

Hirata

The Global Production Engineering Company



Financial Results for the Fiscal Year Ended March 31, 2024

May 2024

HIRATA Corporation (6258)

Note : This document has been translated from the Japanese original for reference purposes only. In the event of any discrepancy between this translated document and the Japanese original, the original shall prevail.

I . FY2023 Full Year Results (Consolidated)

II . FY2024 Full Year Forecasts (Consolidated)

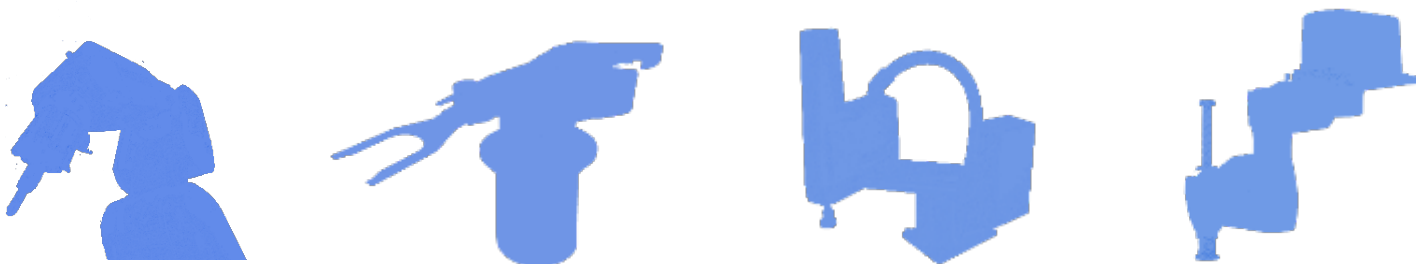
III . Outlook for the Medium-Term Management Plan(FY2022-2024)

IV . Reference Data

※ FY2023 : April 1, 2023 to March 31, 2024
FY2024 : April 1, 2024 to March 31, 2025

Company Name	HIRATA Corporation
Headquarters	111 Hitotsugi, Ueki, Kita, Kumamoto, 861-0198 Japan
Representatives	Yuichiro Hirata, President
Date Established	Dec. 29, 1951
Capital	2,633 million yen
Our business	Manufacture and sales of various manufacturing line systems, Industrial robot and logistic equipment
Stock Exchange Listings	Tokyo Stock Exchange, Prime Market (Code:6258)
Employees	Consolidated 2,323 Non-Consolidated 1,419 ※As of March 31, 2024
Plants and office	7 bases in Japan (4 bases in Kumamoto 1 each in Tochigi, Shiga, Tokyo)
Subsidiaries	3 subsidiaries in Japan (2 in Kumamoto, 1 in Tokyo) 9 overseas subsidiaries (America, Mexico, Germany, Singapore, Thailand, Malaysia, 2 in China・Taiwan)

I . FY2023 Full Year Results (Consolidated)



Hirata

I. FY2023 Full Year Results (Consolidated)

Consolidated Results

- Orders received** : Orders received decreased from the previous period. Although we have been seen an increase in orders for automobile-related projects, such as EV and internal combustion engine systems, we have experienced a decrease in orders due to reduced investment in semiconductor-related equipment and a decline in orders for other automatic labor-saving equipment, such as logistics-related equipment and organic EL.
- Sales** : Sales increased from the previous period. Despite the decrease in semiconductor-related and other automatic labor-saving equipment, we achieved an increase in revenue due to the contribution of increased sales in EV-related projects, particularly in the areas of EDUs and batteries.
- Operating profit** : Operating profit increased from the previous period. The reason is due to the increase in sales of EV-related products and the improvement in the cost ratio of semiconductor-related products.

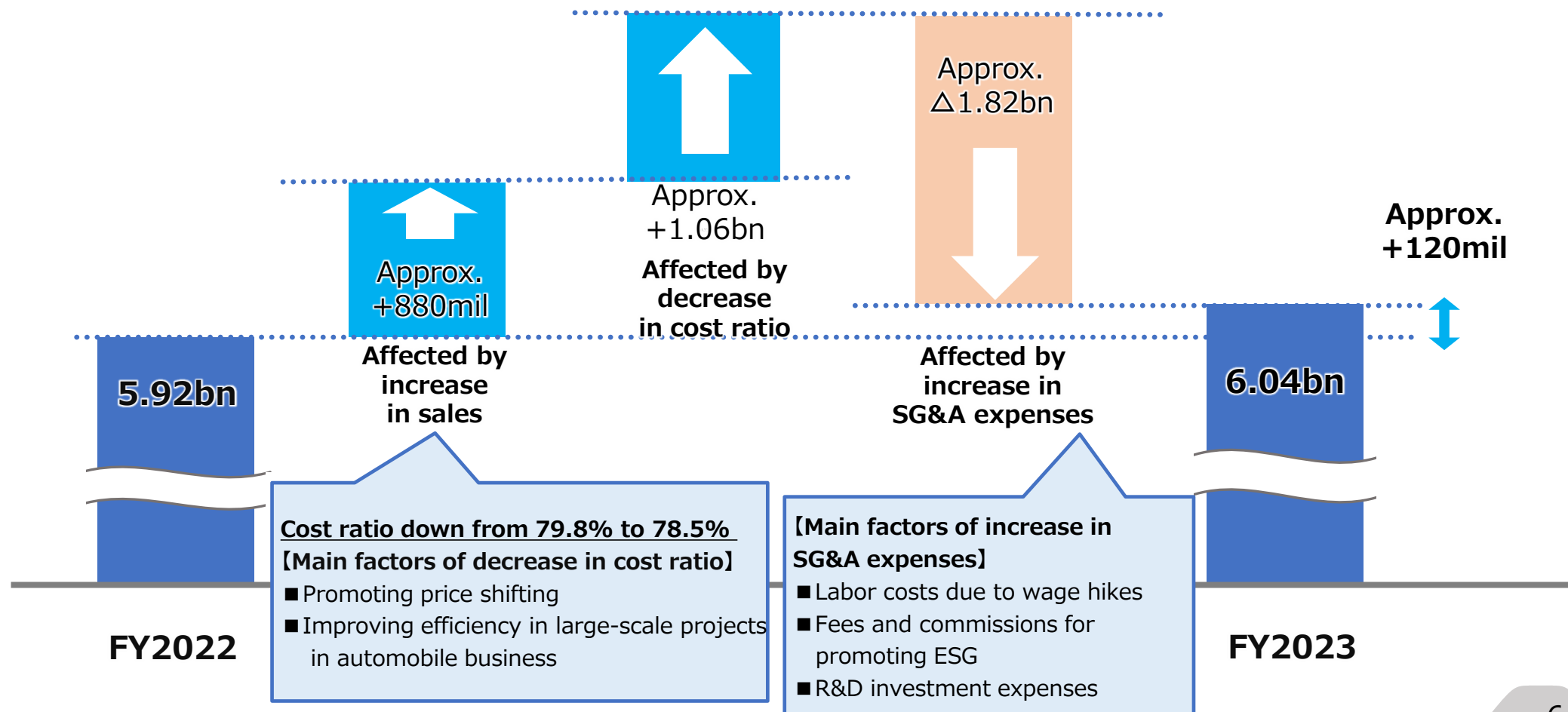
(Units in millions of Yen)

	FY2022	FY2023	YoY Change	
			Amount of +/-	Percentage of +/-
Orders Received	93,758	86,239	△7,519	△8.0%
Sales	78,443	82,839	4,395	5.6%
Operating Profit (profit ratio)	5,920 (7.5%)	6,047 (7.3%)	127	2.2%
Ordinary Profit	5,802	6,259	456	7.9%
Profit attributable to owners of parent	4,269	4,344	74	1.7%
Backlog of Orders	62,004	65,404	3,399	5.5%

I. FY2023 Full Year Results (Consolidated)

Factor Analysis on Changing Operating Profit

- **Operating profit increased approximately 120 million yen** from the same period of the previous year.
【 **Main factors for increase** 】 **The increase in sales** and **the improvement of cost ratio** by promoting price shifting, etc.
【 **Main factors for decrease** 】 **The increase in SG&A expenses** due to the implementation of growth investments, such as wage increases, ESG promotion expenses, and research and development investments.



I. FY2023 Full Year Results (Consolidated)

Sales, Received Orders, and Backlog of Orders by Business Segment

(Units in millions of Yen)

	Business Segment	FY2022	FY2023	YoY Change	
				Amount of +/-	Percentage of +/-
Received orders	Automobile	38,165	44,492	6,327	16.6%
	Semiconductor	34,047	25,107	△8,940	△26.3%
	Other Automatic Labor-saving Equipment	19,123	14,357	△4,765	△24.9%
	Others	2,422	2,281	△140	△5.8%
	Total	93,758	86,239	△7,519	△8.0%
Sales	Automobile	30,298	36,984	6,686	22.1%
	Semiconductor	28,954	27,390	△1,564	△5.4%
	Other Automatic Labor-saving Equipment	16,952	16,083	△869	△5.1%
	Others	2,238	2,381	143	6.4%
	Total	78,443	82,839	4,395	5.6%
Backlog of Orders	Automobile	31,642	39,150	7,507	23.7%
	Semiconductor	21,753	19,470	△2,282	△10.5%
	Other Automatic Labor-saving Equipment	8,021	6,295	△1,725	△21.5%
	Others	588	488	△99	△16.9%
	Total	62,004	65,404	3,399	5.5%

I. FY2023 Full Year Results (Consolidated)

Details of Received Orders and Sales by Business Segment

- Automobile-related** Received orders increased from the same period of the previous year. Both EV and internal combustion engine projects have been in high demand, and we have also secured large-scale contracts for internal combustion engines. Sales increased from the same period of the previous year. The already contracted EV-related projects (mainly EDU and battery-related), contributed the sales this year.
- Semiconductor-related** Received orders decreased from the same period of the previous year. The received orders related to wafer transportation increased, but other areas such as inspection equipment and PLP decreased, which had an impact. Sales decreased from the same period of the previous year. Sales were also affected by the decrease in areas other than wafer transportation, similar to the received orders.

