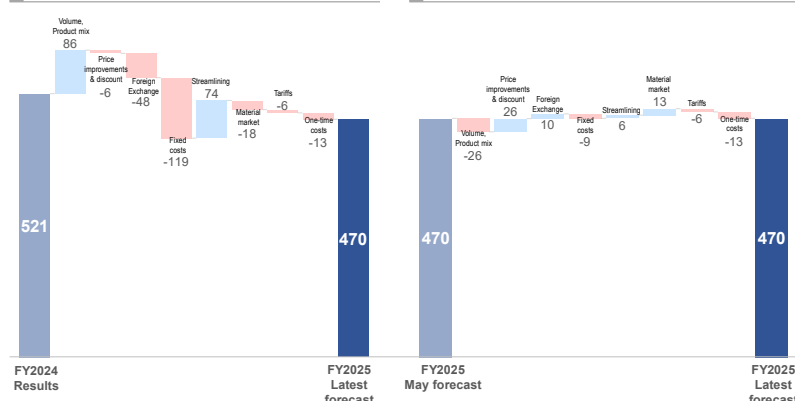
(100 million yen)

	FY2024 Results	FY2025 May forecast	FY2025 Latest forecast	Vs. FY2024 Results	Vs. May forecast
Net Sales	8,016	8,000	8,000	-16	-
Operating Profit	521	470	470	-51	-
Ratio	6.5%	5.9%	5.9%	-0.6%	-

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024

Despite increased volumes of HDD-related components and semiconductor process components, sales and profits are expected to decrease due to the decline in the automotive seating business, profit pressure from foreign exchange rates, and increased fixed costs from future investments, including labor costs.

In addition, although costs are expected to increase by approximately 5.7 billion yen due to additional U.S. tariff policies in the current fiscal year, we have factored in a recovery of approximately 90% at this point.

#### ▽Vs. May forecast

While the HDD-related business is expected to remain strong, a decrease in automotive-related volume, a slowdown in demand for semiconductor process components, and a delay in sales expansion of the integrated metal substrates business are anticipated.

However, due to the suppression of price declines and the impact of material market conditions, overall performance is expected to be in line with the initial forecast.

Next, here are the factors affecting our operating profit.

Compared to the previous fiscal year, we expect a decrease in both sales and profit due to a decline in the automotive seating segment, the depreciation in foreign exchange rates, and an increase in fixed costs, despite a surge in the volume of hard disk-related and semiconductor process components.

Compared to our May forecast, we expect the figures to generally be in line with our May forecast thanks to improved selling prices, price cooperation, and suppression of material market conditions, despite the decline in volumes in the automotive-related business and the industrial machinery and equipment and other operations segment.

Forecast for the year ending March 2026

## Net Sales/Operating Profit Forecast by Business Segment



		(100 million yen)				
		FY2024	FY2025 Full-year		Vs. FY2024	Vs. May
		Results	May forecast	Latest forecast	Results	forecast
■ Automotive Suspension Springs	Net Sales	1,691	1,575	1,634	-57	59
	Operating Profit	4	18	21	16	2
	Ratio	0.3%	1.1%	1.3%	1.0%	0.1%
■ Automotive Seating	Net Sales	3,039	2,935	2,884	-155	-51
	Operating Profit	112	95	75	-37	-20
	Ratio	3.7%	3.2%	2.6%	-1.1%	-0.6%
■ Precision Springs & Components	Net Sales	1,019	1,040	1,043	23	2
	Operating Profit	42	37	42	0	5
	Ratio	4.2%	3.6%	4.0%	-0.2%	0.5%
■ Disk Drive Suspension	Net Sales	1,115	1,200	1,233	117	33
	Operating Profit	266	230	253	-13	23
	Ratio	23.9%	19.2%	20.5%	-3.4%	1.4%
■ Industrial Machinery & Equipment, & Other Operations	Net Sales	1,151	1,250	1,206	54	-44
	Operating Profit	95	90	79	-16	-11
	Ratio	8.3%	7.2%	6.6%	-1.7%	-0.6%
Total	Net Sales	8,016	8,000	8,000	-16	-
	Operating Profit	521	470	470	-51	-
	Ratio	6.5%	5.9%	5.9%	-0.6%	-

### ▽Vs. FY2024

Although the volume of HDD-related components and semiconductor process components is increasing, operating profit is expected to be lower than the previous year due to profit pressure from foreign exchange rates and increased fixed costs from future investments, including labor costs.

In the automotive-related business, although automotive suspension springs are recovering, a decrease in profit is expected due to the impact of decreased seating volume and one-time expenses at U.S. bases.

### ▽Vs. May forecast

Although the decline in the automotive seating business and the impact of the slowdown in demand for semiconductor process components and integrated metal substrates in industrial machinery and other businesses are significant, the HDD-related business is performing well and is expected to exceed the initial forecast, so overall results are expected to be in line with the initial forecast.

These are the overall forecasts by business segment.

Compared to the previous fiscal year, the automotive suspension spring segment is on the road to recovery, but the automotive seating segment will suffer from a significant decline in profit in FY2025, owing to the impact of the decline in production volume, and in the first half of FY2025 due to the impact of onetime expenses. Even when compared to our May forecast, profit is expected to decrease in this segment.

With respect to the precision springs & components segment, its business results will generally be on a par with the previous fiscal year, while the DDS segment will continue to record solid results as in the previous fiscal year.

The industrial machinery & equipment & other operations segment will be affected by the sluggish demand for semiconductor process components and metal substrates, our mainstay products.

Forecast for the year ending March 2026

## Net Sales/Operating Profit Forecast by Region



		(100 million yen)				
		FY2024 Results	FY2025 Full-year		Vs. FY2024 Results	Vs. May forecast
			May forecast	Latest forecast		
● Japan	Net Sales	4,574	4,680	4,580	5	-100
	Operating Profit	399	290	300	-99	10
	Ratio	8.7%	6.2%	6.6%	-2.2%	0.4%
● Asia	Net Sales	2,053	2,110	2,105	51	-5
	Operating Profit	194	207	213	18	6
	Ratio	9.5%	9.8%	10.1%	0.6%	0.3%
● America & Europe & Others	Net Sales	1,389	1,210	1,315	-74	105
	Operating Profit	-72	-27	-43	29	-16
	Ratio	-5.2%	-2.2%	-3.3%	2.0%	-1.0%
Total	Net Sales	8,016	8,000	8,000	-16	-
	Operating Profit	521	470	470	-51	-
	Ratio	6.5%	5.9%	5.9%	-0.6%	-

### ▽ Vs. FY2024

#### ● Japan

Although volume in non-automotive fields such as HDD-related components and semiconductor process components increased, profits are expected to decrease due to reduced volume in the automotive-related business and increased future investments, including labor costs.

#### ● Asia

About 70% of the increase in sales is due to conversion differences resulting from the depreciation of the yen. While demand for Japanese cars in China and the volume of integrated metal substrates decreased, HDD-related components continued to perform well following the first half. In addition, with the consolidation of the Indian subsidiary, increased sales and profits are expected.

#### ● America & Europe & Others

Sales amounts decreased mainly due to the conversion impact of the appreciation of the yen. Although affected by additional tariff policies in the current period, the deficit is expected to narrow compared to the previous year due to improved profitability in the automotive suspension springs business, mainly in North and Central America.

### ▽ Vs. May forecast

#### ● Japan

Although sales are expected to decrease due to a decrease in volume in the automotive-related business and a slowdown in semiconductor-related business, profits are expected to increase due to the recovery of increased expenses, consolidated adjustment gains related to inventories, and the boost from foreign exchange rates.

#### ● Asia

Although demand in the Thai automotive market is sluggish and the volume of integrated metal substrates has decreased, profits are expected to increase due to the strong performance of HDD-related components.

