Translation

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KOHOKU

Securities code: 6524

Kohoku Kogyo is a leading manufacturer of lead terminals for aluminum electrolytic capacitors and parts for submarine optical communication.

Financial Results Materials
Semi-annual (First Six Months) of FY12/2025

Kohoku Kogyo Co., Ltd.

August 7, 2025

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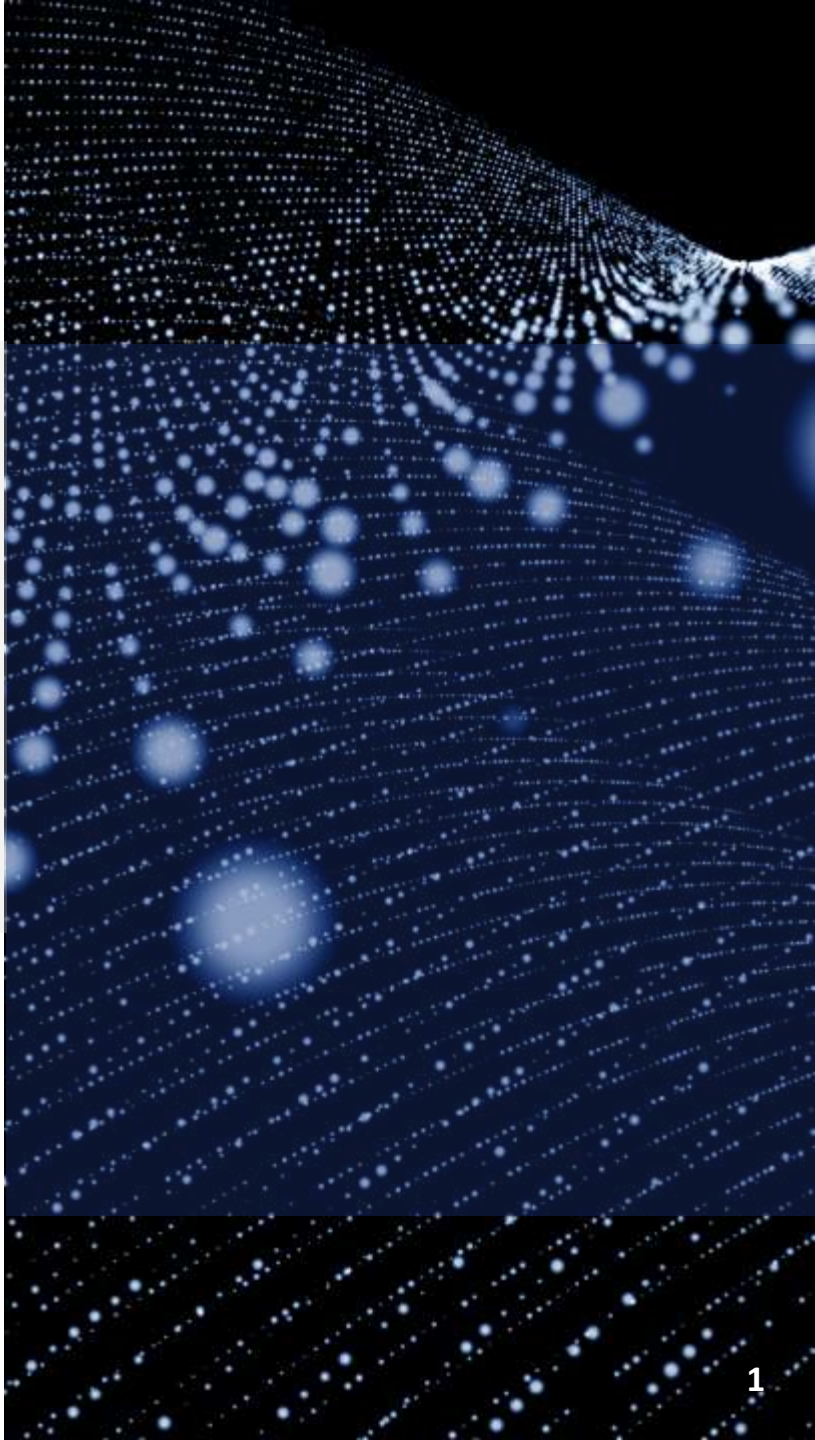


I. Interim Results for the Fiscal Year Ending December 2025 Performance Highlights

Highlights for the first half of the fiscal year ending December 2025

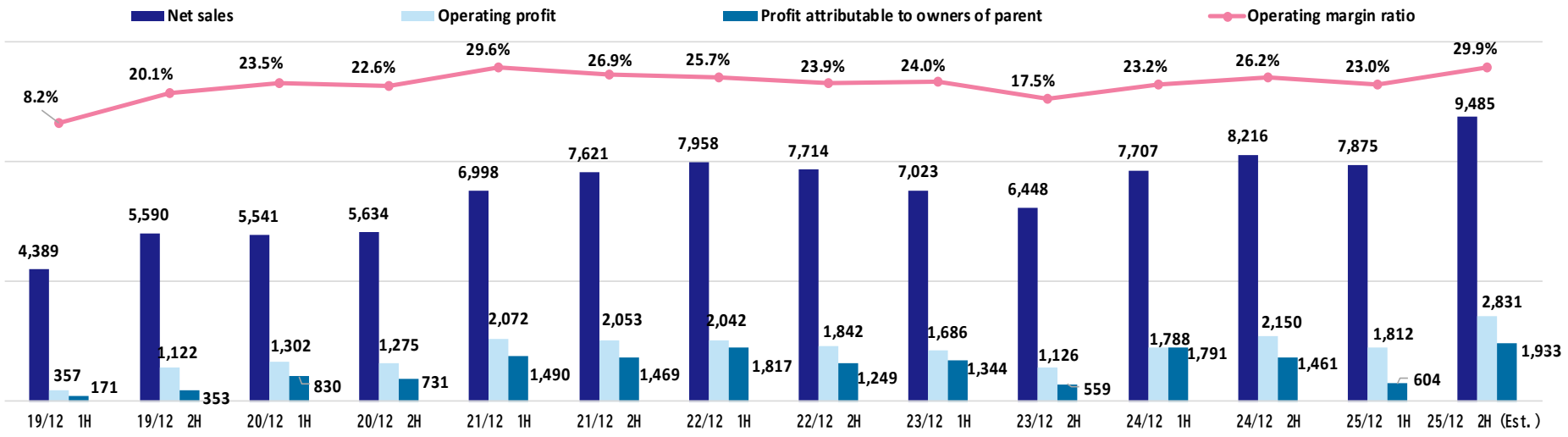
<Performance Summary>

- First half performance showed a year-on-year increase in sales of +2.2% (167 million yen) and operating income of +1.3% (23 million yen).
- Although sales were sluggish in the first quarter, both main businesses showed signs of improvement in the second quarter. In addition, profit improvement in lead terminals is progressing ahead of schedule compared to the plan.
- Due to foreign exchange losses, net profit decreased by 66.2% (1,186 million yen) compared to the same period last year.

<Business Environment>

- The submarine cable market experienced some adjustments in the first quarter due to individual factors, but subsequently recovered, with strong demand for cable projects. Demand remains strong.
- In the information and communications infrastructure market, the generative AI and data center markets are performing well, which is having a positive impact on both businesses.
- On the other hand, the consumer electronics market continued to show weak recovery, and the automotive-related market also continued to show weak recovery in both the European and Japanese markets.

Net Sales, Operating Profit, Net Income, Operating Profit ratio (Million Yen, %)



Income Statement (First Six Months) Summary

Main business secured increased revenue and profits.

Ordinary income and net income decreased due to the impact of foreign exchange gains and losses (negative 1,470 million yen).

(Millions of yen)

	＜YoY＞	FY12/2025			＜QoQ＞	FY12/2025		
	FY12/2024 H1 (Jan–Jun)	H1 (Jan–Jun)	YoY change	YoY change (%)	FY12/2025 Q1 (Jan-Mar)	Q2 (Apr-Jun)	QoQ change	QoQ change (%)
Net sales	7,707	7,875	+167	+2.2%	3,558	4,316	+757	+21.3%
Lead Terminals Business	4,086	4,149	+63	+1.5%	1,978	2,171	+193	+9.8%
Optical Components and Devices Business	3,621	3,725	+104	+2.9%	1,580	2,144	+564	+35.7%
Gross profit	3,176	3,253	+76	+2.4%	1,398	1,854	+455	+32.6%
Selling, general and administrative expenses	1,387	1,440	+53	+3.8%	728	712	-15	-2.2%
Operating profit	1,788	1,812	+23	+1.3%	670	1,141	+471	+70.3%
Operating margin ratio	*23.2%*	*23.0%*	*△0.2pt*	—	18.8%	26.5%	*+7.6pt*	—
Lead Terminals Business	119	342	+223	+187.7%	114	228	+113	+99.0%
Optical Components and Devices Business	1,669	1,469	-199	-12.0%	555	913	+357	+64.3%
Ordinary profit	2,753	1,297	-1,455	-52.9%	301	996	+694	+230.5%
Profit attributable to owners of parent	1,791	604	-1,186	-66.2%	227	376	+149	+65.4%
Exchange rate (average for the period)	152.56yen/$	148.41yen/$			152.56yen/$	144.60yen/$		

Financial Forecast for FY12/2025

Both main businesses are expected to recover in the second half of the year.

Profit improvement measures are proving successful, and sales and operating income are expected to reach record highs.

(Million yen)

<Exchange Rate Sensitivity> Net sales 80 million yen/1 yen Operating profit 30 million yen/1 yen	FY12/2024 Actual	FY12/2025 (plan) Initial Forecast	Reviced forecast	YoY change	YoY change (%)
Net sales	15,924	17,919	17,360	+1,436	+9.0%
Lead Terminals Business	8,403	9,298	8,822	+419	+5.0%
Optical Components and Devices Business	7,520	8,621	8,537	+1,016	+13.5%
Operating profit	3,939	4,586	4,644	+704	+17.9%
Operating margin ratio	*24.7%*	*25.6%*	*26.8%*	*+2.0pt*	-
Lead Terminals Business	403	746	878	+475	+117.8%
Optical Components and Devices Business	3,536	3,839	3,765	+228	+6.5%
Ordinary profit	4,856	4,474	4,216	-640	-13.2%
Profit attributable to owners of parent	3,252	3,006	2,538	-714	-22.0%
Net income per share (yen)	120.50	115.30	97.31		
Exchange rate (average for the period)	151.69yen/$	150.00yen/$	150.00yen/$		

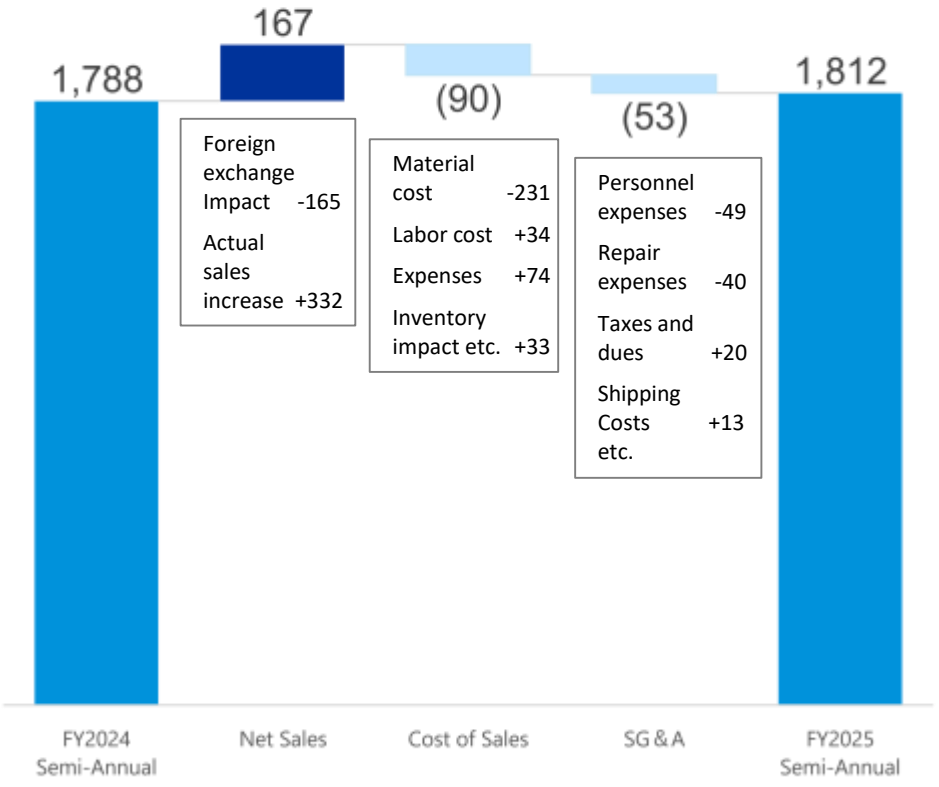
- In addition to a recovery in sales, we expect profits to increase in the lead terminals business due to continued cost reductions.
- In the optical components and devices business, we expect to recover from the adjustment in the first half in the second half due to a recovery in orders for submarine cables and rapid growth in sales of Faraday rotators.

