



Ferrotec Holdings Corporation

Progress on the Mid-Term Management Plan
(FY3/22-FY3/24)

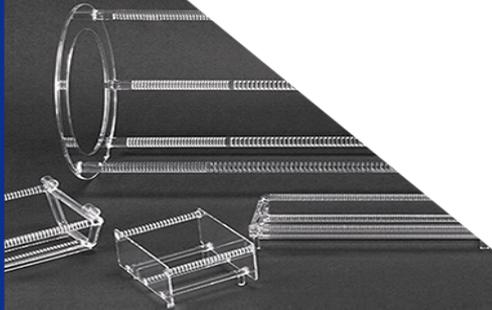
Tue. December 21, 2021



FerroTec
Ferrotec Holdings Corporation



Review of 2Q of FY3/22



Business results

Our business performed well, thanks to the strong demand, and hit a record high.

Seeing favorable performance, we upwardly revised the forecast twice (while increasing the dividend amount). Net sales and operating income grew 43.8% and 174.3%, respectively, year on year, both hitting a record high.

Products

All of priority products/services sold well.

The performance of semiconductor materials and machinery parts cleaning services, which are priority products/services, was healthy. The demand for power semiconductor substrates increased rapidly, due to the growth of the markets of EVs and green energy. In the field of thermo-electric modules, whose performance has been stable, new demand burgeoned.

Capital investment

In response to the strong demand in the market, we conducted active investments.

Demand is strong, as corporate capital investment, which had been sluggish due to COVID-19, showed a sign of recovery. In accordance with the investment policy of the mid-term management plan, we actively invested in priority products.

Fund procurement

Our financial position is improving, and the utilization of Chinese capital has progressed.

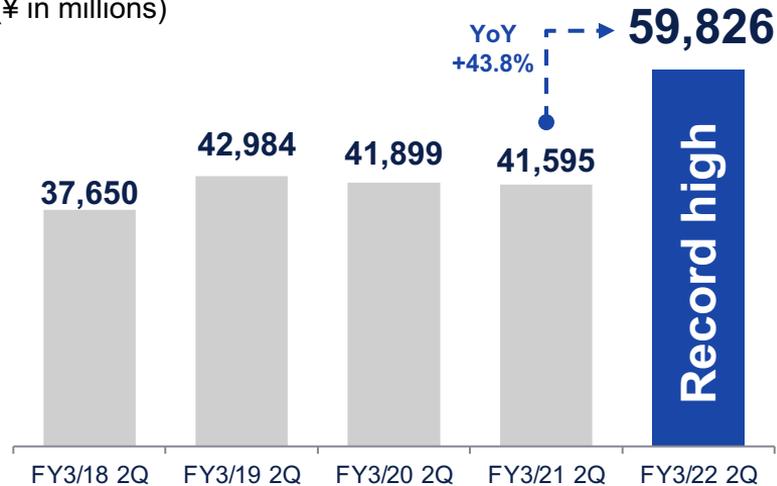
The investment burden was divided by transforming subsidiaries into equity-method affiliates, joint investment with Chinese capital, etc. We executed a plan for raising capital in China, for the listing of subsidiaries.

We posted record-high net sales and operating income for the first half in our corporate history.

- Net sales hit a record high, thanks to the favorable performance of semiconductor materials, parts cleaning, thermo-electric modules, etc.
- Operating income rapidly recovered, as the semiconductor market was favorable and the subsidiary producing silicon wafers was excluded from the scope of consolidation.

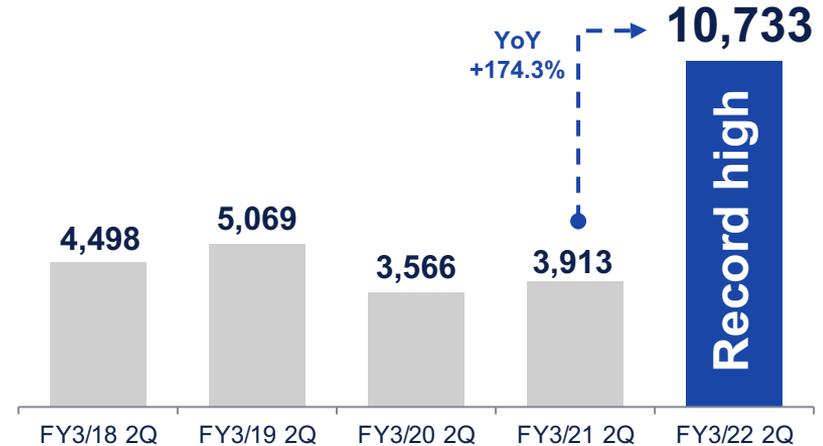
Net sales

(¥ in millions)



Operating income

(¥ in millions)



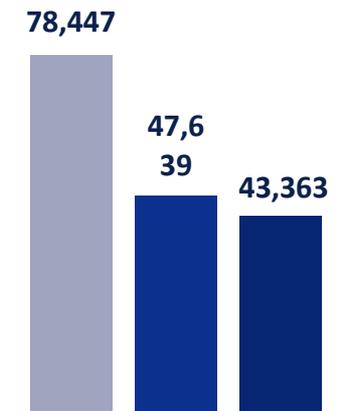
- Major management indicators are improving significantly as the subsidiary in the silicon wafer business was excluded from the scope of consolidation in the second half of FY 3/21.

Variations in key indicators

(¥ in millions)

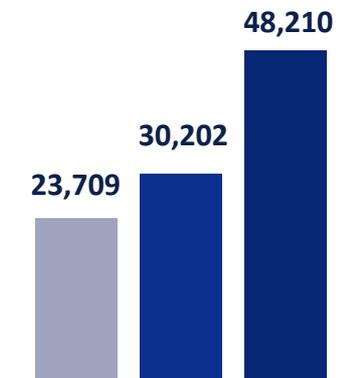
Interest-bearing debt

■ FY3/20 ■ FY3/21 ■ FY3/22 2Q



Cash and cash equivalents

■ FY3/20 ■ FY3/21 ■ FY3/22 2Q



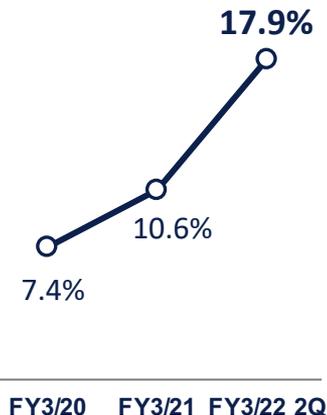
Equity ratio

*Target (mid-term management plan) for FY3/24
Over 40%



Operating margin

*Target (mid-term management plan) for FY3/24
16.7%



Thanks to favorable performance, we are expected to reach the figures forecasted in the mid-term management plan one year earlier than originally planned.

- Considering strong demand, we announced the second upward revision to the forecast on November 12, after the first upward revision on August 13.
- We are expected to reach and exceed the earnings forecast for FY3/23 mentioned in the mid-term management plan one year earlier than originally planned.

	FY3/22 (forecast)		FY3/23 (mid-term management plan)	FY3/24 (mid-term management plan)
	Forecast revised on Aug. 13	Current forecast (revised on Nov. 12)		
Net sales	115 billion yen	125 billion yen	125 billion yen	150 billion yen
Operating income	20 billion yen	22.5 billion yen	19 billion yen	25 billion yen
Operating margin	17.4%	18.0%	15.2%	16.7%
Net income attributable to owners of parent	20 billion yen	23.5 billion yen	11 billion yen	15 billion yen

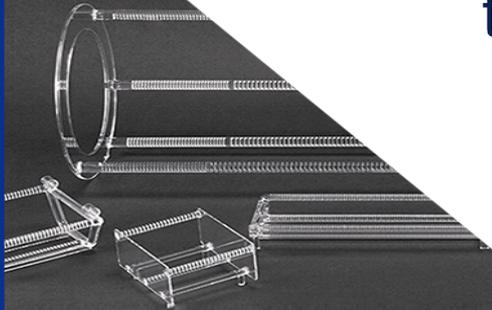
Attaining goals one year earlier than originally planned



Ferrotec
Ferrotec Holdings Corporation



Situation of priority products and the outlook for the second half of the current term



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))



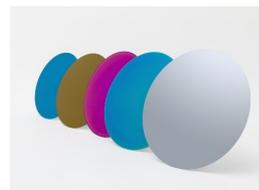
Metal precision machining

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



Machinery parts cleaning

*Focus on the Chinese market (Market share in China: 60% (largest))



Wafer recycling

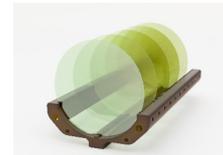
*Focus on the Chinese market (New business to be launched in FY3/22)

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 to be launched in FY3/22)

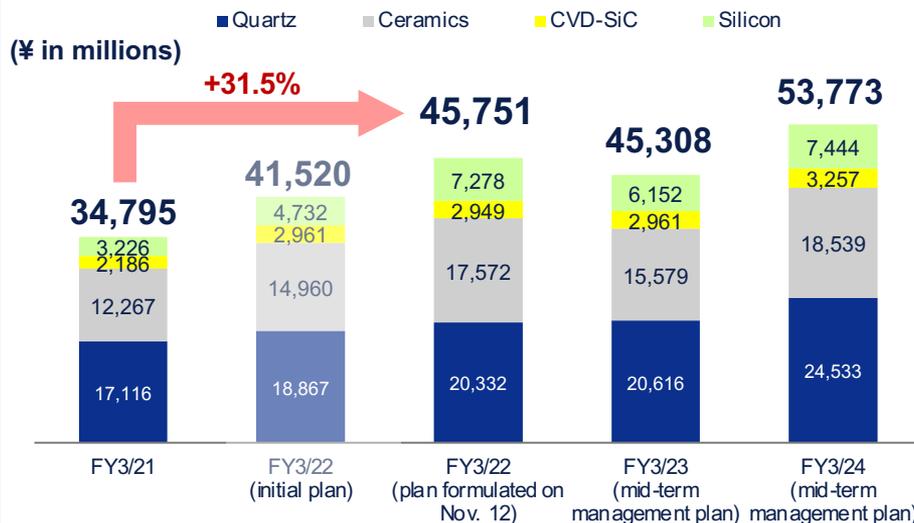
*The strategic products are quartz, ceramics, CVD-SiC, and silicon.