#### ● America & Europe & Others

About 40% of the increase in sales is due to the recovery of additional tariffs, and about 10% is due to the conversion impact of the depreciation of the yen. In terms of profit, although the automotive suspension springs business is roughly in line with the initial forecast, the deficit expanded in the America, Europe and other regions overall due to the impact of increased one-time expenses in the automotive seating business.

These are the forecasts by region.

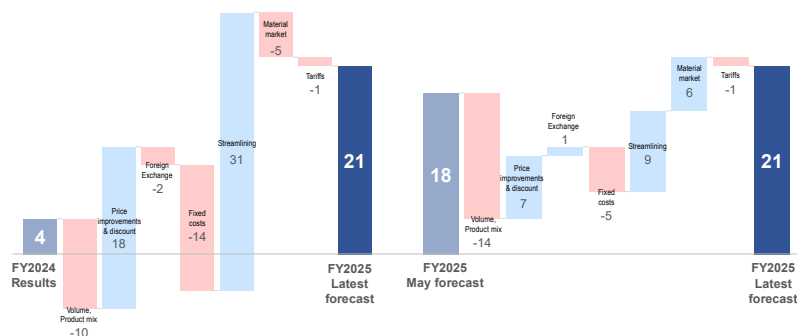
In Japan and Asia, the hard disk-related business will drive the overall business performance of these regions, but the automotive-related business will be weighed down by the impact of the decline in the number of vehicles and slowdown in demand in the industrial machinery & equipment & other operations business.

In America, Europe, and other regions, the business results are on a recovery trend, although there are some onetime costs in the automotive seating business.

**Automotive Suspension Spring**

(100 million yen)

	FY2024	FY2025		Vs. FY2024	Vs. May
	Results	May forecast	Latest forecast		
Net Sales	1,691	1,575	<b>1,634</b>	-57	59
Operating Profit	4	18	<b>21</b>	16	2
Ratio	0.3%	1.1%	<b>1.3%</b>	1.0%	0.1%

**Variable Factor Analysis for Operating Profit****(Vs. Previous year)****(Vs. May forecast)****▽Vs. FY2024**

Although volume is on a downward trend overall, sales are expected to decrease with profits expected to increase due to the increased volume of certain car models in Thailand, the subsiding of cost increases associated with the launch of new products in Mexico in the previous fiscal year, and the suppression of price discount and streamlining efforts.

**▽Vs. May forecast**

About half of the increase in sales is due to conversion differences and increased sales from the recovery of additional U.S. tariffs.

Although volume is expected to decline due to a decrease in exports, etc., sales and profits are expected to increase due to the contribution of price cooperation suppression and recovery of expenses in Japan and Thailand.

Compared to the previous fiscal year, the automotive suspension spring segment will be affected by the reduced volumes in Japan, but we still project reduced sales and increased profit, owing to such factors as the growth in volumes in some vehicle models in Thailand and the improved profitability of our subsidiary in North America.

Compared to our May forecast, we expect higher sales and profit in these regions thanks to exchange rate differences, a boost in sales due to the recovery of US tariffs, restraints on price cooperation in Japan and Thailand, and the recovery of various costs.

## Automotive Seating

(100 million yen)

	FY2024	FY2025		Vs. FY2024	Vs. May
	Results	May forecast	Latest forecast		
Net Sales	3,039	2,935	2,884	-155	-51
Operating Profit	112	95	75	-37	-20
Ratio	3.7%	3.2%	2.6%	-1.1%	-0.6%

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024

Although we are promoting aggressive rationalization, sales and profits are expected to decrease due to a combination of decreased volume for some domestic customers, the impact of market fluctuations, and increased one-time expenses at U.S. bases.

#### ▽Vs. May forecast

Although we have factored in price cooperation suppression and expense recovery, sales and profits are expected to decrease due to the impact of a greater-than-expected decrease in unit volume in Japan and Thailand and increased one-time expenses at U.S. bases.

Next is the automotive seating segment.

Compared to the previous fiscal year, we expect declines in both sales and profit for the full year due to a decrease in the volume of Nissan, the impact of material market conditions, and an increase in onetime expenses in North America, although such factors will only apply in H1 of the fiscal year.

Compared to our May forecast, we anticipate decreases in both sales and profit, factoring in the impact of lower volumes in Japan and Thailand and the increase in onetime expenses in North America.

## Precision Springs & Components

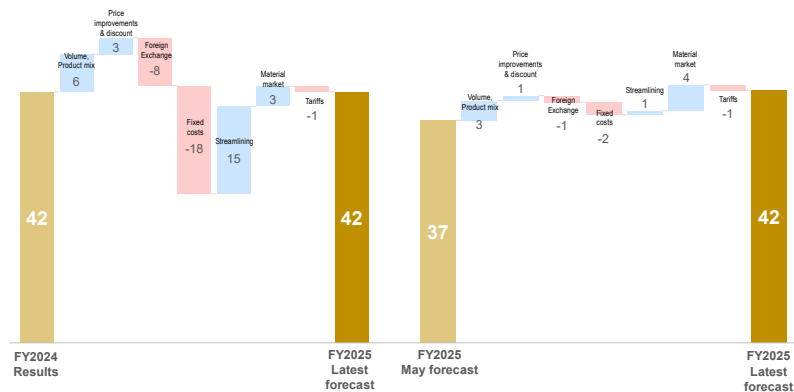
(100 million yen)

	FY2024	FY2025		Vs. FY2024	Vs. May
	Results	May forecast	Latest forecast		
Net Sales	1,019	1,040	1,043	23	2
Operating Profit	42	37	42	0	5
Ratio	4.2%	3.6%	4.0%	-0.2%	0.5%

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024

Although there was an increase in HDD mechanical components in Thailand and the consolidation of the Indian subsidiary, operating profit is expected to remain at the same level as the previous year due to increased fixed costs from future investments, including labor costs, and the impact of foreign exchange rates.

#### ▽Vs. May forecast

Volume in the automotive-related field remained generally in line with the initial forecast. In addition, sales and profits are expected to increase due to the increased volume of HDD mechanical components and the boost from fluctuations in material market conditions.

In the precision springs and components segment, sales are expected to increase slightly over the previous year, while profit is projected to be at the same level as the previous year thanks to the growth in the sales of hard disks and mechanical components in Thailand and the consolidation of our Indian subsidiary, which will offset the increase in fixed costs and the impact of foreign exchange rates.

Compared to our May forecast, we expect higher sales and profit, partly due to the upswing in the materials market.

Forecast for the year ending March 2026: Analysis by Business Segment

## DDS(Disk Drive Suspension)

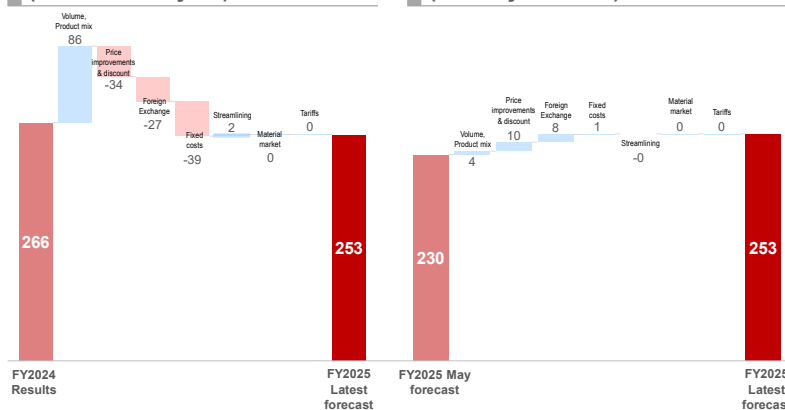
(100 million yen)

	FY2024 Results	FY2025 May forecast	FY2025 Latest forecast	Vs. FY2024 Results	Vs. May forecast
Net Sales	1,115	1,200	1,233	117	33
Operating Profit	266	230	253	-13	23
Ratio	23.9%	19.2%	20.5%	-3.4%	1.4%

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024

Sales volumes of HDD suspensions are expected to remain strong. However, profits are projected to decline despite higher sales, due to factors such as profit pressure from foreign exchange rates and higher fixed costs associated with future investments, including labor costs.