II. Interim Results for the Fiscal Year Ending December 2025 Performance

Operating Profit (First Six Months) Increase/Decrease Factors

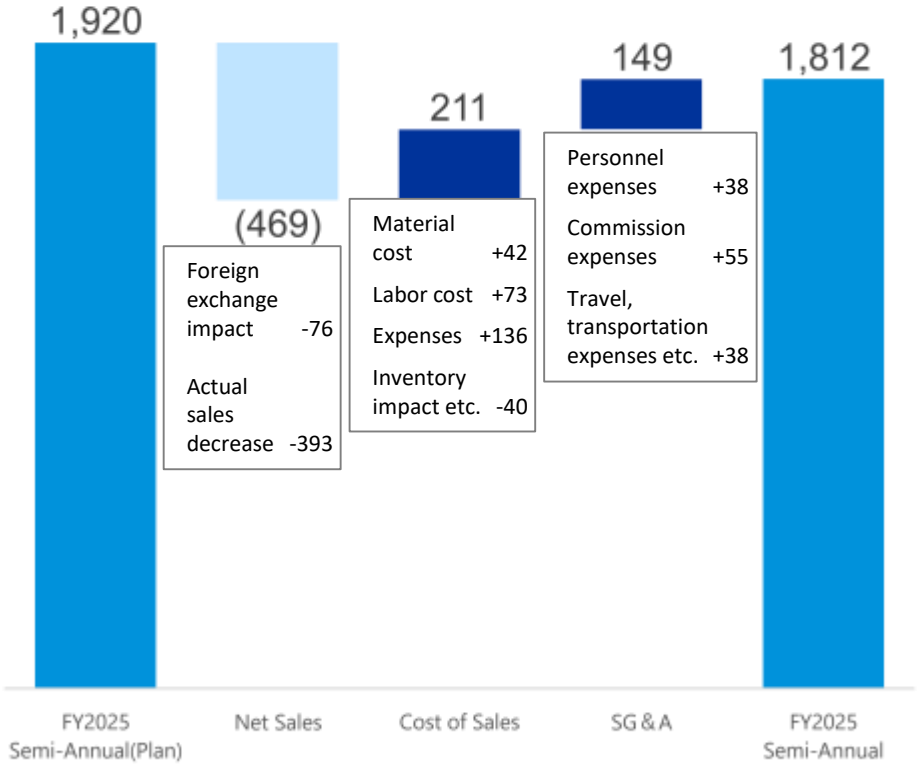
Year-on-year comparison (Million yen)

Increased sales offset cost increases, ensuring increased profits.



Compared to the plan (Million yen)

Operating profit declined due to the impact of lower sales.



Summary of Balance Sheet/Cash Flow Statement (First Six Months)

(Million yen)

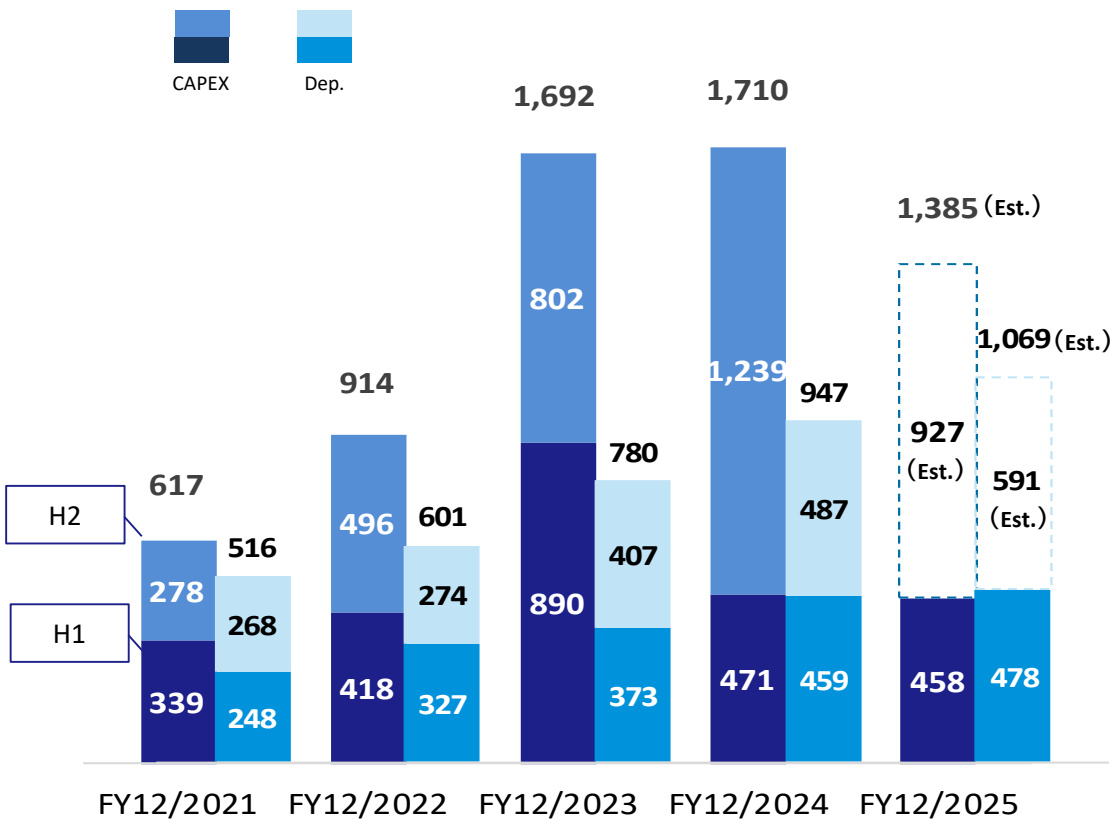
Balance Sheet	End of FY12/2024	End of Q2 FY12/2025	Increase /decrease	Major changes
Current assets	18,331	13,859	(4,471)	Cash and deposits -2,806 Securities -1,701
Non-current assets	10,353	10,457	+104	Investment securities +925 Machinery equipment and vehicles net -242, Leased assets net -224 etc.
Total assets	28,684	24,317	(4,367)	
Current liabilities	2,945	1,946	(998)	Accrued corporate taxes −755 Current portion of long-term borrowings -181 etc.
Non-current liabilities	2,309	2,108	(200)	Lease liabilities -190 etc.
Total liabilities	5,254	4,054	(1,199)	
Total net assets	23,430	20,262	(3,168)	Capital surplus -2,261, Retained earnings -204, Foreign currency translation adjustment -506, Treasury shares -211, etc.
Total liabilities and net assets	28,684	24,317	(4,367)	

Cash Flow Statement	FY12/2024 H1(Jan–Jun)	FY12/2025 H1(Jan–Jun)	FY12/2025 Major Items
Operating cash flow	1,710	803	Interim net income before taxes and other adjustments +986, Depreciation +478, Increase in accounts receivable -467, Foreign exchange loss +230, Decrease in inventories +201
Investing cash flow	(311)	(342)	Expenses from withdrawal of time deposits +1,083, Acquisition of investment securities -1,061, Acquisition of tangible fixed assets -388
Free cash flow	1,399	461	
Financing cash flow	(1,276)	(3,550)	Expenditure for acquisition of treasury stock -2,490, Dividend payments -809
Net increase (decrease) in cash and cash equivalent	426	(3,278)	
Cash and cash equivalent at end of period	10,865	6,520	

Capital Expenditures, Depreciation

Focusing investment on new products and technologies such as Faraday rotators.
Revision downward of initial plan (2,613 million yen) due to delay in investment in Maibara building.

Capital Expenditures, Depreciation (Million yen)



Results and Plans for FY2025

Main investments (First Six Months)

Optical Components and Devices Business

- Enhancement of Faraday rotator capacity (133 million yen)
- Automation investment in Sri Lanka (95 million yen)

Lead Terminals Business

- Laser welding mass production trial (5 million yen)

Common Division

- Information system-related (93 million yen)

Outlook for The Second Half

Optical Components and Devices Business

- Enhancement of optical device post-processing capabilities
- Enhancement of Faraday rotator production capabilities
- Enhancement of high-purity quartz glass production capabilities

Lead Terminals Business

- Laser welding mass production trial
- Increasing production capacity for high value-added products

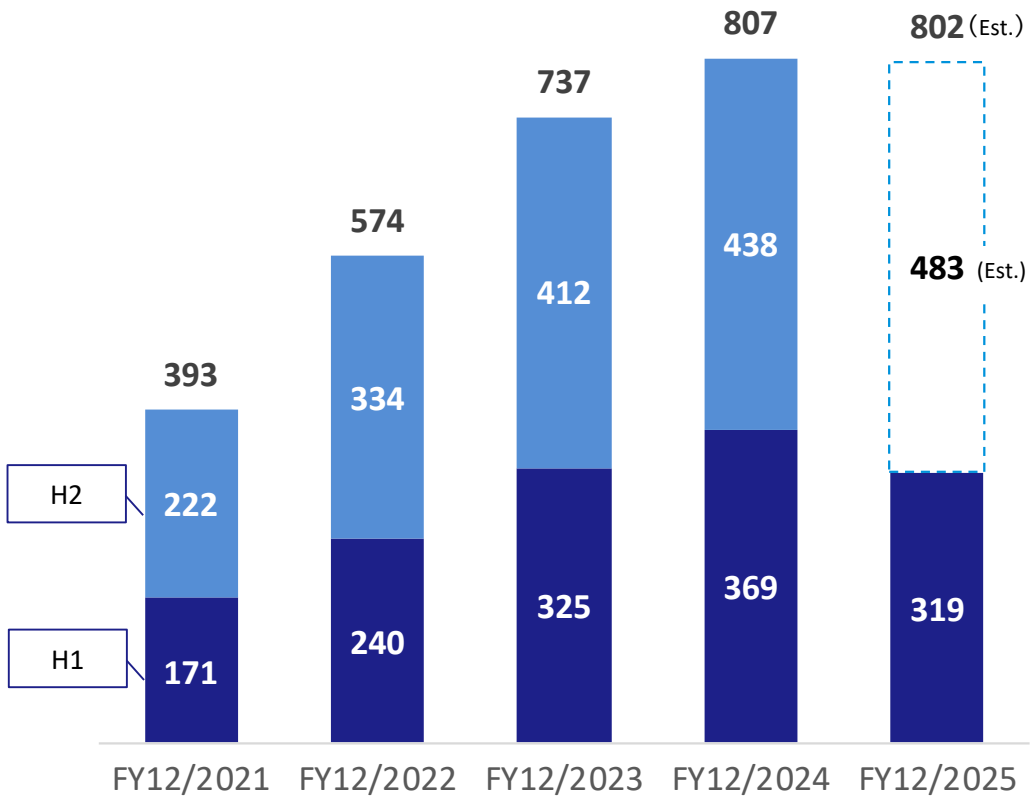
Common Division

- Information system-related

R&D Expenses

In addition to developing devices for submarine cables, focusing on developing future technologies such as satellite communications and next-generation optical devices.

R&D Expenses (Million yen)



Main R&D Activities

- Development and prototyping of optical modules for submarine cables.
- Development of next-generation Faraday rotators for generative AI and data centers.
- Development of various optical devices for low earth orbit (LEO) satellite communications.
- Development of high-power optical modules for use in space.
- Development of SSG® products and mass production technologies for semiconductor manufacturing equipment and other application.
- Development of laser welding technologies for next-generation high-reliability, high-performance lead terminals.