We aim to increase sales by 54.5% in 3 years (by FY3/24).

- Sales in FY3/22, which were revised on November 12, are expected to be **up 10.2%** from the initial plan (**up 31.5%** from the previous term).
- The semiconductor market is expected to be healthy thanks to the increasing demand for 5G, telecommuting and data centers.
- As for semiconductor materials, **the demand for consumable materials** is strong, so the ratio of linkage to the **production operation rate** of semiconductor manufacturers is high (some are **investment-linked ones**).
- The wafer fab equipment (WFE) market continues to grow year by year, so we will respond to an increase in demand by **strengthening production capacity for materials as needed**.

Variations in full-year sales



Situation of quartz products and the outlook



Variations in sales in 6 months

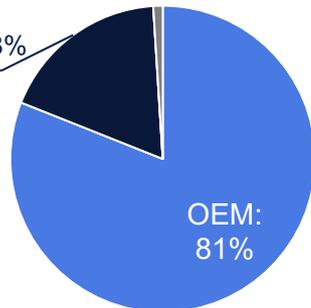
(¥ in millions)



Ratio of each business category of clients

End users: 18%

Other: 1%



We aim to increase sales by 43.3% in 3 years (by FY3/24).

- Sales in FY3/22, which were revised on November 12, are expected to be up 7.8% from the initial plan (up 25.9% from the previous term).
- In addition to a high level of new investment by semiconductor manufacturing equipment manufacturers and device manufacturers, the demand for consumables is remarkably firm.
- The semiconductor manufacturing equipment market is estimated to grow year by year in 2021 and 2022.
- We have established a system for increasing production output with factories in Hangzhou and Changshan, Zhejiang and Dongtai, Jiangsu, China, and Yamagata City, Japan.



Pyro-processing of quartz by veteran engineers



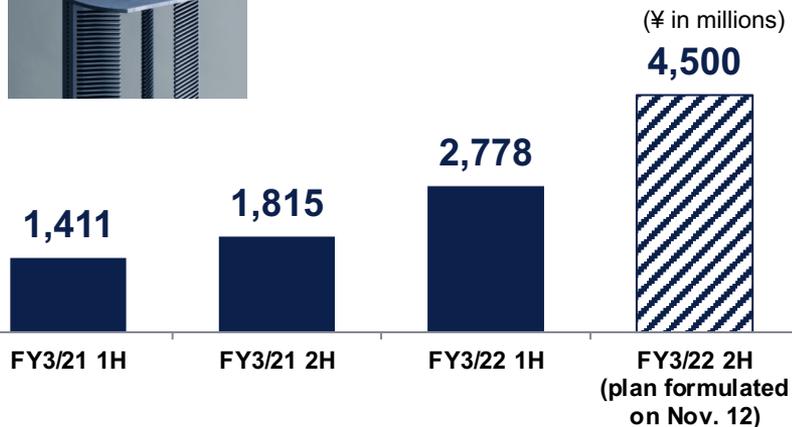
Machining of quartz, whose production amount will be increased

Map of factories for quartz in Japan and China

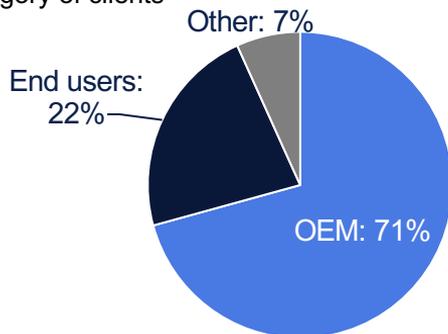




Variations in sales in 6 months



Ratio of each business category of clients



We aim to increase sales by 130.8% in 3 years (by FY3/24).

- Sales in FY3/22, which were revised on November 12, are expected to be **up 53.8%** from the initial plan (**up 125.6%** from the previous term).
- As miniaturization of parts in the semiconductor process is progressing, the demand for switching to high-purity silicon parts with the same thermal expansion coefficient as silicon wafers is growing.
- To meet the demand from semiconductor manufacturing equipment manufacturers and device manufacturers, the subsidiary that manufactures these products (Yinchuan) allocated new shares to third parties, to boost its production capacity.
- We built factories in Yinchuan, Ningxia and Hangzhou, Zhejiang, China.
- **We are preparing for the listing of the subsidiary in Yinchuan that manufactures silicon parts and quartz crucibles in the Chinese market.**

Injector

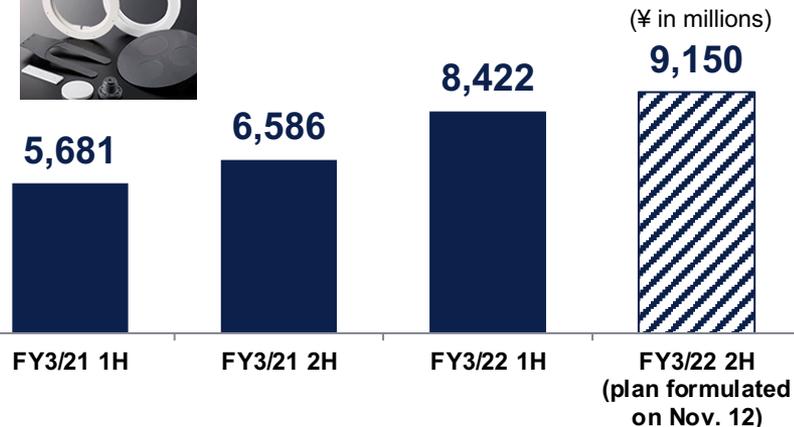


Focus ring

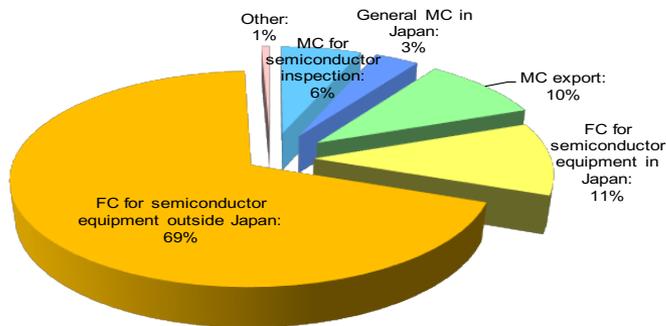




Variations in sales in 6 months



Share of each kind of ceramic products



We aim to increase sales by 51.1% in 3 years (by FY3/24).

- Sales in FY3/22, which were revised on November 12, are expected to be **up 17.3%** from the initial plan (**up 43.2%** from the previous term).
- We are building the second factory in Ishikawa, with the aim of completing it in October 2022, to increase our capacity to produce fine ceramics and machinable ceramics in Japan.

Fine ceramics (FC), accounting for about 80% of total sales

- Inside and outside Japan, the parts of semiconductor manufacturing equipment are selling well. In response, we are enhancing the production capacity at the factory in Hangzhou, Zhejiang, China.

Machinable ceramics (MC), accounting for about 20% of total sales

- The sales of ceramic parts of jigs for semiconductor inspection grew considerably inside and outside Japan. We will further enhance the sales of laser-processed (high value-added) products.

Hyogo: Development and mass-production of fine ceramics



Hangzhou in China: Mass-production of fine ceramics



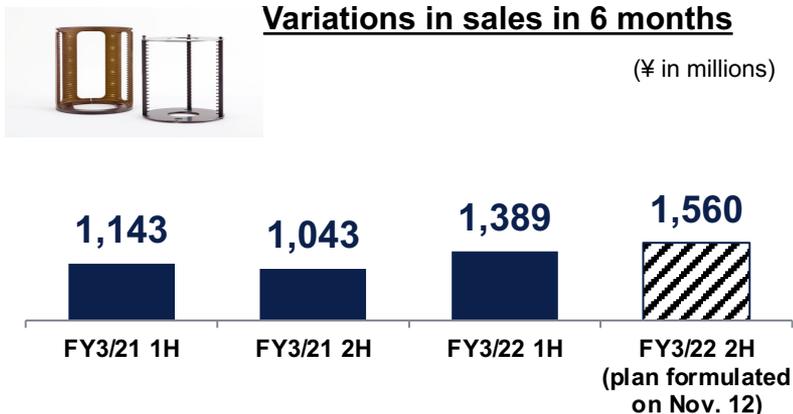
Ishikawa: Mass-production of machinable ceramics



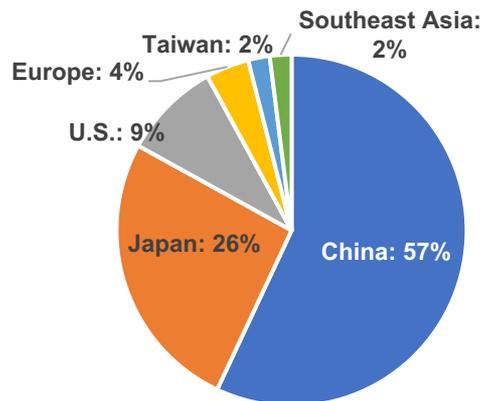
Ishikawa: Development of fine and machinable ceramics



Variations in sales in 6 months



Share of sales by region



We aim to increase sales by 49.0% in 3 years (by FY3/24).

