



Ferrotec Holdings Corporation

Results for the Fiscal Year Ended March 31, 2023

Wed., May 31, 2023

1. This fiscal year results cover period from January to December 31, 2022 of consolidated subsidiaries.
2. This presentation was prepared for the purpose of providing information regarding the company's results of operations for the fiscal year ended March 31, 2023 and is not a solicitation to purchase or sell securities issued by the company. Please ensure that the decision on whether to make an investment in our company is made at your own risk.
3. These materials were prepared based on information available as of date of the disclosure. All opinions, forecasts and other forward-looking statements are based on management's judgments in accordance with materials available at that time and may be changed without prior notice.

Consolidated financial summary

(Million yen)	FY3/22	FY3/23	YoY		
	Amount	Amount	Amount	Pct. change (%)	
Net sales	133,821	210,810	76,989	57.5	Net sales: 210.8 billion yen, +58% YoY ✓ Significant increase in sales in the semiconductor and other equipment-related business and the electronic device business ✓ Achieved record-high sales.
Cost of sales	85,143	138,728	53,585	62.9	
Gross income	48,677	72,081	23,404	48.1	
SG&A expenses	26,076	37,038	10,962	42.0	Operating income: 35 billion yen, +55% YoY Ordinary income: 42.4 billion yen, +63% YoY ✓ Sales and profit increased; achieved record-high profit. ✓ Non-operating income of 9.9 billion yen boosted ordinary income. • Foreign exchange gains: 5.5 billion yen • Subsidies: 2.6 billion yen
Operating income	22,600	35,042	12,442	55.1	
Non-operating income	4,636	9,872	5,236	112.9	
Non-operating expenses	1,243	2,466	1,223	98.4	
Ordinary income	25,994	42,448	16,454	63.3	
Extraordinary income	9,421	856	-8,565	-90.9	Net income: 29.7 billion yen, +11% YoY ✓ There was no gain on change in equity amounting to 9.3 billion yen as in the previous term (due to allocation of shares through third-party allotment in Chinese wafer companies). ✓ 700 million yen of the 1.3 billion yen in extraordinary loss in this term was from loss on step acquisition (due to a takeover bid for Ohizumi Mfg). ✓ Non-controlling interests • Silicon parts and quartz crucibles business: 2.1 billion yen • Power semiconductor business: 2.2 billion yen • Cleaning business: 600 million yen
Extraordinary loss	1,767	1,263	-504	-28.5	
Net income attributable to non-controlling shareholders	1,254	4,585	3,331	265.6	
Net income attributable to owners of parent	26,659	29,702	3,043	11.4	
Investment amount*	35,378	62,661	27,283	77.1	
Depreciation	8,085	12,618	4,533	56.1	

Note: Exchange rate FY3/22 ⇒ FY3/23: US\$ ¥110.37 → ¥132.08; RMB ¥17.12 → ¥19.50 (Avg. during period)
 Investment amount = Total amount of tangible fixed assets, intangible fixed assets and securities to be acquired, etc.

Sales and operating income by segment

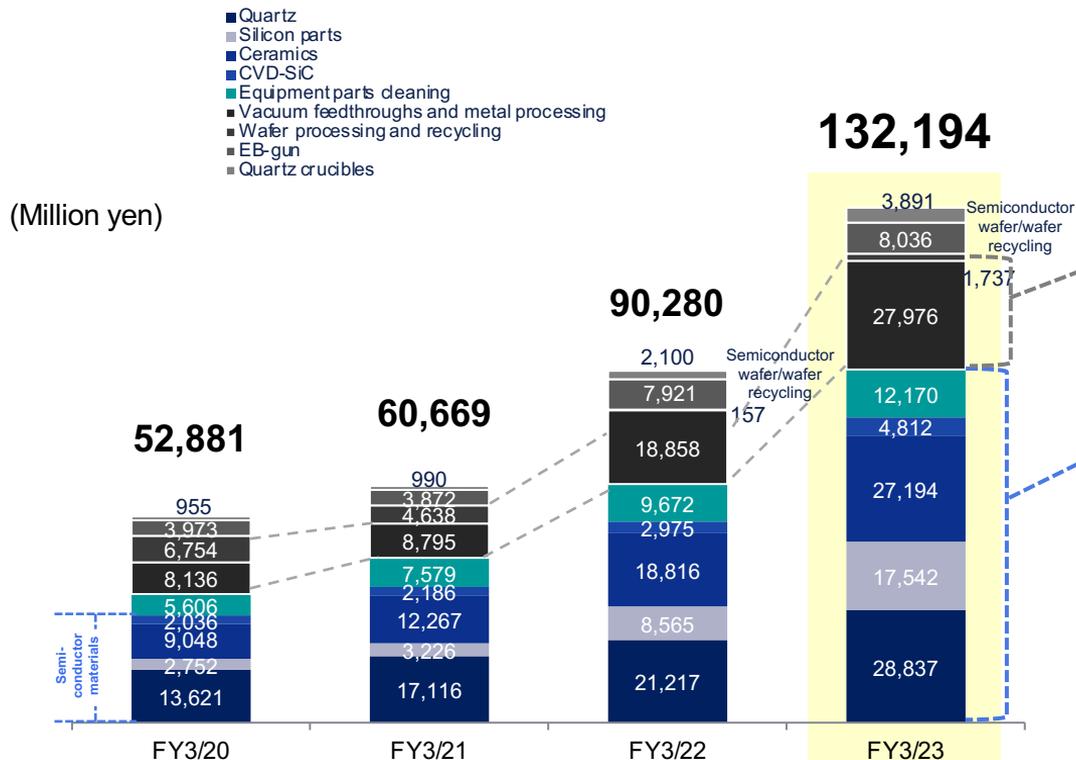
Net sales (¥ in millions)	FY3/22		FY3/23		YoY	
	Amount	Pct. of sales (%)	Amount	Pct. of sales (%)	Difference	Pct. change (%)
Semiconductor and other equipment-related	90,280	67.3	132,194	62.7	41,914	46.4
Electronic device	27,023	20.2	53,024	25.2	26,001	96.2
Others	16,517	12.3	25,590	12.1	9,073	54.9
Total	133,821	100.0	210,810	100.0	76,989	57.5

Operating income (¥ in millions)	FY3/22		FY3/23		YoY	
	Amount	Profit margin (%)	Amount	Profit margin (%)	Difference	Pct. change (%)
Semiconductor and other equipment-related	15,804	17.5	24,090	18.2	8,286	52.4
Electronic device	6,689	24.8	11,178	21.1	4,489	67.1
Others	398	2.4	597	2.3	199	50.0
Corporate & elimination	-291	-	-824	-	533	-
Total	22,600	16.9	35,042	16.6	12,442	55.1

Sales by product

(Million yen)	FY3/22	FY3/23	YoY (%)
Semiconductor and other equipment-related	90,280	132,194	46.4
Vacuum feedthroughs and metal processing	18,858	27,976	48.4
Quartz	21,217	28,837	35.9
Silicon parts	8,565	17,542	104.8
Ceramics	18,816	27,194	44.5
CVD-SiC	2,975	4,812	61.7
EB-Gun, LED	7,921	8,036	1.5
Wafer processing (only for consolidated subsidiaries)	59	236	300.0
Wafer recycling	98	1,501	1,431.6
Equipment parts cleaning	9,672	12,170	25.8
Quartz crucibles	2,100	3,891	85.3
Electronic device	27,023	53,024	96.2
Thermo-electric module	17,635	23,266	31.9
Power semiconductor substrates	8,473	20,011	136.2
Ferrofluid, others	916	936	2.2
New → Sensor	-	8,811	-
Others	16,518	25,590	54.9
Total	133,821	210,810	54.9

Transition of sales



Overview of this segment

•Sales of vacuum feedthroughs and metal processing and semiconductor materials increased significantly.

Vacuum feedthroughs and metal processing: +48%
 Ceramics: +45%; quartz: +36%; silicon parts: +105%; CVD-SiC: +62%

Vacuum feedthroughs and metal processing, Wafer processing, Wafer recycling

•Vacuum feedthroughs and metal processing: +48%; acquired more demands for metal parts processing from equipment manufacturers and the operation of Changshan factory contributed.

•Wafer recycling: Tongling factory for wafer recycling is gradually starting operations.

Semiconductor materials, Cleaning business

[Semiconductor materials (quartz, silicon parts, ceramics, and CVD-SiC)]

•Quartz: +36%; Changshan factory and Dongtai factory made contribution.
 •Silicon parts: +105%; the increased capacity of Yinchuan factory made contribution.

•Ceramics: +45%; the increased capacity of Hangzhou factory made contribution.

•CVD-SiC: +62%; the increased capacity and production output of Okayama factory made contribution.

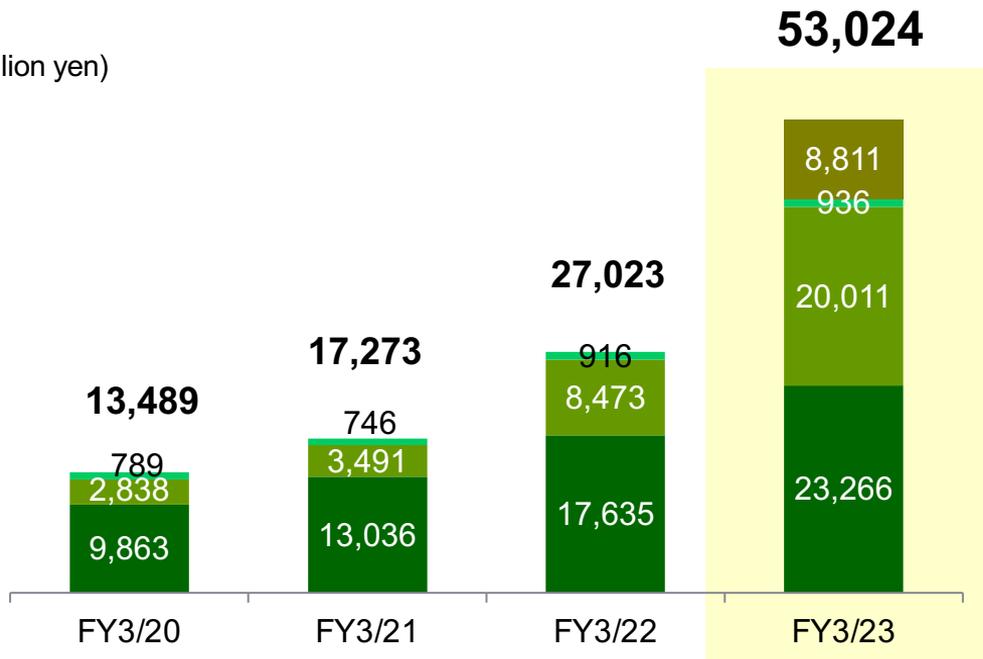
[Cleaning business]

•+26%; acquired demand for cleaning in China.

Transition of sales

- Thermo-electric module
- Power semiconductor substrates
- Ferrofluid, others

(Million yen)



Overview of this segment

•Power semiconductor substrates drove the segment with a significant increase in sales of +136%.

There were also strong sales of thermo-electric modules.

The increase in sensor sales is due to the consolidation of Ohizumi Mfg. from the 2Q.

[Thermo-electric module]

•+32%; sales of those for 5G telecommunication and biotechnology were healthy.

[Power semiconductor substrate]

•+136%; measures to improve production system, mainly in Dongtai, were successful.

•An increase of AMB substrates for automobiles and EVs are significant in particular.

•Strengthening product development functions and developing products such as DPC substrates.