#### ▽Vs. May forecast

Demand for HDD suspensions is expected to remain strong following the first half.

In addition to increased volume, the suppression of selling price declines and profit boosts from foreign exchange rates are expected to contribute to increased sales and profits.

As for the DDS segment, demand for hard disk suspensions is expected to remain strong.

Compared to the previous fiscal year, we are projecting that sales will go up, but profit will drop, owing to the decline in selling prices accompanying the switch from prototypes to mass production, as well as the downward pressure from foreign exchange and increase in fixed costs.

However, due to improvements in selling prices and the upward pressure from foreign exchange, we expect an increase in both sales and profit compared to our initial forecast in May.

Forecast for the year ending March 2026: Analysis by Business Segment

## Industrial Machinery & Equipment, & Other Operations



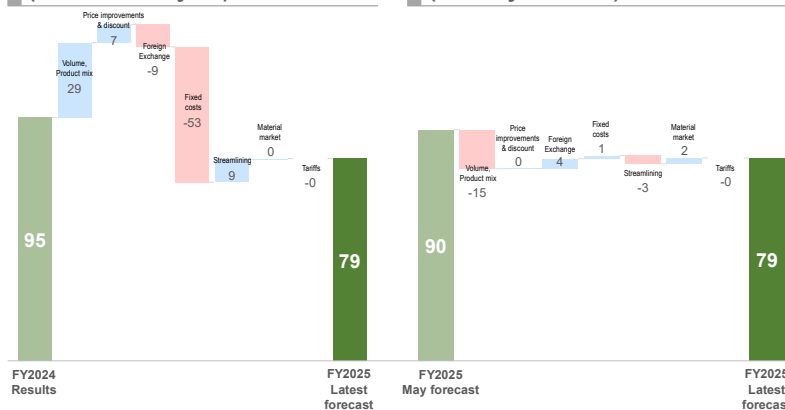
(100 million yen)

	FY2024 Results	FY2025 May forecast	FY2025 Latest forecast	Vs. FY2024 Results	Vs. May forecast
Net Sales	1,151	1,250	1,206	54	-44
Operating Profit	95	90	79	-16	-11
Ratio	8.3%	7.2%	6.6%	-1.7%	-0.6%

### Variable Factor Analysis for Operating Profit

(Vs. Previous year)

(Vs. May forecast)



#### ▽Vs. FY2024

Semiconductor process components are on an upward trend. However, increased fixed costs due to production capacity expansion and upfront investments in growth businesses, as well as profit pressure from yen appreciation, are projected to result in higher sales but lower profits.

#### ▽Vs. May forecast

Volume of semiconductor process components is expected to fall below plan due to the slowdown in NAND demand.

In addition, the delayed recovery in demand for golf shafts and marine products is also expected to have an impact, resulting in lower sales and profits.

This is the industrial machinery & equipment & other operations segment.

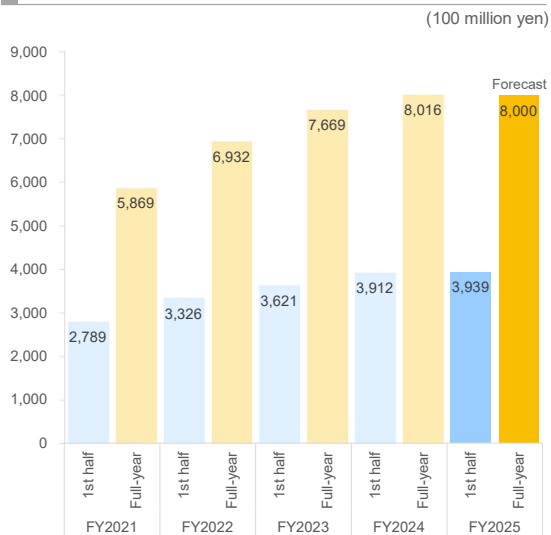
Although sales of semiconductor process components are on an increasing trend, the burden of upfront investment in other growth businesses, such as metal substrates, is heavy, so we expect a rise in sales and a decrease in profit.

Compared to the initial forecast we made in May, we now expect lower sales and profit due to the sluggish demand for semiconductor process components and metal substrates, as well as the slump in the leisure business.

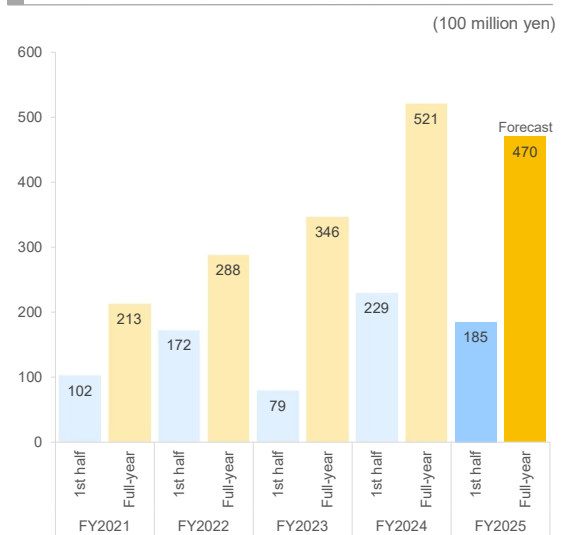


## Results Trends

### Net Sales



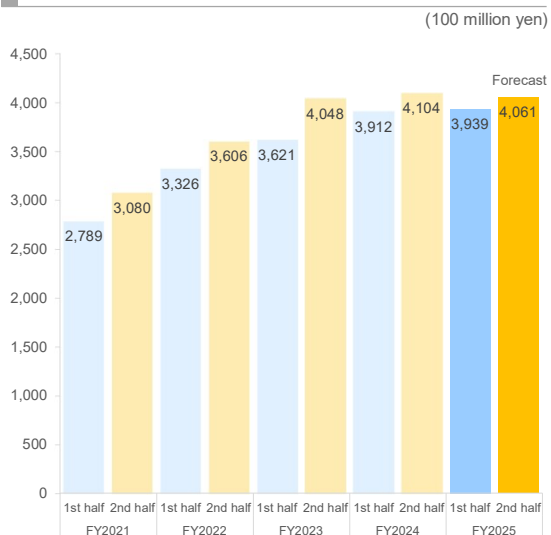
### Operating Profit



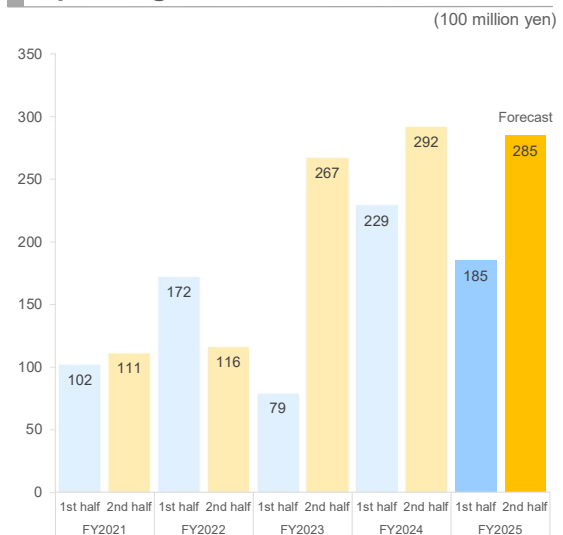
This slide shows the trends in our business results.