- Sales in FY3/22, which were revised on November 12, are expected to be **down 0.4%** from the initial plan (**up 34.9%** from the previous term).
- As for CVD-SiC, we have the advantage in developing “materials and technologies for processing and coating” in Japan. (Okayama Factory in charge of development and mass-production)
- We are responding to the growth of demand for semiconductor manufacturing equipment in Japan and the U.S. and promoting the adoption of our products for new purposes, such as heat-treating furnaces and etcher parts.
- It is essential to increase production capacity in response to the mid-term growth of Chinese client companies.



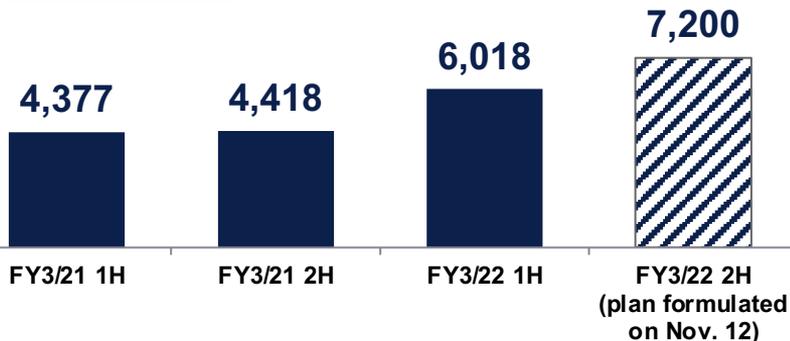
Okayama: Development and mass-production of CVD-SiC



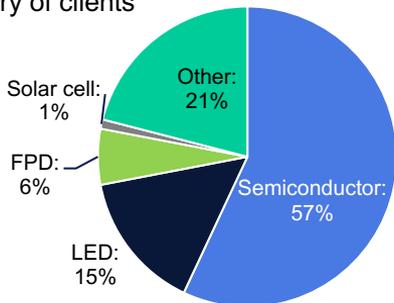


Variations in sales in 6 months

(¥ in millions)



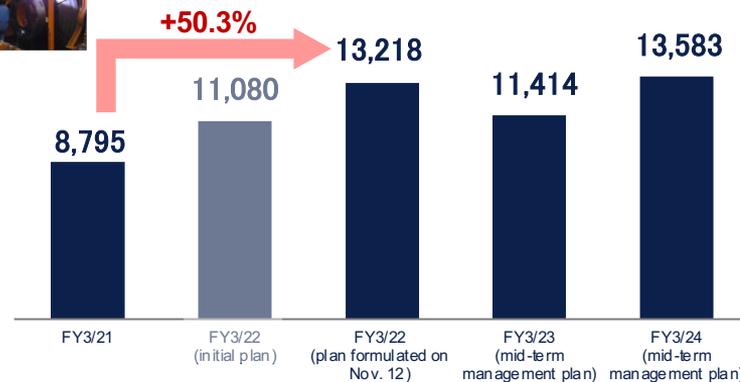
Ratio of each business category of clients



Note
Other includes industrial vacuum equipment, aviation, medical care, science, etc.



Variations in full-year sales from FY3/21 to FY3/24



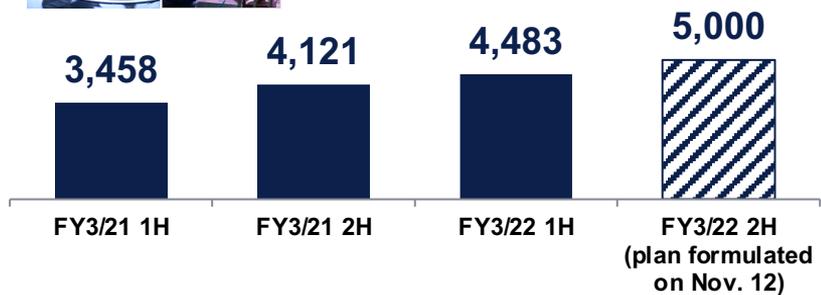
We aim to increase sales by 54.4% in 3 years (by FY3/24).

- Sales in FY3/22, which were revised on November 12, are expected to be **up 19.3%** from the initial plan (**up 50.3%** from the previous term).
- Regarding vacuum feedthroughs, the demand for new investments for semiconductor manufacturing equipment has been healthy.
- Mainly in the Chinese market, etc., the business of undertaking the processing of metal to produce vacuum chambers, robot parts, etc. grew.
- In China, we have manufacturing sites in Hangzhou and Changshan, and we plan to increase the production capacity in Changshan, under the assumption that the business of undertaking the processing of metal will grow.

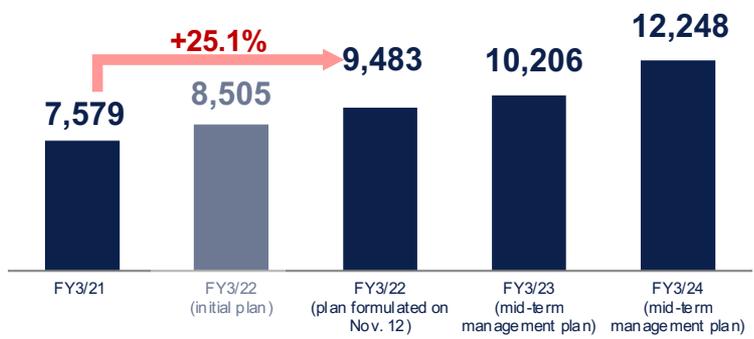


Variations in sales in 6 months

(¥ in millions)



Variations in full-year sales



We aim to increase sales by 61.6% in 3 years (by FY3/24).

- Sales in FY3/22, which were revised on November 12, are expected to be **up 11.5%** from the initial plan (**up 25.1%** from the previous term).
- This business is targeted at the Chinese market. Its scale has been growing steadily year by year, in response to the expansion of production by **semiconductor and FPD (organic EL and liquid crystal) manufacturers**.
- Since this business is **a recurring-revenue type that depends on clients' production operation**, like semiconductor materials, we can readily secure stable sales (**the business is expected to keep growing steadily**).
- Since we are increasing the cleaning volume with 5 bases and 7 factories (6 bases and 9 factories in 2022), **our market share in China is approaching 60%**.

Parts cleaning: We plan to expand the equipment parts cleaning mainly in Tongling, Anhui.

- We are preparing for the listing of the subsidiary in Tongling, Anhui in the Chinese market. (We applied for listing on ChiNext in June 2021.)
- We are increasing our production capacity for Chinese clients of semiconductors and FPDs (in Tongling, Neijiang, and Guangzhou).

★For the equipment parts cleaning, we restructured our organization with the factory in Tongling, Anhui controlling the other factories.

★To offer meticulous services in the vicinity of client facilities (5 bases and 7 factories → 6 bases and 9 factories in 2022 or later)



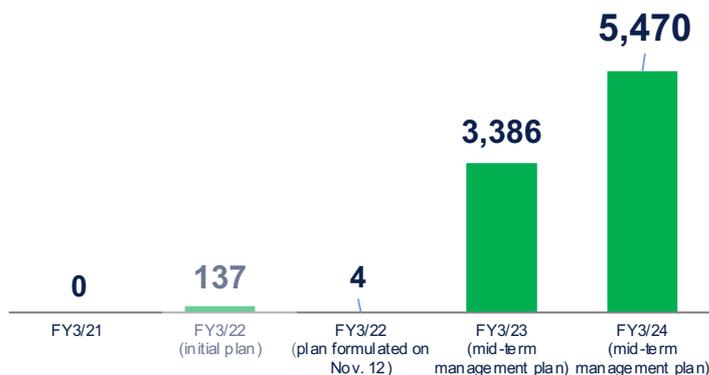
*We established a new subsidiary named Ferrotec (Guangzhou) Technology Co., Ltd.



Wafer recycling factory built in Tongling, Anhui

Variations in full-year sales

(¥ in millions)



We aim to increase sales to 5.4 billion yen in 3 years (by FY3/24).

- To use the resources of the wafer business and the know-how of the cleaning business. Technical tie-up with partners for the film removal process. Trial operation started in 2Q (April-June) of 2021. Full-scale mass-production will start in 1Q (January-March) of FY3/22 or later.
- **Due to the acceleration of domestic production of semiconductors in China**, the demand for wafer recycling rose sharply. We increased monthly cleaning capacity from 65,000 to **120,000 wafers** in Phase 1 (investment: 7.85 billion yen to **14.02 billion yen**) to meet strong customer demand for mainly 12-inch wafers. *Up to 200,000 wafers are planned.
- Capital increase through third-party allotment: Implemented a capital increase amounting to 1.14 billion yen (710 million yuan) combined with the first third-party allotment in December of the fiscal year ended March 2021. The capital of a subsidiary which engages in wafer recycling rose to 18.99 billion yen (1.21 billion yuan).