Consolidated balance sheet -assets-

(Million yen)	FY3/22 Year-end	FY3/23 Year-end	Difference
Current assets	133,414	215,341	81,927
Cash & deposits	52,579	103,115	50,536
Note & accounts receivable	41,797	53,276	11,479
Inventories	28,436	49,177	20,741
Fixed assets	131,358	195,306	63,948
Tangible fixed assets	84,083	139,610	55,527
Buildings and structures	22,728	38,080	15,352
Equipment and machinery	25,122	44,171	19,049
Tools, furniture, and fixture	5,324	5,984	660
Land	1,895	4,451	2,556
Leased assets (net)	4,040	11,009	6,969
Construction in progress	24,972	35,913	10,941
Intangible fixed assets	1,996	6,949	4,953
Goodwill	283	2,304	2,021
Investments & other assets	45,277	48,745	3,468
Total assets	264,772	410,648	145,876

[Major factors for increase in current assets]

- Cash & deposits: +50.5 billion yen; increase of cash & deposits in Chinese subsidiaries due to capital increase following third-party allotment*
- (*Cleaning business: +12.5 billion yen; power semiconductor substrate business: +17.7 billion yen; silicon parts and quartz crucibles business: +11 billion yen)

[Major factors for increase in tangible and intangible fixed assets]

- Increase due to active investment in production output in each business, etc.
- Changshan factory responsible for metal processing, quartz, silicon parts and ceramics, Yinchuan factory responsible for quartz crucibles, Ishikawa factory responsible for ceramics, Sichuan factory responsible for power semiconductor substrates, Chinese headquarter building, Tongling factory responsible for water recycling, etc.
- The increase in goodwill in intangible fixed assets arose from the takeover bid for Ohizumi Mfg. and making Toyo Knife a wholly-owned subsidiary.

[Major factors for increase in investments and other assets]

- Investments and other assets: +3.5 billion yen
- Investment securities: +4.5 billion yen; owing to the acquisition of shares of Anhui Yangtze Advanced Semiconductor Co., Ltd., a SiC device manufacturer in China, amounting to 3.8 billion yen

Consolidated balance sheet -Liabilities and net assets-

(Million yen)	FY3/22 Year-end	FY3/23 Year-end	Difference
Current liabilities	68,800	111,294	42,494
Notes and accounts payable	26,702	40,524	13,822
Short-term debt	6,324	20,378	14,054
Current portion of long-term borrowings + bonds	8,501	15,825	7,324
Fixed liabilities	35,014	49,697	14,683
Bonds	8,806	4,083	-4,723
Convertible bond-type bonds with share acquisition rights	2,134	-	-2,134
Long-term debt	11,796	26,432	14,636
Total liabilities	103,814	160,991	57,177
Net assets	160,957	249,656	88,699
Shareholder's equity	117,511	166,955	49,444
Total accumulated other comprehensive income	13,511	16,773	3,262
Non-controlling interests	29,888	65,887	35,999
Total liabilities & net assets	264,772	410,648	145,876
Equity ratio	49.5%	44.7%	-4.8%

[Major factors for changes in current and fixed liabilities]

*The parenthesis represents the change from the end of FY3/22.

Short-term debt + Current portion of long-term debt and bonds: 58.9 billion yen (+21.7 billion yen)

Long-term debt + Bonds and convertible bonds: 22.7 billion yen (+7.8 billion yen)

Total interest-bearing debt: 66.7 billion yen (+29.2 billion yen)

[Major factors for changes in net assets]

*The parenthesis represents the change from the end of FY3/22.

•Capital surplus: +21.9 billion yen; retained earnings: +26.3 billion yen

Non-controlling interests: +36 billion yen

Capital surplus and non-controlling interests increased due to capital increase following third-party allotment in Chinese subsidiaries (power semiconductor substrate business: 10.8 billion yen and 14.8 billion yen; silicon parts and quartz crucibles business: 5.2 billion yen and 6.6 billion yen; cleaning business: 4.4 billion yen and 9.2 billion yen)

[Equity ratio]

Equity ratio: 44.7%

Note: Exchange rate FY3/22 ⇒ FY3/23: US\$ ¥115.02 → ¥137.20; RMB ¥18.06 → ¥19.01 (at the end of a period)

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Consolidated cash flow

(Million yen)	FY3/22	FY3/23
Cash flow from operating activities	17,833	43,024
Income before income taxes	33,648	42,041
Depreciation and amortization	8,085	12,618
Foreign exchange loss (-: gain)	-2,026	-1,402
Changes in notes & accounts receivable (-: increase)	-4,258	-3,139
Changes in inventories (-: increase)	-9,126	-14,354
Increase/decrease in notes and accounts payable-trade (-: decrease)	6,065	6,516
Loss on change in equity (-: gain)	-9,327	-651
Others	-5,228	1,395
Cash flow from investing activities	-29,399	-68,760
Payments for purchase of tangible fixed assets	-33,585	-56,001
Proceeds from sales of tangible fixed assets	400	236
Payments for purchase of intangible fixed assets	-241	-976
Purchase of shares of affiliates	-1,278	-849
Others	5,305	-11,170
Cash flow from financing activities	30,601	68,718
Changes in short-term debt	180	11,687
Proceeds from long-term borrowings	2,545	24,256
Payments of long-term borrowings	-6,944	-8,311
Proceeds from issuance of shares	19,275	11
Proceeds from share issuance to non-controlling shareholders	22,701	47,607
Others	-7,156	-6,532
Changes in cash & cash equivalents	22,376	43,326
Cash and cash equivalents, beginning of year	30,202	52,579
Cash and cash equivalents, end of year	52,579	95,905

[Operating cash flow]

Income before income taxes + depreciation and amortization: 54.6 billion yen

Changes in notes and accounts receivable, inventories and notes and accounts payable: -11 billion yen

[Investing cash flow]

Purchase of tangible fixed assets: -56 billion yen

Expenditures for metal processing, quartz, silicon parts ceramics, quartz crucibles, power semiconductor substrates, Chinese headquarter building and wafer recycling

Others: -11.2 billion yen

Increase/decrease in time deposits: -7 billion yen
Purchase of investment securities: -4.6 billion yen

[Financial cash flow]

Proceeds from share issuance to non-controlling shareholders: 47.6 billion yen

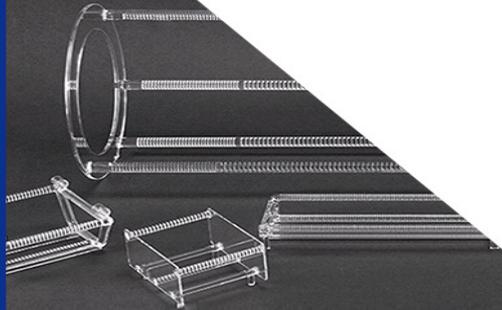
FTNC (silicon parts and quartz crucibles): 10.5 billion yen
FLH (power semiconductor substrates): 23.9 billion yen
FTSVA (cleaning): 12.9 billion yen



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FY3/24 Full-year Business Forecasts



FY3/24 full-year business forecasts

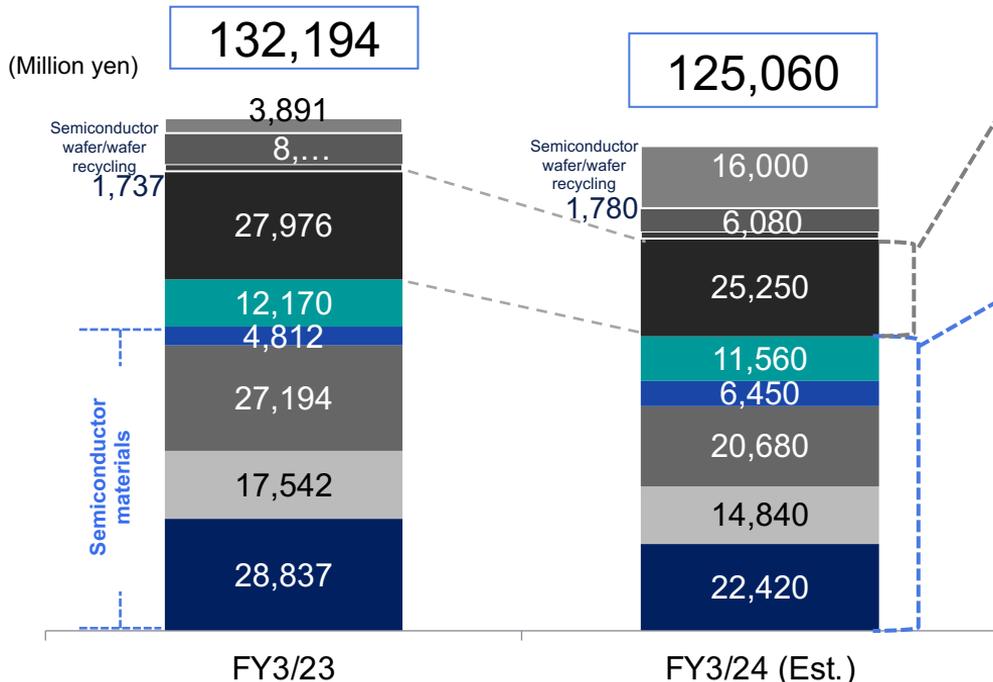
- Forecast for FY3/24: Net sales of 220 billion yen (+4.4%), operating income of 32.5 billion yen (-7.3%) and net income of 18 billion yen (-39.4%)
- We expect an increase in net sales which will cover the decrease in sales of semiconductor material products. However, we expect profit to decrease.

(Million yen)	FY3/23	FY3/24 (Est.)	YoY (%)	Plan details and assumptions
Net sales	210,810	220,000	4.4	•We expect sales of material products to decrease due to a deterioration in the market conditions. However, we will maintain sales with growth of sales of quartz crucibles and power semiconductor substrates.
Operating income	35,042	32,500	-7.3	
Ordinary income	42,448	30,000	-29.3	•Foreign exchange gains in non-operating income in the previous year of 5.5 billion yen will disappear.
Net income attributable to owners of parent	29,702	18,000	-39.4	•We do not forecast any extraordinary gains or losses to occur.
Depreciation and amortization	12,618	17,400	37.9	•We expect an increase in depreciation and amortization due to an expansion of factories in China.
EBITDA	47,660	35,400	-25.7	-
Investment amount*	62,661	96,900	54.6	•We will make investments in Malaysia (ceramics, quartz, metal processing, etc.), Changshan (silicon parts, etc.) and Sichuan (power semiconductor substrates).
Assumed exchange rate (average for the period)	US\$: 132.08 yen RMB: 19.50 yen	US\$: 130.00 yen RMB: 19.00 yen	-	-

Note: Investment amount = Total amount of tangible fixed assets, intangible fixed assets and securities to be acquired, etc.

Transition of sales

- Quartz
- Ceramics
- Equipment parts cleaning
- Wafer processing and recycling
- Quartz crucibles
- Silicon parts
- CVD-SiC
- Vacuum feedthroughs and metal processing
- EB-gun



Overview of this segment

- We expect sales to decline in vacuum feedthroughs and metal processing and semiconductor materials due to the impact of the deterioration in market conditions and inventory adjustments by customers.
- We forecast a significant increase in sales of quartz crucibles.

Vacuum feedthroughs and metal processing

- We expect a 10% decrease in sales due to a fall in demand for metal processing for semiconductor manufacturing equipment in response to the deterioration in the semiconductor market conditions.