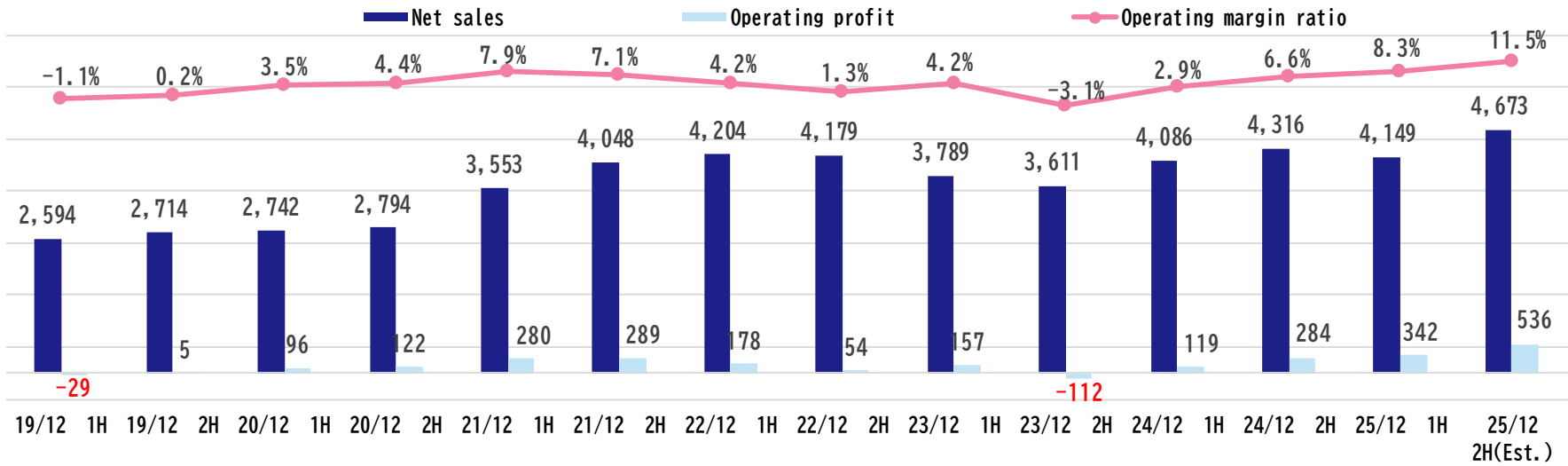
Results by Segment (First Six Months) - Lead Terminals

- Although the European automobile market remained sluggish in the first half, sales of high value-added products increased, and the market showed signs of recovery in the spring.
- Profitability improved due to the restructuring of production systems and efforts to improve production efficiency since the year before last.

(Million yen)

	FY12/2024 H1 (Jan–Jun)	FY12/2025 H2 (Jan–Jun)	<YoY> YoY change	<YoY> YoY change (%)	FY12/2025 Q1 (Jan-Mar)	FY12/2025 Q2 (Apr-Jun)	<QoQ> QoQ change	<QoQ> QoQ change (%)
Net sales	4,086	4,149	+63	+1.5%	1,978	2,171	+193	+9.8%
Operating profit	119	342	+223	+187.7%	114	228	+113	+99.0%
Operating margin ratio	*2.9%*	*8.3%*	*+5.3pt*	—	*5.8%*	*10.5%*	*+4.7pt*	—

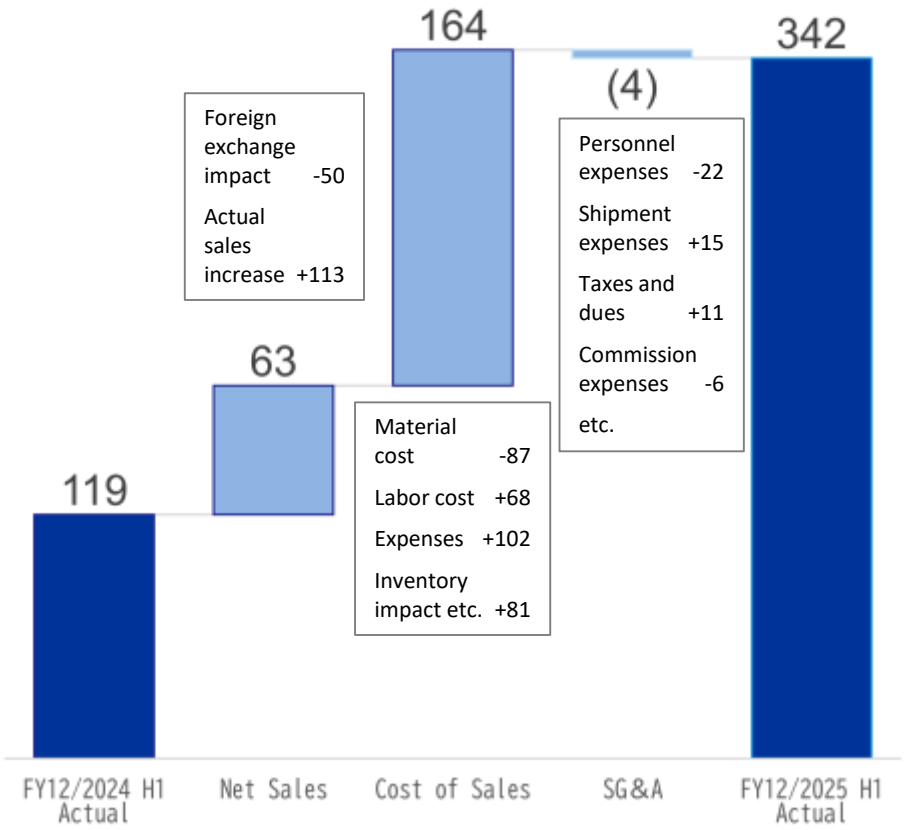
Net Sales, Operating Profit, Operating Profit ratio (Million yen, %)



Factors of Increase/Decrease in Operating Profit

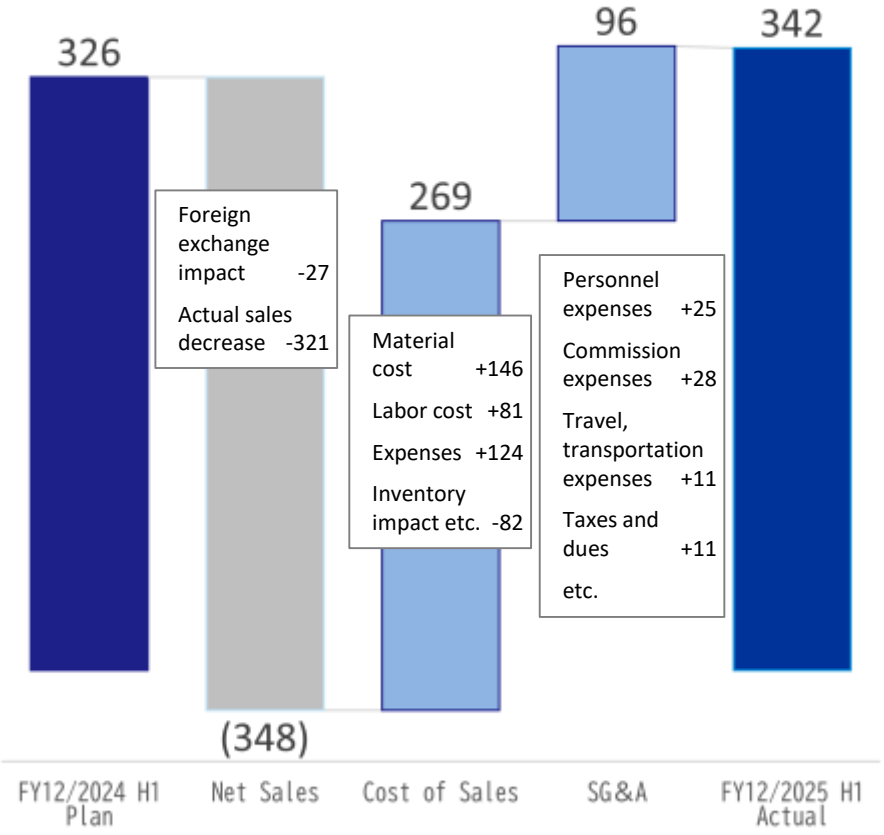
Year-on-year comparison (Million yen)

Sales recovery is slow, but profits have improved



Compared to the plan (Million yen)

Improved profitability outweighed the decline in sales due to improved yields, etc.



Outlook for Lead Terminals Business

Sales are expected to continue recovering, albeit slowly, with second-half sales expected to increase 8.3% year-on-year.
In terms of profits, cost reductions ahead of plan will continue in the second half, resulting in profits exceeding the initial plan.

(Million yen)

	FY12/2024	FY12/2025 (full-year)			
	Actual	Initial Forecast	Revised forecast	YoY change	YoY change (%)
Net sales	8,403	9,298	8,822	+419	+5.0%
Operating profit	403	746	878	+475	+117.8%
Operating margin ratio	*4.8%*	*8.0%*	*10.0%*	*+5.2pt*	—

<Outlook for the second half of the fiscal year ending December 2025 and beyond>

- **The main automotive market is expected to recover, but the impact of US trade policy remains uncertain.**
- **Orders are recovering both domestically and internationally, and the generative AI and data center markets are expected to expand.**
- **Sales of high-value-added lead terminal products are expected to increase in line with the expansion of the lineup of high-performance aluminum electrolytic capacitors.**
- **Profitability is expected to further improve in the second half of the year due to improved production efficiency, and an operating margin ratio of 10% is expected to be achieved.**

Initiatives to Improve ROIC Indicators in the Lead Terminals business

Improvements	Improvement Themes/KPIs	Implementation details and results
Cost of sales and SG&A expense reduction	1. Increasing the sales ratio of new products (value-added products) 2. Yield improvement, Productivity improvement	1. New product sales ratio: 15.4% → 22% Leakage current reduction, resistance reduction measures, Burr-less product 2. Improved yield and productivity (1) Defective rate: 50% reduction (halving) (2) OEE (Overall Equipment Effectiveness): 3 point improvement (3) Manufacturing costs: reduced by 4 points
Improvement in working capital turnover ratio	Cash conversion cycle improvement	1. Shortening of accounts receivable payment deadlines Japan: 120 days later ⇒ 60 days later Overseas (some regions): 90 days later ⇒ 60 days later 2. Extension of purchase payables maturity Suppliers (some): 30 days later ⇒ 60 days later
Improvement in asset turnover ratio	Reduction of inventories	1. Reduction of products and material inventories (1) Product inventories: 1.3 months ⇒ 1.0 months (2) Material inventories: 0.9 months ⇒ 0.6 months

Through ongoing efforts, we aim to exceed the operating profit margin target for 2027

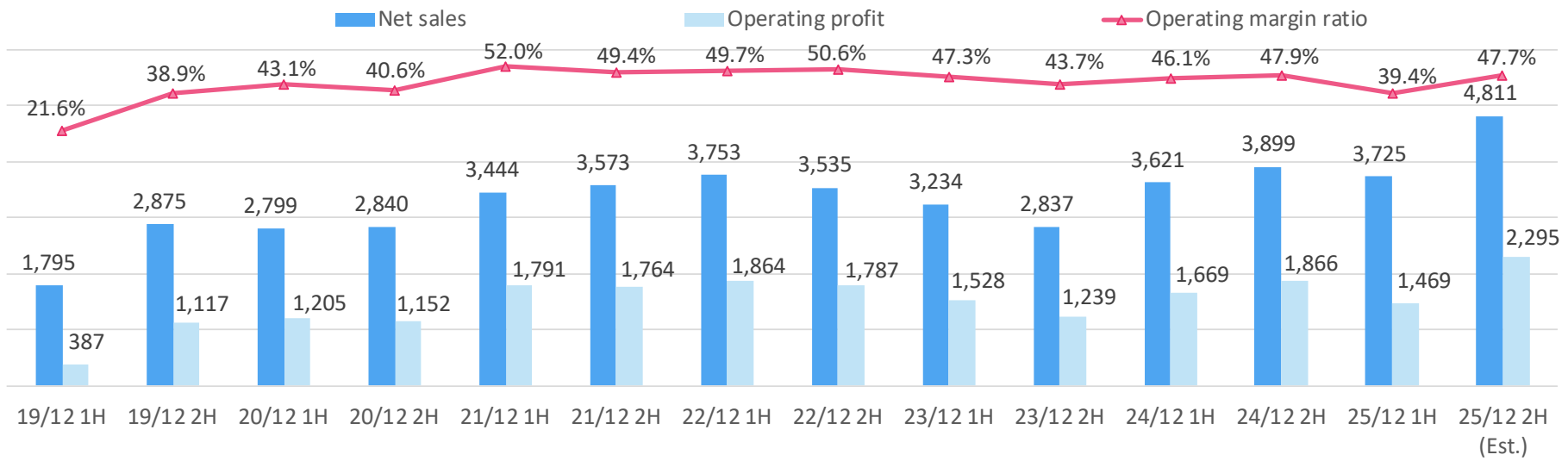
Results by Segment (First Six Months) - Optical Components and Devices

Sales increased year on year, but profits decreased slightly due to changes in product mix and exchange rate fluctuations.
Adjustments due to individual factors in the Q1 have settled down, and sales increased significantly in Q2.