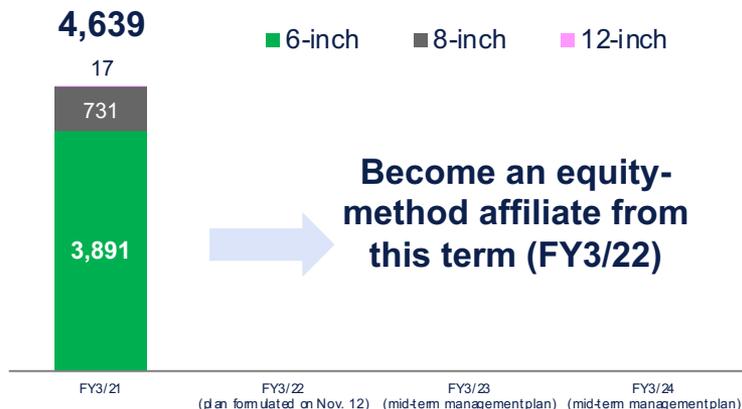
Wafer processing factory in Hangzhou, Zhejiang

To manufacture 200,000 12-inch wafers per month

- Through the transfer of shares of the subsidiary producing semiconductor wafers (CCMC) and the capital increase through third-party allotment conducted twice, the shareholding ratio of our corporate group decreased to **23%**. <The subsidiary became an equity-method affiliate in 4Q of FY3/21.>
- As for **6-inch wafers**, demand is currently strong. **We are planning to increase production capacity to manufacture more than 450,000 wafers per month in 2022 or later.**
- **We are strengthening the direct sales system of 8-inch wafers.** In Shanghai and Hangzhou, we will develop a system for producing 300,000 wafers per month by the end of FY2021. **(We aim to produce 450,000 wafers per month in FY2022.)**
- As for **12-inch wafers**, we plan to increase the output from 30,000 wafers per month to 100,000 wafers per month to 200,000 wafers per month. (Target after FY2023). The funds for capital investment will be procured through the capital increase through third-party allotment in China.
- We are developing a system for producing 70,000 wafers per month by the end of FY2021.

(¥ in millions)

Variations in sales



Become an equity-method affiliate from this term (FY3/22)

Map of production bases for semiconductor wafers in China

- We are increasing clients who have approved the 8-inch and 12-inch wafers manufactured at the factory in Hangzhou, and increasing production output.

Silicon wafer

Ferrotec (Ningxia) Semiconductor Technology Co., Ltd. Factory 1

Ferrotec (Ningxia) Semiconductor Technology Co., Ltd. Factory 2

Shanghai wafer factory

6- and 8-inch wafers

Shanghai Shenhe Thermo-Magnetics Electronics Co., Ltd.

Yinchuan ingot factory

Ingot

6-, 8-, and 12-inch wafers

Hangzhou Semiconductor Wafer Co., Ltd.

Hangzhou wafer factory (CCMC)

8- and 12-inch wafers

Establishment of a research institute for semiconductor materials (inside CCMC on October 28, 2021)

*In Lishui, Zhejiang, CCMC established a factory for processing epitaxial wafers as a joint venture with governmental and private funds. (CCMC's investment accounts for 32%.) (Mass-production is scheduled to be started in the first half of FY2023, to produce 100,000 8-inch wafers/month and 200,000 12-inch wafers/month.)

Launched the SiC (Silicon Carbide) business as a joint venture with the Chinese Academy of Sciences and government and private funds

SiC (silicon carbide) wafers (non-consolidated)



◆ We established a joint venture with the Shanghai Institute of Ceramics, Chinese Academy of Sciences (SICCAS) and government and private funds in Tongling City, Anhui Province in October 2020. We will develop and manufacture SiC (silicon carbide) single crystal ingots and wafers, whose market is expected to grow as they will be used for the most advanced semiconductors (◎ third generation semiconductors) in China.

*Completion ceremony was held on October 29, 2021.

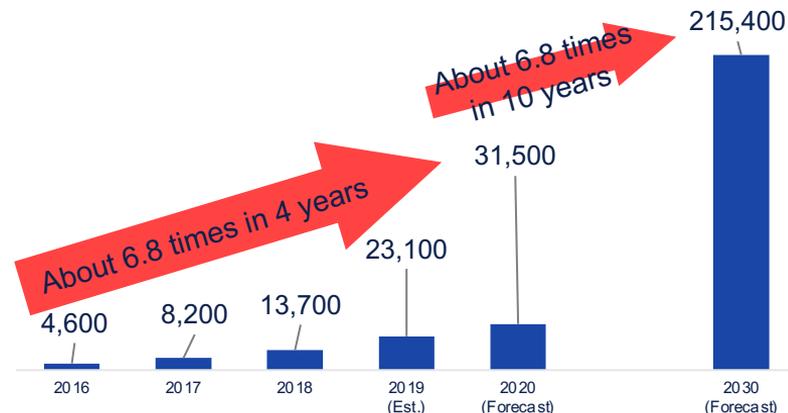


■ Backgrounds for working on the business as a joint venture

- (1) Our group: Defect control technology and equipment manufacturing technology cultivated in the semiconductor Si single crystal business. Possession of knowledge and the customer base for SiC through the CVD-SiC (jig for semiconductor manufacturing equipment) business.
- (2) SICCAS: China's top SiC research institute. Possession of intellectual property and human resources
- (3) Financing: Government and private funds and government subsidy support

(¥ in millions)

Forecast for the scale of the SiC wafer market



*The graph is produced by our company with reference to the material of Fuji Keizai.

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))



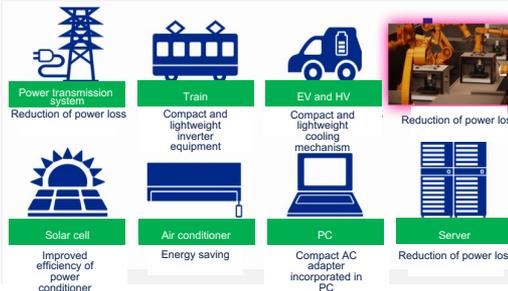
Usage increased for PCR tests
 Necessary to check the existence of pathogens that cannot be observed with a microscope by using DNA amplification

Power semiconductor substrates



*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 aluminum ceramics substrate)

Application of power semiconductors



Ferrofluid

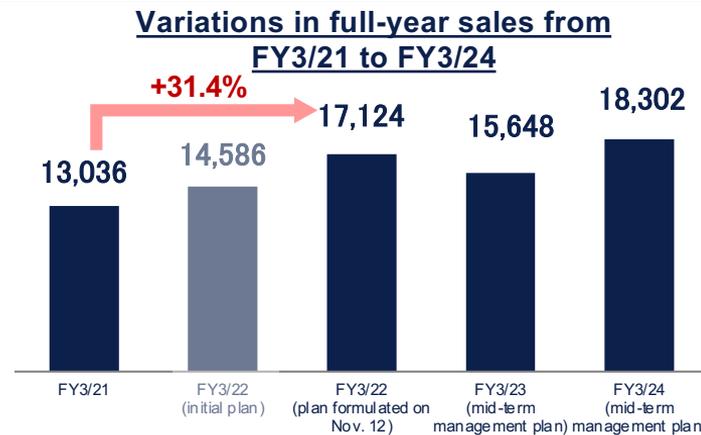
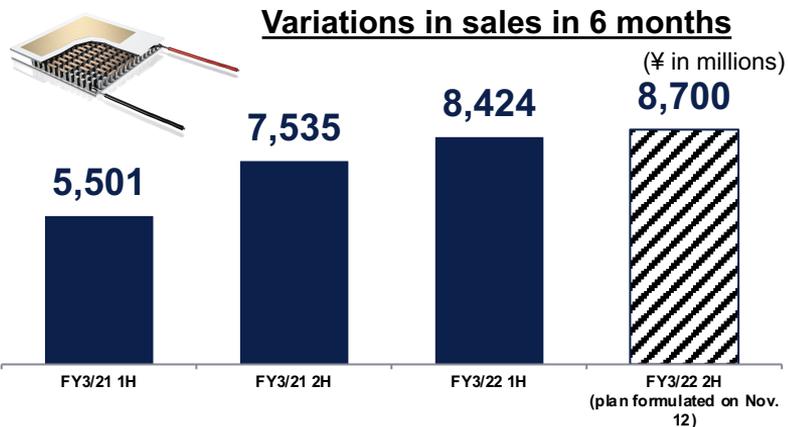


*Used in a wider range of fields, including automobile speakers, high quality sound TV speakers, and smartphone vibration
(Market share: 80% (largest))