(Units in millions of Yen)

			FY2022		FY2023		YoY Change	
			Actual results	Segment composition	Actual results	Segment composition	Amount of +/-	Percentage of +/-
Received orders	Automobile-related	EV	30,239	79.2%	25,112	56.4%	△5,127	△17.0%
		Others	7,926	20.8%	19,380	43.6%	11,454	144.5%
	Semiconductor-related	Wafer transfer	19,731	58.0%	16,646	66.3%	△3,084	△15.6%
		Others	14,316	42.0%	8,460	33.7%	△5,855	△40.9%
	Other Automatic Labor-saving Equipment	Organic EL	4,739	24.8%	4,451	31.0%	△287	△6.1%
		Others	14,383	75.2%	9,905	69.0%	△4,477	△31.1%
Sales	Automobile-related	EV	19,723	65.1%	27,627	74.7%	7,903	40.1%
		Others	10,575	34.9%	9,357	25.3%	△1,217	△11.5%
	Semiconductor-related	Wafer transfer	15,398	53.2%	18,836	68.8%	3,438	22.3%
		Others	13,556	46.8%	8,553	31.2%	△5,002	△36.9%
	Other Automatic Labor-saving Equipment	Organic EL	5,529	32.6%	4,157	25.8%	△1,372	△24.8%
		Others	11,422	67.4%	11,925	74.2%	503	4.4%

I. FY2023 Full Year Results (Consolidated)

Operating Profit (ratio) by Business Segment

- **Automobile-related** Operating profit improved from the same period of the previous year. Despite surpassing the previous year due to progress in cost transfer and improvement in cost rate through increased proficiency, The operating profit margin was lower than the previous year due to an increase in the ratio of SG&A expenses borne by the segment as a result of the large increase in sales.
- **Semiconductor-related** Operating profit improved from the same period of the previous year. Despite a decrease in revenue, we were able to achieve an increase in profit through improvements in cost rates due to progress in cost transfer and other factors. Additionally, the relatively high-profit margin wafer transportation-related segment increased its composition ratio, resulting in an operating profit margin exceeding the previous year.
- **Other Automatic Labor-saving Equipment** Operating profit decreased from the same period of the previous year due to a decrease in sales in the high-profit margin organic EL-related segment.

(Units in millions of Yen)

	Automobile-related		Semiconductor-related		Other Automatic Labor-saving Equipment		Others		Consolidation elimination		Total	
	FY2022	FY2023	FY2022	FY2023	FY2022	FY2023	FY2022	FY2023	FY2022	FY2023	FY2022	FY2023
Sales	30,298	36,984	28,954	27,390	16,952	16,083	2,238	2,381	△0	△0	78,443	82,839
Operating profit	1,559	1,651	3,445	4,450	930	119	△19	△177	4	4	5,920	6,047
Operating profit ratio	5.1%	4.5%	11.9%	16.2%	5.5%	0.7%	△0.9%	△7.5%	-	-	7.5%	7.3%

I. FY2023 Full Year Results (Consolidated)

Balance Sheet · Key Management Indicators

(Units in millions of Yen)

Assets	FY2022	FY2023	YoY Change
Current Assets	79,655	88,554	8,898
Cash and deposits	11,134	10,652	△481
Trade receivables, etc.	51,435	59,504	8,068
Inventories	14,219	14,264	45
Others	2,865	4,131	1,266
Tangible Assets	34,867	42,233	7,366
Tangible fixed assets	24,302	27,437	3,135
Intangible fixed assets	749	904	155
Investment and other assets	9,815	13,891	4,075
Total Assets	114,522	130,787	16,265

Liabilities	FY2022	FY2023	YoY Change
Current Liabilities	43,193	49,864	6,671
Fixed Liabilities	11,754	15,621	3,867
Total Liabilities	54,947	65,485	10,538
Net Assets			
Total Net Assets	59,575	65,302	5,726
Key Management Indicators			
PBR	1.20(x)	1.25(x)	0.05
ROE	7.5%	7.0%	△0.5pt
Equity Ratio	51.7%	49.7%	△2.0pt

II. FY2024 Full Year Forecasts (Consolidated)



Hirata

II. FY2024 Full Year Forecasts (Consolidated)

Full Year Forecast

■ Projected increase in revenue of 100 billion yen and operating profit of 7.5 billion yen.

(Units in millions of Yen)

	FY2023 results		FY2024 Full year forecast		vs. FY2023	
					Amount of +/-	Percentage of +/-
Sales	82,839	–	100,000	–	17,160	20.7%
Automobile-related	36,984	–	50,000	–	13,015	35.2%
Semiconductor-related	27,390	–	29,000	–	1,609	5.9%
Other Automatic Labor-saving Equipment	16,083	–	19,000	–	2,916	18.1%
Others	2,381	–	2,000	–	△381	△16.0%
Operating Profit (x)	6,047	(7.3%)	7,500	(7.5%)	1,452	24.0%
Ordinary Profit (x)	6,259	(7.6%)	7,300	(7.3%)	1,040	16.6%
Profit attributable to owners of parent (x)	4,344	(5.2%)	4,700	(4.7%)	355	8.2%

II. FY2024 Full Year Forecasts (Consolidated)

Key points of the full year forecast

Sales

In addition to securing the highest level of order backlog at the beginning of the fiscal year 2024, we anticipated a continued robust order intake in the EV and semiconductor sectors, leading to a projected increase in revenue compared to the previous period.

(Units in millions of Yen)

	FY2023 results	FY2024 Full year forecast	YoY Change	
			Amount of +/-	Percentage of +/-
Sales	82,839	100,000	17,160	20.7%

<Outlook for each segment>

【Automobile-related】

- While we observe a slowdown in the growth of the EV market in North America, we will leverage our strength in being able to cater to EVs, internal combustion engines, and hybrids to capture demand effectively.
- We expect an increase in orders by establishing a dedicated department for EV battery charging and discharging related equipment starting from FY 2024, and actively participating in our customers' product development stages.

【Semiconductor-related】

- We will ensure to capture the expanding demand through active investment in back-end process manufacturing equipment for generative AI and power semiconductors for automotive applications.
- We will proceed with the establishment of a production collaboration system with local subsidiaries in Southeast Asia, in addition to existing ones in China and Taiwan in order to expand our production capacity.

【Other automatic labor-saving equipment】

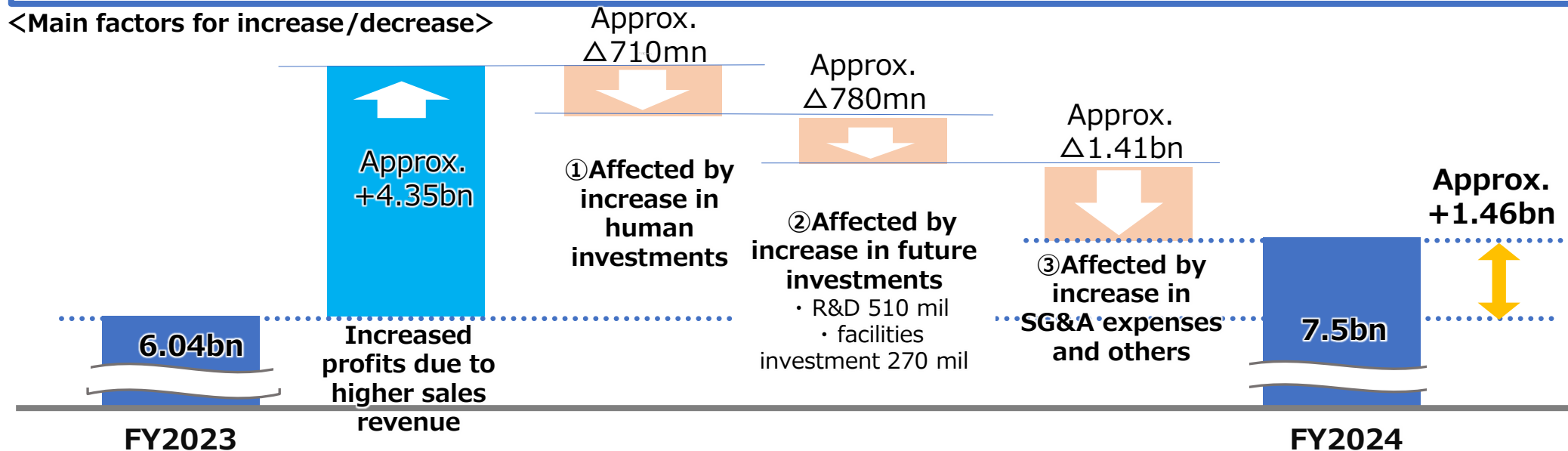
- With the enlargement of organic EL panels, we will specialize in the production of the core components. Development of assembly equipment for a home electronics manufacturer is ongoing at the client, and we will work to recover from development delays.

II. FY2024 Full Year Forecasts (Consolidated)

Key points of the full year forecast

Operating profit

We will actively implement investments in human resources and growth to achieve “profitability enhancement” and “strengthening of management foundation” for the next phase of growth. We anticipate an increase in operating profit compared to the previous period.



Factors affecting profit and loss	Impact	Contents
① Personnel investment	710 million yen	<ul style="list-style-type: none"> • Increase in hiring to meet future demand growth • Increase in personnel expenses to address the rapid increase in prices and ensure stable talent acquisition
② R&D investment	780 million yen	<ul style="list-style-type: none"> • Accelerating the development of next-generation product in existing businesses • Capital investment for improving productivity, etc.
③ Other selling, general, and administrative expenses	1.41 billion yen	<ul style="list-style-type: none"> • Increase in selling, general, and administrative expenses due to sales expansion • Increase in procurement cost, etc.