(Millions of Yen)

	FY12/2024 H1 (Jan–Jun)	FY12/2025 H1 (Jan–Jun)	<YoY> YoY change	<YoY> YoY change (%)	FY12/2025 Q1 (Jan-Mar)	FY12/2025 Q2 (Apr-Jun)	<QoQ> QoQ change	<QoQ> QoQ change (%)
Net sales	3,621	3,725	+104	+2.9%	1,580	2,144	+564	+35.7%
Operating profit	1,669	1,469	-199	-12.0%	555	913	+357	+64.3%
Operating margin ratio	*46.1%*	*39.4%*	*-6.6pt*	—	*35.2%*	*42.6%*	*+7.4pt*	—

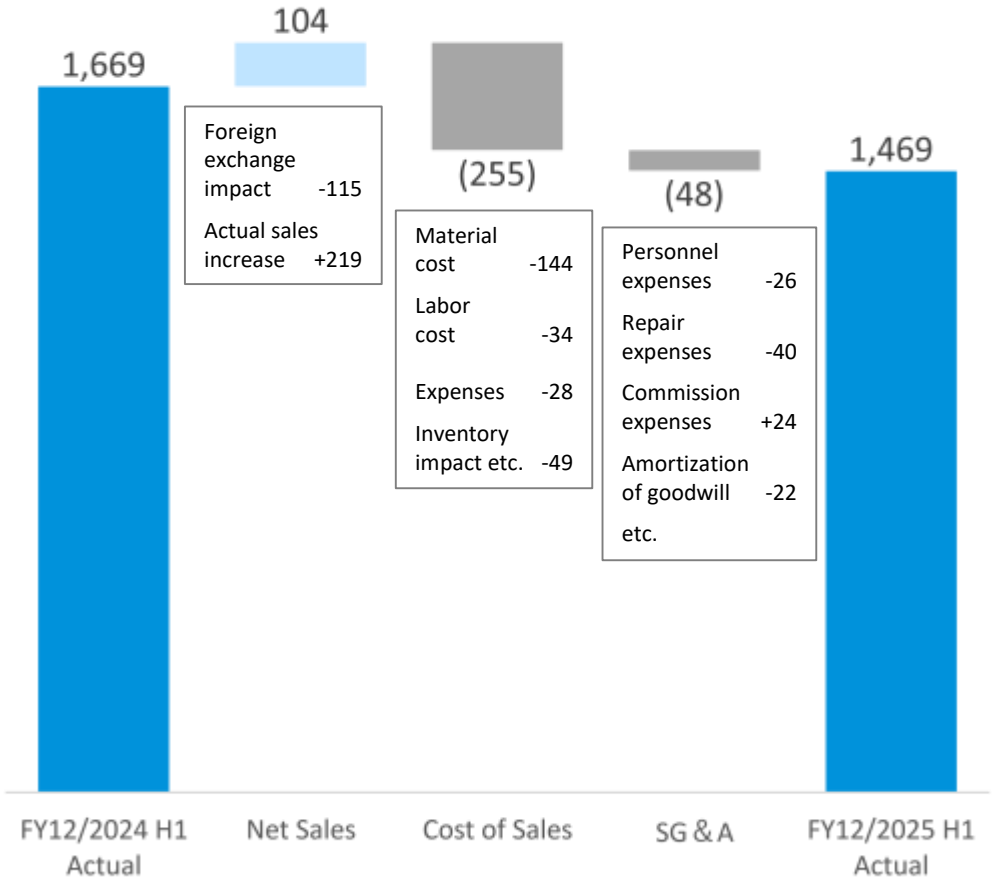
Net Sales, Operating Profit, Operating Profit ratio (Million Yen, %)



Factors of Increase/Decrease in Operating Profit

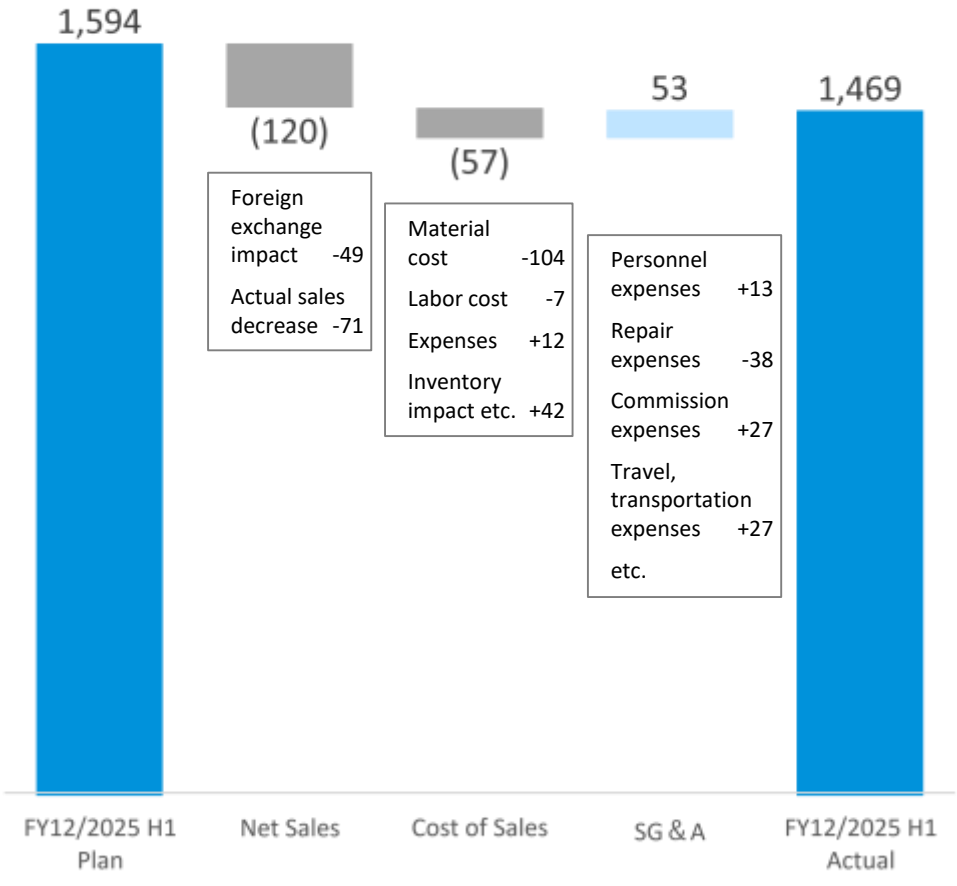
Year-on-year comparison (Million Yen)

Sales remained positive, but profits decreased slightly due to increased material costs, etc.



Compared to the plan (Million Yen)

Slight decrease in profit due to sales decline caused by order adjustments by some customers



Outlook for Optical Components and Devices

As demand for information and communication capacity expands, some customers have placed additional orders.

(Million Yen)

	FY12/2024	FY12/2025 (full-year)			
	Actual	Initial Forecast	Revised forecast	YoY change	YoY change (%)
Net sales	7,520	8,621	8,537	+1,016	+13.5%
Operating profit	3,536	3,839	3,765	+228	+6.5%
Operating margin ratio	*47.0%*	*44.5%*	*44.1%*	*-2.9pt*	—

<Outlook for the second half of the fiscal year ending December 2025 and beyond>

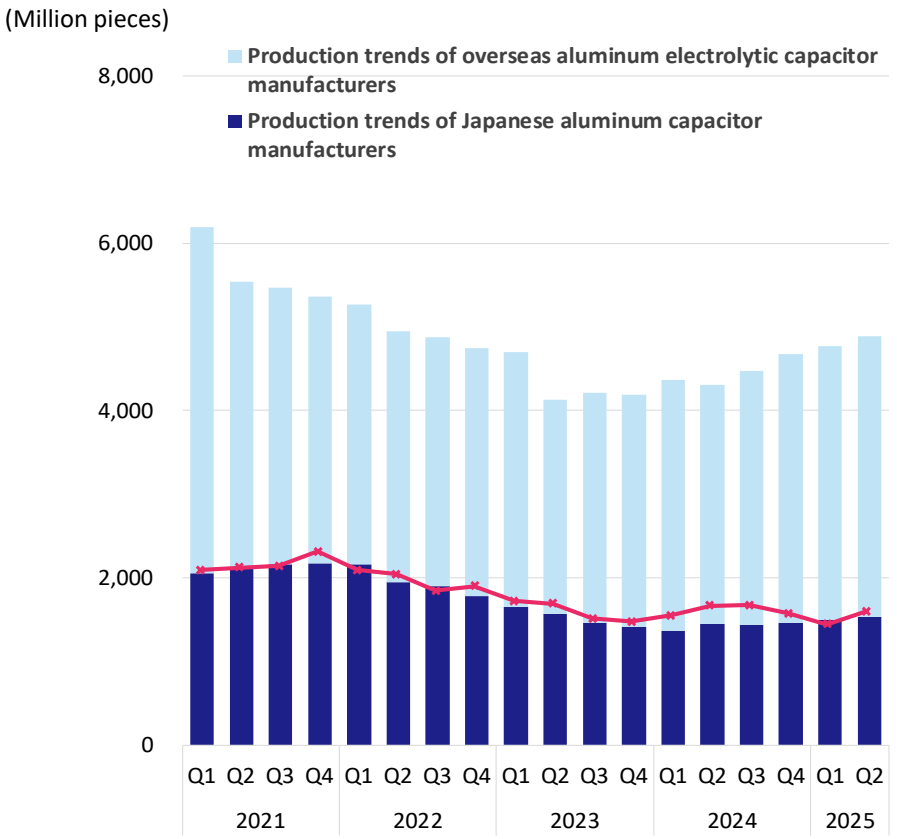
- **The number of new submarine cable projects, their distance and communication capacity are on the rise, and global demand for optical devices is also expected to increase**
- **Increasing needs of miniaturization and modularization for increasing fiber pairs, and the development of multi-core fibers is also progressing**
- **Inquiries for optical isolators and optical filters remain strong toward 2026**
- **The impact of rising prices of rare earth elements and other materials is expected to be minimal, and profits are expected to improve as sales increase.**

III. Trends and Strategies in the Lead terminals Business

Business environment for the Fiscal Year Ending December 2025 (First Six Months)

Aluminum electrolytic capacitors are shows a recover as end of global productions adjustments.

Global market for miniature aluminum electrolytic capacitors and trends in Kohoku Kogyo's sales volume



Market trends and sales strategies

<Automotive-related market>

- The adjustment of the European automotive market that occurred in the second half of 2024 has been completed, and the domestic market is showing signs of recovery, so the overall market is on a recovery trend. However, the impact of future US trade policies remains unclear.
- Aluminum electrolytic capacitor manufacturers are accelerating their development of high-performance products, leading to increased inquiries for high-value-added lead terminals

<Generative AI/Data Center market>

- Japanese capacitor manufacturers are enhancing development of new products for generative AI and DC
- Demand for lead terminals with emphasis on leakage current characteristics is increasing.