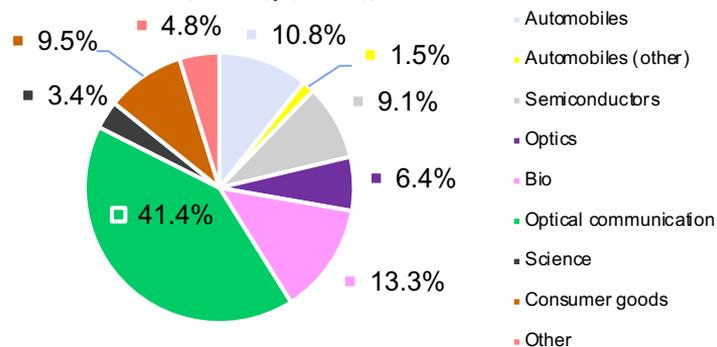


Adopted for **high-quality sound headphones**

*To stabilize vibration, to actualize deep bass and realistic sensation

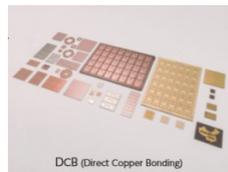


Ratios of purposes of use of thermo-electric modules in 2Q of FY3/22

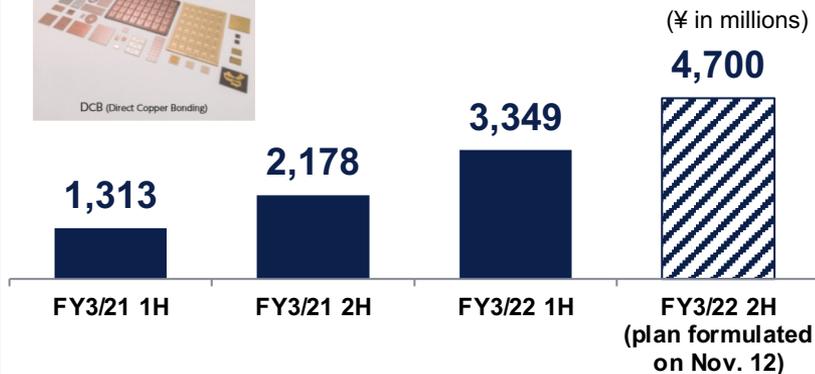


We aim to increase sales by 40.4% in 3 years (by FY3/24).

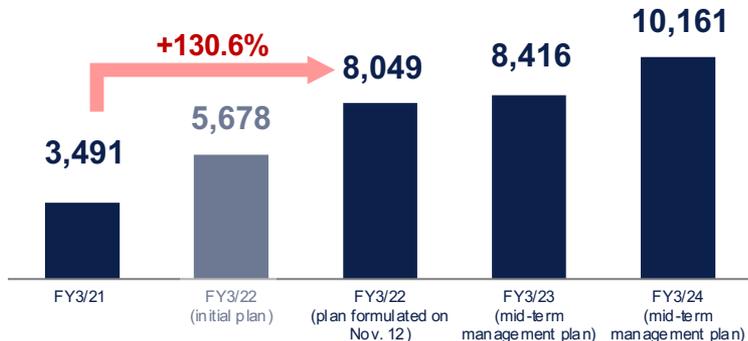
- Sales in FY3/22, which were revised on November 12, are expected to be **up 17.4%** from the initial plan (**up 31.4%** from the previous term).
- The thermo-electric modules for 5G communication devices are selling well, and the sales of products for bio-related equipment, such as PCR testers, and semiconductors are growing.
- The sales of thermo-electric modules for automotive temperature control seats are declining. We aim to expand sales of products for exterior devices, such as cup holders, and products for components for important functions, such as cameras and sensors, which are used for autonomous driving.



Variations in sales in 6 months



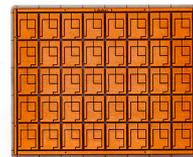
Variations in full-year sales



We aim to increase sales by 191.1% in 3 years (by FY3/24).

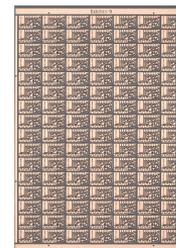
- Sales in FY3/22, which were revised on November 12, are expected to be up 41.8% from the initial plan (up 130.6% from the previous term).
- We are preparing for the listing of the subsidiary in Dongtai, Jiangsu in the Chinese market.
- We are building a research institute for power semiconductors in Dongtai. (Its operation is scheduled to begin in FY2022 or later.)
- The power semiconductor substrate factory in Dongtai, Jiangsu is expanding its production capacity, and sales are estimated to keep growing in the next and following terms. (Production capacity in 2021: From 600,000 DCB substrates to 1 million DCB substrates and from 100,000 AMB substrates to 200,000 AMB substrates at Shanghai and Dongtai factories)
- Furthermore, we will release DPC substrates with high heat resistance and high strength, and enhance the measures for selling products for optical communication, power LED products, etc.

★As the demand for in-vehicle devices grew, the demand for AMB substrates increased. DPC substrates was launched in FY2021



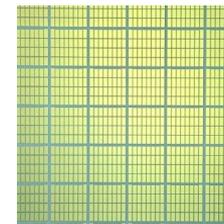
DCB substrates
(Direct Copper Bonding)

Material: Alumina ceramics



AMB substrates
(Active Metal Brazing)

Material: Silicon nitride



DPC substrates
(Direct Plated Copper)

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

Foray into the in-vehicle device market (mid/long-term theme)

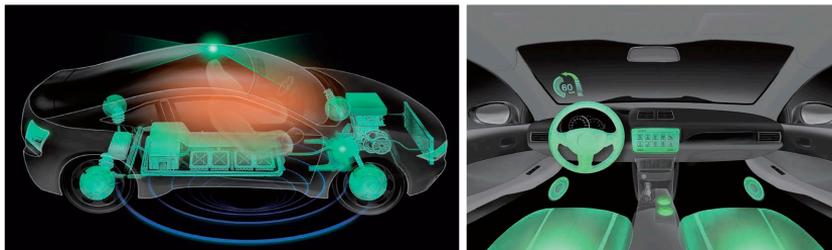
- By utilizing the advanced technologies used for our existing businesses, we will enter into the automotive market, which is expected to see significant changes in applications for EVs, PHVs, self-driving systems, etc., on a full-scale basis.

Our core technology products



Thermo-electric modules Ferrofluid Power semiconductor substrates

We aim to apply our products to in-vehicle devices.



1

Demand is expected to grow, through the dissemination of technologies for EVs and self-driving.

Compact, lightweight, temperature-regulated thermo-electric modules are expected to be utilized for technologies for EVs and self-driving.

■ CMOS image sensor



Dark current noise is produced in a CMOS image sensor if temperature rises.

■ LiDAR



The temperature environment affects the measurement precision of laser light.

■ Cell



The temperature environment affects the lifespans and performance of batteries.

2

Capital and business alliance with Ohizumi Mfg. Co., Ltd., which has a lion's share in the market of in-vehicle temperature sensors.

In March 2021, we formed a capital and business alliance with Ohizumi Mfg.

FerroTec
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OHIZUMI

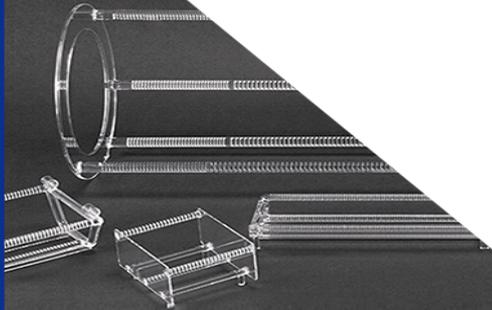
To create a new business domain by combining Ohizumi Mfg.'s technology for temperature sensors for in-vehicle systems and air-conditioners and our technology for thermo-electric modules



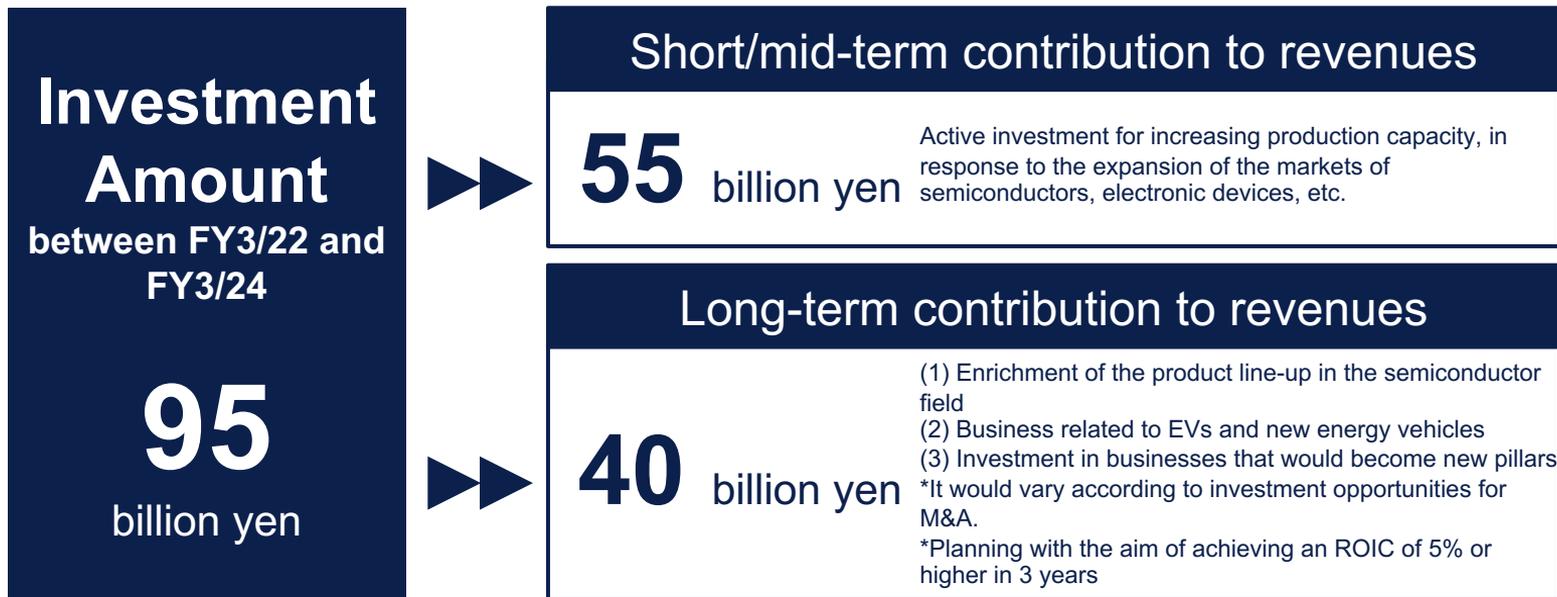
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Regarding our investment plan and capital policy



- We plan to invest a total of 95 billion yen in 3 years. (unchanged from the mid-term management plan)
- In response to the growth of the markets of semiconductors, electronic devices, etc., we will invest for boosting production output, and discuss strategic investment for long-term growth actively.