Semiconductor materials, Cleaning business

[Semiconductor materials (quartz, silicon parts, ceramics, and CVD-SiC)]

- Quartz: -22%; due to the impact of inventory adjustments by customers following the deterioration in market conditions
- Silicon parts: -15%; due to the impact of inventory adjustments by customers, etc.
- Ceramics: -24%; due to the impact of a reduction in capital investment for semiconductors and inventory adjustments by customers
- CVD-SiC: +34%; due to an increase in sales resulting from stable demand and increased production at Okayama factory

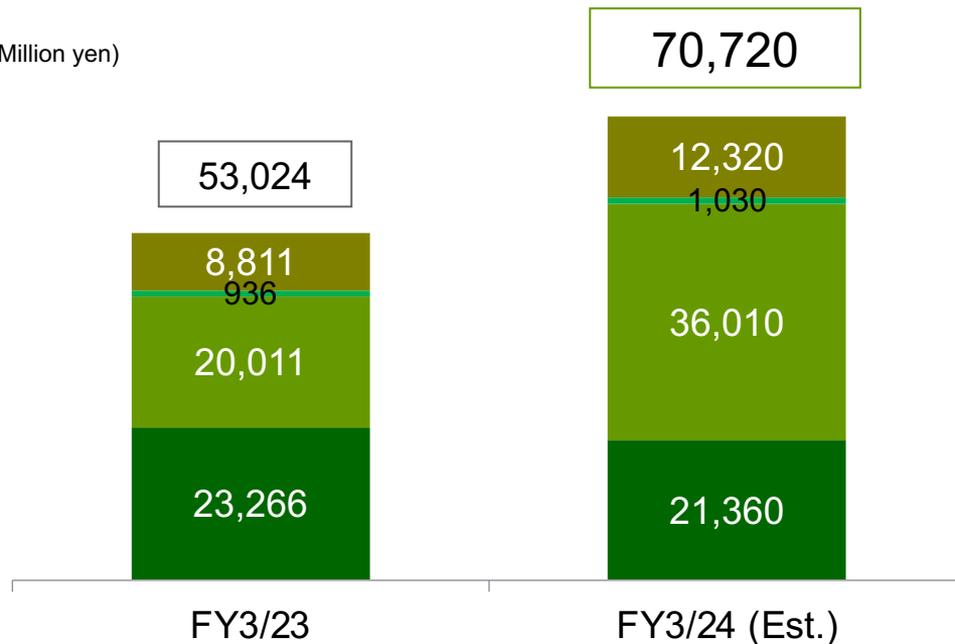
[Quartz crucibles/Cleaning business]

- Quartz crucibles: +311%; due to an improvement of the large-diameter crucible production structure and an increase in demand for PVs
- Cleaning: -5%; due to a decrease in sales because of the impact of lowered demand

Transition of sales

■ Thermo-electric module ■ Power semiconductor substrates ■ Ferrofluid, others ■ Sensor

(Million yen)



Overview of this segment

- Sales of thermo-electric module will be stagnant and power semiconductor substrates will continue to grow.
- An increase in sensor sales is due to the consolidation of Ohizumi Mfg. in the second quarter in the previous fiscal year.

[Thermo-electric modules]

- 8%; demand for both telecommunications and medical equipment will decrease.

[Power semiconductor substrates]

- +80%; due to strong sales of DCB substrates and continued growth in the sales of AMB substrates for automobiles and EVs

Business forecasts of each segment/product for FY3/24



(Million yen)	FY3/23	FY3/24	YoY Pct. change
Semiconductor and other equipment-related	132,194	125,060	-5.4
Vacuum feedthroughs and metal processing	27,976	25,250	-9.7
Quartz	28,837	22,420	-22.3
Silicon parts	17,542	14,840	-15.4
Ceramics	27,194	20,680	-24.0
CVD-SiC	4,812	6,450	34.0
EB-Gun, LED	8,036	6,080	-24.3
Wafer processing (out of scope of consolidation)	236	160	-32.2
Wafer recycling	1,501	1,620	7.9
Equipment parts cleaning	12,170	11,560	-5.0
Quartz crucibles	3,891	16,000	311.2
Electronic device	53,024	70,720	33.4
Thermo-electric module	23,266	21,360	-8.2
Power semiconductor substrates	20,011	36,010	80.0
Ferrofluid, others	936	1,030	10.0
Sensor	8,811	12,320	39.8
Others	25,590	24,220	-5.4
Total	210,810	220,000	4.4

FY3/24 estimate for 1st half and 2nd half by account



(Million yen)	FY3/24 estimate for 1 st half		FY3/24 estimate for 2 nd half			
	Amount	Pct. of sales (%)	Amount	Pct. of sales (%)	Difference	Pct. change (%)
Net sales	105,000	100.0	115,000	100.0	10,000	9.5
Gross income	33,500	31.9	37,000	32.2	3,500	10.4
SG&A expenses	18,500	17.6	19,500	17.0	1,000	5.4
Operating income	15,000	14.3	17,500	15.2	2,500	16.7
Ordinary income	13,500	12.9	16,500	14.3	3,000	22.2
Net income	8,500	8.1	9,500	8.3	1,000	11.8

*Figures are partially rounded.

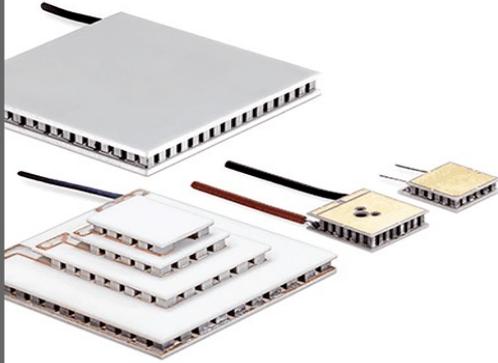
FY3/24 estimate for 1st half and 2nd half by product



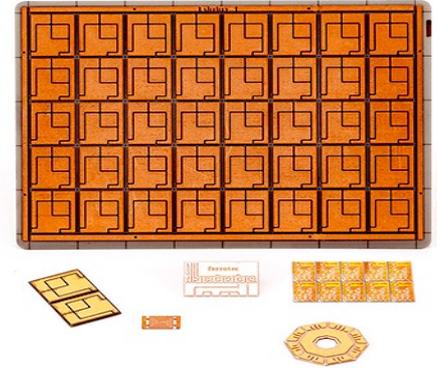
(Million yen)	FY3/24 estimate for 1 st half		FY3/24 estimate for 2 nd half			
	Amount	Pct. of sales (%)	Amount	Pct. of sales (%)	Difference	Pct. change (%)
Semiconductor and other equipment-related	58,900	56.1	66,160	57.5	7,260	12.3
Vacuum feedthroughs	12,430	11.8	12,820	11.1	390	3.1
Quartz	11,150	10.6	11,270	9.8	120	1.1
Silicon parts	7,460	7.1	7,380	6.4	-80	-1.1
Ceramics	10,900	10.4	9,780	8.5	-1,120	-10.3
CVD-SiC	2,980	2.8	3,470	3.0	490	16.4
EB-Gun, LED	3,020	2.9	3,060	2.7	40	1.3
Wafer processing (out of scope of consolidation)	40	0.0	120	0.1	80	200.0
Wafer recycling	760	0.7	860	0.7	100	13.2
Equipment parts cleaning	5,560	5.3	6,000	5.2	440	7.9
Quartz crucibles	4,600	4.4	11,400	9.9	6,800	147.8
Electronic device	34,590	32.9	36,130	31.4	1,540	4.5
Thermo-electric module	11,670	11.1	9,690	8.4	-1,980	-17.0
Power semiconductor substrates	16,940	16.1	19,070	16.6	2,130	12.6
Ferrofluid, others	480	0.5	550	0.5	70	14.6
Sensor	5,500	5.2	6,820	5.9	1,320	24.0
Others	11,510	11.0	12,710	11.1	1,200	10.4
Total	105,000	100.0	115,000	100.0	10,000	9.5

Note: Wafer processing will be omitted as it is out of scope of consolidation from this term.

*Figures are partially rounded.



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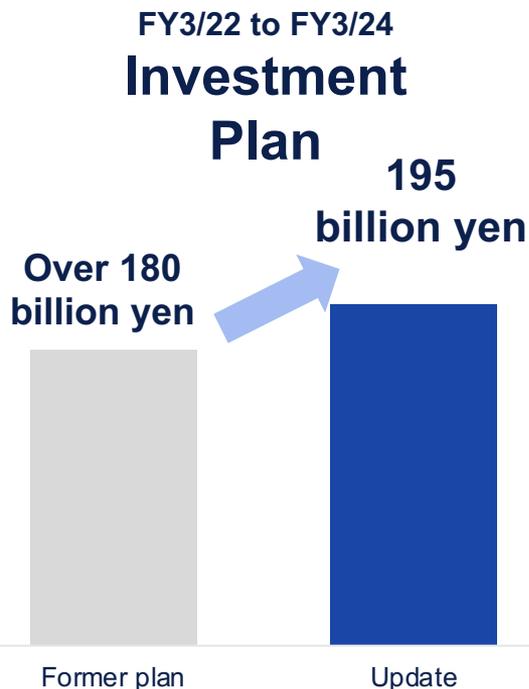


Financial Management and Capital Investment



Investment policy up to FY3/24 (this term)

- We will increase the amount of investment to strengthen our global manufacturing system; we will revise our total investment over three years to 195 billion yen.
- We will continue to consider investment and strategic investment in the automobile sector for sustainable growth.



[Actual investment to date]

*Total amount of tangible fixed assets, intangible fixed assets and securities to be acquired, etc.

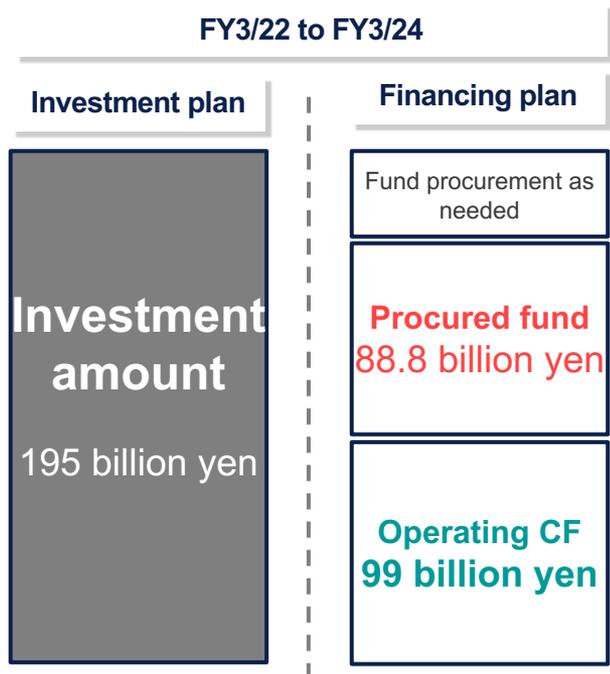
1. We invested 35.4 billion yen in FY3/22 and 62.7 billion in FY3/23 for a total of 98.1 billion yen.
2. We have invested for boosting the production output in response to the increased demand for semiconductor material products and power semiconductor substrates.
3. We worked on the construction of factories in Malaysia, Ishikawa and Kumamoto.
4. We acquired Toyo Knife as a wholly owned subsidiary, and acquired 51% of shares of Ohizumi Mfg. to make it a consolidated subsidiary.

[Course of action for growth investment]

1. Accelerate the pace of strengthening of our global manufacturing system (enhance manufacturing bases in Malaysia and Japan).
2. Continue proactive investment in the automobile segment such as power semiconductors.
3. Continue consideration of M&A while taking into account business relevance, growth potential, etc.

Regarding the procurement of investment funds

- We raised a cumulative total of 88.8 billion yen in capital with the increase in capital of our Chinese subsidiaries and our company by March 2023.
- Continue to ensure an appropriate balance between investment opportunities and the financial standing.



- Capital increase of our company: 19.3 billion yen (December 2021)
Capital increase of our Chinese subsidiaries (FY3/22 to FY3/23):
 - Power semiconductor substrates: 32.2 billion yen
 - SI parts: 19.6 billion yen
 - Cleaning: 12.9 billion yen
 - Wafer recycling: 4.8 billion yenTotal: 69.5 billion yen
- We expect total operating cash flow for three years to be 99 billion yen.
- We will continue to secure an appropriate balance between investment opportunities and financial standing, emphasize net income, and strengthen investment returns and ROIC management.

Schedule of listing subsidiaries we assumed

- Our parts cleaning subsidiary was listed on the ChiNext of the Shenzhen Stock Exchange on December 30, 2022. (public offering price: 8.48 yuan)
- It is unclear when we will be able to list our power semiconductor substrate subsidiary, so we have temporarily terminated our advisory contract with a securities company and are making adjustments.