## Results Trends (Semi-Annual Basis)

### Net Sales



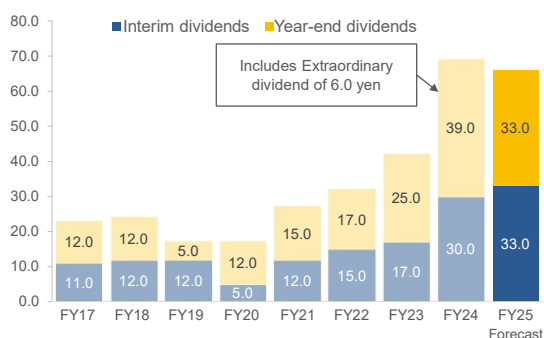
### Operating Profit



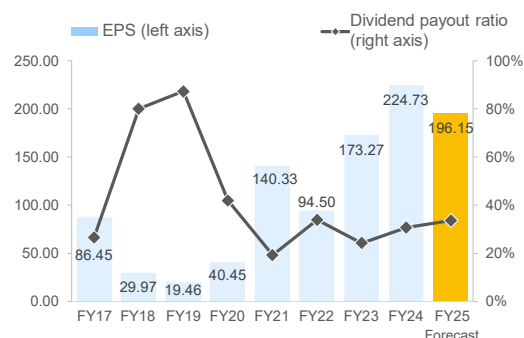
Since the fiscal year ended March 2022, we have been gradually expanding our sales and operating profit, and for the fiscal year ending March 2026, as I mentioned earlier, we are projecting sales of JPY800 billion and an operating profit of JPY47 billion.

## Dividends

### Dividend Per Share (DPS)



### Earnings Per Share (EPS)



	End of Q2	Year-end	Total	Dividend payout ratio
<b>Result for the year ended Mar. 2025</b>	30.0 yen	39.0 yen	<b>69.0 yen</b>	30.7%
<b>Forecast for the year ending Mar. 2026</b>	33.0 yen	33.0 yen	<b>66.0 yen</b>	33.6%

Next, we have here our dividends.

For the fiscal year ended March 2025, we paid an interim dividend of JPY30, a year-end ordinary dividend of JPY33, and a special dividend of JPY6, for a total annual dividend of JPY69. The dividend payout ratio was 30.7%.

For this FY2025 ending March 2026, we plan to pay a total of JPY66, comprising JPY33 at the interim and JPY33 at the year-end. The dividend payout ratio will be 33.6%.

## Management Indicators

### Trends in Key Management Indicators

(100 million yen)

		22.3	23.3	24.3	25.3	26.3 (Forecast)	27.3 Mid-term plan
Profitability	Net Sales	5,869	6,932	7,669	8,016	8,000	8,500
	Operating Profit Ratio	213 3.6 %	288 4.2 %	346 4.5 %	521 6.5 %	470 5.9 %	520 6.1 %
	Ordinary Profit Ratio	306 5.2 %	373 5.4 %	478 6.2 %	579 7.2 %	530 6.6 %	570 6.7 %
	Net Income Ratio	319 5.5 %	215 3.1 %	391 5.1 %	481 6.0 %	400 5.0 %	430 5.1 %
Investment Efficiency	ROE	10.5 %	6.4 %	10.4 %	11.9 %	9.6 %	Over 10%
	ROIC	4.4 %	5.5 %	6.1 %	8.3 %	7.1 %	Over 7%
Soundness	Stockholder's Equity to Total Assets Ratio	54.9 %	57.6 %	58.7 %	58.5 %	59.3 %	Over 50%

Finally, these are our management indicators.

The situation is as you can see.

Although we expect to reach our initial forecast for the year as a whole, we will continue to aim to improve profitability over the medium term by accelerating investment for growth.

This concludes my presentation. Thank you very much.

## Current Management Strategy Topics - About the DDS Business -

President & COO  
Representative Member of the Board

Kazuhisa Uemura

Thank you very much for taking time out of your busy schedules to join us today.

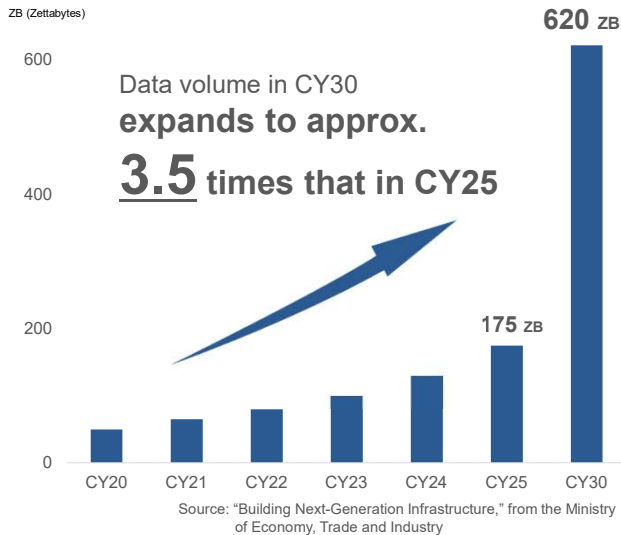
From here, I, Uemura, will discuss the DDS business as a topic of our current management strategy.

We explained our DDS business to you exactly one year ago at this same briefing. Since a year has passed, I will explain it again this year.

With regard to DDS, demand continues to rise. I will explain the latest market trends and our company's initiatives in this area.

## Market Environment

### Global volume of data created



### Expansion of volume of data created

Spread of AI technology

Increase in global volume of data created

Increase in demand for data centers

### Growth in suspension demand

Increase in nearline HDDs

Increase in number of disks

Expansion of demand for suspensions

First, let me explain the market environment.

The rapid spread of AI technology is dramatically expanding the amount of data generated worldwide. The graph you see shows the global data generation volume from 2020 to 2030. The volume of data generation projected is expected to be 620 zettabytes in 2030, approximately 12 times larger than that of FY2020 and about 3.5 times larger than that of 2025.

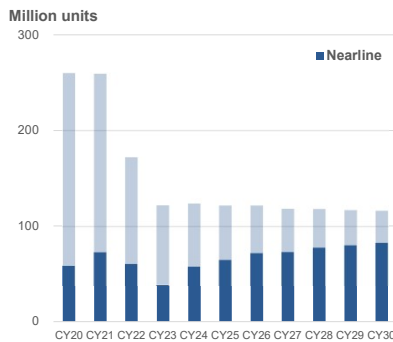
In conjunction with the rise in the volume of data generation, we also expect the demand to go up for HDDs, as they are less expensive than solid state drives and more suitable for storing high-capacity data. In particular, shipments of high-capacity nearline HDDs are expected to grow steadily.

Furthermore, HDD manufacturers are taking steps to boost capacity. One way to do that is to increase the number of disks mounted per HDD. Since two suspensions are used per disk, the increase in the number of HDDs for nearline storage and the use of multiple disks will be the main drivers for the growth in suspension demand.

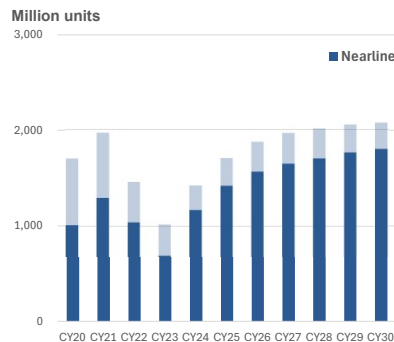
## Market Environment



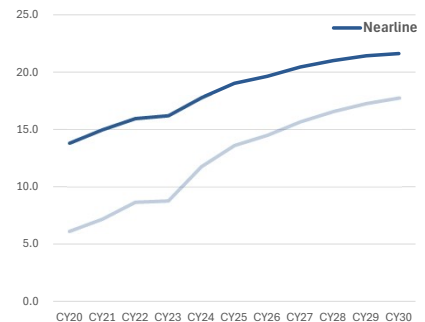
### Number of HDDs shipped



### Total amount of suspensions



### Number of suspensions used



Source: Created by NHK Spring from various materials

**Both HDD shipments and the total amount of suspensions for nearline applications to expand from 2024 onwards**

30

Let me explain a little more about the market environment.