※Impact : Projected increase/decrease for full year 2023 compared to full year 2022 results

II. FY2024 Full Year Forecasts (Consolidated)

Transition and Forecast of Dividends and Dividend Ratio per Share

(Units in Yen)

	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024 forecast
Dividends per Share (yen)	40.00	65.00	65.00	90.00	100.00	120.00
Dividend Ratio (%)	23.8	16.6	25.2	21.9	23.9	26.5

Note: Dividend ratio is on a consolidated basis.

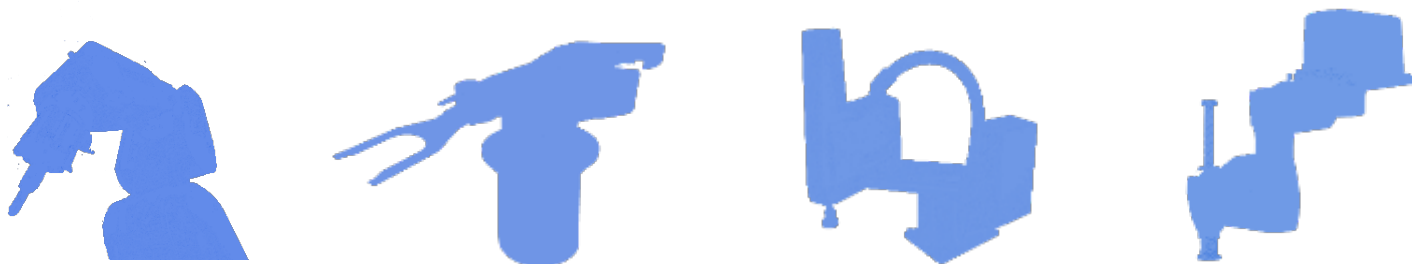
Our approach to dividends

We fully consider profit return to our shareholders as one of the highest priority issue. So, we endeavor to pay dividend stably and continually to be more than 20% of the consolidated dividend ratio as a guide by strengthening our financial characteristic and also taking our consolidated performance and business deployment into consideration.

Regarding this fiscal year's dividend, taking into account the above basic policy and the business environment surrounding our company, we have decided on 100 yen. Additionally, for the next dividend, we anticipate 120 yen as the year-end dividend.

Regarding our approach to future dividends, we are currently considering capital policies including shareholder return strategies. We will work to provide a clear direction within the next medium-management plan.

Ⅲ. Outlook for the Medium-Term Management Plan (FY2022-2024)



We forecast sales of 100 billion yen and an operating profit of 7.5 billion yen for the final year of the medium-term management plan.

Market Environment

Automobile

- The EV market is in an expanding trend.

- Equipment investment for engine cars and hybrid cars is also getting active.

Semiconductor

- After a period of inventory adjustment until last year, there is a recovering trend.

- Investment in automotive power semiconductors and AI for power generation is active.

Other Automatic Labor-saving Equipment

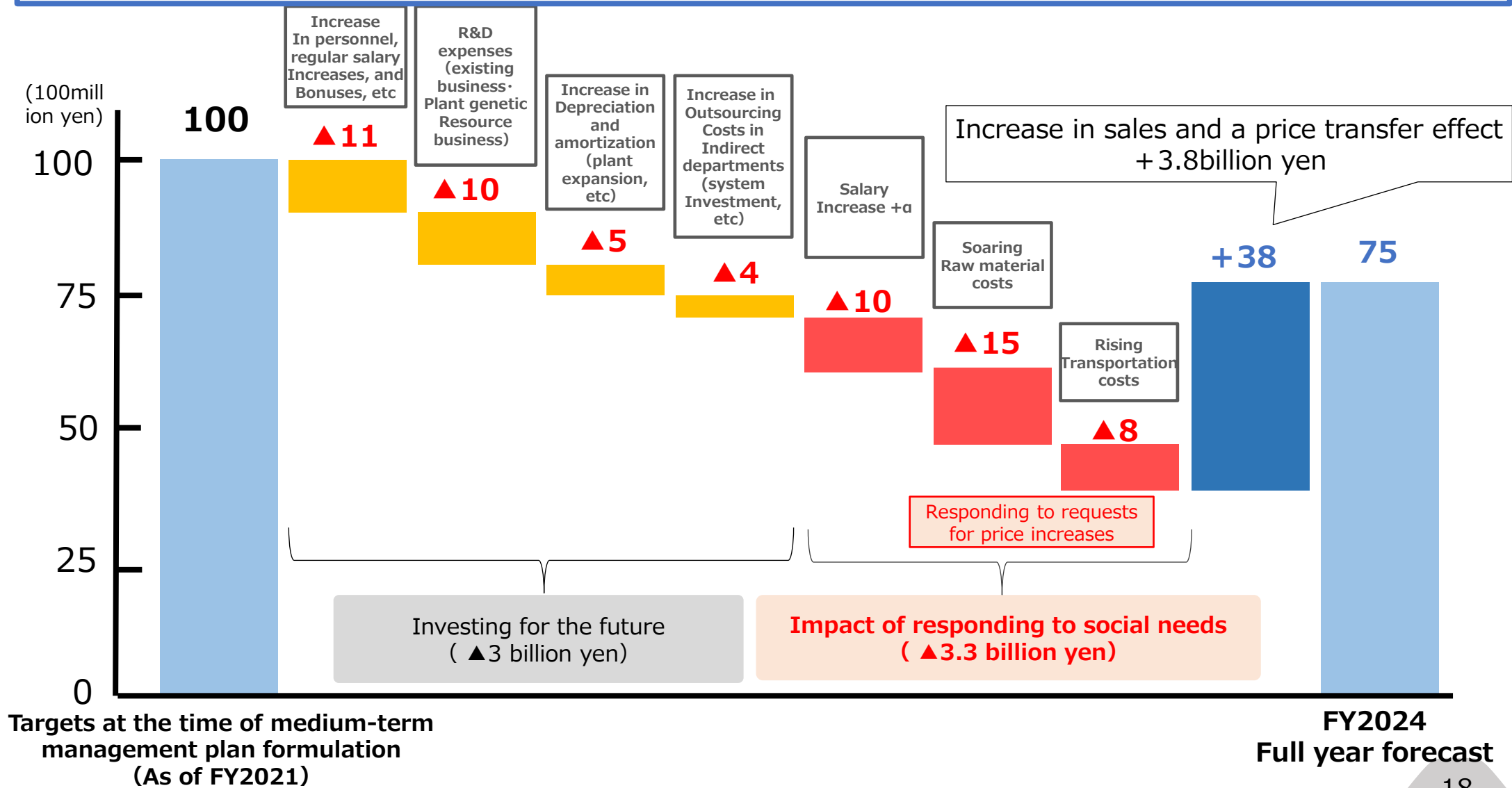
- With the enlargement of organic EL panels, the production of large-sized processed products are transitioned to local manufacturing.

- Customer-driven new technology development is underway in the field of home appliances.

III. Outlook for the Medium-Term Management Plan (FY2022-2024)

Difference in operating income forecast

Due to increased labor costs from wage hikes surpassing the inflation rate, as well as rising costs of raw materials and transportation expenses beyond the assumptions made during the medium-term plan formulation, we are forecasting an operating profit of 7.5 billion yen.