Business	Parts cleaning	Quartz crucibles and silicon parts	Power semiconductor substrates	Silicon wafer (equity method)	
Company name	Ferrotec (Anhui) Technology Development Co., Ltd.	Ningxia Duryuan Juxin Semiconductor Technology Corporation	Jiangsu Ferrotec Semiconductor Technology Co., Ltd.	Hangzhou Semiconductor Wafer Co., Ltd.	
Abbreviation	FTSVA	FTNC	FLH (formerly, FTSJ)	CCMC	
Current investment ratio	50.23%*	60.13%	55.10%	23.05%	
Stock market	ChiNext, Shenzhen	STAR Market, Shanghai	STAR Market, Shanghai	STAR Market, Shanghai	
Listing advisor	Everbright Securities	Everbright Securities	Huatai Securities	Haitong Securities	
Most recent valuation	54.4 billion yen (public offering price)	105.3 billion yen	146.3 billion yen	281.3 billion yen	
Percentage of new shares to be issued	25%	25%	25%	25%	
Progress and schedule	Listing advisor registration	Aug. 11, 2020	Nov. 4, 2021	—	Oct. 20, 2021
	Application	Jun. 28, 2021	1H of 2023 (target)	TBD	Aug. 30, 2022
	Passing the screening	May 6, 2022	-	-	-
	Official approval	Nov. 16, 2022	-	-	-
	Date of listing	Dec. 30, 2022	Latter half of 2024 (target)	TBD	Latter half of 2023 (target)

*Investment ratio of FTSVA is based on figures after listing.

**Values are calculated based on the share price at the time of the third-party allotment since 2021. 1 yuan = 19.01 yen

Completion of IPO of FTSSVA (December 2022)



Scene of ceremony for the listing at the ChiNext of the Shenzhen Stock Exchange



(Reference) FTSVA (Ferrotec) stock price chart (Baidu)

•The total amount raised by the IPO was 717,408,000 yuan (approx. 14.1 billion yen). The most recent stock price since the listing greatly exceeded the public offering price of 8.48 RMB.

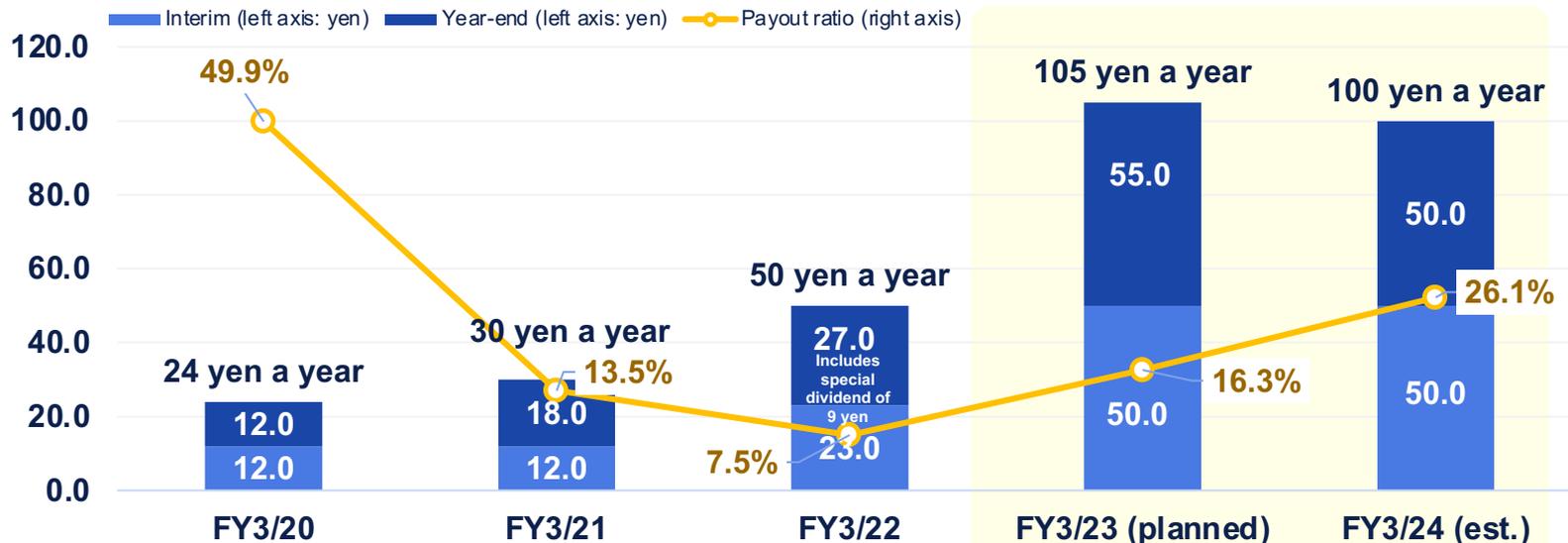
Shareholder return (dividend)

The basic policy is to increase shareholder return through sustainable earnings growth. Decisions on dividends with an eye on a “payout ratio of 20%” and in consideration of the balance between financial and investment opportunities (contents disclosed on May 30, 2022) remain unchanged.

We plan to pay an annual dividend per share of 105 yen in FY3/23 considering the financial results, business performance and investment situation.

We expect to pay an annual dividend of 100 yen in FY3/24 considering the outlook for an improvement in earnings in FY3/25 onward and the level of the dividend in FY3/23.

Variation of dividend per share





Ferrotec Holdings Corporation

Update of the Mid-Term Management Plan

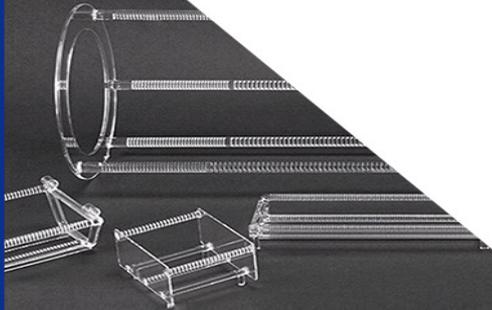
Thur., June 1, 2023



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Our Recognition of the Current Situation up to FY3/23

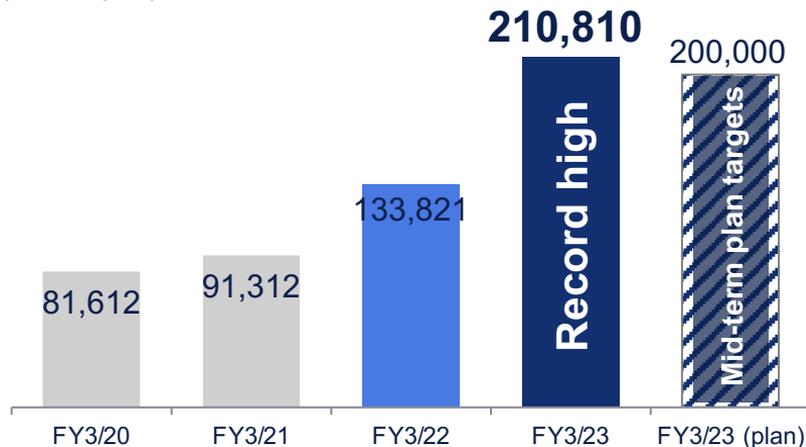


FY3/23: Net sales and operating income hit record highs

- Net sales and operating income reached record highs owing to strong sales of semiconductor materials, parts cleaning, power semiconductor substrates, etc.
- We exceeded the target values set in the mid-term management plan.

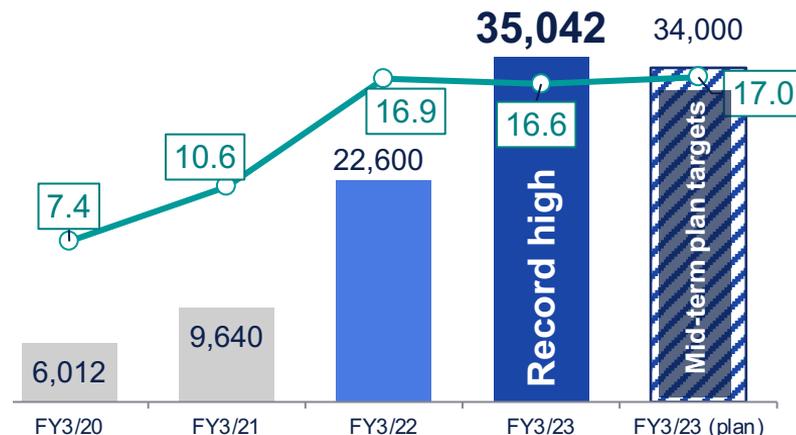
Net sales

(Million yen)



Operating income

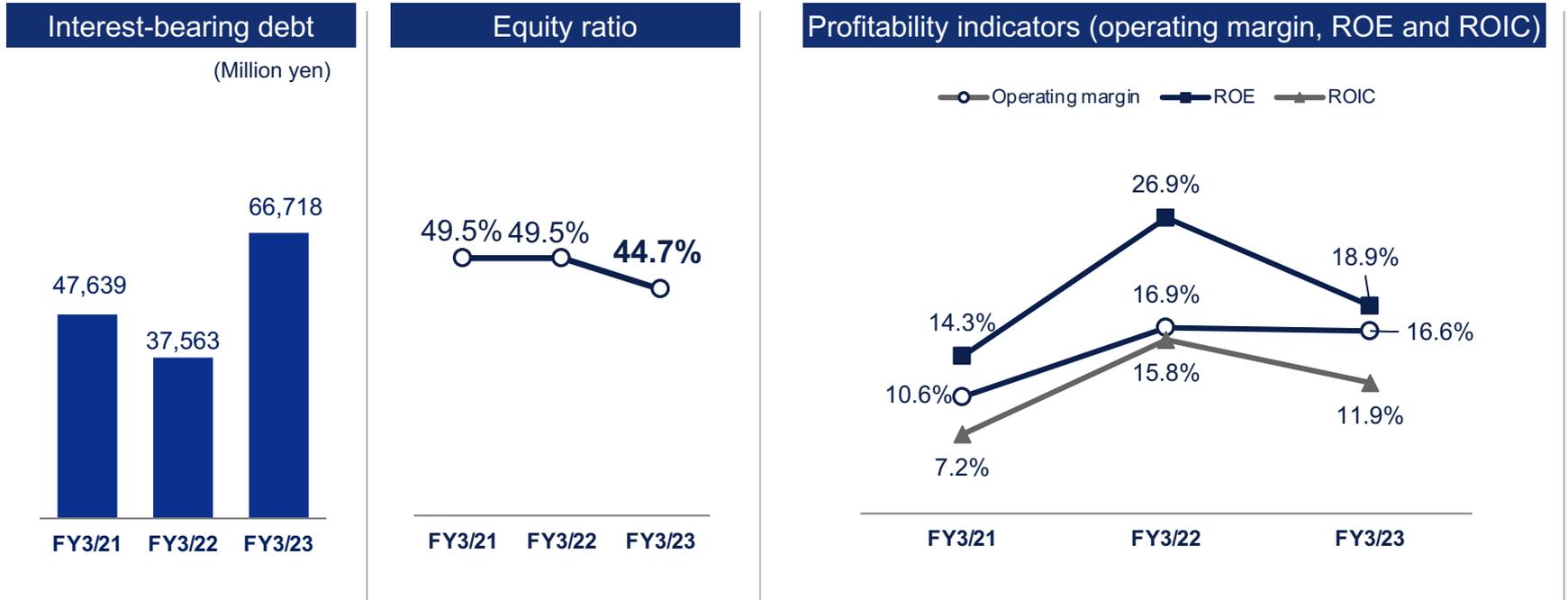
(Million yen) ■ Operating income —○— Operating margin



Financial soundness and profitability are healthy.

- We exceeded the levels set in the mid-term management plan for each of equity ratio, ROE and ROIC.