The graph on the far left of the slide shows the number of HDDs shipped worldwide. While shipments themselves have remained largely flat since 2024, shipments of HDDs for nearline storage, indicated by the dark blue portion in the bar graph, are expected to rise steadily from 2024 and beyond.

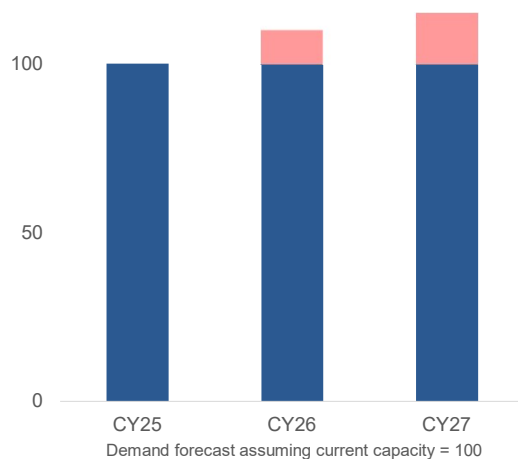
The graph in the middle shows the trend in total suspension volume. As with HDDs, the volume of suspensions for nearline applications is expected to steadily grow from 2024 onwards.

The graph on the far right shows the average number of suspensions used per HDD. As explained previously, both the average number of suspensions for nearline HDDs and the average number of HDDs are expected to rise steadily due to the increase in the number of disks for higher capacity.

These data confirm the continued solid demand for disk drive suspensions.

## Production Capacity

### From 2026 onwards Capacity expansion



#### Production capacity expansion

Demand is expected to exceed production capacity from 2026 onwards

Promoting capacity expansion to meet growing demand

#### Establishing competitive advantage through optimal investment

Securing customer demand through timely investment

Establishing competitive advantage  
Expanding market share

31

I will now explain production capacity.

Since the establishment of our DDS business, we have made timely capital investments to meet customer demand.

According to the latest demand forecast, from 2026 onwards, strong demand is expected to exceed our current capacity.

To ensure that we can meet this demand, we will aggressively increase our capacity in 2026 and beyond. By making timely investments to cope with the growing demand in the future, we will be able to address the robust demand.

In addition, we aim to enhance our competitive advantage and further expand our business by consistently meeting the demand.



## Capital Investments

### Details of capital Investments

#### Strengthening of production system

Timely expansion of production capacity  
Line conversion for model changeovers

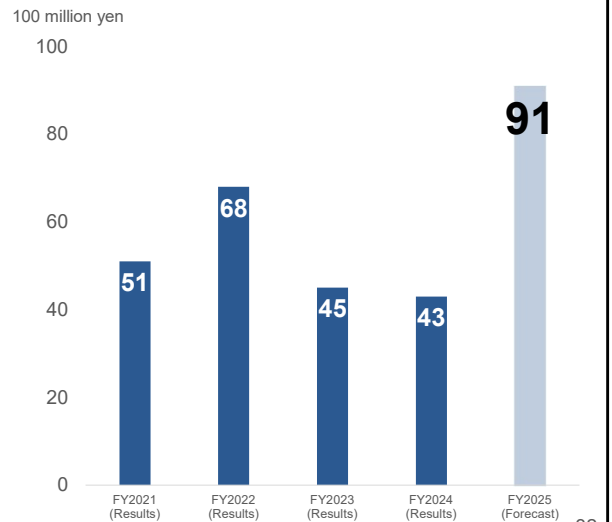
#### Promoting introduction of smart factories

Introducing automated transport robots  
Automating visual inspection processes

#### Environmental initiatives Carbon neutral initiatives

Introduction of solar power generation systems  
Complete electrification of production equipment

### Amount of capital Investments



32

I would like to explain our capital investments.

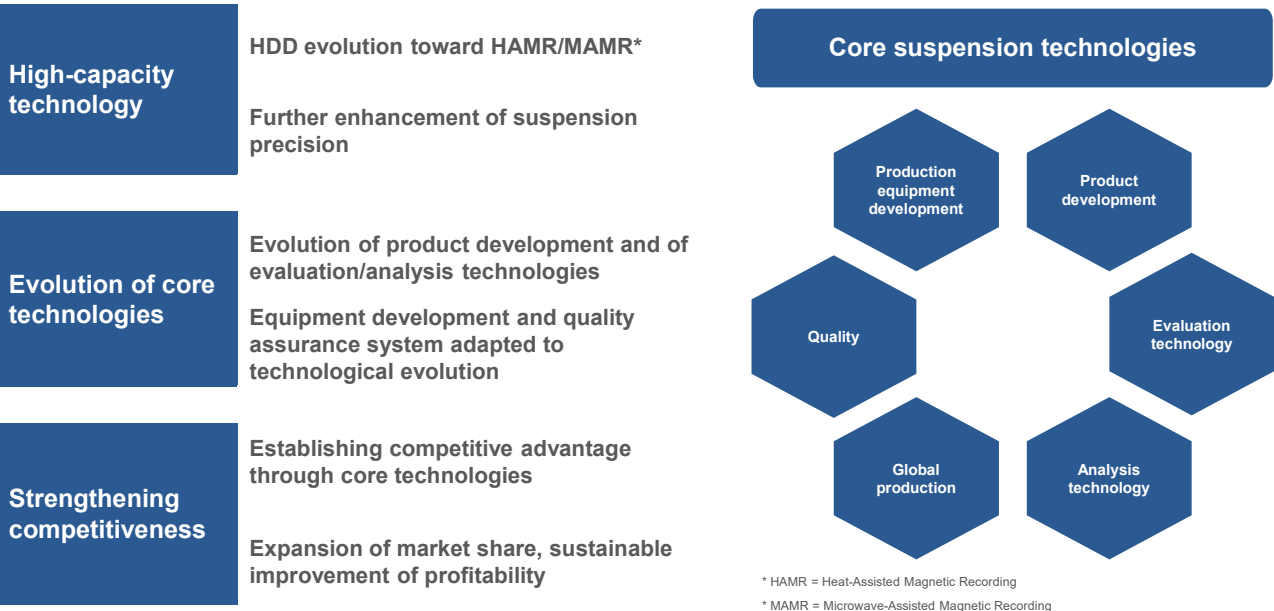
The first point is strengthening our production system. As we have explained, we are committed to meeting customer demand by boosting our production capacity in a timely manner. In addition, the increase in HDD capacity has led to a switch in suspension models. Model switching will continue to accelerate in the future. Now, to achieve higher precision in new models, we will focus on converting production lines.

The second point is the promotion of smart factories. We are introducing automated transfer robots to optimize production lines and reduce manpower. In addition, we plan to automate the visual inspection process. We expect that automation will create such benefits as labor savings and reduced re-inspections and outflow of defective products.

The third point is carbon neutrality support. We have already installed solar power generation systems and all-electric production equipment. We will continue to take steps to reduce our environmental impact.

On the right side, we show the amount of capital investments for the last five years. For the current fiscal year, we expect a record high of JPY9.1 billion.

## Support for New Technologies



33

As explained at the beginning of the presentation, the dramatic expansion in data generation will continue to accelerate the need for higher capacity HDDs in the future. In parallel, new technologies aimed at increasing capacity are advancing.

Here, we explain how we respond to new technologies.

First, response to high-capacity technologies. As next-generation technologies for increasing the capacity of HDDs, progress will be made toward heat-assisted HAMR and microwave-assisted MAMR. With regard to suspensions, as with HDDs, it will be necessary for us to respond to high-capacity technologies. Specifically, higher-precision suspensions will be required to optimize vibration characteristics for high-capacity HDDs.