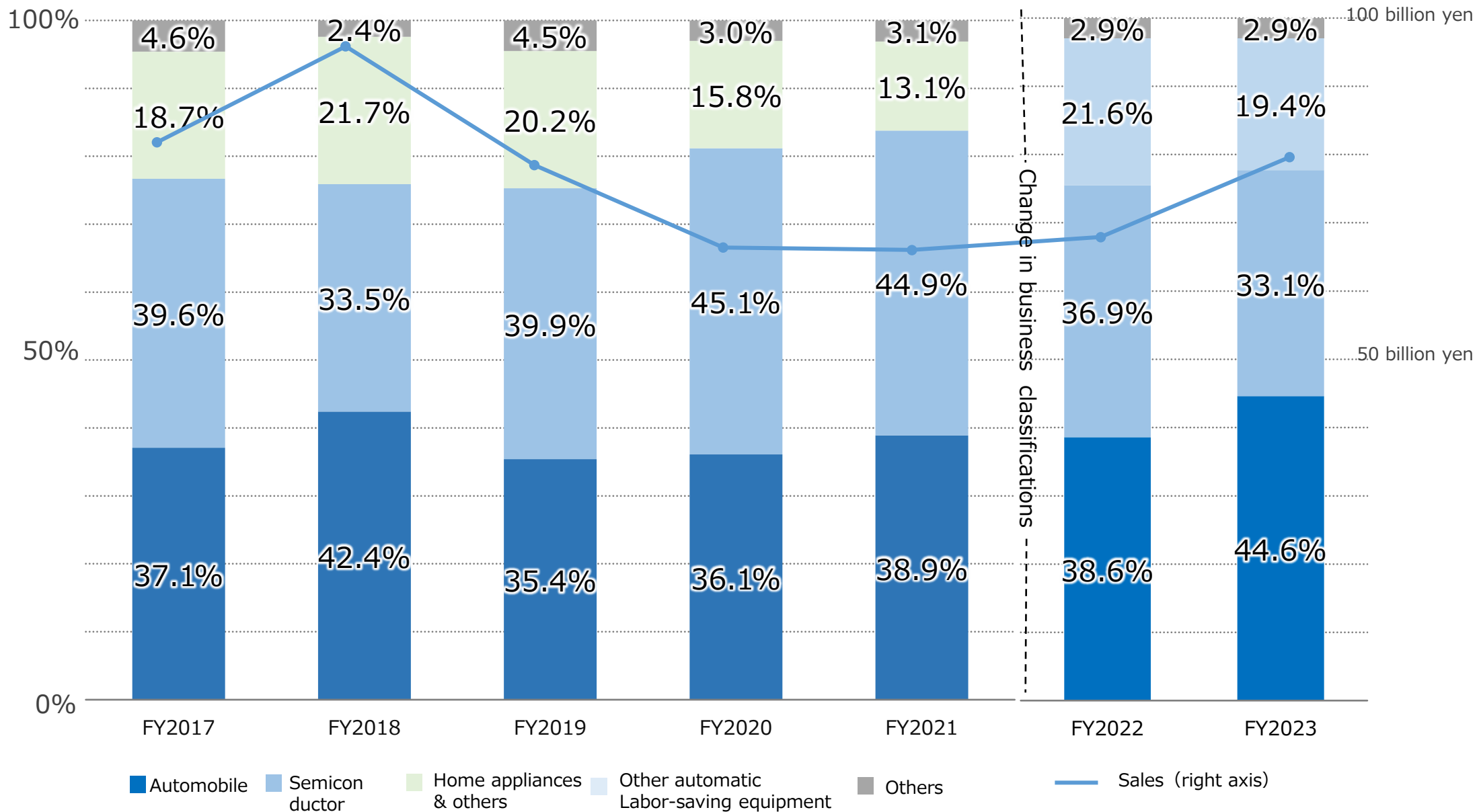


IV. Reference Data



IV. Reference Data ①

Sales Composition Ratio by Business Segment



※We changed our business classifications effective from FY2022.

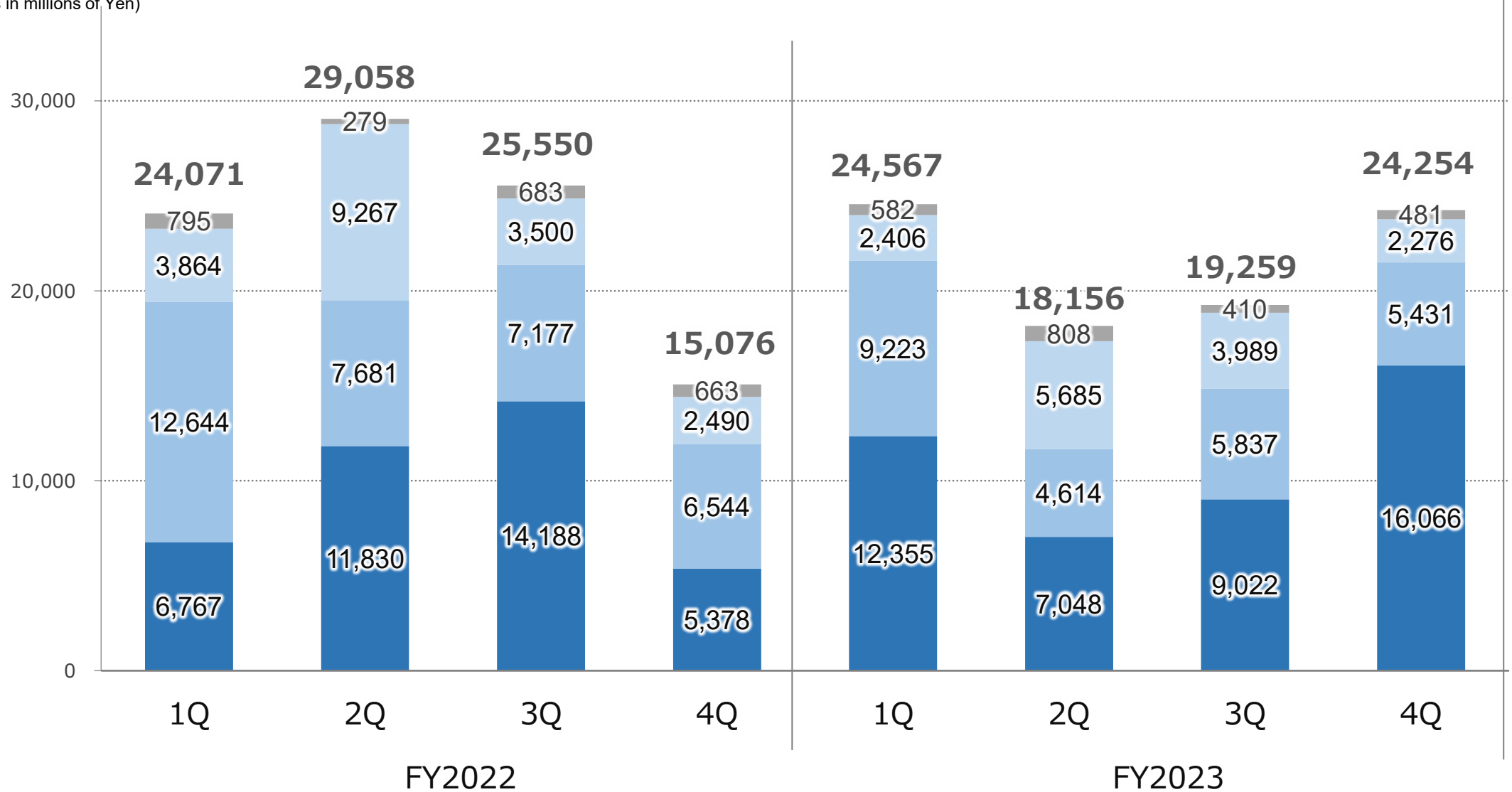
IV. Reference Data ②

Quarterly Trends by Business Segment

Received Orders

■ Automobile ■ Semiconductor ■ Other automatic labor-saving equipment ■ Others

(Units in millions of Yen)



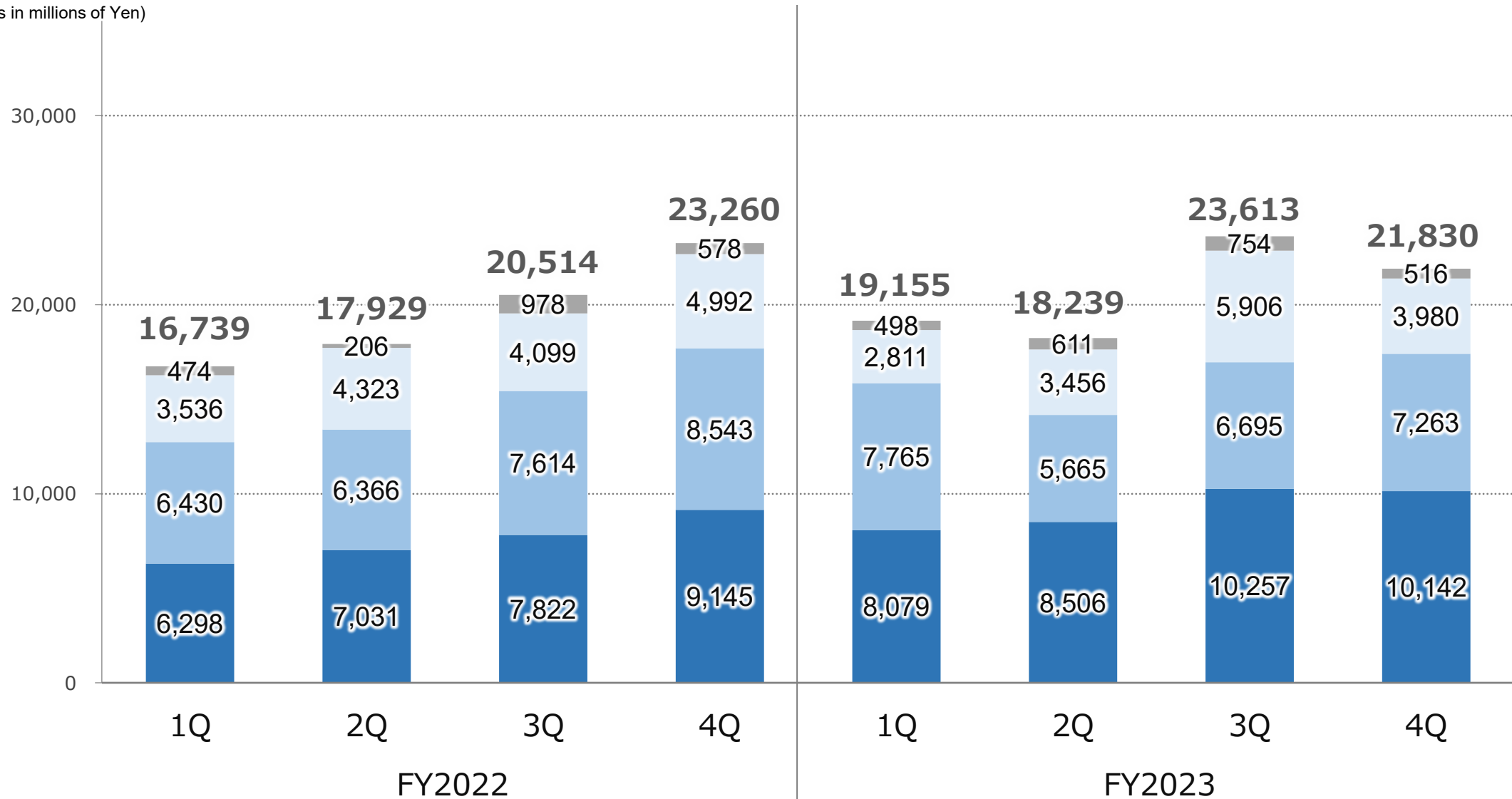
IV. Reference Data ③

Quarterly Trends by Business Segment

Sales

■ Automobile ■ Semiconductor ■ Other automatic labor-saving equipment ■ Others

(Units in millions of Yen)