Variations in key indicators

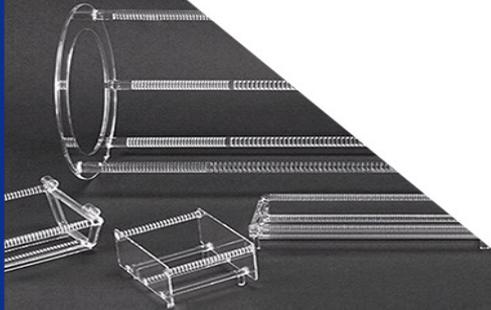




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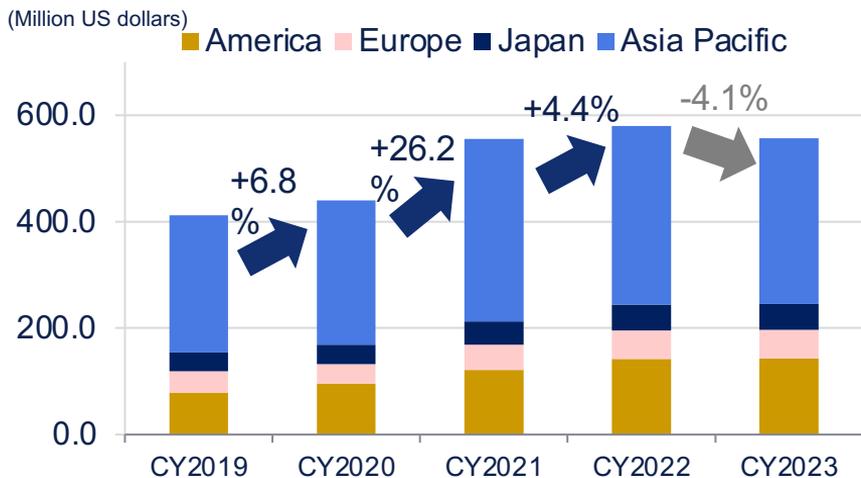
The Market Environment and our Company's Current Status



Situation of the semiconductor market

- We expect demand for semiconductors to be strong in the medium- to long-term, but we forecast an adjustment phase in CY2023 due to inventory adjustments, etc.
- We expect to again see a positive year-on-year growth rate from CY2025 in the WFE (Wafer Fab Equipment) market.

Market forecast in each region



	CY2019	CY2020	CY2021	CY2022	CY2023
Total IC	412.3	440.4	555.9	580.1	556.6

Forecast of WFE (Wafer Fab Equipment) market

	2019	2020	2021	2022	2023	2024	2025	2026
WFE market amount	55.5	64.9	92.3	102.0	77.0	77.0	104.0	131.0
YoY growth rate	-6.0%	16.9%	42.2%	10.5%	-24.5%	0.0%	35.1%	26.0%



*Prepared by our company based on the data published by the WSTS Japan Council (Nov. 2022).

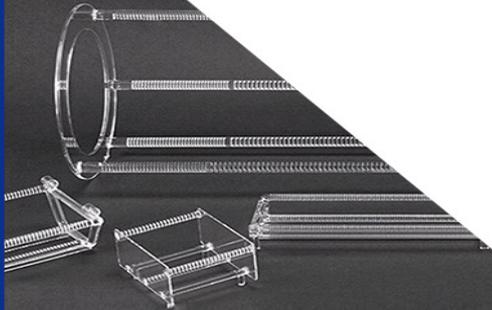
*Prepared by our company based on materials of a certain securities firm.



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Update of the Mid-Term Management Plan



Basic policy of thoroughly pursuing growth is unchanged.

Business growth

- Continue to thoroughly pursue growth and to proactively make investments.
- Promote the strengthening of non-semiconductor businesses while enhancing competitiveness and increasing market share of existing businesses.
- Newly establish and strategically strengthen the automotive sector (figures to be disclosed from the 1Q of FY3/24 and make it a disclosure sector from FY3/25).
- Accelerate the pace of business and product diversification through product development and M&As.

Strengthening of our global manufacturing system

- Start operation of Malaysia base at an early stage.
- Promote “reshoring” by launching Ishikawa factory and Kumamoto factory.

Strengthening of management foundation

- Continue to strengthen quality control.
- Promote digitization, automation, AI utilization, and visualization.
- Continue to strengthen personnel.

Finance/Shareholder return

- Ensure an appropriate balance between investment opportunities and the financial standing, focus on net income and continue to strengthen ROIC management.
- Basic policy is to increase shareholder return through earnings growth and maintain payout ratio of 20%.

Updated KPIs in the mid-term management plan

(Million yen)	Mid-term management plan (FY3/22 to FY3/24)			Target value	
	FY3/22 (actual)	FY3/23 (actual)	FY3/24 (forecast)	FY3/25 (plan)	FY3/26 (plan)
Net sales	133,821	210,810	220,000	270,000	360,000
Operating income	22,600	35,042	32,500	45,000	60,000
Operating margin	16.9%	16.6%	14.8%	16.7%	17.5%
Net income	26,659	29,702	18,000	25,000	36,000
ROE	26.9%	16.6%	15% (target)		
ROIC*	15.8%	11.9%	8 (target)		
Equity ratio	49.5%	44.7%	40% (target)		
Investment amount**	35,378	62,661	96,900	Approx. 60,000	TBD
Dividend per share (annual)	50 yen	105 yen	100 yen		

*ROIC = Net income attributable to owners of parent/(Interest-bearing debt + Net asset). Net asset does not include share acquisition rights or non-controlling interests' equity.

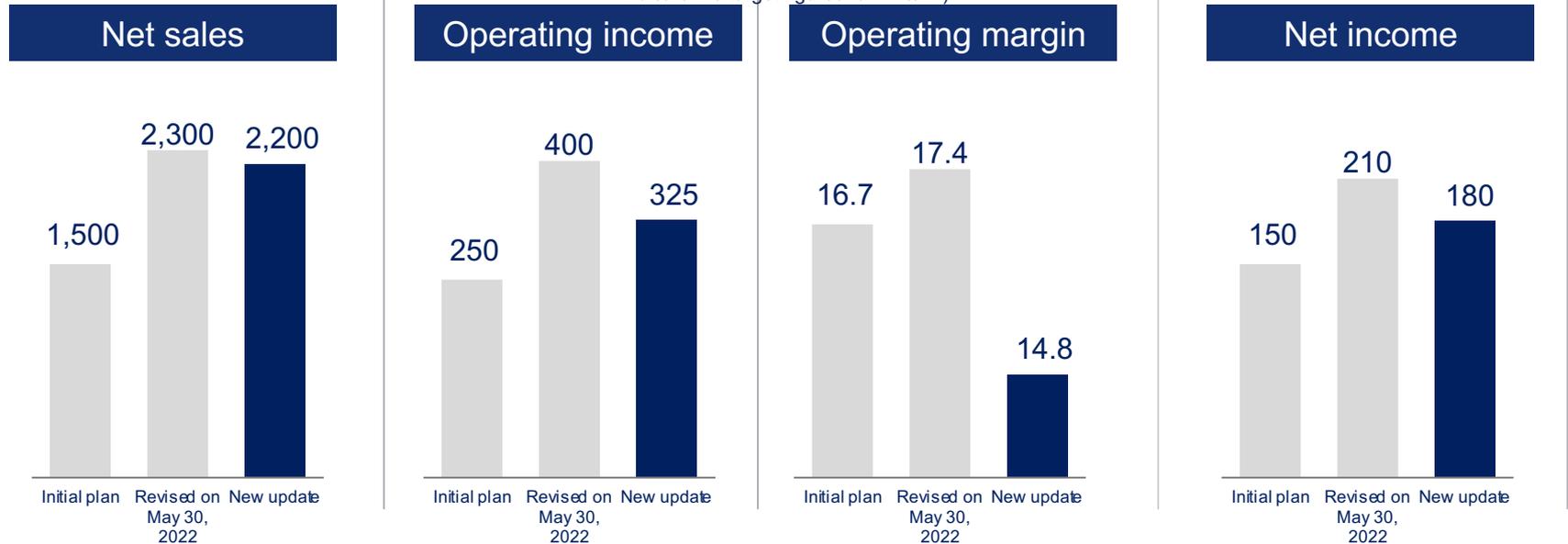
**The investment amount is the total amount of tangible fixed assets, intangible fixed assets and securities to be acquired, etc. It varies depending on M&A investment opportunities.

Updated values of the mid-term management plan **Ferrotec**

- The final year of the mid-term management plan (FY3/24) is set to achieve a 53% increase in net sales and a 40% increase in net income* compared to the previous plan.
- Further growth is planned for FY3/25: Net sales of 290 billion yen, operating income of 52 billion yen, and net income of 27 billion yen.

Variation of figures in the mid-term management plan for FY3/24

(The amounts are in hundreds of millions of yen; all the figures indicate the target figures for FY3/24)



Situation of major factory construction and production capacity improvement **Ferrotec**

We are expanding production capacity by gradually building new factories and adding floor space toward growth from 2024 onward. The following are our main plans at present.



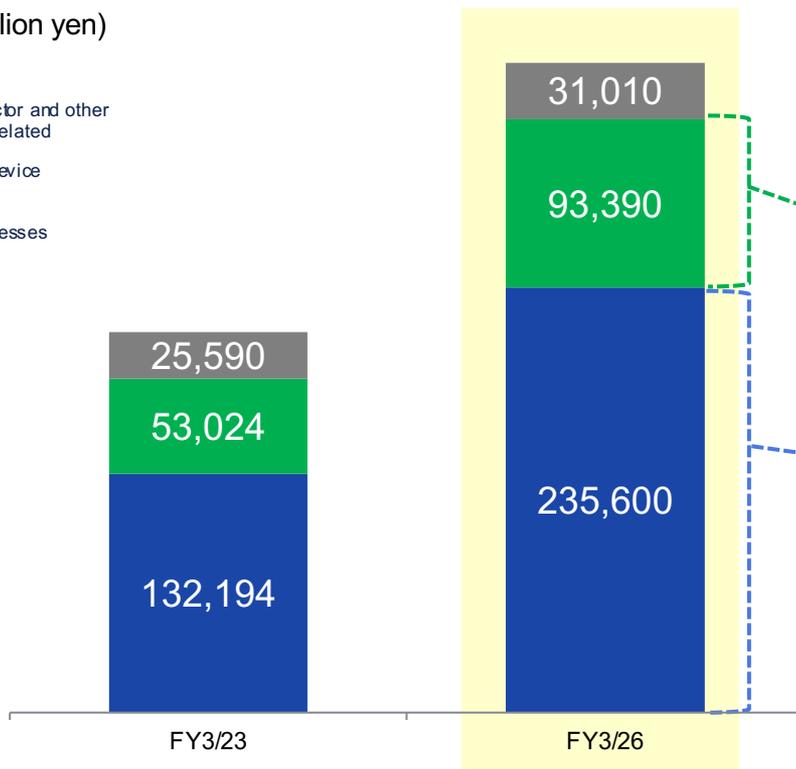
Location	Business	2022	2023	2024	2025	2026	2027	2028	Assumed production capacity (100 million yen)
Dongtai and Neijiang, China	Power semiconductor substrates								560
Ishikawa, Japan	Ceramics								140
Changshan, China	Ceramics Silicon parts								150
Yinchuan, China	Quartz crucibles								340
Malaysia	Metal processing, quartz, ceramics								250
Kumamoto, Japan	Material, cleaning								TBD

Target values by segment

Transition of sales

(Million yen)

- Semiconductor and other equipment-related business
- Electronic device business
- Other Businesses



Overall

- Target of a sales increase over three years: From 210.8 billion yen to 360 billion yen, up +71%
- We are steadily expanding our global manufacturing system. We will be able to reach our target sales when demand in the semiconductor sector recovers.
- We will continue to improve productivity through digitization, automation and AI utilization.
- We will also pursue further growth by expanding our business through M&As.

Electronic device segment

- Target of a sales increase over three years: From 53 billion yen to 93.4 billion yen, up +76%
- We are steadily increasing production output with the establishment of our Sichuan factory for power semiconductor substrates. We expect full-scale production to be feasible in 2024.