<Strengthening global sales structure>

- Strengthening cooperation between headquarters and overseas production bases, enhancing customer support and marketing for high value-added lead terminals in the global market

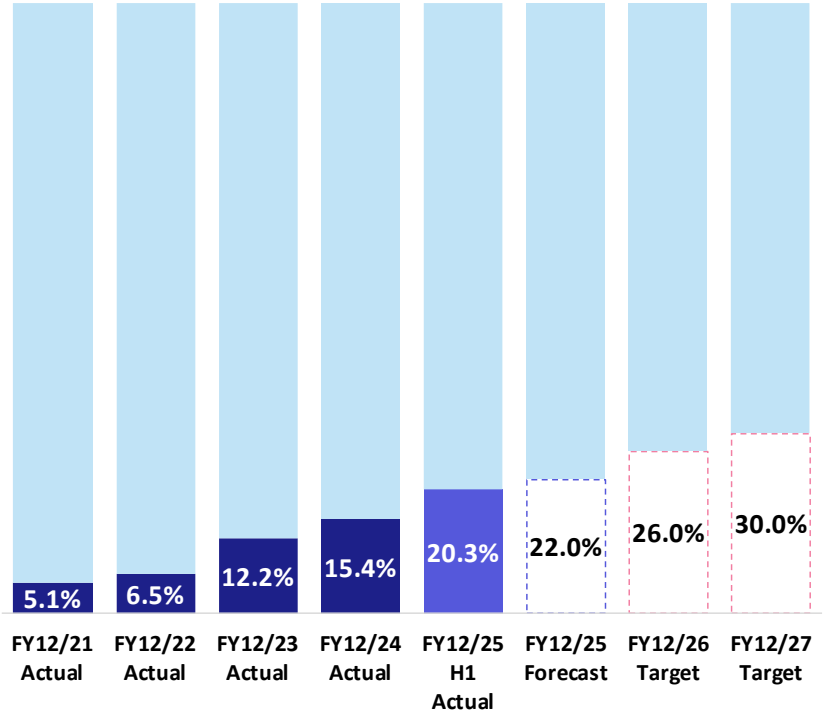
* Since there are two lead terminals per capacitor, the number is converted into the number of capacitors.
* The production volume of aluminum electrolytic capacitors is the actual result for the last month of each quarter, and the sales volume of lead terminals is the monthly average for the quarter.(Estimated by the Company)

Expansion of Business Scale Through Market Development

Improve the sales ratio of high value-added products

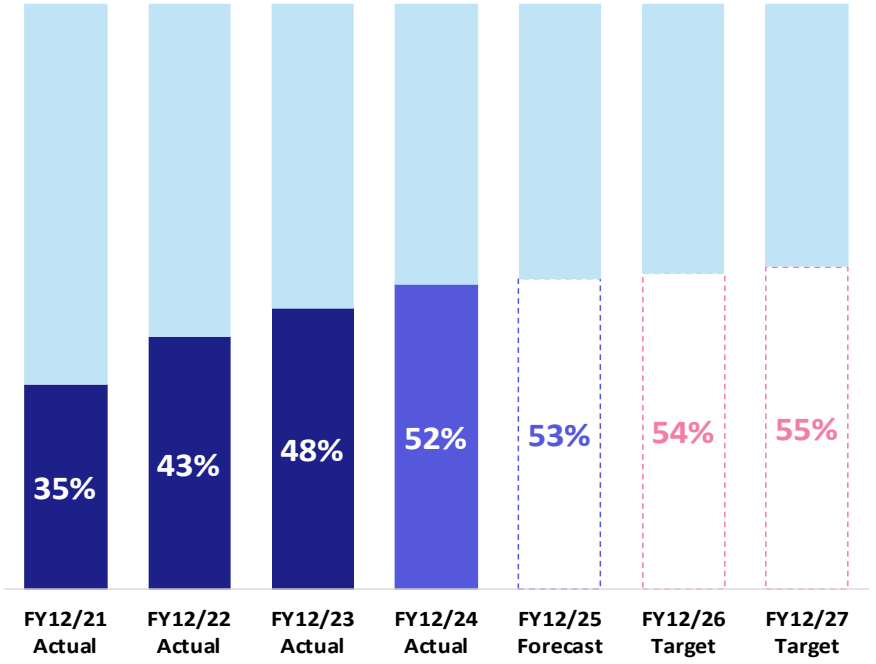
Sales ratio of high value-added products

- Sales ratio is gradually increasing
- Increased sales of Burr-less, EDLC, etc. items
- High-performance capacitor with enhanced leakage current countermeasures



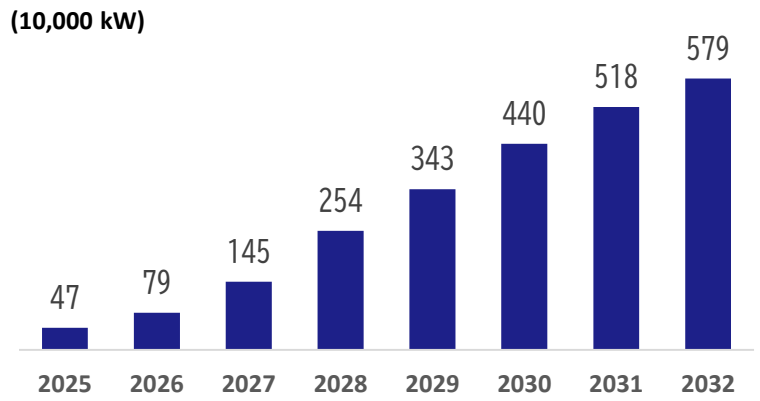
Ratio of sales to the automotive market (estimated)

- Maintaining a 95% global market share in the automotive market
- Promoting expansion in the overseas automotive market

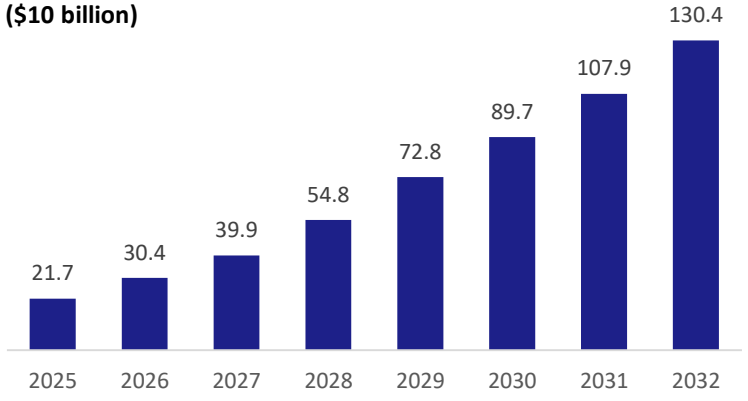


Demand for High-Performance Aluminum Electrolytic Capacitors for AI Servers and Data Centers is Growing.

Power demand outlook for the generative AI and data center market



Trends and forecasts for the global generative AI market



Challenges for AI and Data Centers

- A dramatic increase in power consumption due to GPU acceleration
- Complexity of power distribution systems due to an increase in server rack configurations
- Construction of uninterruptible power supply equipment and emergency power generation equipment
- The need for a large number of servers and power management for each data center

Reducing power consumption and heat generation in data centers is an extremely important issue.

Improved characteristics of aluminum electrolytic capacitors contribute!

<Required capacitor characteristics>

- **Leakage current**
- **High capacitance**
- **High ripple (low ESR)**
- **Temperature resistance**

Demand for conductive solid capacitors and hybrid capacitors is expected to grow significantly.

<Expansion of high value-added products>

- **Resin coating**
- **Specialized chemical products**
- **Burr-less, etc.**

*Graph sourced from" 2024 Information and Communications White Paper"(The Ministry of Internal Affairs and Communications)

The Company's Situation and Efforts to Improve Earnings

Business Environment

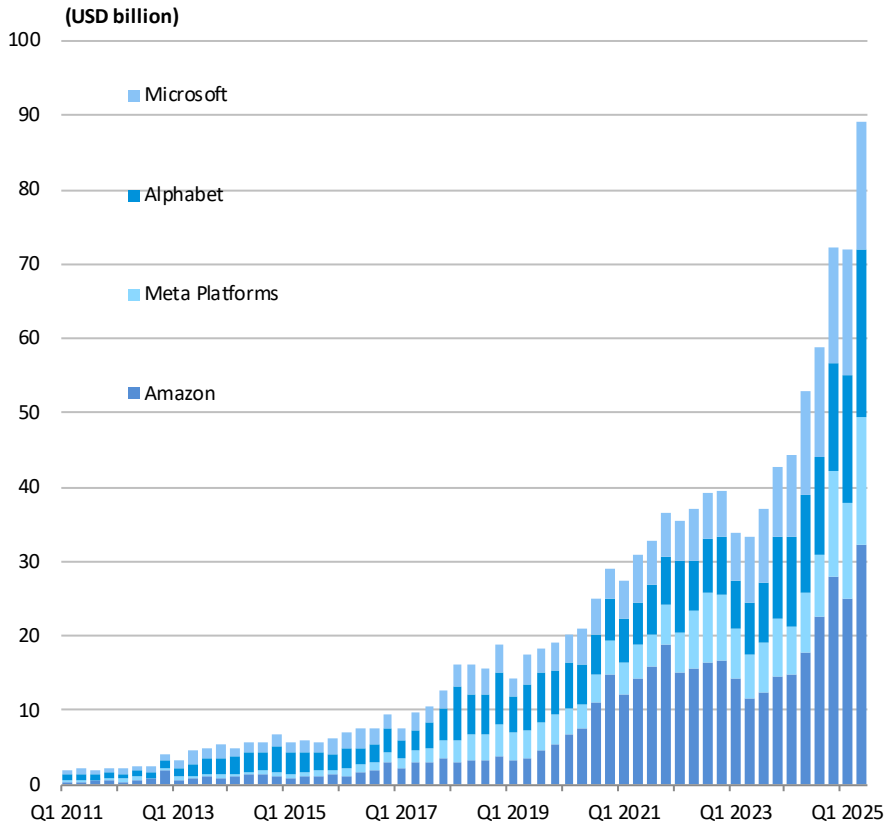
	F12/2025 forecast (Initial comments)	Status for H1 FY12/2025	Forecast for Q3 FY12/2025 Onward
(1) Production	➢ Further expand Dongguan and improve profitability (annual production ratio in 2025: KECD 50%, KECS 30%, KEM 20%). ➢ Continue to improve yield and operation rate, and reduce changeover losses.	➢ Continued expansion of Dongguan factory, with production ratio at approximately 40% as of June. ➢ Progress ahead of schedule on measures to improve profitability at each location, such as yield improvement.	➢ Continued expansion of Dongguan factory, with production ratio expected to increase to 50% by the end of the fiscal year. ➢ Further production efficiency and OEE improvements to strengthen profitability.
(2) Sales	➢ Strengthen customer support and marketing for overseas automotive markets. ➢ Strengthen sales of high-performance lead terminals that contribute to reducing leakage current and low resistance, such as burr-free product.	➢ Strengthening sales support and technical proposals for overseas factories. Demand for improvements in leakage current is increasing overseas, leading to an increase in inquiries. ➢ Burr-less evaluation is gradually progressing, and sales ratios are steadily increasing along with an increase in orders for other high value-added products.	➢ Strengthening sales structures in China and other overseas markets. ➢ Continuing to focus on sales of high-performance lead terminals that contribute to reducing leakage current and low resistance, such as burr-less terminals.
(3) Technology	➢ New laser welding technology: Development base transferred to headquarters for mass production prototypes. ➢ Develop lead terminals with reduced leakage current.	➢ Accelerating the development of laser welding technology at the headquarter factory.	➢ Sample shipment target for EDLC lead terminals by the end of 2025.

IV. Trends and Strategies in the Optical Components and Devices Business

Business Environment for the Fiscal Year Ending December 2025

Active investment continues due to rapid expansion of generative AI and DC demand, etc.

Capital Expenditures by Cloud Providers



(Source: Company data)

Market Trends

- Investments in submarine cable projects remain strong.
- Order adjustments by certain customers in the first half of the year have been completed, and the situation is returning to normal in the second half.
- Demand for small optical isolators is increasing in response to increased multi-core usage.
- Demand for optical components for data centers remains tight.
- Inquiries for new submarine cable projects are increasing for delivery in 2026.
- In addition to multi-fiber and multi-core , there is a trend towards wideband usage in order to increase capacity.
- The US has announced ‘submarine cable technology restrictions on China,’ but this is not expected to affect the optical isolator/filter market.