- We announced the issuance and sale of new shares on November 22.
- As disclosed in the mid-term management plan, we will pursue investment for growth thoroughly.

Details of the issuance and sale of new shares	
Purpose of the issuance of new shares	To conduct active investment for increasing production output in order to seize the opportunity to expand our market (as mentioned in the mid-term management plan)
Issuance types	(1) Issuance of new shares through public offering, and (2) Issuance of new shares through third-party allotment (sale via over-allotment)
No. of shares to be sold	(1) 4,858,300 shares through the issuance of new shares and (2) up to 728,700 shares through over-allotment Total (1+2): Up to 5,587,000 shares*
Offer price	3,667 yen/share *Determined with reference to the closing price on December 1. Discount rate: 4.01%
Upper limit of the estimated procured funds	19.31 billion yen
Purposes of use of funds	Investment for boosting the production capacities of subsidiaries of our corporate group, etc. (which will be described later)
Allocatee of third-party allotment	Nomura Securities Co., Ltd.
Due date of payment	(1) December 7, 2021 for the issuance of new shares through public offering (2) December 28, 2021 for the issuance of new shares through third-party allotment
Purposes of use of funds	Investment for boosting the production capacities of subsidiaries of our corporate group, etc. (which will be described later)

• Purposes of use of the estimated procured funds: 19.31 billion yen (as of December 1)

Semiconductor equipment-related	1.5 billion yen	To enhance the production capacity of the quartz business	<Ferrotec (Jiangsu) Quartz Technology Co., Ltd. (FTJQ)> ▶Investment in equipment for manufacturing quartz products at “Dongtai Factory”
	5 billion yen	To enhance the production capacity of the metal processing business	<Zhejiang Advanced Precision Machinery Co., Ltd. (FTAP)> ▶Investment in metal processing equipment at “Changshan Factory”
	3 billion yen	Greenfield investment for developing and mass-producing special products in the ceramic business	<Ferrotec Material Technologies Corporation (FTMT)> ▶Investment in equipment for manufacturing special ceramic products at “the newly built Ishikawa Second Factory”
Electronic device	3.3 billion yen	To enhance the production capacity of the thermo-electric modules business	<Zhejiang Advanced Thermoelectric Technology Co., Ltd. (FTAT)> ▶Investment in equipment for manufacturing thermo-electric modules and consumer products at “Changshan Factory”
Other	4.5 billion yen	Construction of the building for the Chinese headquarters	<Shanghai Hanhong Precision Machinery Co., Ltd. (FTSM)> ▶Investment for improving the Chinese headquarters’ functions to control business and conduct R&D in China (1) Enhancement of brand power, (2) Recruitment of advanced personnel, and (3) Strengthening of R&D, etc.
	2 billion yen	Repayment of debts	▶Redemption of corporate bonds

*The per-share price for estimating procured funds is 4,400 yen, which is the closing price on November 15, 2021.

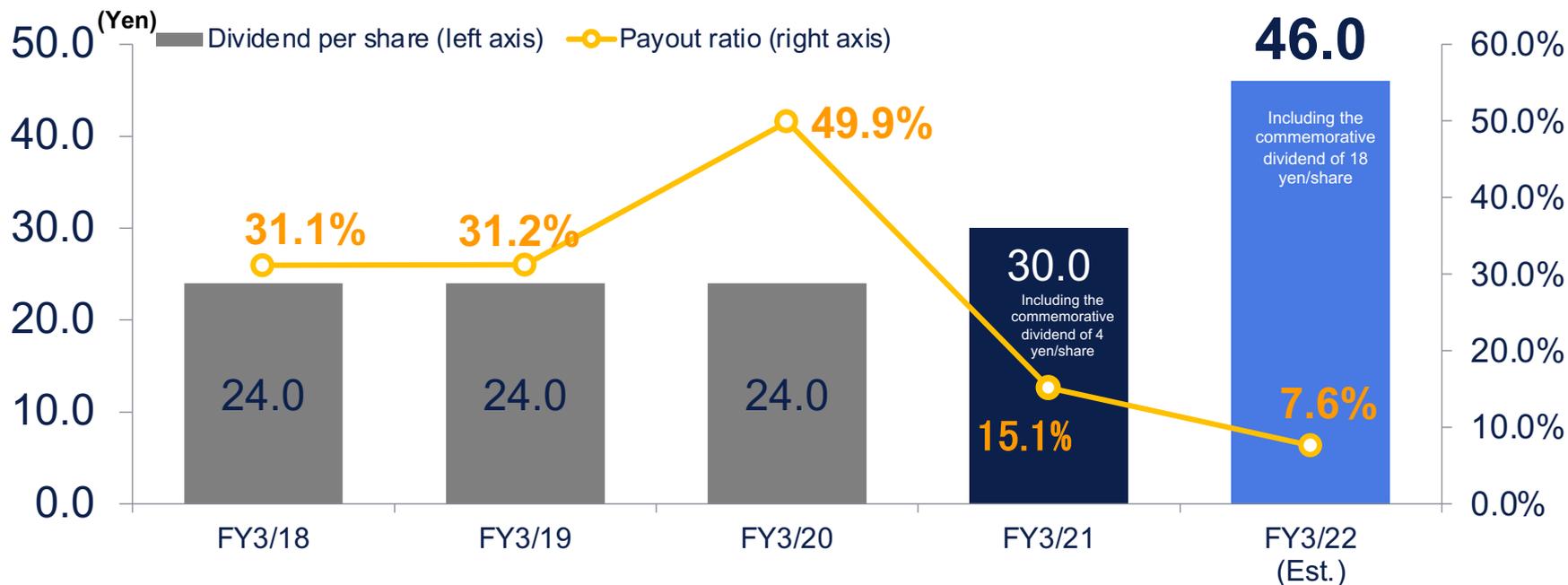
- While considering the demand for investment funds, business volatility, financial burdens, etc., we conducted the issuance of new shares through third-party allotment, etc. for procuring investment funds for seizing growth opportunities.

■ Situation of procurement and capital contribution ratios at major Chinese subsidiaries (until the end of 2Q)

	Our Chinese subsidiaries	Disclosure date	Externally raised capital until the end of 2Q	Change in capital contribution ratio (beginning of the term ⇒ End of 2Q)
Equity-method affiliates	 Semiconductor silicon wafer subsidiary <ul style="list-style-type: none"> Hangzhou Semiconductor Wafer Co., Ltd. 	July 15, 2021	55.3 billion yen	29.5% → 23.0%
	 SiC single crystal ingot and wafer subsidiary <ul style="list-style-type: none"> Anhui Weixin Changjiang Semiconductor Material Co., Ltd. 	October 16, 2020	3.2 billion yen	38.98% → 29.5%
Consolidated subsidiaries	 Quartz crucible and silicon parts subsidiary <ul style="list-style-type: none"> Ferrotec (Ningxia) Advanced Quartz Material Co., Ltd. 	February 10, 2021 August 6, 2021	9.1 billion yen	90.0% → 66.7%
	 Power semiconductor substrate manufacturing subsidiary <ul style="list-style-type: none"> Ferrotec (Jiangsu) Semiconductor Technology Co., Ltd. 	November 17, 2020 February 10, 2021 August 6, 2021	8.3 billion yen	88.9% → 66.7%
	 Precision parts and equipment parts recycling/cleaning subsidiary <ul style="list-style-type: none"> Ferrotec (Anhui) Technology Development Co., Ltd. 	August 14, 2020	-	67.7% → 67.5%
	 Recycled semiconductor wafer subsidiary <ul style="list-style-type: none"> Ferrotec (Anhui) Changjiang Semiconductor Material Co., Ltd. 	October 16, 2020	4.4 billion yen*	31.8% → 22.5%*

*For recycled semiconductor wafers, group companies will conduct in-kind contribution, and capital contribution ratio is projected to be 41.3% (consolidation assumed).

- Seeing favorable performance, we announced the increase of dividend per share from 30 yen to 46 yen on August 13.
- From the FY3/22, payout ratio will decrease, because we will increase investment, but we aim to return profit to shareholders as much as possible through stable dividends according to the improvement of profitability.