IV. Reference Data ④

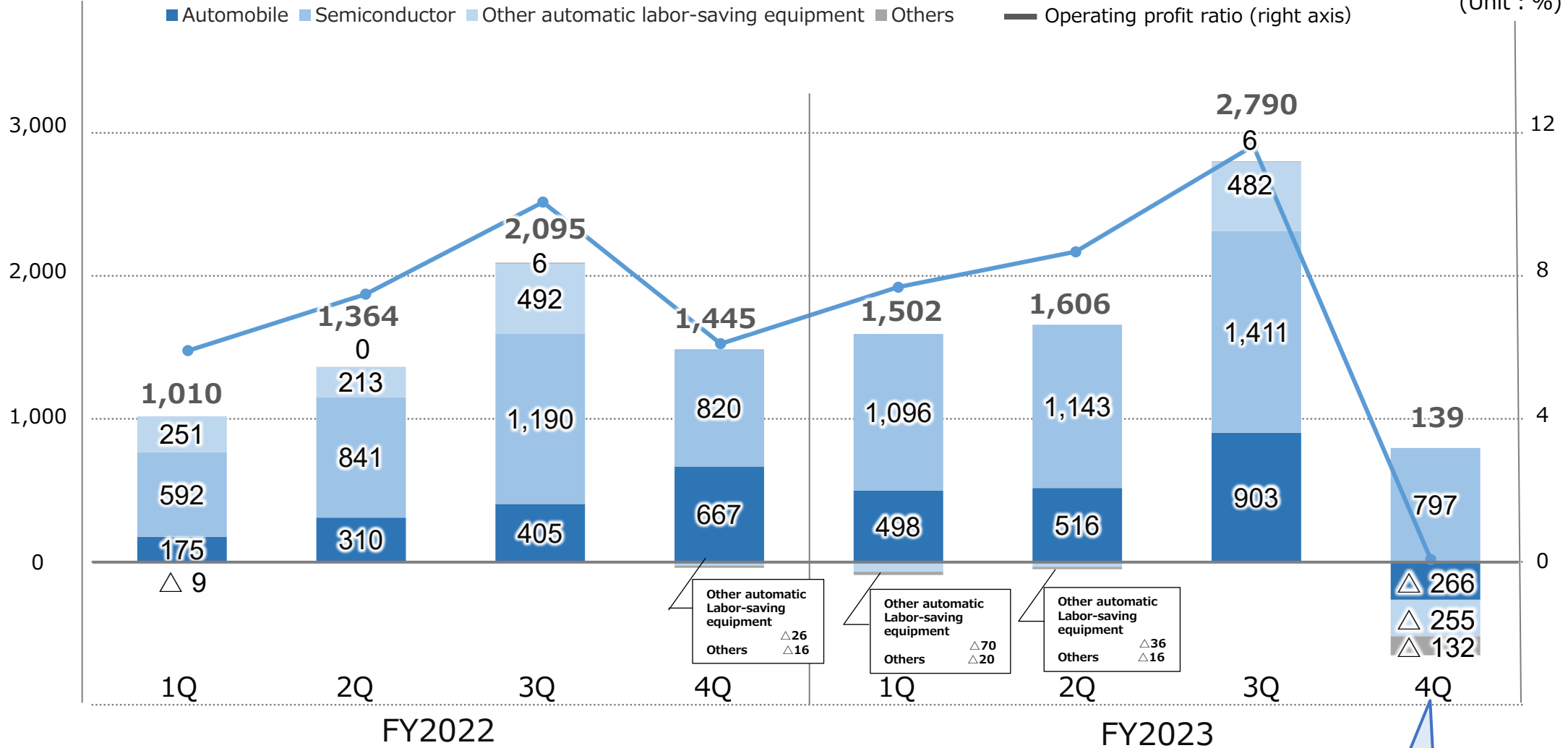
Quarterly Trends by Business Segment

Operating profit

※Before segment elimination

(Units in millions of Yen)

(Unit : %)



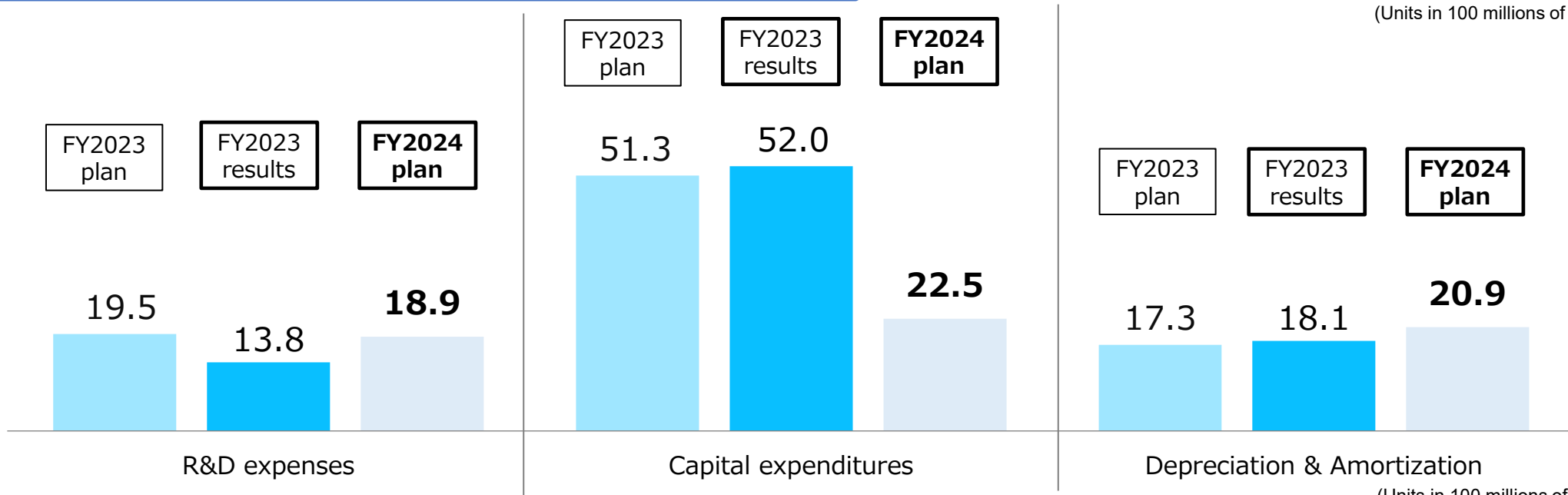
【Cause of decrease in profit in the fourth quarter】

Profits decreased in all segments due to the increase in employee and executive bonuses based on performance and the specific expenses incurred at the end of the period.

IV. Reference Data ⑤

R&D, CAPEX, Depreciation and Amortization

(Units in 100 millions of Yen)



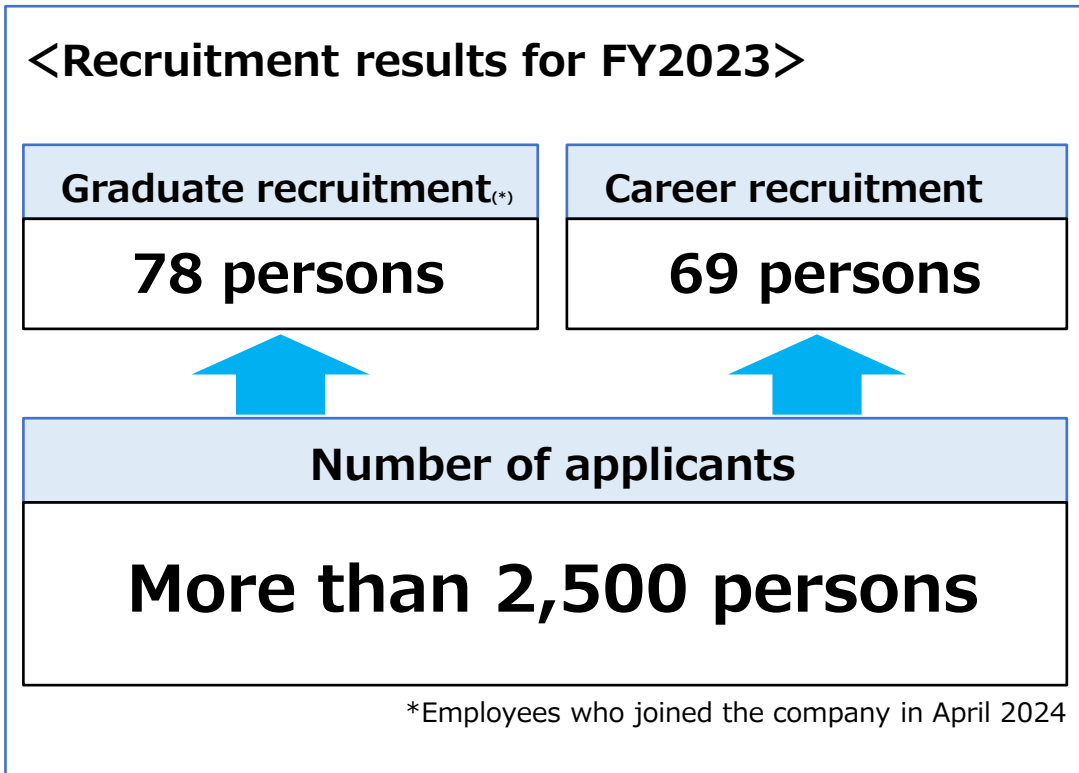
(Units in 100 millions of Yen)

Main investments		FY2023 results	FY2024 plan	Reasons for increase/decrease
R&D expenses	Next generation product development in existing businesses	Approx. 9.2	Approx. 12.3	Promoting development of mass-produced products
	Plant genetic resource related business	Approx. 4.5	Approx. 6.6	Increased in depreciation and personnel expenses
Capital investment	Plant rebuilding and expansion	Approx. 22.6	Approx. 3.6	Large-scale rebuilding and expansion have temporarily halted until the previous period.
	Plant genetic resource related business	Approx. 15.3	Approx. 0.1	The introduction of major equipment was completed by the previous period.
	Information system related	Approx. 2.1	Approx. 1.8	The implementation of the next-generation core system is still ongoing.
	Others	Approx. 12.2	Approx. 17.1	There is a gathering of small-scale investments, among other things, for the purpose of improving productivity.