Second, evolution of core technologies. To achieve higher capacity, we will further advance our core suspension technologies, including product development, evaluation techniques, and analysis technologies. In response to these technological advancements, we will also develop production facilities and reinforce our quality assurance system.

Third, strengthening competitiveness. Through the evolution of core technologies, we will establish market superiority and promote business expansion and improved profitability. We will steadily respond to the new technologies I have just described toward further growth and development of our DDS business.

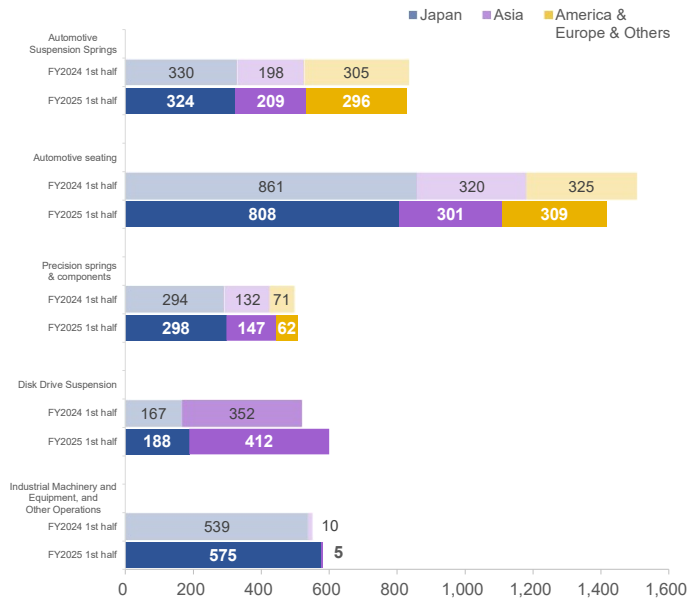
This concludes my explanation regarding our DDS business.

Thank you for your attention. We look forward to your continued patronage of our company.

## Supplementary Materials

Supplementary Materials

## Details of Net Sales (1st Half)

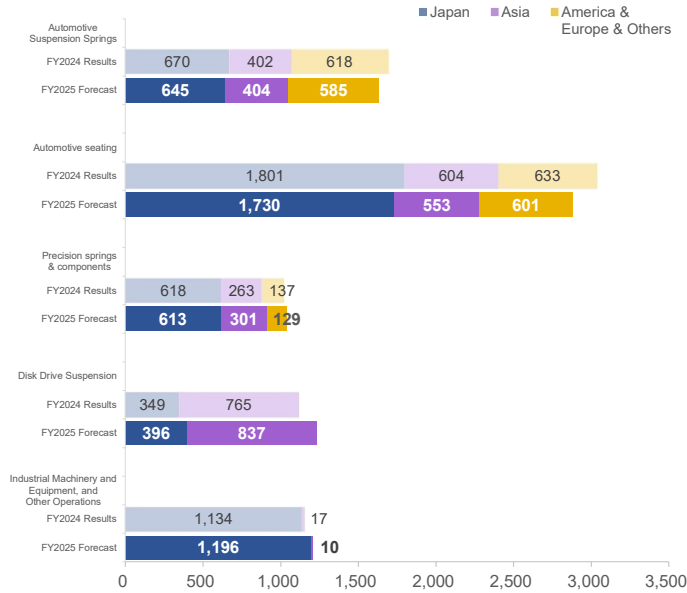


(100 million yen)

		Japan	Asia	America & Europe & Others	Total
Automotive Suspension Springs	FY2024 1st half	330	198	305	835
	FY2025 1st half	324	209	296	830
Automotive seating	FY2024 1st half	861	320	325	1,508
	FY2025 1st half	808	301	309	1,420
Precision Springs & Components	FY2024 1st half	294	132	71	498
	FY2025 1st half	298	147	62	508
Disk Drive Suspension	FY2024 1st half	167	352	-	519
	FY2025 1st half	188	412	-	600
Industrial Machinery & Equipment & Other Operations	FY2024 1st half	539	10	-	550
	FY2025 1st half	575	5	-	580
Total	FY2024 1st half	2,194	1,014	702	3,912
	FY2025 1st half	2,194	1,076	668	3,939

## Supplementary Materials

### Details of Net Sales (full-year)



(100 million yen)

		Japan	Asia	America & Europe & Others	Total
<b>Automotive Suspension Springs</b>	FY2024 Results	670	402	618	1,691
	FY2025 Forecast	645	404	585	1,634
<b>Automotive seating</b>	FY2024 Results	1,801	604	633	3,039
	FY2025 Forecast	1,730	553	601	2,884
<b>Precision Springs &amp; Components</b>	FY2024 Results	618	263	137	1,019
	FY2025 Forecast	613	301	129	1,043
<b>Disk Drive Suspension</b>	FY2024 Results	349	765	-	1,115
	FY2025 Forecast	396	837	-	1,233
<b>Industrial Machinery &amp; Equipment, &amp; Other Operations</b>	FY2024 Results	1,134	17	-	1,151
	FY2025 Forecast	1,196	10	-	1,206
<b>Total</b>	FY2024 Results	4,574	2,053	1,389	8,016
	FY2025 Forecast	4,580	2,105	1,315	8,000

## Assets Status

(100 million yen)

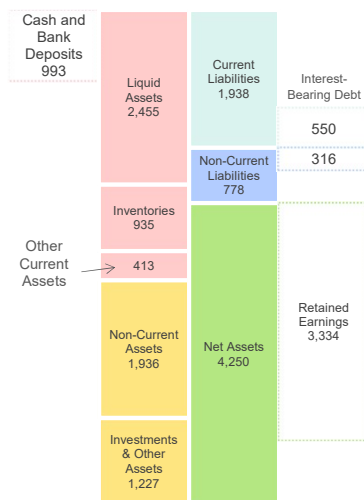
	FY2021 Results	FY2022 Results	FY2023 Results	FY2024 Results	FY2025 1st half results	Increase/ Decrease
<b>Total Assets</b>	5,880	6,060	6,902	6,963	<b>6,967</b>	4
<b>Stockholder's Equity</b>	3,226	3,492	4,050	4,076	<b>4,096</b>	20
<b>Stockholder's Equity to Total Assets Ratio</b>	54.9%	57.6%	58.7%	58.5%	<b>58.8%</b>	0.3%
<b>Cash and Bank Deposits</b>	921	729	1,032	972	<b>993</b>	21
<b>Interest-Bearing Debt</b>	508	505	474	718	<b>866</b>	148
<b>Net Cash</b>	413	224	558	254	<b>127</b>	-127



## Balance Sheet Status

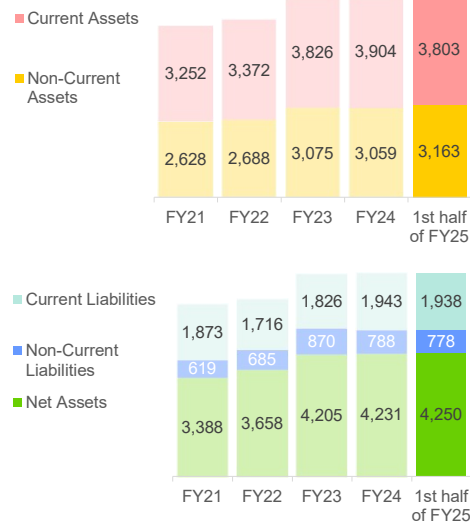
## FY2025 1st half results

(100 million yen)



## Balance Sheet Trends

(100 million yen)



## ▼Assets

Although trade receivables, etc. decreased due to a decline in operating transactions, assets increased due to an increase in investment securities from market valuation adjustments and an increase in capital expenditures, etc.

## ▼Liabilities

Although interest-bearing debt increased, liabilities decreased due to a decrease in trade payables resulting from shortened payment terms, etc.