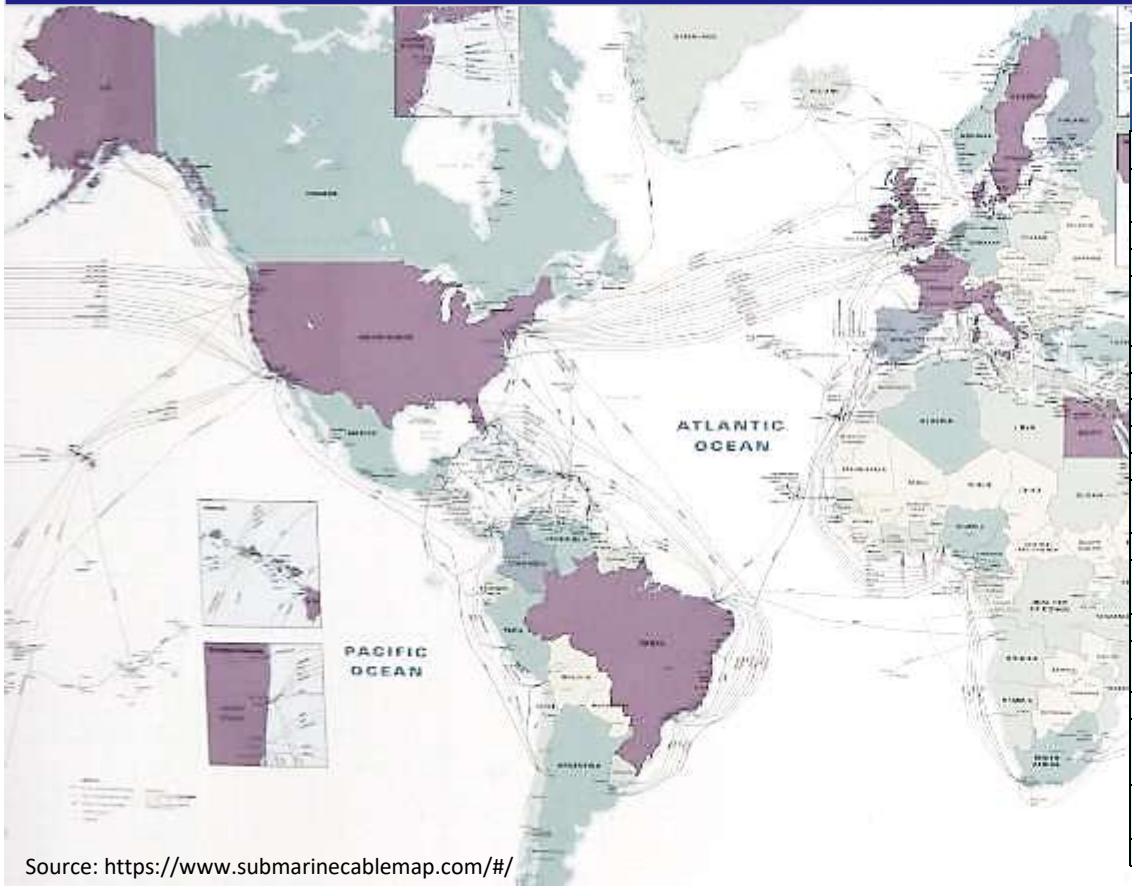
New Submarine Cable Networks are Continuing

New project investments continue to be announced, showing a trend toward larger-scale projects.

* Each line in the diagram is a submarine cable

Overall diagram of a long-distance submarine cable system

July.2025



Source: https://www.submarinecablemap.com/#/

Submarine cable project covering over 10,000 km

Project	RFS	Owners	Length (km)
Project Waterworth	n.a	Meta	50,000
SeaMeWe-6	2026	Bahrain Telecommunications etc.	21,700
Bulikula	2026	Google	21,600
Bifrost	2025	Keppel T&T, Meta, Telin	19,888
Asia Connect Cable-1 (ACC-1)	2028	Inligo Networks	19,000
Halaihai	2027	Google	17,483
Echo	2025	Google, Meta	17,184
Honomoana	2026	Google	15,215
Firmina	2025	Google	14,517
TPU	2025	Google	13,470
E2A	2028	Softbank, Chunghwa Telecom, SK Broadband, etc.	12,500
ORCA	2027	Meta	12,482
Apricot	2027	Chunghwa Telecom, Google, Meta, NTT, etc.	11,972
JUNO	2025	Seren Juno	11,710
Barat Timur Indonesia-2 (BTI-2)	2028	Super Sistem	11,600
ICE IV	2027	Telecom Egypt, Telin, e&	11,000
Southeast Asia-Japan Cable 2 (SJC2)	2025	China Mobile, Chunghwa Telecom, , etc.	10,500
Africa-1	2026	G42, Mobily, Omantel, Pakistan, , etc.	10,000
Hawaiki Nui 1	2027	BW Digital	10,000

* Source: TeleGeography “Submarine Cable Map”

* Project update information is estimated from publicly available data.

The Company's Situation and Efforts to Improve Earnings

Business Environment

	F12/2025 forecast (Initial comments)	Status for H1 FY12/2025	Forecast for Q3 FY12/2025 Onward
(1) Product development	➢ Evaluation of composite and module products is planned to proceed, mass production is scheduled to start in 2026.	➢ **Evaluation feedback on submitted samples received, improvements underway.**	➢ **Development and life testing are scheduled to be completed in the H2 of 2026. Full-scale sales are expected to begin in 2027.**
	➢ Sales ratio of small isolators is expected to increase, and their adoption is expected to expand with the trend toward multiple fiber cable.	➢ **Increase in customers adopting small isolators**	➢ **Enhance production of small isolators.** ➢ **Improve development speed by strengthening resources in U.S.**
	➢ Development of high-speed optical switches using PLZT is planned to proceed.	➢ **Revision of capital investment and development plans**	➢ **Expand marketing and respond to inquiries for highly reliable optical devices for satellite communications.**
(2) Productivity, etc.	➢ The second semi-automatic equipment will be launched in May, and its 80% will be automated by the end of the fiscal year.	➢ **Semi-automatic equipment startup completed**	➢ **Expansion of production with semi-automatic equipment at the Sri Lanka factory, expansion of items**
	➢ Increase production capacity and sales of optical components for data center.	➢ **Production capacity increased due to facility expansion; sales of FR products increased 2.5 times year-on-year**	➢ **Sales of FR products are expected to more than triple this fiscal year**
	➢ Sales of high-purity silica glass (SSG®) products is expected to increase.	➢ **Preparing to increase production capacity in response to increasing demand**	➢ **Continue preparations for expanding production capacity in the next fiscal year and beyond**

Expand Business Scale through Market Development (Optical Components and Devices Business)

Provide a full lineup of products to meet the increasing number of cores in submarine cables.

Evolution of submarine cables in response to the expansion of information and telecommunication capacity

Number of fiber pairs in major submarine cables

2020 → 2025 → 2026 → 2027 → 2035

8FP → 16FP → 24FP → 32FP or more

Technology evolution to accommodate increasing fiber pair counts

- 8FP, 16FP: Conventional Isolator
- 24FP, 32FP: Small Optical Isolator

- 32FP or more: Hybrid products + Modules

Expansion of data transmission capacity through widebandization

current situation: C-Band 1530nm～1560nm

C-Band 1530nm～1560nm + L-Band 1565nm～1610nm

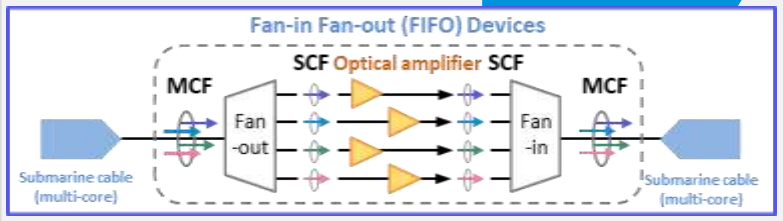
⇓

Transmission capacity doubled for each fiber!

- Widebandisation
- Wideband submarine Cables Optical isolators

Submarine Cable Multi-core Fiber

MCF (2 cores) → MCF (4 cores)



- FIFO Devices

- MCF Optical Isolator
- MCF Optical Filter

Expand Business Scale through Market Development (Optical Components and Devices)

In addition to multi-core fibers for next-generation submarine cables, we are expanding into the fields of generative AI, data centers and space communications.

2025 — 2027 — 2030 — 2035

High Speed

PEC:Photonics-Electronics Convergence

Optical components (elements)

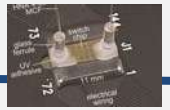
Increase production capacity and expand sales

Development speed, yield improvement, etc.

Sample will start at 2028

High-speed optical switch

Optical Switch



Switching Module

Generative AI, data centers

LEO (Low Earth Orbit) Communications

Demonstration Test

From September 2025: Start environmental testing on the ISS

Space Optical Devices

Space Communications Subsystem

Expanding sales using WARPSPACE's network

Space communications

Progress of the High Purity Silica Glass "SSG®" Business

Demand continues to increase from semiconductor-related companies, hurrying to increase production capacity

The third quartz glass, SSG®, manufactured using the slurry casting method.

The glass powder, which is the starting material for quartz glass, is turned into a slurry (a mixture of solid particles and liquid) and injected into a mold. It is then dried at room temperature, sintered, and converted into quartz glass, achieving a wide range of light transmittance and chemical resistance.

Liquid becomes quartz glass

(1) Slurry preparation of silica particles

(2) Molding and drying

(3) Sintering in a sintering furnace

Features

(1) The method of injecting slurry into a mold allows for design flexibility and enables mass production of identical shapes.

(2) Compared to molding by cutting ingots, there is less material loss.

(3) Energy efficient due to room temperature molding.

(4) There are restrictions based on the shape and size of the mold.

Various shapes can be molded using molds.

Large quartz ring

Special fiber preform

Various lens shapes

Types of quartz glass and manufacturing methods

SSG® (third-generation quartz glass)

The glass powder used as the raw material for quartz glass is converted into a slurry (a fluid mixture of solid particles and liquid), dried at room temperature, and then sintered to produce the final product.・Metal impurity content: ppb (parts per billion) level・Light transmission equivalent to that of anhydrous synthetic quartz across a wide wavelength range

Fused quartz… Made by heating and melting natural quartz with electricity or hydrogen flame.

(1) Electric melting
- Contains several to tens of ppm of metal impurities
- High heat resistance temperature
- Poor UV transmittance

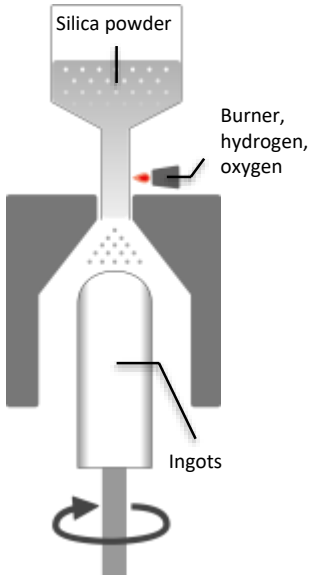
(2) Heating and melting with hydrogen flame
- Contains fewer metal impurities than electric melting
- Lower heat resistance temperature than electric melting
- Higher UV transparency than electric melting

Synthetic quartz… Manufactured by synthesizing liquid raw materials (SiCL4: silicon tetrachloride)

(1) Silane compounds are hydrolyzed with an acid hydrogen flame, and the resulting glass particles are directly deposited and solidified to produce.
- Contains 200 to 1,000 ppm of hydroxyl groups
- Metal impurities can be reduced to less than 1 ppm.
- Excellent transparency in the ultraviolet to deep ultraviolet wavelength range.
- Heat resistance is lower than fused quartz.

(2) Silane compounds are decomposed under conditions that do not generate hydroxyl groups, glass particles are deposited and solidified

Example of manufacturing fused quartz(flame fusion method)



thetic quartz were created by our company with reference to the Glass Engineering Handbook (Asakura Publishing) and the Encyclopedia of Glass (Asakura Publishing).

Trends in Next-Generation Optical Device Development (Development Status at EpiPhotonics)

Accelerating commercialization by changing the development schedule, updating facilities, and increasing personnel.