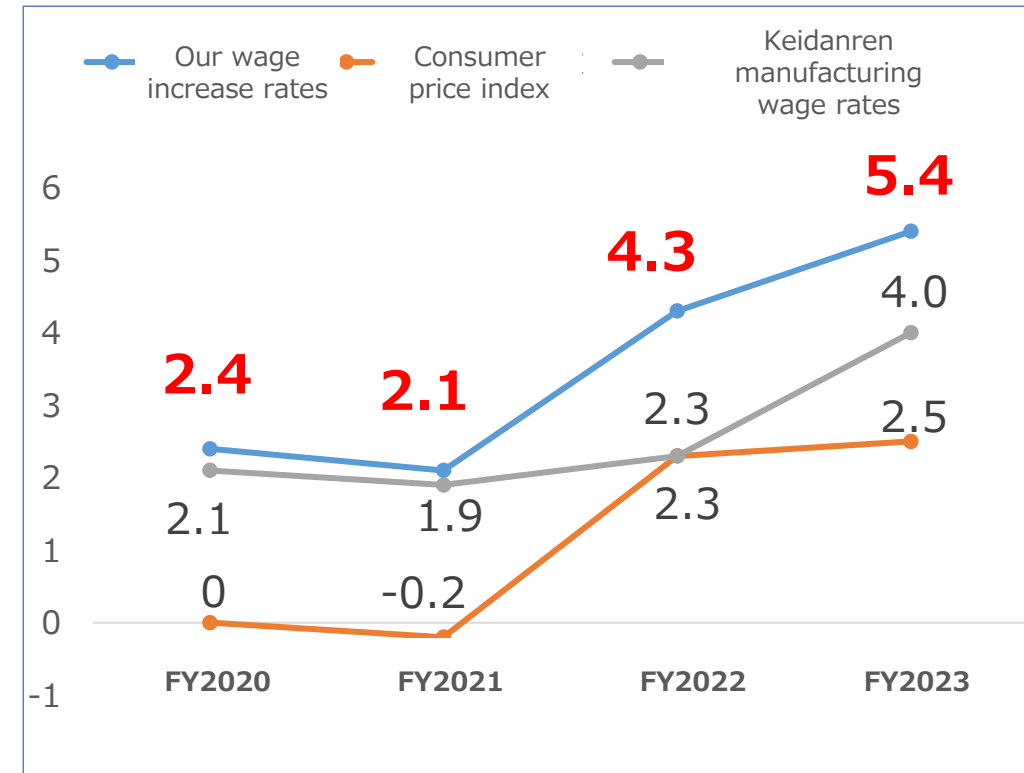
Plans for personnel investment

- We secure human resources continuously for the business expansion in the future.
- We work on talent retention through wage improvements, work style reforms, enhancement of employee benefits, and the provision of education and training.

■ Status of human resources recruitment



■ Trends in wage increase implementation rates



Responses to the Assumed opportunities / risks of the major anticipated external environment

Assumed major external environment	Assumed opportunities / risks	Major countermeasures
Strengthening countries' efforts to decarbonize and become carbon neutral	<p>[Opportunity] Increase in demand related to EV and semiconductor related business</p> <p>[Risk] <ul style="list-style-type: none"> • Actions taken to reduce GHG emissions (cost increase) • Missed orders due to lack of production capacity and human resources </p>	<ul style="list-style-type: none"> ● Improvement of QCD to obtain continuous inquiries from existing customers ● Positioning EVs and semiconductors as growth areas and concentrating resources = Upfront investment in human resources and production capacity in anticipation of increased orders (Increase in personnel, Kansai plant reconstruction, Shichijo plant expansion, etc.) ● Establishment of GHG emission reduction targets and study of optimal target achievement measures
Slowdown in environmental-related investments due to change of government in North America	<p>[Risk] <ul style="list-style-type: none"> • Decreased capital investment by customers due to EV market contraction </p>	<ul style="list-style-type: none"> ● Understand capital investment trends through close information exchange with customers ● Securing new customers and projects by expanding the areas of service ● Diversify core businesses and optimize resource allocation
Mass-production of new type batteries	<p>[Opportunity] Expanding business opportunities through the pursuit of new technologies and the ability to mass-produce</p> <p>[Risk] Deterioration in profitability due to the burden of development factors</p>	<ul style="list-style-type: none"> ● Participating from the research and development stage of our customers and developing and proposing that meet their requirements ● Reducing R&D expenses through external sourcing/procurement
Proliferation of generative AI	<p>[Opportunity] Increase in demand related to semiconductor related business</p> <p>[Risk] Missing orders due to lack of production capacity and human resources</p>	<ul style="list-style-type: none"> ● Improvement of QCD to obtain continuous inquiries from existing customers ● Resource investment in semiconductor field = Upfront investment in human resources and production capacity in anticipation of increased orders
Concentration of semiconductor-related industries in Kumamoto and Kyushu	<p>[Opportunity] Increase in demand related to semiconductor related business</p> <p>[Risk] Shortage of human resources due to competition of talent acquisition</p>	<ul style="list-style-type: none"> ● Improvement of QCD to obtain continuous inquiries from existing customers ● Resource investment in semiconductor field = Upfront investment in human resources and production capacity in anticipation of increased orders ● Recruiting new talent actively ● Implementing wage revisions and retention measures taking into account societal trends.

Responses to the Assumed opportunities / risks of the major anticipated external environment

Assumed major external environment	Assumed opportunities / risks	Major countermeasures
Escalation of tensions in the Middle East	[Risk] Soaring of crude oil prices, cost increases in transportation and procurement	<ul style="list-style-type: none"> ● Incorporating estimates for increased transportation costs and procurement costs, as well as implementing price revisions ● Developing new suppliers ● Reduction in the number of required parts and materials through standardization
Increase in personnel expenses based on social demands	[Risk] <ul style="list-style-type: none"> • Deterioration in profit margin • Decrease in competitiveness due to sales price increase 	<ul style="list-style-type: none"> ● Incorporating estimates for increased labor costs and implementing price adjustments to pass on the costs ● Establishing competitive advantages other than price
Soaring and stagnating raw materials and component prices	[Risk] <ul style="list-style-type: none"> • Deterioration in profit margin • Decrease in competitiveness due to sales price increase 	<ul style="list-style-type: none"> ● Incorporating estimates for increased procurement costs and implementing price adjustments to pass on the costs ● Developing and launching high-value-added products ● Developing new suppliers ● Reduction in the number of required parts and materials through standardization
Shortage of parts and materials	[Risk] Decreased sales, deterioration in cost ratio, and increased inventory assets due to production schedule delays and prolonged lead times	<ul style="list-style-type: none"> ● Securing parts inventory by making advance arrangements ● Developing new suppliers ● Reduction in the number of required parts and materials through standardization
The logistics “2024 problem”	[Risk] <ul style="list-style-type: none"> • Increased procurement costs due to rising transportation fees • Prolonged lead times for procurement and shipment 	<ul style="list-style-type: none"> ● Incorporating estimates for increased procurement costs and implementing price adjustments to pass on the costs ● Reduction in the number of required parts and materials through standardization ● Logistics arrangements anticipating prolonged lead times
Exchange rate (Progress in the depreciation of the yen)	[Opportunity] <ul style="list-style-type: none"> • Increased relative price competitiveness with overseas competitors [Risk] <ul style="list-style-type: none"> • Substantial increase in the actual procurement prices of overseas sourced materials and components 	<ul style="list-style-type: none"> ● Actively expanding the acquisition of overseas projects ● Reduction in the number of required parts and materials through standardization

Topics : Receiving large-scale purchase orders

■ The list of large-scale purchase order projects we disclosed starting from FY2023 and onwards

Business segment	Disclosure date		Outline of the equipment	Amount
Automobile-related	2023	June	EDU assembly equipment for EVs	More than 8 billion yen
	2024	January	Battery charging and discharging related equipment for EVs ※	More than 4 billion yen
		February	Engine assembly equipment for internal combustion engines	Approximately 13 billion yen

<Orders record of battery charging and discharging related equipment for EVs>

The cumulative order amount since the fiscal year 2022 has exceeded **6.5 billion yen. (5 lines)**

- ① Before Dec. 2023 The order amount is approx. 2.5 billion yen. (2 lines)
- ② In Jan. 2024 The order amount is more than 4 billion yen. (3 lines) (above※)

- We started full-scale orders for battery charging and discharging related equipment from the fiscal year 2022.
- Our ability to handle large-scale projects and our track record of delivering battery charging and discharging related equipment for EVs has been recognized, leading to the acquisition of new orders.

Strengthening our efforts in ESG management

2022 Oct. **Human Rights Policy is formulated and Procurement Basic Policy is revised.**

2023 Apr. **The Sustainability Promotion Committee is established.**

Sustainability page is established in our web page and the dissemination of ESG information is been strengthened.

Sep. **We signed the UN Global Compact.**

Oct. **Human rights due diligence is implemented.**

Nov. **We express our support for the Keidanren's "Corporate Code of Conduct."**

2024 Jan. **Code of Conduct of the Hirata Group is established.**

Human Rights Respect Working Group within the Sustainability Promotion Committee is established.