## ▼Net Assets

Although net assets were negatively affected by the acquisition of treasury stock and a decrease in foreign currency translation adjustment due to the appreciation of the yen, net assets increased due to an increase in the valuation difference on available-for-sale securities and an increase in retained earnings from interim profit attributable to owners of parent.

## Capital Investment/Depreciation &amp; Amortization by Business Segment

(100 million yen)

		FY2023 Results	FY2024 Results	FY2025		
				May forecast	Latest forecast	Variance
<b>Capital Investments</b>	Automotive Suspension Springs	58	63	105	107	2
	Automotive Seating	49	64	53	64	11
	Precision Springs & Components	107	79	110	114	4
	DDS	45	43	99	91	-8
	Industrial Machinery and Equipment, and Other Operations	82	126	123	168	45
	Company-wide sharing	27	25	50	42	-8
	Total	370	402	540	586	46
	Vs. Previous year	31.8%	8.8%	34.2%	45.6%	
<b>Depreciation &amp; Amortization</b>	Automotive Suspension Springs	63	54	57	58	1
	Automotive Seating	56	52	47	46	-1
	Precision Springs & Components	47	52	55	55	0
	DDS	63	64	68	60	-8
	Industrial Machinery and Equipment, and Other Operations	35	41	56	54	-2
	Company-wide sharing	19	28	24	25	1
	Total	286	293	307	298	-9
	Vs. Previous year	-0.7%	2.3%	4.8%	1.6%	

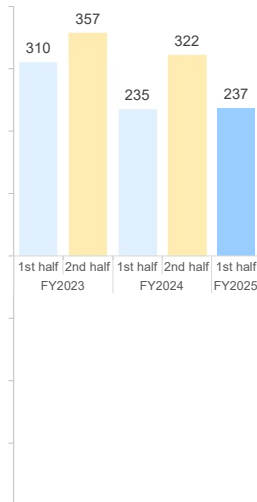
## Capital Investment/Depreciation &amp; Amortization by Region Segment

(100 million yen)

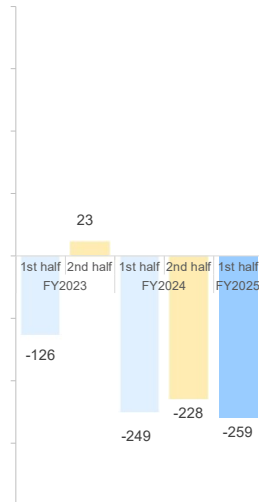
		FY2023 Results	FY2024 Results	FY2025		
				May forecast	Latest forecast	Variance
<b>Capital Investments</b>	Japan	259	242	371	424	53
	Asia	75	88	110	115	5
	America & Europe & Others	34	71	59	47	-12
	Overseas total	110	159	169	162	-7
	Total	370	402	540	586	46
<b>Depreciation &amp; Amortization</b>	Japan	146	165	185	174	-11
	Asia	92	86	82	83	1
	America & Europe & Others	47	40	40	41	1
	Overseas total	139	127	122	124	2
	Total	286	293	307	298	-9

## Cash Flow Status (Semi-Annual Basis)

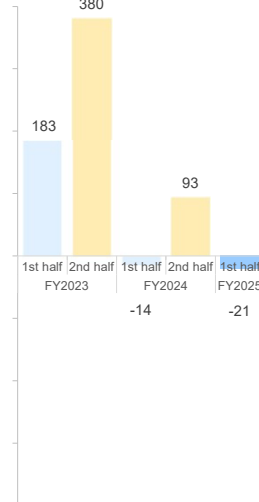
## Operating CF



## Investment CF

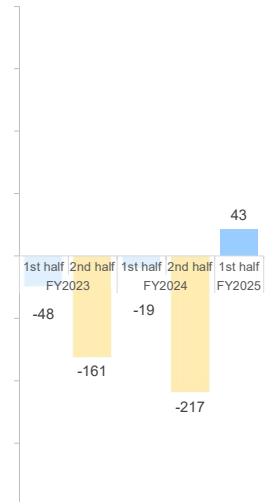


## Free CF



## Financial CF

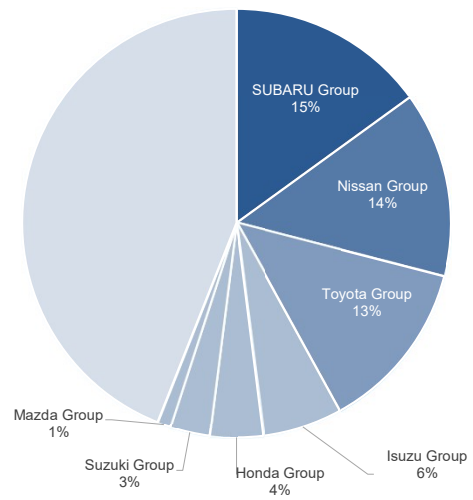
(100 million yen)



## Sales Breakdown to Each of the Major Car Makers

Major car makers	FY2023	FY2024
SUBARU Group	18%	15%
Nissan Group	16%	14%
Toyota Group	13%	13%
Isuzu Group	7%	6%
Honda Group	4%	4%
Suzuki Group	4%	3%
Mazda Group	1%	1%
Top 3 Companies	47%	42%

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

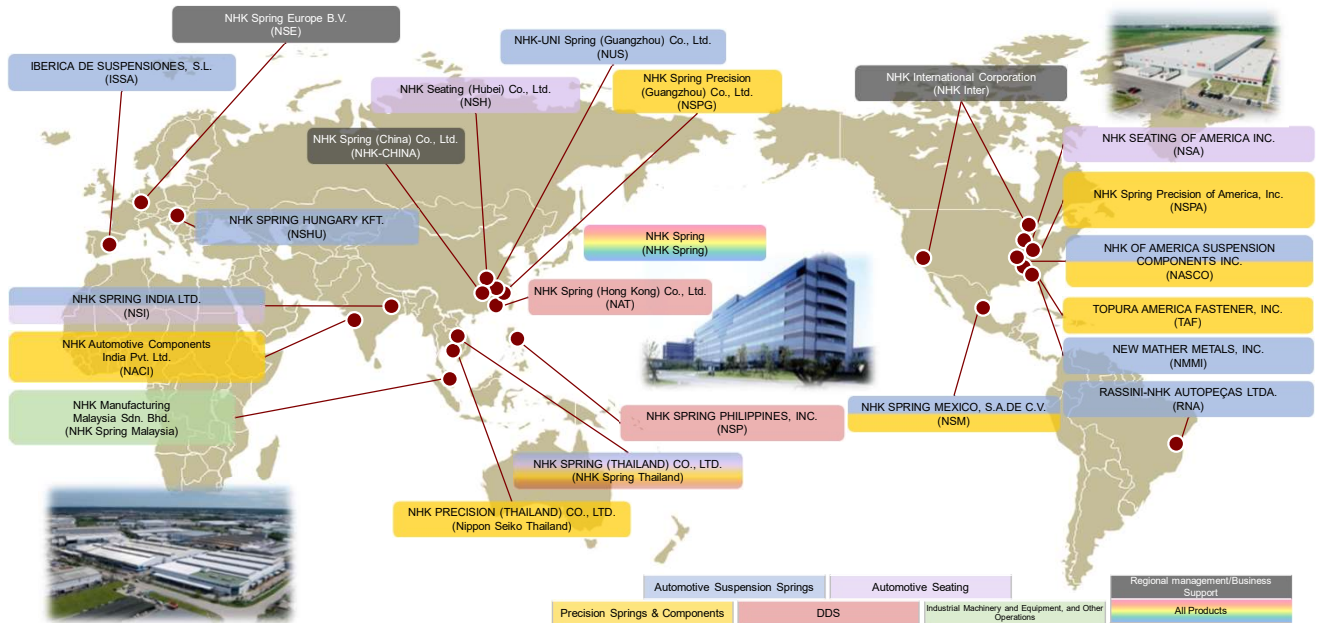


## Quarterly Sales Trends (Motor Core, Semiconductor Process Components, Integrated Metal Substrates, Leisure Sector)

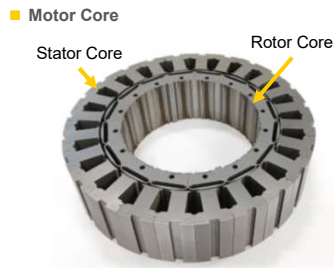
(100 million yen)