EpiPhotonics

- PLZT Device
- Dynamic Optical Devices
- PLZT single crystal film formation

April 2024 Full acquisition

<Main Development Themes and Achievements>
- Development of PLZT high-speed optical switches and optical modulators
- Receipt of orders for optical switch samples for data centers for European generative AI

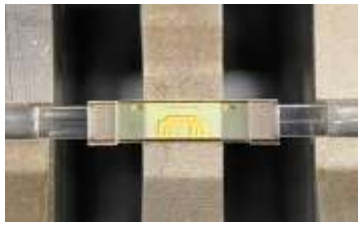
KOHOKU

- Highly reliable optical device technology
- Optical Device Crystal Growth Technology
- Optical element process technology
- Precision Assembly Technology

Target Market

- AI-DC
- Quantum computer
- PEC PLZT optical modulator
- PEC PLZT optical switch

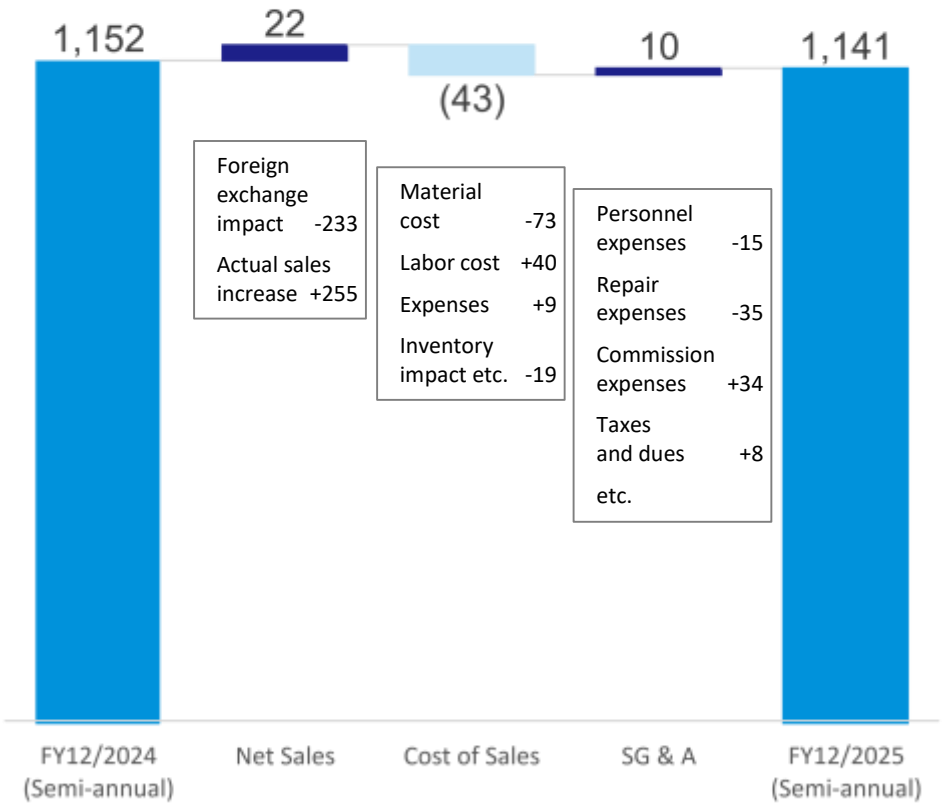
Target at acquisition	Current situation	Countermeasure	Revised target
・Sample shipments to begin in 2026 <Sales target of 100 million yen>	・Delays in the development and prototyping schedule due to worsening lead times in the prototyping process ✓ Delays in circuit formation due to aging of etching and other equipment ✓ Delays in standardization of PLZT film formation process **Considering delays in the development schedule and the schedule for transferring and updating facilities, the business plan was restructured and impairment losses were recorded.**	・Improvement of development speed by increasing the number of device engineers and utilizing external facilities ・Prototype processes will be gradually transferred to the main factory, and the PLZT film deposition process will be stabilized. ・Improvement of yield in etching, sputtering, etc. **Improve yield through stable manufacturing technology**	**Aiming to establish a sample supply system by 2028** <Target fields> ・AI/DC related ・Space field ・Advanced technology research institutes, etc.



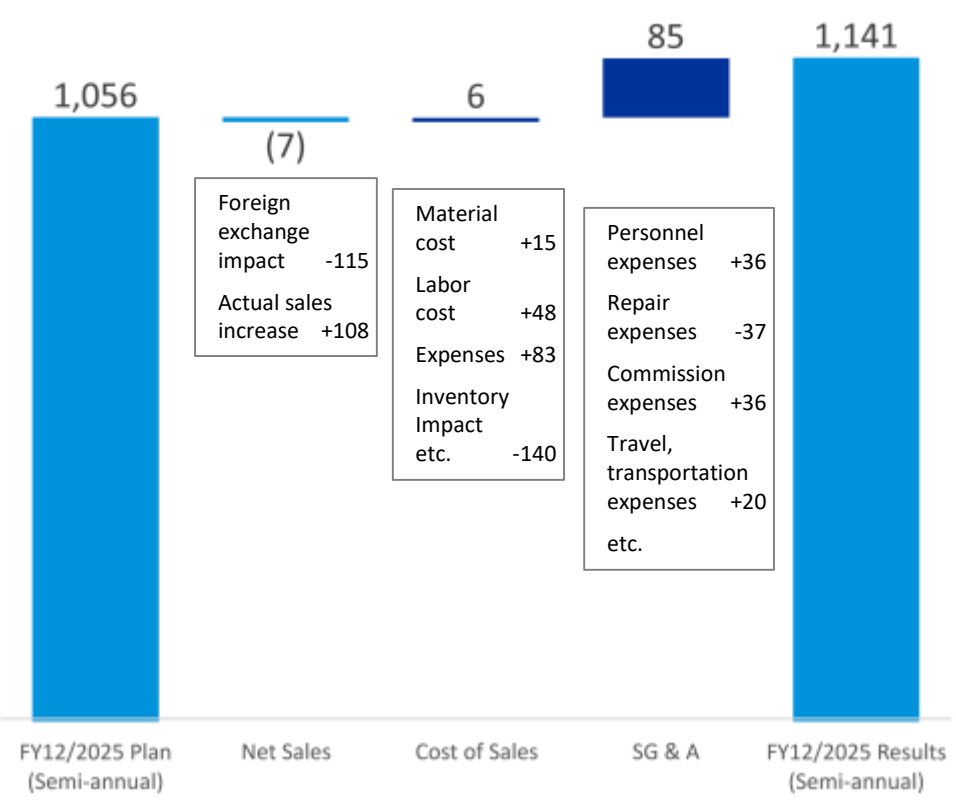
V. Reference Information

Factors of Increase/Decrease in Operating Profit (Q2) (April-June)

Year-on-year comparison (Million Yen)

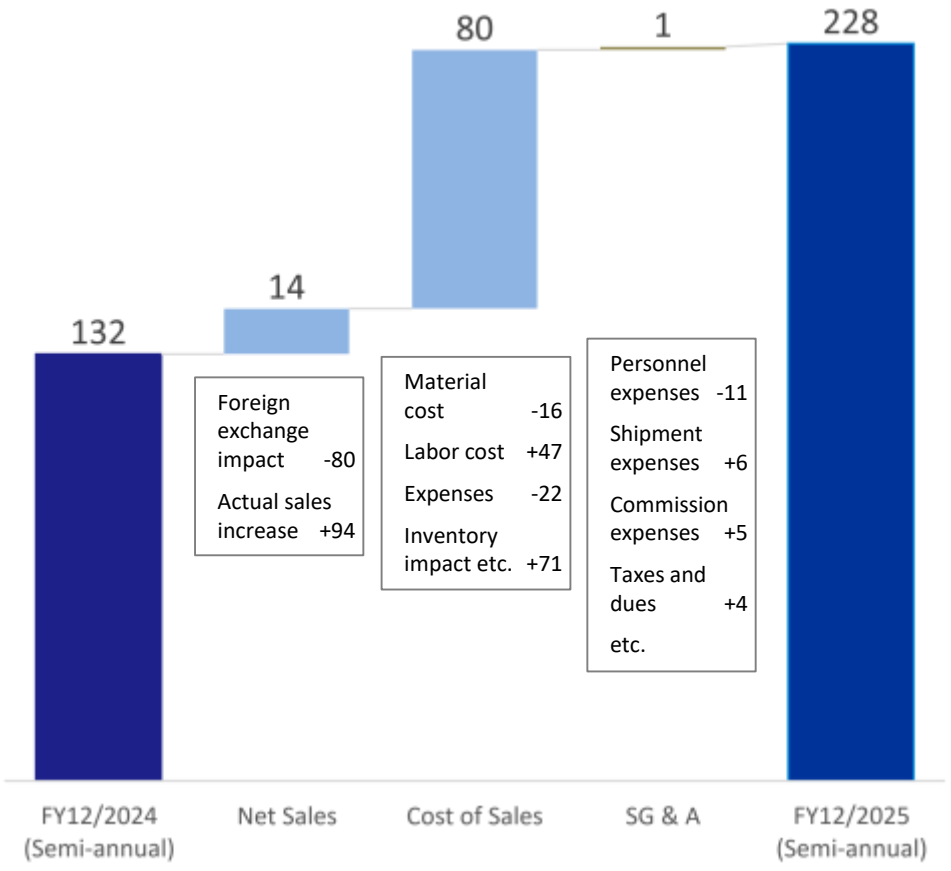


Compared to the plan (Million Yen)

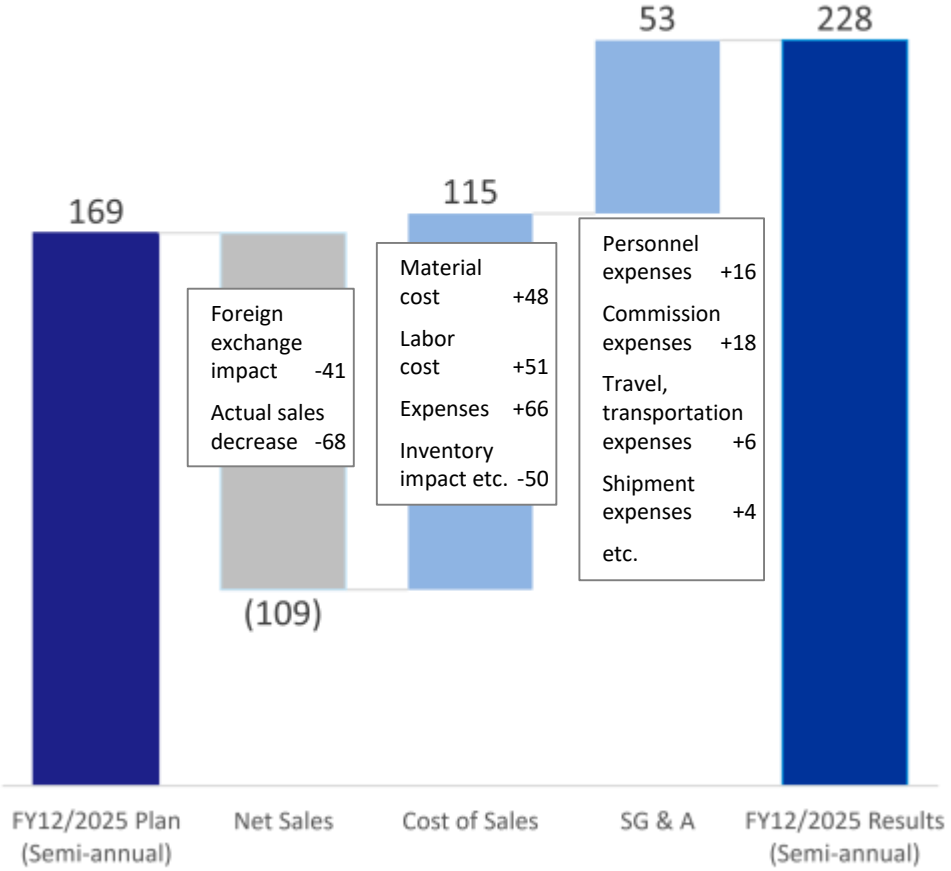


Factors of Increase/Decrease in Operating Profit – Lead terminals Business (Q2) (April-June)

Year-on-year comparison (Million Yen)