Semiconductor and other equipment-related segment

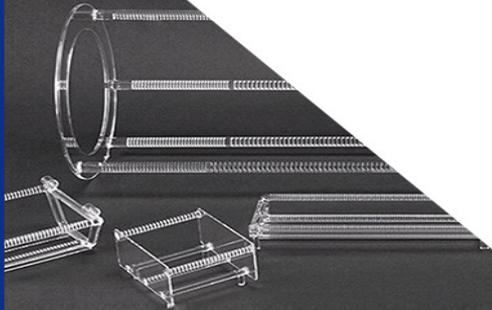
- Target of a sales increase over three years: From 132.2 billion yen to 235.6 billion yen, up +78%
- We are steadily improving and automating our global manufacturing system. We will be able to realize a rapid expansion in sales when demand recovers.
- Changshan (quartz, metal processing, silicon parts, etc.)
 - Malaysia (metal processing, quartz and ceramics)
 - Ishikawa (ceramics)
 - Okayama (CVD-SiC)



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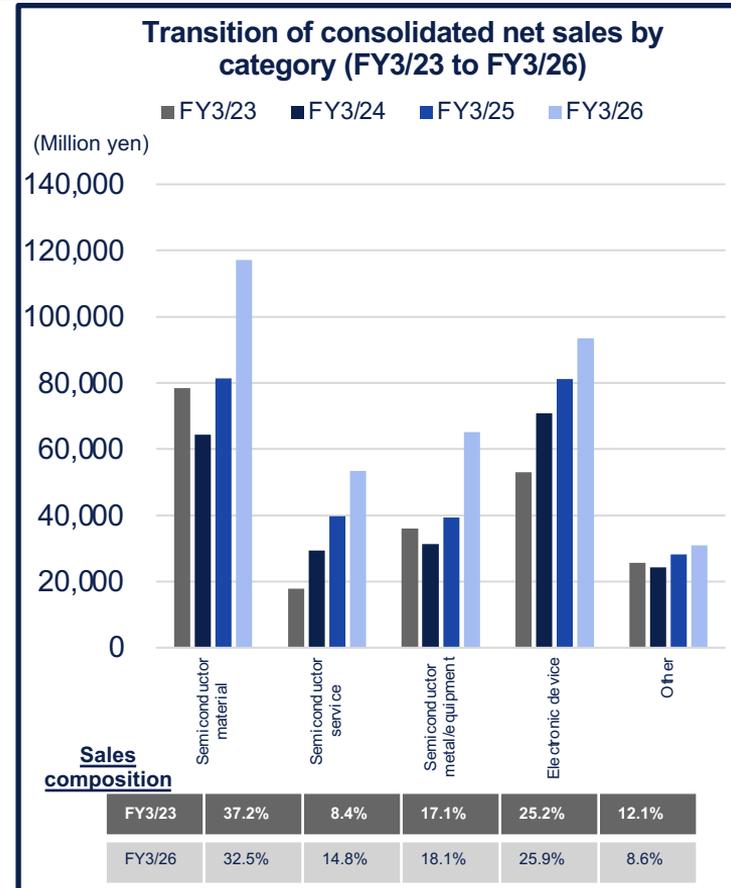


Business Strategies for Priority Products



Target net sales by each category for FY3/26

	Category	Products	Results for FY3/23	FY3/26 (target)	Pct. change (comparison between FY3/23 and FY3/26)
A	Semiconductor material	Quartz, ceramics, silicon parts, CVD-SiC, etc.	78,385	117,100	+49.4%
B	Semiconductor service	Parts cleaning, crucibles, wafer recycling, etc.	17,798	53,430	+200.2%
C	Semiconductor metal/equipment	Vacuum feedthroughs, metal processing, deposition apparatus, etc.	36,012	65,070	+80.7%
D	Electronic device	Thermo-electric modules, power semiconductor substrates, sensors and ferrofluid	53,024	93,390	+76.1%
E	Other	Blades, cleaning, other manufacturing equipment, etc.	25,591	31,010	+21.2%
A+B+C+D+E	Grand total (consolidated net sales)		210,810	360,000	+70.8%
A+B+C	Total of semiconductor and other equipment-related	Total of material/service/semiconductor metal/equipment	132,194	235,600	+78.2%

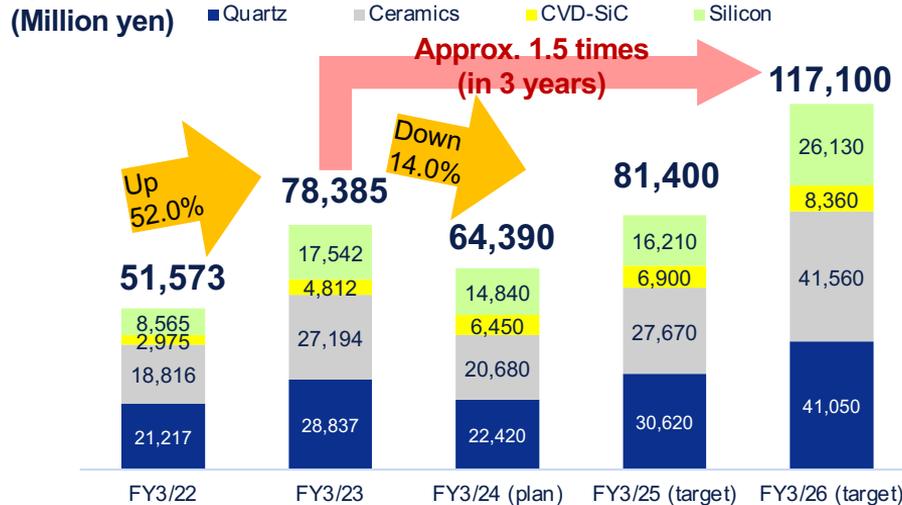


Semiconductor material: Seeing strong demand, we are boosting our production capacity.

*The strategic products are quartz, ceramics, CVD-SiC, and silicon.



Variations in sales (FY3/22 to FY3/26)



FY3/23

Up 52% from the previous year

- In FY3/24, sales are expected to decline 14% year on year.
- The semiconductor market remained healthy in FY3/23, thanks to the investment in digital technologies, the growth of demand for EVs, etc.
- The WFE (Wafer Fab Equipment) market will be stagnant in 2023 (FY3/24). However, the outlook for the mid/long-term market growth is unchanged.
- We will continue to expand the production capacity of each product in anticipation of market expansion from 2025 onward (FY3/26).

Quartz: New factories in Malaysia and Kumamoto

Ceramics: New factories in Malaysia and Ishikawa

*CVD-SiC: Okayama and Changshan (new factories)

Silicon: Production to be increased in Changshan

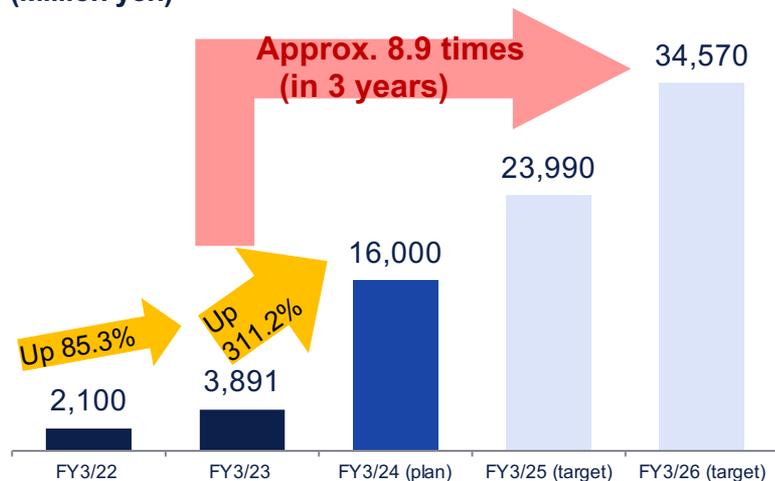
Situation of quartz crucibles and the outlook



*In Yinchuan, we are conducting the quartz crucibles business for semiconductors and solar cells.

Variations in sales (FY3/22 to FY3/26)

(Million yen)



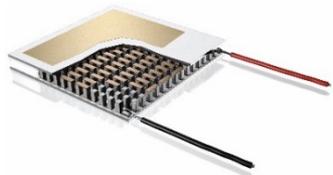
Sales increased in FY3/23, up 85.3% year-on-year, and are expected to significantly increase in FY3/24, up 311.2% year-on-year.

- The trends to increase the quartz crucible diameter sizes to support the increase in wafer diameter sizes as well as to expand the introduction volume in the solar cell market have become striking. We are investing to increase production capacity in our Yinchuan factory.
- We are aiming to increase sales approx. 8.9 times in three years compared to FY3/23.

Forecast of market share by solar cell wafer size (in mm)

*The figures for 2022 to 2023 are a forecast. Prepared by our company based on information from PV Infolink.



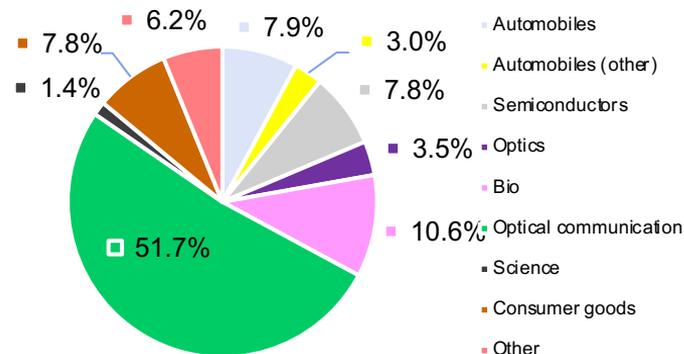


Thermo-electric module



New product: Cooling chiller

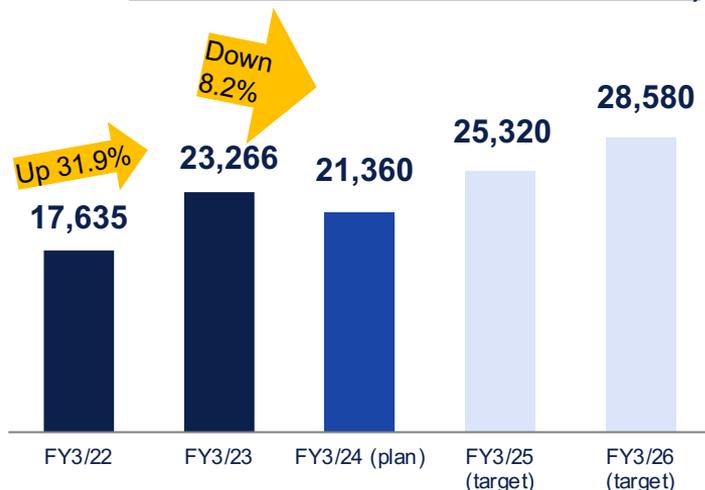
Ratios of purposes of use of thermo-electric modules in FY3/23

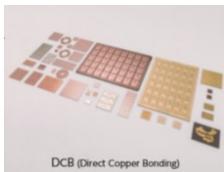


Sales increased in FY3/23, up 31.9% year-on-year.

- We expect sales to decline 8.2% in FY3/24 (sales for 5G communications equipment applications, PCR and other bio-device applications and the semiconductor field have been reaching plateau (we forecast sales to increase again from FY3/25)).
- In terms of our new cooling chiller, we have prepared a lineup of multiple models with a thermo-module (Peltier) method and compressor method. We are working to expand sales in the fields of machine tools and medical equipment in addition to the field of semiconductors.