		FY2024							FY2025				
		1Q	2Q	1st half	3Q	4Q	2nd half	Full-year	1Q	2Q	1st half	2nd half	Full-year
Precision Springs & Components	Motor cores	29	31	61	31	33	65	127	27	30	58	68	127
Industrial Machinery & Equipment, & Other Operations	Semiconductor process components	37	47	84	55	62	117	202	59	60	119	132	252
	Integrated metal substrates	19	19	39	18	17	35	75	18	17	36	46	82
	Leisure Sector (Golf Shafts, Marine Products, etc.)	34	32	66	36	35	71	138	35	34	70	71	141

# Major Overseas Operations



## Product Introduction: Motor Cores (Precision Springs & Components Segment)



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.

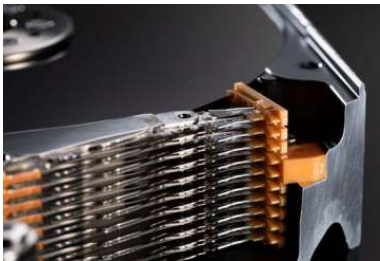


## Product Introduction: HDD Suspensions (DDS Segment)

### ■ HDD suspensions



### ■ HDD suspension placement



Suspensions for HDDs are unique spring products, holding the read-write head in HDD devices.

In recent years, HDDs are increasingly used for data centers, such as those supporting social media and video-sharing sites, rather than for personal computers. Data centers store massive gigabyte-sized files, with hundreds of thousands of large-capacity HDDs aligned in racks. Each of these HDDs contains many HDD suspensions. As shown in the image to the left, 20 suspensions are used in a single HDD, and data centers utilize an enormous number of suspensions in total.

Large-capacity HDD suspensions feature ultra-small actuators that finely control the tiny components used for reading and writing data. These actuators enable higher-density data reading and writing on the disk.

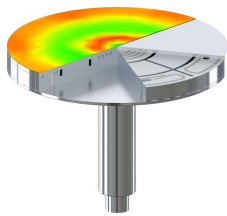
The ultra-small actuators are classified as follows: those integrated into the central section are called DSA, and those embedded in the tip are referred to as CLA. Using a human analogy, DSA corresponds to wrist movement, while CLA represents fingertip motion. To achieve even higher performance, we developed our flagship product, the TSA, which incorporates both DSA and CLA. TSA enables precise yet dynamic movements, significantly contributing to the increasing capacity of HDDs used in data centers.

Our company was the first in the world to mass-produce CLA and TSA, allowing us to secure a leading global market share.

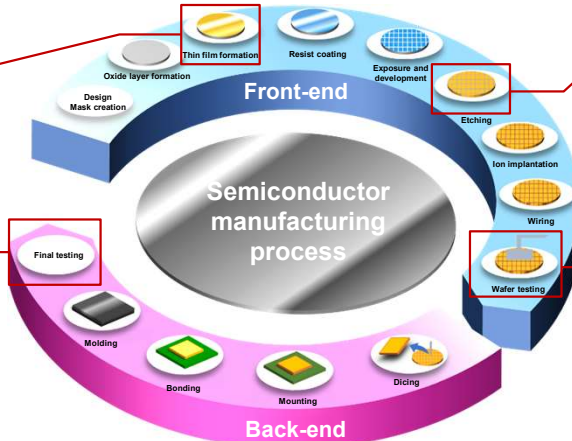
- \* DSA stands for "Dual Stage Actuators."
- \* CLA stands for "Co-Located Actuators."
- \* TSA stands for "Triple Stage Actuator."

# Semiconductor-Related Products

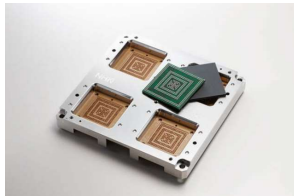
■ Stage heater with multi-zone temperature distribution control function for film deposition equipment



■ Ceramics spray-coated cooling plate for etching equipment



■ Test sockets



■ Probe cards



■ Contact probes (Microcontactors®)



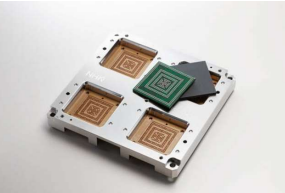
## ■ Contact probes (Microcontactors®)



## ■ Probe cards



## ■ Test sockets



Semiconductor testing involves inspecting semiconductor products by applying electricity to ensure they operate correctly.

Semiconductor testing tools serve as connectors between the semiconductor and the testing equipment. We provide probe cards used in front-end (wafer processing) inspections, test sockets used in back-end (packaging process\*) inspections, and the spring products and contact probes (Microcontactors®) incorporated into these tools to semiconductor manufacturers and their related companies worldwide.

**Microcontactors**

Microcontactors are testing terminals that use fine springs in semiconductor testing. Electrical signals output from the test equipment are transmitted to the semiconductor through the Microcontactors. Each semiconductor terminal requires a uniquely processed tip shape, and we can handle the entire process in-house, from design to manufacturing. We can also propose custom shapes tailored to specific customer requirements.

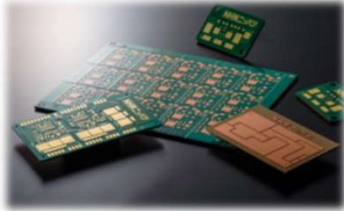
**Probe cards**

Probe cards are tools used in the front-end process. A disc-shaped plate with fine holes contains anywhere from tens to thousands—or even tens of thousands—of Microcontactors. On the wafer being tested, there are countless small semiconductor terminals, and each one must be precisely contacted by the Microcontactors to inspect the electrical characteristics (pass/fail) of individual semiconductors. Accurate and uniform contact requires the use of high-conductivity, high-precision Microcontactors.

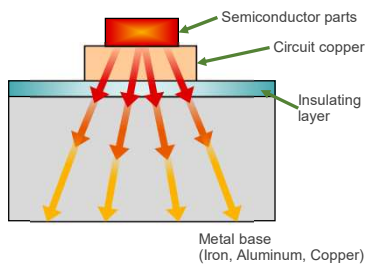
**Test sockets**

Test sockets are tools used in the back-end process. Individual semiconductor packages inserted into the sockets are connected to the testing equipment through the Microcontactors, where their electrical characteristics and reliability are tested.

\* Packaging process (the process of encapsulating ICs, cut from semiconductor wafers in plastic or ceramic to protect their circuitry and facilitate connection to external peripheral circuits)



■ 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.

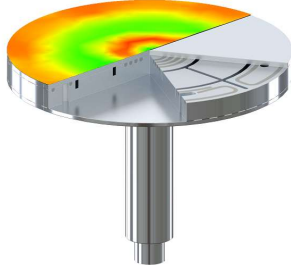
Our IMS is characterized by our strength in integrated production, from the development of high-heat-dissipating and highly reliable insulating layers to IMS manufacturing.

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

## Product Introduction: Semiconductor Process Components

(Industrial Machinery and Equipment, and Other Operations Segments)

### ■ Stage heater with multi-zone temperature distribution 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 recent years, in addition to the parts at the bottom of the chamber—the heater and cooling plate that support work in process wafers—we have also focused on developing the parts on the upper side of the chamber—called shower heads, for the purpose of supplying required gas during the process—and these sales are also increasing.



- 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.
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