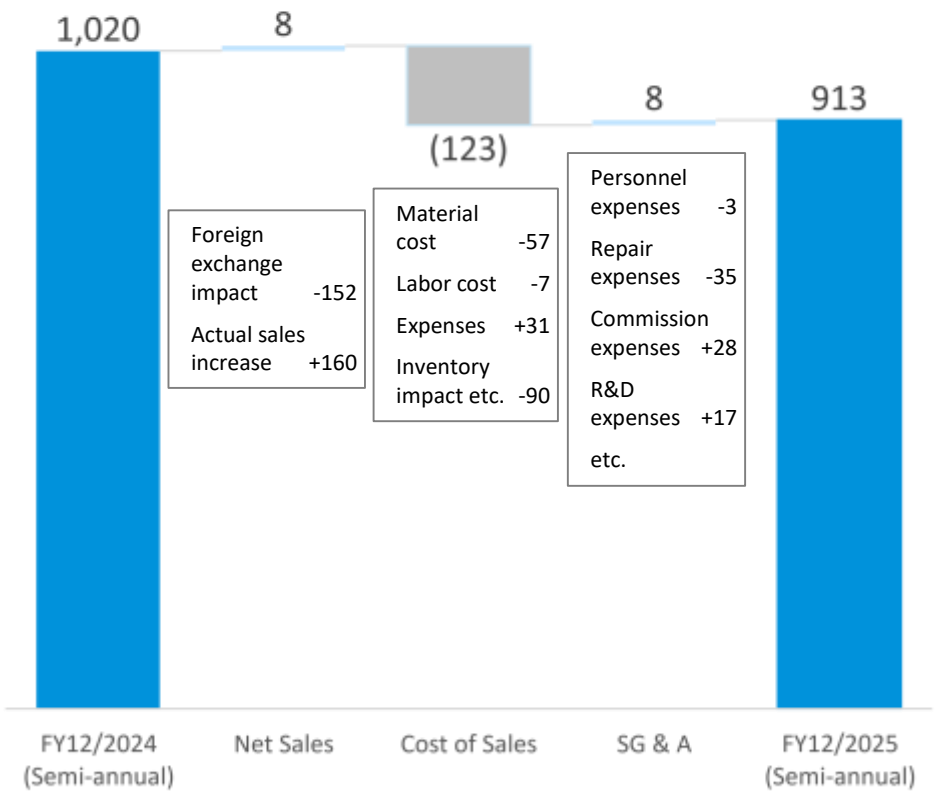


Compared to the plan (Million Yen)

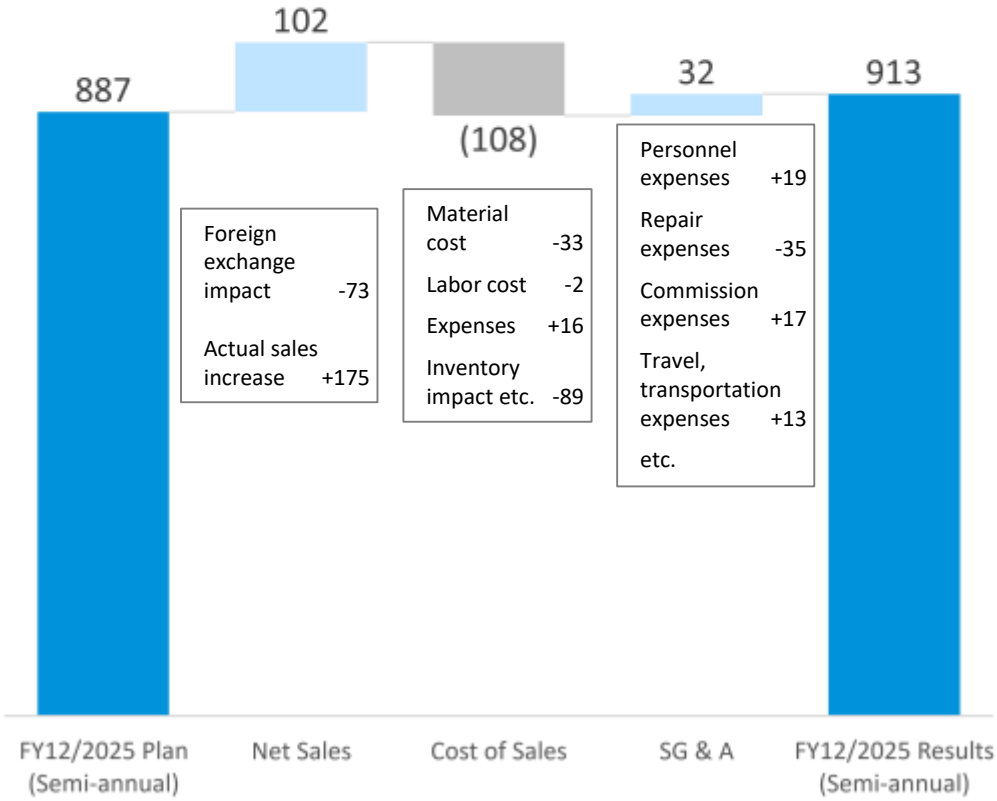


Factors of Increase/Decrease in Operating Profit – Optical Components & Devices (Q2) (April-June)

Year-on-year comparison (Million Yen)



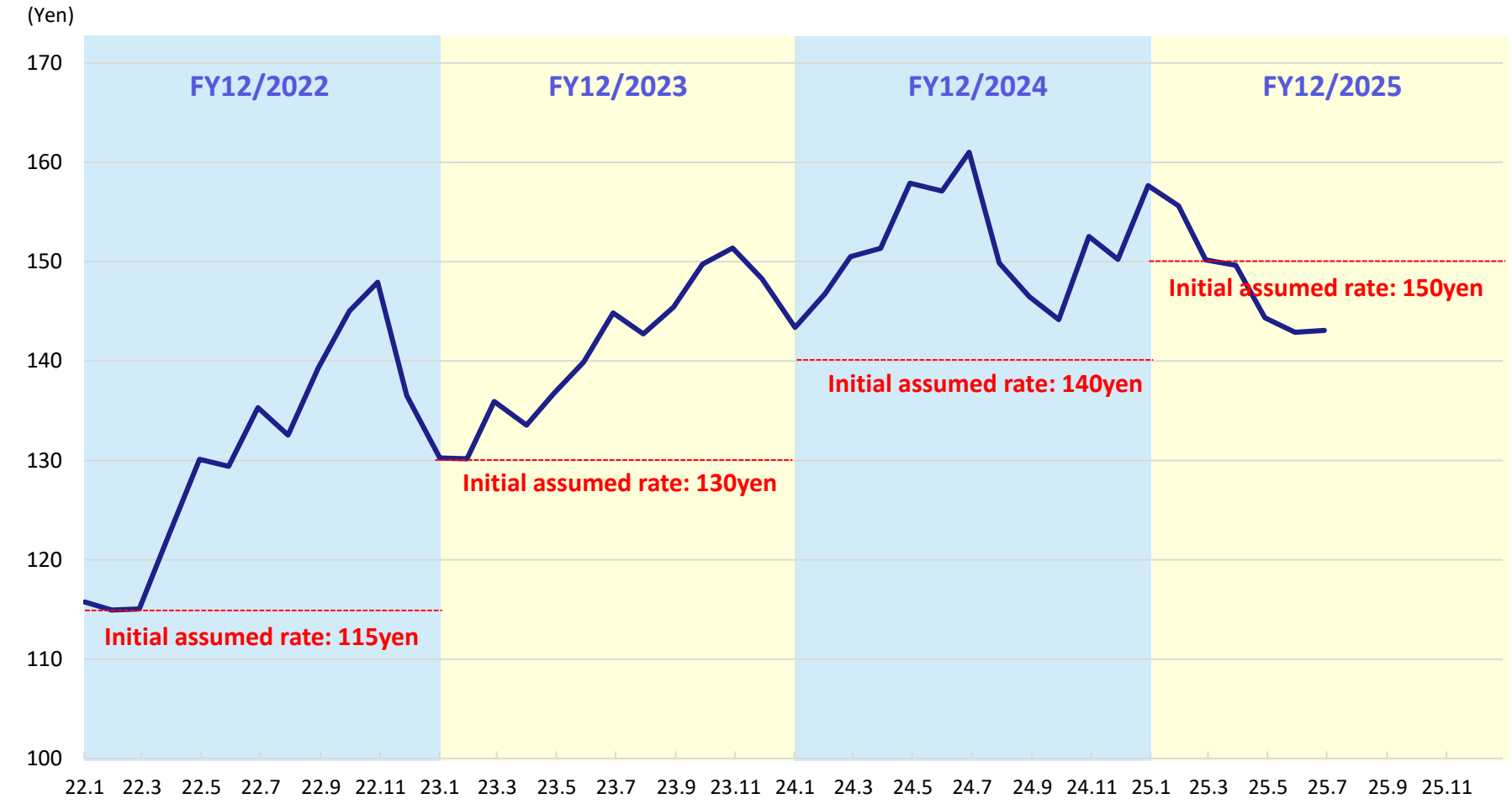
Compared to the plan (Million Yen)



Business Environment for FY12/2025 (First Six Months)

The average exchange rate for the period from January to June was 144.60yen/USD, which was yen appreciation trend from 158.17yen/USD at the end of last year.

USD/JPY trend graph

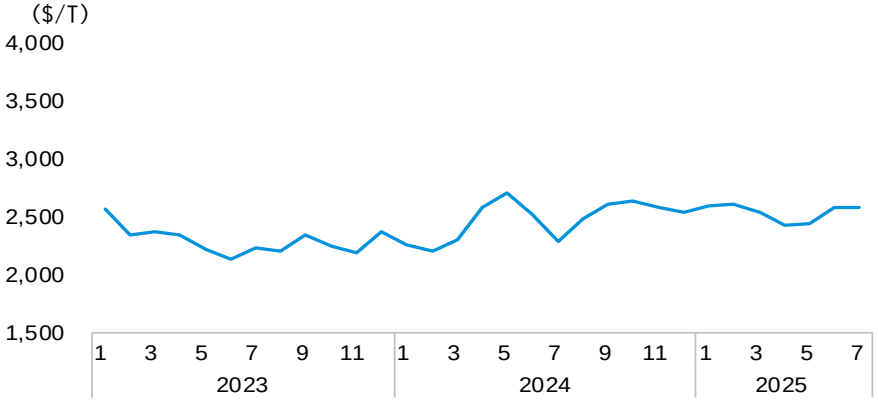


External Environment – Non-ferrous Metals Market Trends

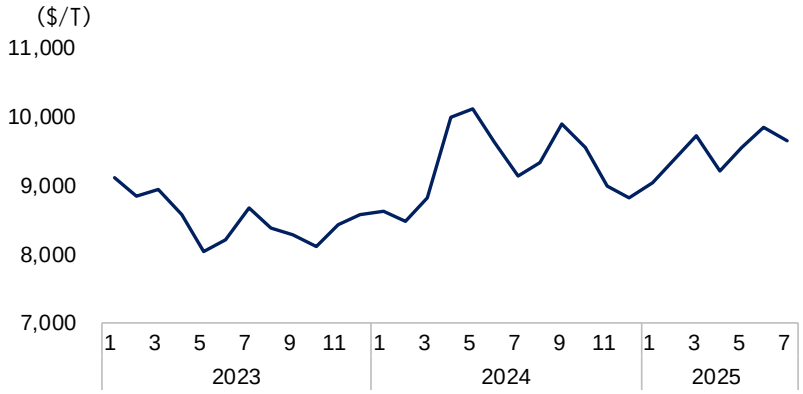
Non-ferrous metal market prices show signs of rising, with prices to be passed on in principle after three months.

Non-Ferrous Metals Market (LME)

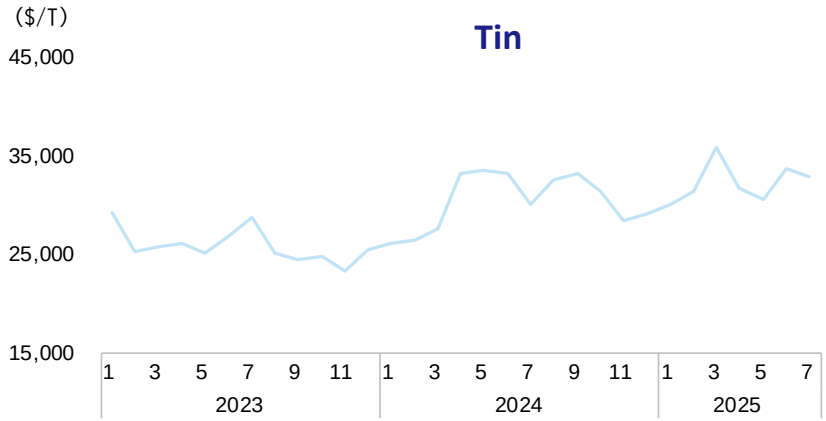
Aluminum



Copper



Tin



This document contains our current plans and performance forecasts. These future plans and forecast figures are plans and projections made by us based on available information. Actual results may differ from these plans and forecast figures due to various conditions and factors.

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