(Million yen) Variations in sales (FY3/22 to FY3/26)

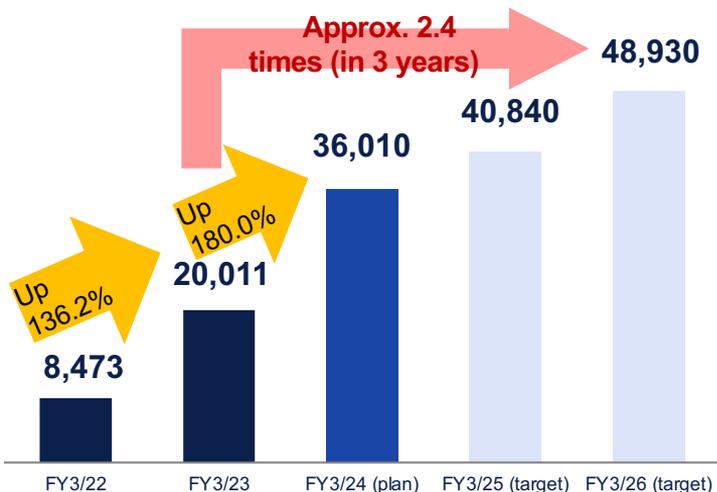




*Research institute for power semiconductors in Dongtai (to strengthen development of next-generation products)

(Million yen)

Variations in sales (FY3/22 to FY3/26)

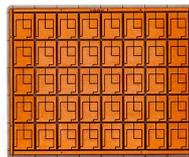


Sales increased in FY3/23, up 136.2% year-on-year.

- We forecast **an year-on-year increase in sales of 180% and continued growth** in FY3/24.
- We are constructing a new factory in Neijiang, Sichuan (which is scheduled to be completed in June 2023).
- The power semiconductor substrate factory in Dongtai is expanding its production capacity, and sales are estimated to keep growing in the next and following terms. (Monthly production capacity of Shanghai and Dongtai factories is planned to be increased from **1.1 million substrates to 1.6 million substrates for DCB substrates and from 200,000 substrates to 450,000 substrates for AMB substrates.**)
- We will enhance the measures for selling DPC substrates with high heat resistance and high strength for optical communication, power LED products, etc.

★**Demand for DCB substrates will further increase due to the global trend to reduce power consumption.**

*Sales of AMB substrate will reach a certain level for automotive applications.



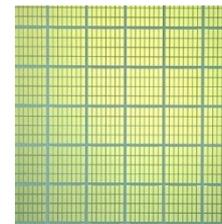
DCB substrates
(Direct Copper Bonding)

Material: Alumina ceramics



AMB substrates
(Active Metal Brazing)

Material: Silicon nitride



DPC substrates
(Direct Plated Copper)

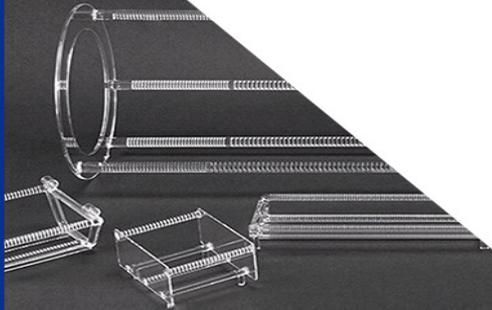
Material: Alumina ceramics, etc. and metalization (Ni, etc.)



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Recent Topics New Business Initiatives, Etc.



Sales expansion policy for in-vehicle devices in response to the growth of the EV market

- We expect sales to increase to about 35 billion yen FY3/26 due to growth of power semiconductor substrates and temperature sensors thanks to an increase in demand for electric vehicles (EVs).
- We will consider a further strategic expansion against a background of favorable conditions in terms of an expansion in the EV market and progress in autonomous driving.

Our products that can be used for in-vehicle devices



Power semiconductor substrates

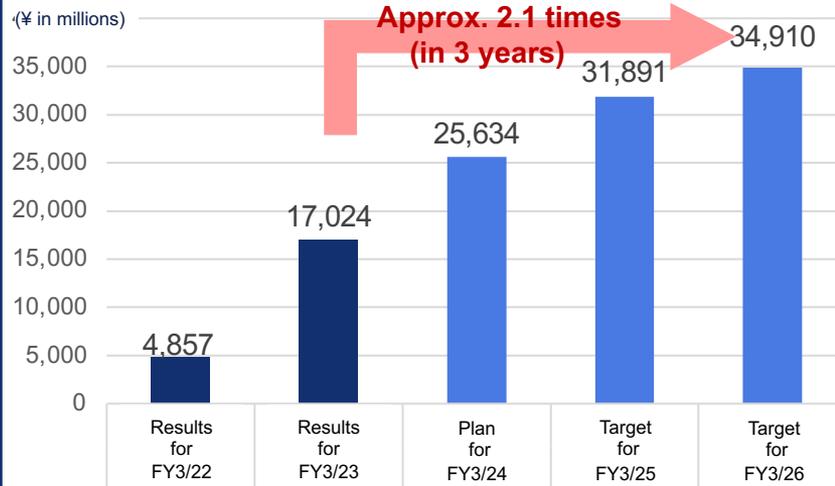


Thermo-electric module



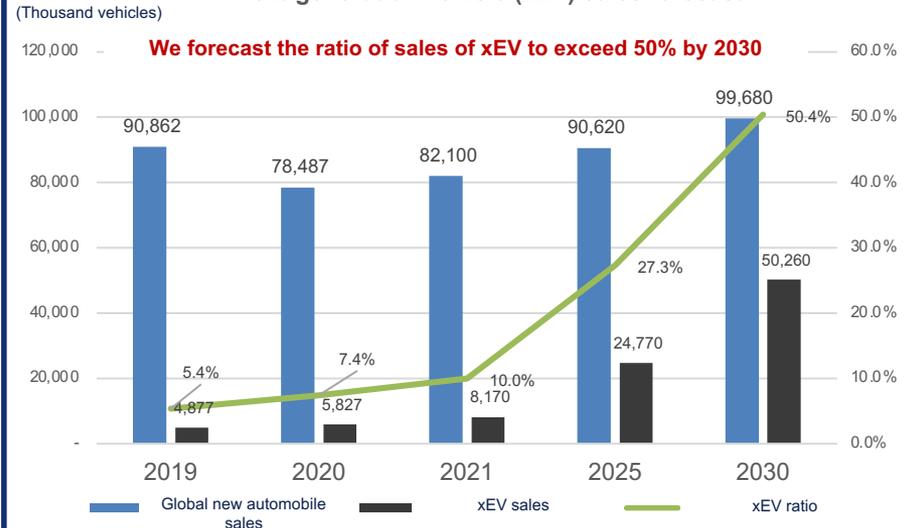
Sensor

Transition of consolidated net sales of in-vehicle devices (Current assumption until FY3/26)



*The above figures are for those which correspond to net sales for in-vehicle devices among the electronic devices business.

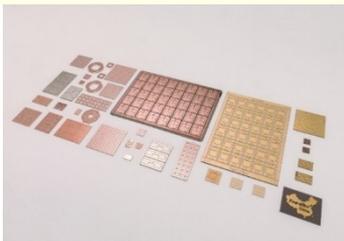
Global automobile sales and next-generation vehicle (xEV) sales forecast



*Data is based on research by Yano Research Institute.

Fortification of our business portfolio: Business expansion in the non-semiconductor manufacturing equipment field

In the electronic device business, the manufacturing of “insulated substrates for power semiconductors” became a major business following the global energy-saving trend, like “thermo-electric modules,” temperature-control devices, which are increasingly adopted in many fields.



- DCB substrates
- Alumina ceramics
- Industrial machinery and home appliances

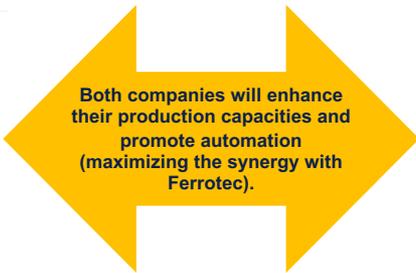


- AMB substrates
 - Silicon nitride and aluminum
 - Electric vehicles (EVs) and railroad cars
- *Demand expanded steeply due to the growth of the EV market

- The following two companies, which have become consolidated subsidiaries, aim to expand their businesses in the medium term.
 - Ohizumi Mfg. Co., Ltd. promotes temperature sensors for in-vehicle devices and air-conditioners and thermistors (elements) in the optical communication field.
 - Toyo Knife Co., Ltd. will further cultivate Japanese and Chinese markets for **industrial knives** mainly in the information industry.

Thermistor **Electronic devices**

Semiconductor ceramics sensitive to temperature changes
 Thermistors are semiconductor ceramics that change resistance significantly according to temperature changes. By utilizing this characteristic, thermistors are broadly used as temperature sensors for in-vehicle devices, home appliances, optical communications, etc. The demand for thermistors is growing thanks to the electrification of vehicles and digitalization. Ohizumi Mfg. supplies high-quality thermistors to global first-tier enterprises as the largest maker in the niche market of thermistors.
 "Thermistor" is a word coined from "thermally sensitive resistor."



Industrial knife **Other**

Toyo Knife Co., Ltd. manufactures knives for machinery for manufacturing electronic components of smartphones, automobiles, cardboard, etc. Based on the technologies and quality nurtured since 1925 as its strengths, it provides knives for machinery suited for all kinds of materials, including those in the information industry, steel, paper, lumber, and food ingredients, to meet the requests from customers.

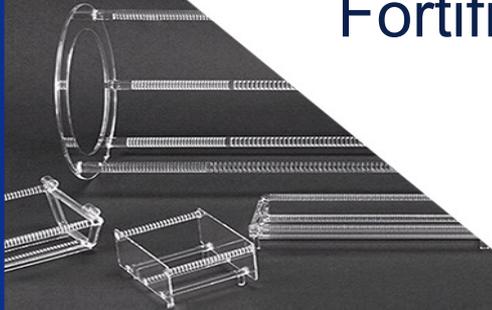




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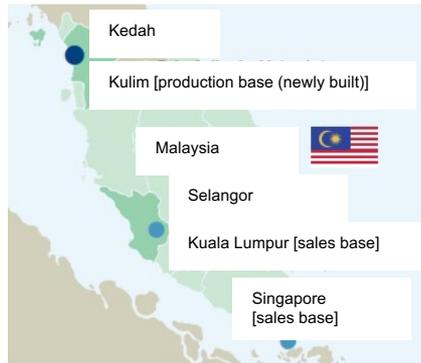
Regarding our Global Strategies and the Fortification of our Business Portfolio



Production base: Global strategy “Southeast Asia: A new base in Malaysia” **Ferrotec**

- We established Ferrotec Manufacturing Malaysia, a subsidiary for manufacturing our products, inside Kulim Hi-Tech Park, Kedah, Malaysia (near to the Penang Island) in April 2022. Its factory is scheduled to be completed around November 2023.

*Business operation oriented toward clients in Southeast Asia (quartz, ceramics, metal processing/assembly, etc.)



Our bases in Malaysia and Singapore



Scene of topping-out ceremony in May 2023



Conceptual drawing



Quartz



Ceramics



Metal processing/assembly

Production base: Global strategy “Japan: Enhancement in Ishikawa and a new base in Kumamoto”

In Ishikawa, we are preparing for the increase of production output of “fine ceramics” and “machinable ceramics,” which are materials related to semiconductor manufacturing equipment and are expected to be demanded further in the medium/long term.

*In November 2022, the second factory was completed. We have acquired land for the third factory, and plan to complete construction in the middle of 2024.



Scene of ground-breaking ceremony at the site in Ozu Town, Kumamoto Prefecture in March 2023



Map of our bases in Japan

★In Ishikawa, we have already acquired land for the third factory to increase the production output of ceramics.



Ishikawa second factory for ceramics

★We plan to establish a production base in Ozu Town, Kumamoto Prefecture in Kyushu dubbed “Silicon Island.”

(to be completed in June 2024)

*We are considering semiconductor materials and equipment parts cleaning to be offered in the new base.



Conceptual drawing of a new base in Kumamoto

China: We are continuing to increase production capacity in our new factories in response to the growth of the semiconductor market in Japan and overseas.