Apr. **We obtained EcoVadis [Bronze] evaluation.**

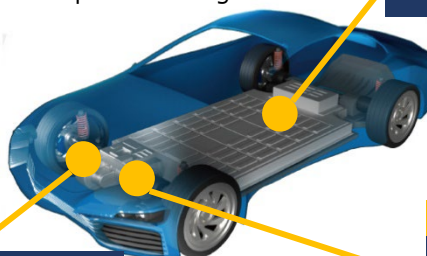


Business overview : Main products of automobile-related business

✓Continued orders from North American automakers (big three), North American emerging EV manufacturers, domestic electronic components manufacturers, focusing on EV related

EV-related major/ expansion fields

<Production equipment handled by Hirata>
※ Completed product image



Main field
IGBT·Inverter assembly equipment

Expansion field
Battery-related assembly equipment (Cell charging / discharge process)

Main field
EDU assembly equipment

Main field
EDU assembly equipment

Manufacturing EV-drive parts assembly equipment called EDU (ELECTRIC DRIVE UNIT) combined with in-vehicle motors and gearboxes

Main field
IGBT· Inverter assembly equipment

Manufacturing of in-vehicle electronic components mounted on EVs and transmissions such as IGBT and inverters

Expansion field
Battery-related assembly equipment(Cell charging / discharge process)

Manufacturing of conveying equipment for charging and discharging processes that are part of the battery cell progress.

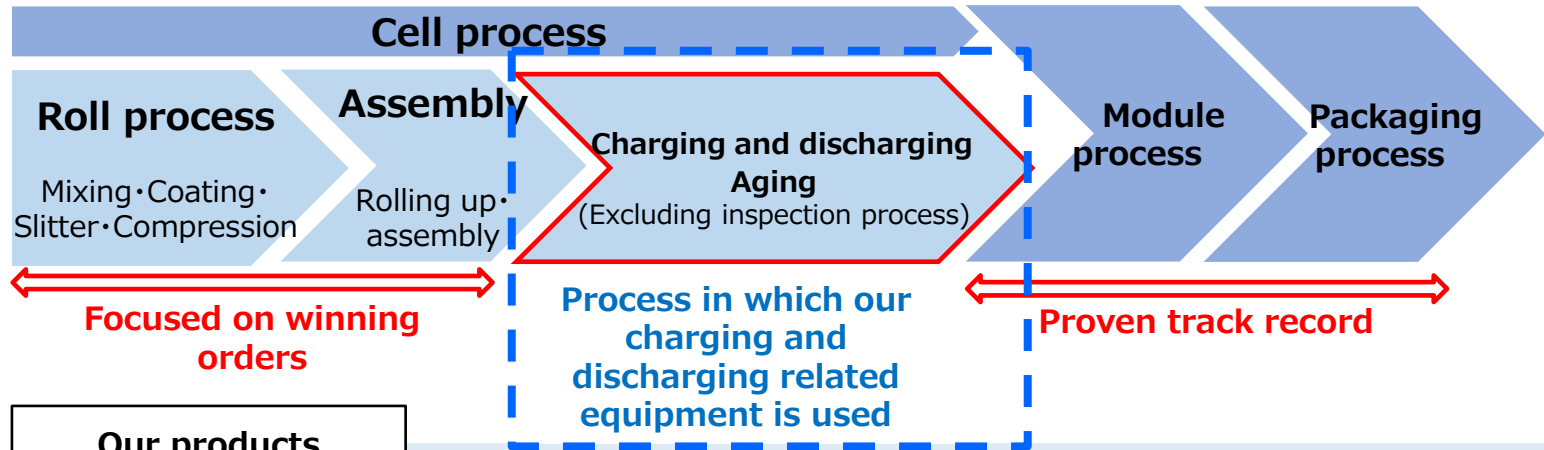
Main Areas, customers, superiority

Major fields	Areas	Customers	Hirata's superiority
EDU assembly equipment	North America	<ul style="list-style-type: none"> •North American automakers (Big Three) •North American emerging EV manufacturers 	<ul style="list-style-type: none"> ●Ability to handle large facilities, some of which exceed 1 km in total length, solely in-house ●A vast factory that allows us to build the customer's production line in our factory and install it on site after verifying the production capacity and quality ●Integrated system from development to production and maintenance ●Engineering ability to respond to customer requests
IGBT· Inverter assembly equipment	Japan	Domestic electronic components manufacturers	
Battery-related assembly equipment(charging / discharge process)	Japan	Domestic battery manufacturers	

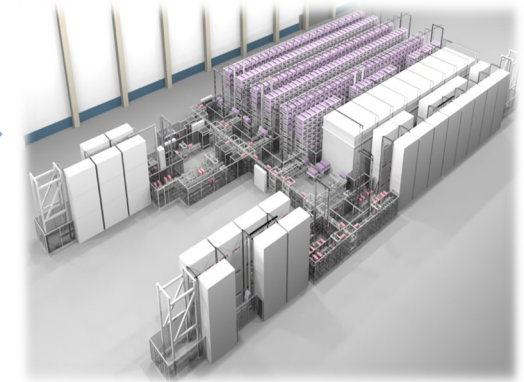
Business overview : Charging and discharging related equipment

- We have charge and discharge equipment that handles the final process of cell manufacturing, which is the “charging and discharging” process.
- We have a competitive advantage in systematization utilizing conveyance and stocking technologies.

Battery manufacturing process



●Image of charging and discharging facilities



Our products

- **Charging and discharging related equipment**
 - The process of activating cells (batteries) by applying power to the assembled cells and repeating charging and discharging in the initial stage, after aging, after high temperature testing, etc.
 - We deliver the system to the customer by incorporating the charging and discharging machines procured from external suppliers into the transport lines and automated warehouses manufactured by us.

- <Transport system>
This system provides optimal transfer between processes according to recipes (process procedures).
- <Warehouse system for aging>
The system performs tests in high-temperature environments and measures the performance of cell voltages after a certain period of time in an automated warehouse.
- < Warehouse system for charging and discharging >
It is used in a process in which a full charge and discharge are repeated several times. It takes several hours to set the charging capacity, charging speed, and number of repetitions.




Business overview : Main products of semiconductor-related business

✓ Continuing orders mainly for wafer transport devices for domestic device manufacturers and handling devices between inspection devices

Semiconductor-related major/ expansion fields


Main field

Wafer transport device

Manufacturing **road port** that incorporates silicon wafers into various treatment devices, **wafer transport robot** that can support the air and vacuum environment, and an integrated **EFEM**

<Main trading process>




Main field

Transport device between inspection device




Manufacturing **handling equipment** that transports the finished IC chips and inspection device to another tray

<Main trading process>



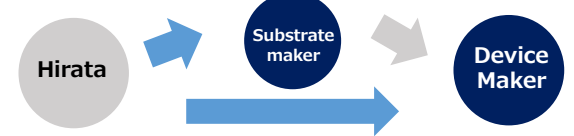
Expansion field

PLP transport device

Manufacturing of **EFEM, load port,** and **wafer transfer robots** for panel substrate transfer and **transfer equipment** for panel manufacturing used in the PLP process, etc.

<Main trading process>



Main customers, competitors, superiority

Major fields	Areas	Customers	Hirata's superiority
Wafer transport device	Japan	Domestic manufacturing equipment manufacturer	<ul style="list-style-type: none"> ● A wealth of component lineup ● Knowledge technology required for customization and optimization to meet customer requirements ● Integrated system from development to production and maintenance ● Engineering ability to respond to customer requests
Transport device between inspection device	North America, Japan	<ul style="list-style-type: none"> • North American device maker • Domestic inspection equipment manufacturer 	
PLP transport device	North America, Europe, Japan	<ul style="list-style-type: none"> • North American device maker • Domestic/European substrate manufacturer 	

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Business overview : Wafer transport device

● Manufacturing of **load ports** that take wafers into various processing equipment mainly used in the front-end process of semiconductor manufacturing, **wafer transfer robots** that transfer wafers, and **EFEMs** that integrate them

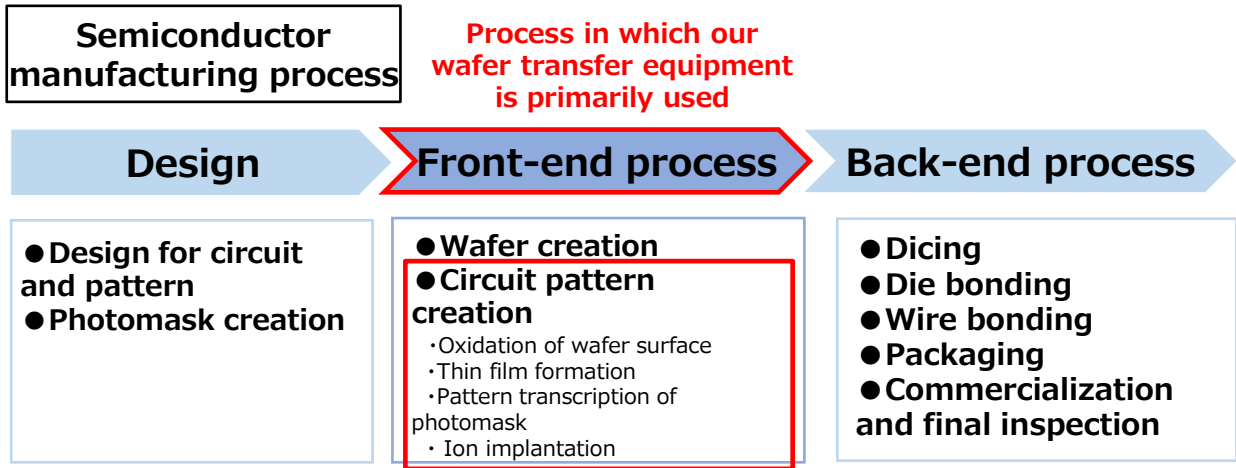
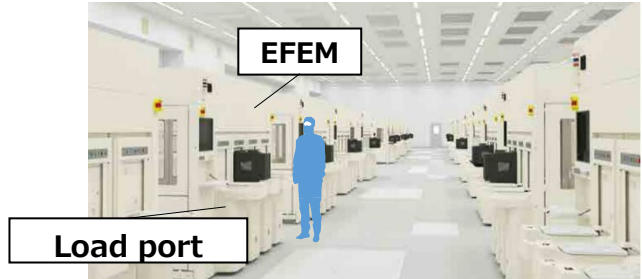


Image of our product installation



Multiple EFEM/load ports are used on a single line because EFEM/load ports are installed at each processing unit.

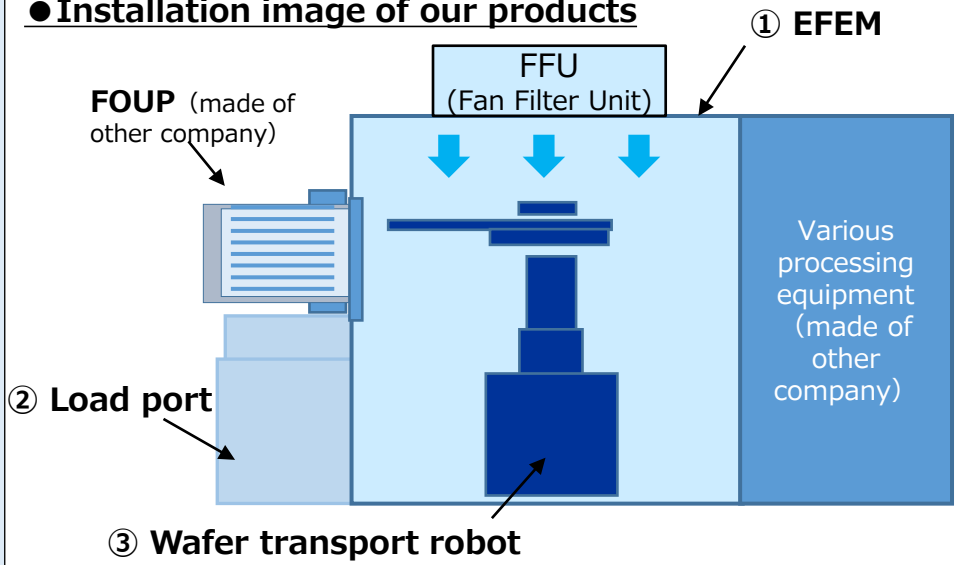
Our main products

- ① **EFEM (Equipment Front End Module)**
It is placed for each processing unit, with a wafer transfer robot inside and a load port on the front.
- ② **Load port**
It opens and closes the lid on the back side of the FOUP ※, a device that makes up the EFEM, but is also sold as a stand-alone item.
- ③ **Wafer transport robot**
Wafers are removed from the FOUP and transferred to the processing equipment. After processing, the wafers are stocked back in the FOUP. It is a device that makes up the EFEM, but is also sold as a stand-alone item.



※FOUP : It is a container for wafers that holds multiple wafers and moves them between processes.

Installation image of our products

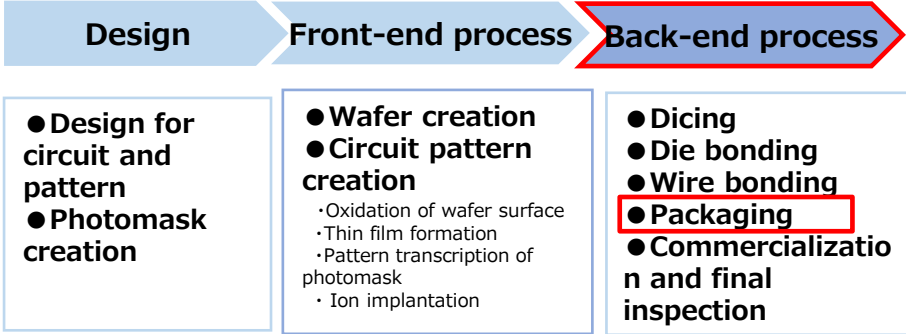


Business overview : PLP transport device

Designing and manufacturing conveyance equipment used in PLP, an advanced packaging technology that is expected to expand

Semiconductor manufacturing process

Process in which our PLP is primarily used

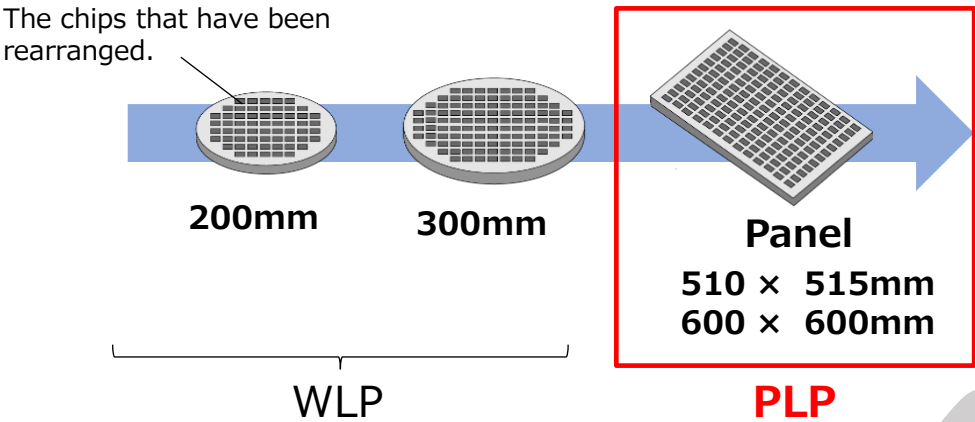


What is PLP (Panel Level Packaging) about?

- The packaging process involves rearranging numerous chips that have been individually cut after circuit formation onto thin, square-shaped substrates and then collectively molding them. This is a packaging technology called "PLP".
- In PLP, panel substrates larger than the standard 300mm wafer size, such as 510x515mm square, are commonly used.
- The panel substrate uses printed circuit boards, glass substrates for LCD panel manufacturing, and copper plates.

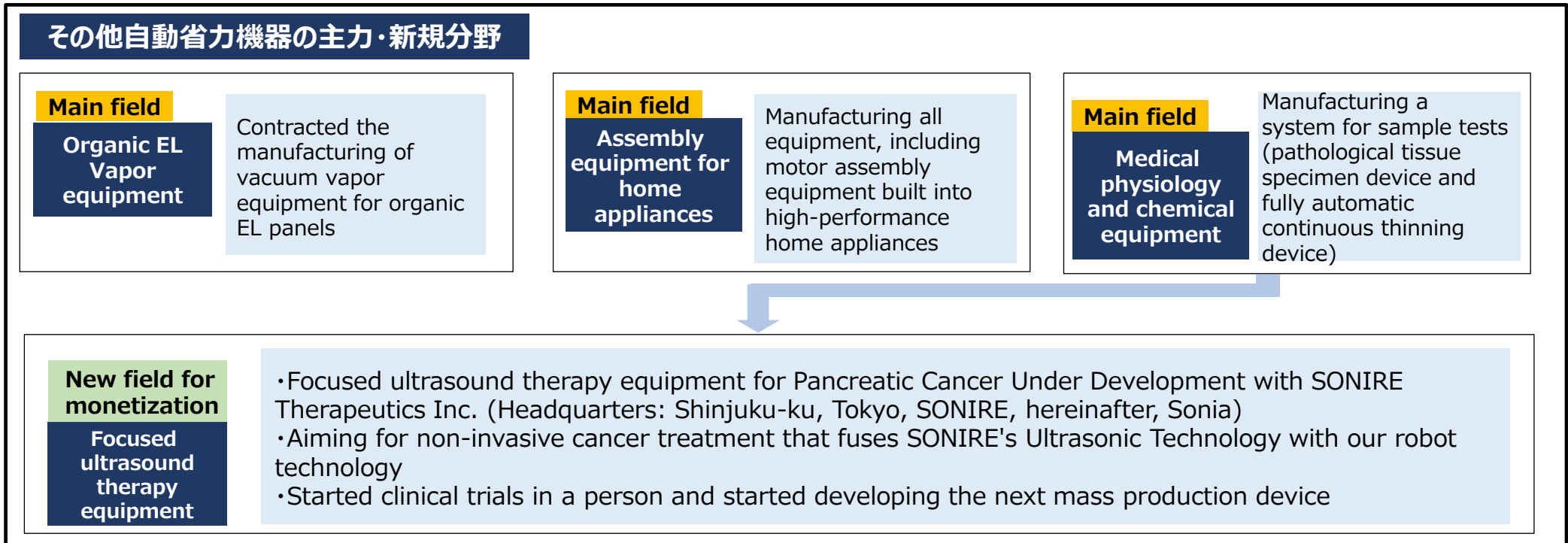
Difference of packaging process

Conventional packaging	Circuits are formed on wafers, and after cutting the chips into smaller pieces, they are individually bonded and encapsulated onto substrates to complete the product.
WLP (Wafer Level Package)	After cutting the chips individually, only the good chips are rearranged on the wafer , and then they are bonded and encapsulated onto the substrate while the chips are still on the wafer. They are then cut individually.
PLP (Panel Level Package)	After cutting the chips individually, only the good chips are rearranged on a square-shaped panel , and then they are bonded and encapsulated onto the substrate while the chips are still on the panel. They are then cut individually.



Business overview : Other Automatic Labor-saving Equipment

✓ Manufacturing products for various industrial fields such as organic EL vapor equipment, assembly equipment for home appliances, and medical·physics and chemical equipment



Main customers, competitors, superiority

Major fields	Areas	Customers	Hirata's superiority
Organic EL Vapor equipment	Japan	Domestic manufacturing device manufacturer	<ul style="list-style-type: none"> ● Extensive knowledge and expertise in production facilities and equipment in various fields ● Integrated system from development to production and maintenance ● Engineering ability to respond to customer requests
Assembly equipment for home appliances	Asia	Asian home appliance manufacturer	
Medical·physics and chemical equipment	Japan	Domestic medical specialty manufacturer	

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