Changshan,
Zhejiang

Second factory: Increasing production output



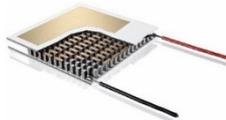
Third factory: To be completed in 2023



Quartz



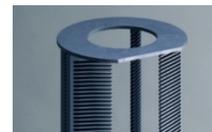
Metal
processing



Thermo-electric
module



Ceramics



Silicon parts



CVD-SiC

Neijiang, Sichuan

To be completed in July 2023

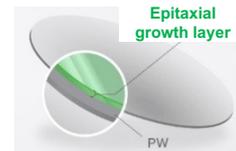


Lishui, Zhejiang

Completed in 2022



Power semiconductor
substrates



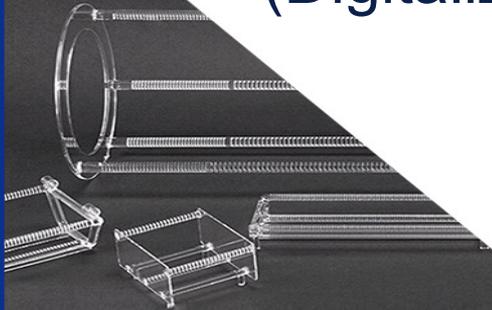
Si epitaxial wafer



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Strengthening of Management Foundations (Digitalization, Human Resource Investment, Etc.)



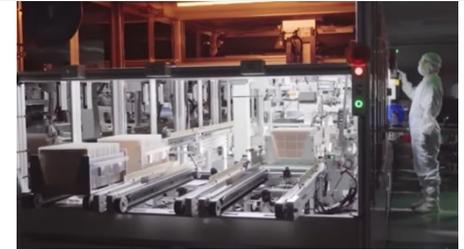
- Various systems, including ERP and MES, have been installed in production bases in China, thereby visualizing and streamlining production processes, and improving quality (utilization of AI and adoption of robots).
⇒To enhance the investment in automation also in the new bases in Japan and Malaysia (cross-sectoral promotion)



Automatic conveyance system



Automatic warehouse system



Automatic inspection equipment

To promote the DX of manufacturing processes to improve productivity and quality

Strengthening human resources: Secure outstanding human resources and deploy measures to develop human resources in Japan and overseas.

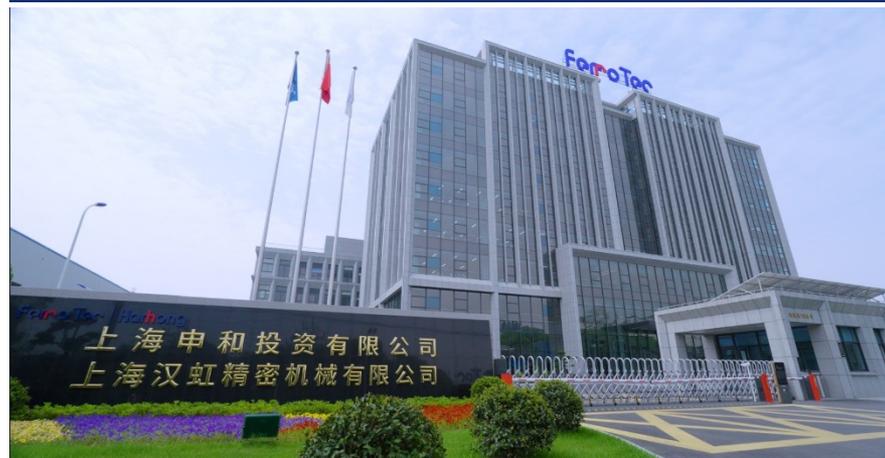
- ◆ We will strengthen branding and strive to secure excellent human resources in areas where business is expanding (Japan, China, Malaysia, etc.)
- ◆ We will position 2023 as a “year of learning” within our group. We will work to build a corporate culture in which we are always learning about the latest technologies and knowledge to innovate technologies and create new products.

Japan: We will strengthen branding from June onward focused on areas where we are expanding business such as Ishikawa and Kumamoto to secure excellent human resources (improve the recognition of our group with TV commercials and station signage advertisements).



China: We will construct a new building in Shanghai to integrate the functions of our Chinese headquarters. We will enhance R&D personnel recruitment in Shanghai and branding in China.

*We will strengthen relationships with universities and research institutions in China to secure excellent human resources.



Net income/shareholder return

(Contents disclosed on May 30, 2022)

Dividend Policy

While the basic policy of increasing shareholder return through sustainable earnings growth remains unchanged, decisions on dividends will be made with an eye on a “payout ratio of 20%” and in consideration of the balance between financial and investment opportunities.

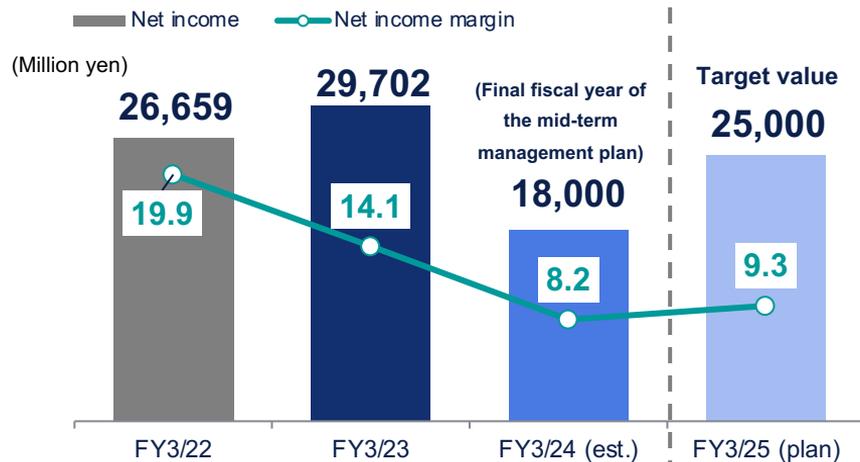
[FY3/23]

<Term start>

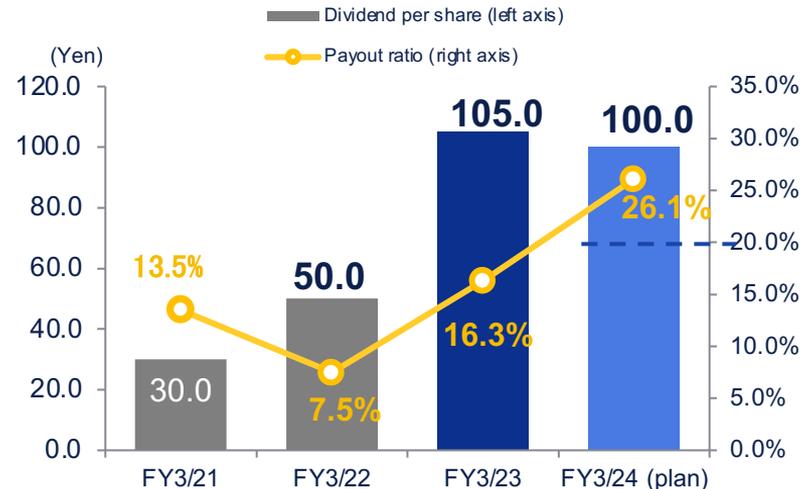
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•Dividend per share: 70 yen/year	⇒	105 yen/year
[Total dividend]	(3.2 billion yen)	⇒ (4.9 billion yen)
[Net income]	(17 billion yen)	⇒ (29.7 billion yen)

Target net income



Dividend target



Our long-term target remains the same as last time at 500 billion yen in net sales.

Our long-term target remains unchanged.

Net sales of 500 billion yen and a net income of 50 billion yen in FY2030

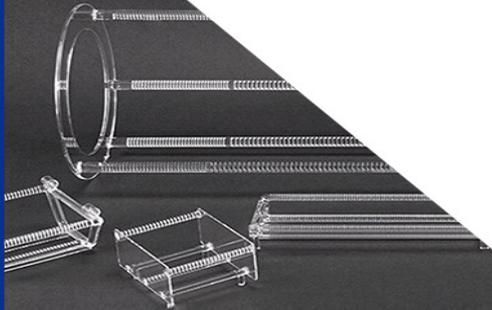




Ferrotec
Ferrotec Holdings Corporation



Appendix



Our lineup of semiconductor-related products

Jigs and consumables for semiconductor manufacturing equipment (our mainstay material products)



Quartz



Silicon parts



Ceramics



CVD-SiC

Our strengths: Not only capital investment-linked products (vacuum feedthroughs), but also a lineup of **repeat consumables (materials)** and services (cleaning and wafer recycling) **linked to the production and operation of semiconductor device manufacturers**



Vacuum feedthroughs

*Semiconductor and FPD production equipment parts (Market share: 65% (largest))



Metal precision machining

*Growth forecast due to increase in future customers (factories) in China



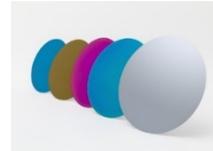
Equipment parts cleaning

*Focus on the Chinese market



Quartz crucibles

*For semiconductors and solar cells



Wafer recycling

*Focus on the Chinese market (New business launched in FY3/22)

Businesses at equity-method affiliates



Silicon wafers

*Monthly production capacity: 6-inch: 420 thousand, 8-inch: 450 thousand, 12-inch: 30 thousand (increased from 100 thousand to 200 thousand)



SiC wafers

*Development and mass-production (New business launched in FY3/22)

Line-up of our electronic device-related products

Thermo-electric modules



*As temperature adjustment devices, thermo-electric modules are increasingly used in the fields of automobiles, semiconductor manufacturing equipment, communications, medical biotechnology, consumer products, etc.
(Market share: 36% (largest))

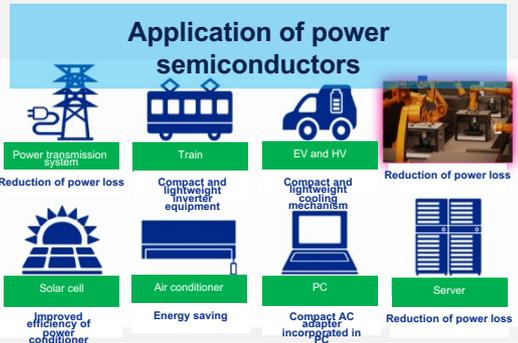


Usage increased for PCR tests
 Necessary to check the existence of pathogens that cannot be observed with a microscope by using DNA amplification

Insulating substrates for power semiconductors



*In response to **the global trend of power consumption reduction**, the demand from clients needing power semiconductors is growing.
 (DIRECT COPPER BONDING technology for bonding a copper circuit to an alumina ceramics substrate)



Ferrofluid



*Used in a wider range of fields, including automobile speakers, high quality sound TV speakers, and smartphone vibration
(Market share: 80% (largest))

Temperature sensors (thermistors) *Ohizumi Mfg.



*Thermistors are semiconductor ceramics that change resistance significantly according to temperature changes. They are broadly used as temperature sensors for in-vehicle devices, home appliances, optical communications, etc. The demand for them is growing thanks to the electrification of vehicles and digitalization.

Map of production bases of Ferrotec Group in China

Distribution of our factories in China



We will contribute to the growth of the market assuming domestic production and expand business by establishing production bases in the vicinity of major footholds of Chinese semiconductor enterprises and improving customer satisfaction.

- Quarts
- Silicon parts
- Ceramics
- CVD-SiC
- Parts cleaning
- Vacuum feedthroughs and metal processing
- Wafer recycling
- Thermo-electric modules
- Power semiconductor substrates
- Semiconductor wafers
- SiC wafers

Letters in red show major footholds of Chinese semiconductor enterprises
 (1)Beijing (2)Shanghai
 (3)Wuhan (4)Hefei
 (5)Xian

- The forward-looking statements in this document are based on information available as of the date of publication of this document and assumptions concerning uncertain factors affecting future results.
- Actual results may differ materially from these forecasts due to various factors. Such factors include, but are not limited to, international conditions, economic conditions, product supply and demand trends, raw material prices, market conditions, and exchange rates.
- Quantitative targets and capital investments in these materials represent medium-to long-term strategies and visions, and are not performance forecasts. We undertake no obligation to update any information with respect to these matters.
- For official forecasts, please refer to the disclosure of financial results based on the Tokyo Stock Exchange Regulations.

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