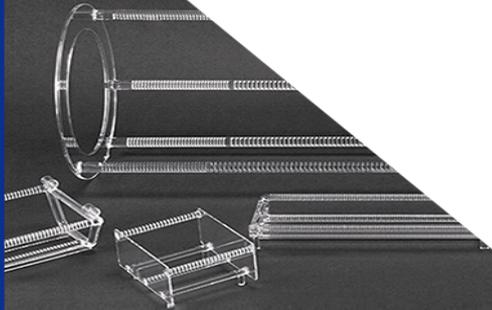




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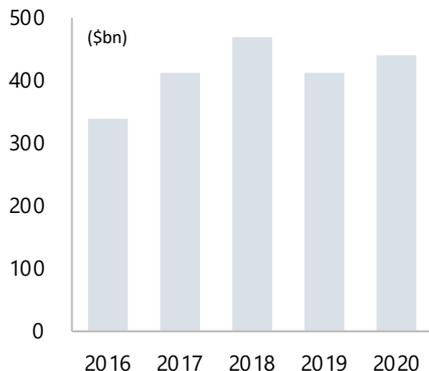
Recognition of the market environment
(Trend of the semiconductor market and acceleration of domestic
production of semiconductors in China)



- Our business has grown at a higher rate than the rapidly growing markets of semiconductors, semiconductor manufacturing equipment, and semiconductor materials.

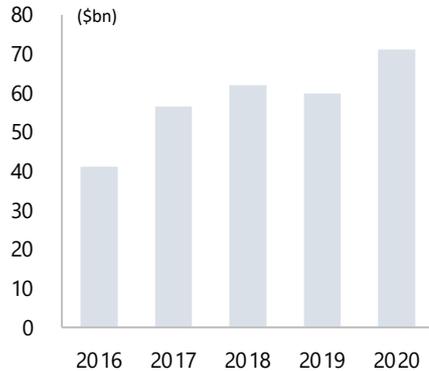


Global shipment of semiconductors



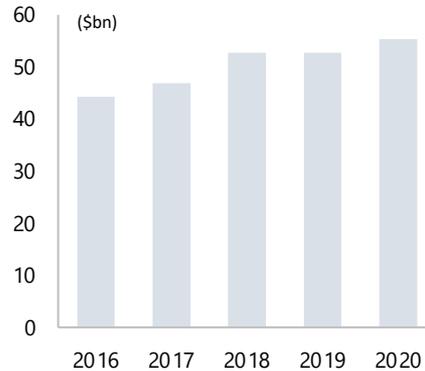
CAGR (CY16 to CY20) 6.8%

Global sales of semiconductor manufacturing equipment



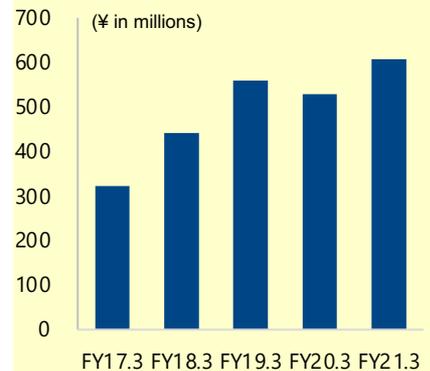
CAGR (CY16 to CY20) 14.6%

Global sales of semiconductor materials



CAGR (CY16 to CY20) 5.7%

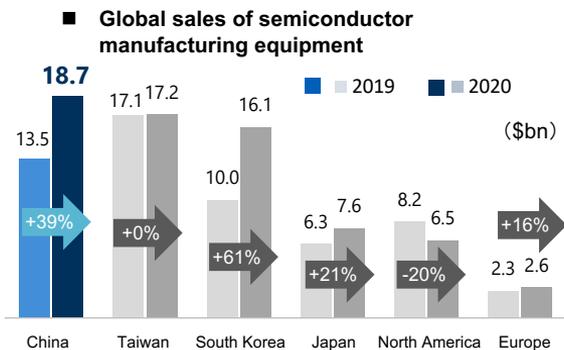
Semiconductor equipment-related business of Ferrotec HD



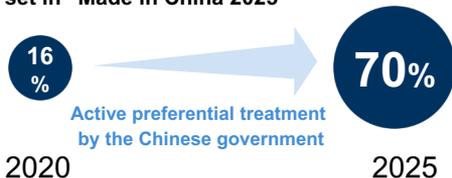
CAGR (FY16 to FY20) 17.1%

- We will take full advantage of the merits of the Chinese market, which is expected to grow considerably, by utilizing Chinese funds, intellectual property, and human resources, while local semiconductor enterprises in China are starting to produce semiconductors by themselves.

Growth of the Chinese market



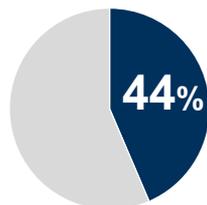
■ Self-sufficiency ratio of semiconductors set in “Made in China 2025”



Source: SEMI, news reports

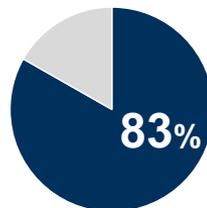
Growth of the Chinese market

■ Ratio of sales of Chinese subsidiaries



Including in-group sales in countries other than China

■ Ratio of tangible fixed assets in China



Strategies of Ferrotec in the Chinese market

■ Construction of factories around the major footholds of Chinese semiconductor enterprises



■ Acceleration of growth through support by the Chinese government and external capital in the aspects of funds and intellectual property



Capital intake from external capital in China
Subsidies from the Chinese government



Utilization of intellectual property and human resources through the establishment of a joint venture with a Chinese research institute

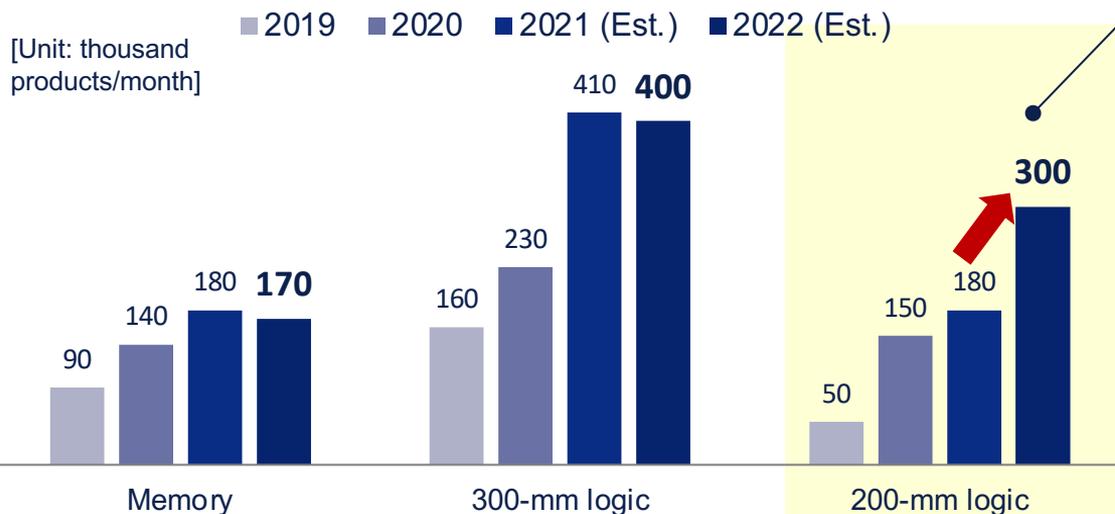
Acceleration of the legacy semiconductor project in China (In 2022, the investment in equipment for 200-mm logic circuits will also become active.)

Restriction on export of equipment made in the U.S. to China for cutting-edge processes (Japanese manufacturers followed the U.S. policy.)



Accordingly, **the investment in legacy semiconductors in China** became active. ⇒ **Domestic production of manufacturing equipment in China is expected to be accelerated.**

Additional production output per month at Chinese semiconductor factories



At leading Chinese foundries, the capital investment for 200-mm logic circuits is also active.

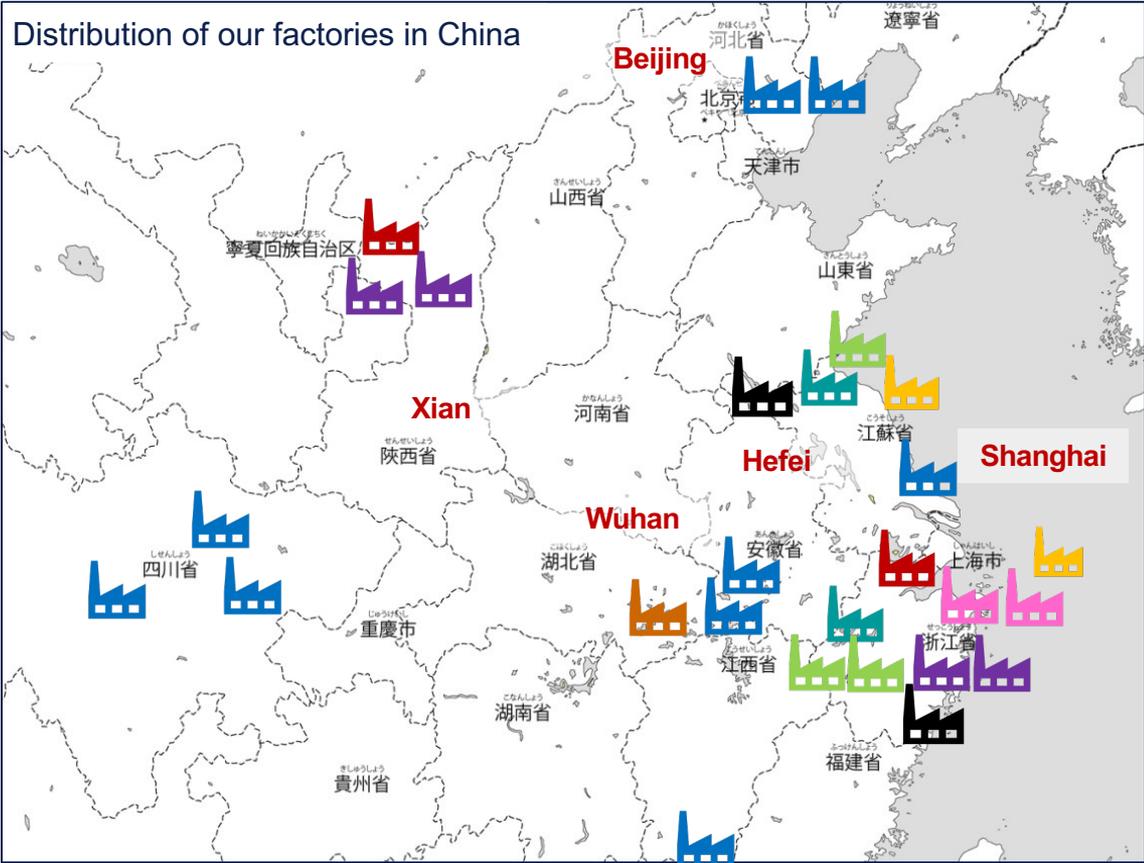
Our company is expected to see the sales growth of:

- Materials
- Parts cleaning, and
- Commissioned metal processing.

Source: Produced by our company with reference to the data of Electronic Device Industry News in August 2021.

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.

- | | | | |
|--|---------------------------------------|--|--------------------------------|
| | Semiconductor wafers | | Thermo-electric modules |
| | Quarts | | Vacuum feedthroughs |
| | Ceramics | | Wafer recycling |
| | Parts cleaning | Letters in red show major footholds of Chinese semiconductor enterprises. | |
| | Power semiconductor substrates | (1)Beijing (2) Shanghai | |
| | Silicon parts | (3)Wuhan (4)Hefei | |
| | | (5)Xian | |

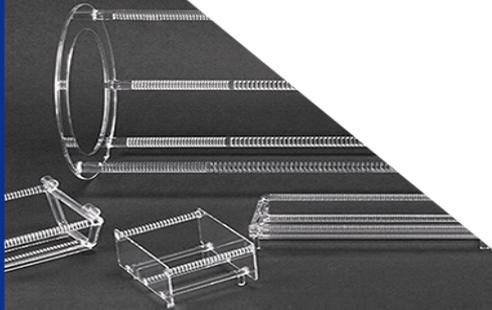
***We plan to start manufacturing SiC (silicon carbide) wafers in Tongling, Anhui Province from 2021.**



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Regarding the policy and basic strategy in the new mid-term management plan



KPI Summary (Target for FY3/24)

Net sales
150 billion yen

Operating income
25 billion yen
(Operating margin: 16.7%)

Net income
15 billion yen
(Net income margin: 10.0%)

ROE
15%

ROIC
8%

Equity ratio
Over 40%

Mid-term management plan KPI by fiscal year

- We are expected to reach and exceed the forecast for FY3/23 mentioned in the mid-term management plan one year earlier than originally planned.

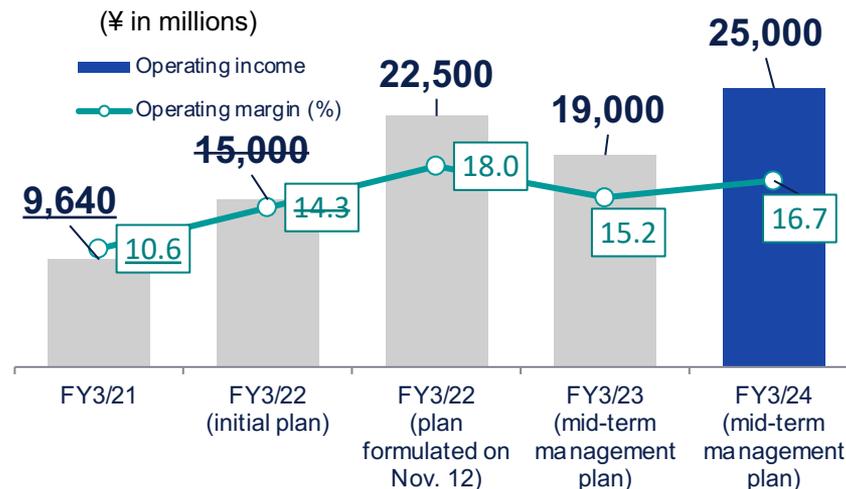
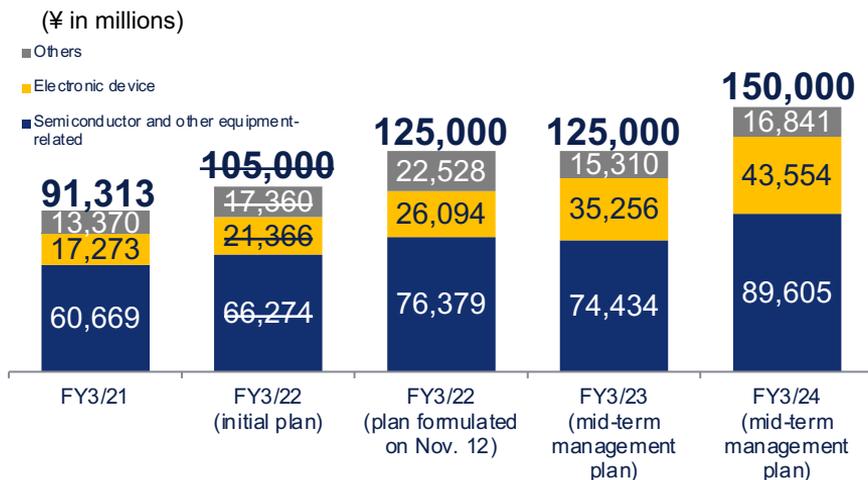
KPI (¥ in millions)	FY3/20	FY3/21	FY3/22 (initial plan)	FY3/22 (plan formulated on Nov. 12)	FY3/23 (mid-term management plan)	FY3/24 (mid-term management plan)
Consolidated net sales	89,478	91,312	105,000	125,000	125,000	150,000
Operating income	6,012	9,640	15,000	22,500	19,000	25,000
Operating margin: %	7.4%	10.6%	14.3%	18.0%	15.2%	16.7%
Net income	1,784	8,280	7,800	23,500	11,000	15,000
ROE: %	3.6%	14.3%	-	27.4% (in 2Q)	-	15%
ROIC: %	1.4%	7.2%	-	24.4% (in 2Q)	-	8%
Equity ratio: %	25.5%	37.9%	-	43.1% (in 2Q)	-	Over 40%
Capital investments	33,920	14,297	40,000	32,000	29,000	26,000
Annual dividend (yen)	24 yen	30 yen (includes commemorative dividend of 4 yen/share)	28 yen	46 yen	Increase return to shareholders through profit growth	

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

- As the semiconductor market is expected to keep growing for the foreseeable future, we aim to achieve net sales amounting to 150 billion yen in the final fiscal year.
- We will establish an optimal business portfolio, and aim to achieve an operating margin of 16.7% in the final fiscal year.

Net sales (FY3/24)
150 billion yen

Operating income (FY3/24)
25 billion yen (Operating margin: 16.7%)

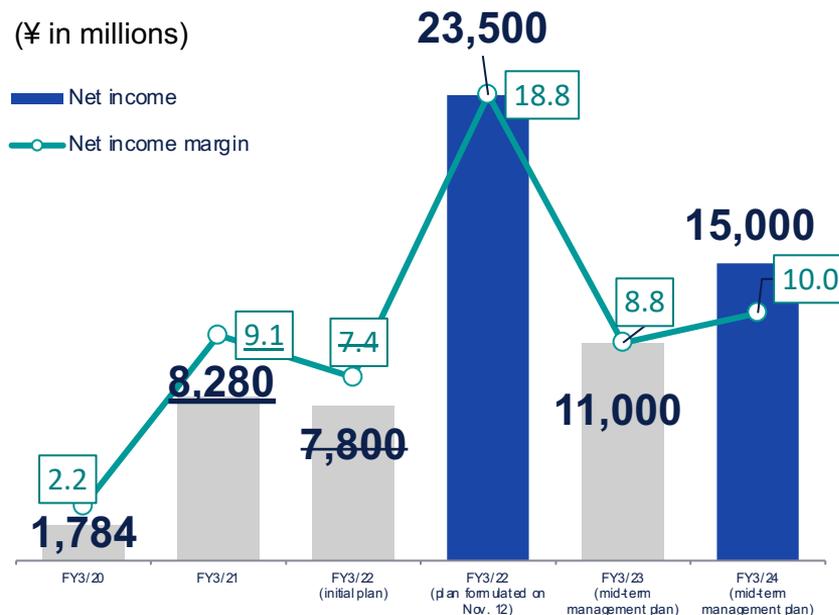


- To recognize net income* as a KPI, as it is the fund for return to shareholders (dividend)
- To enhance our earning capacity, improve our business performance, and increase return to shareholders

Net income*
 (Target for FY3/24)

**15 billion
 yen**

(Net income margin: 10.0%)



*Refers to net income attributable to owners of parent.

Business growth

We will rigorously pursue the growth of business and profit, and continue investment for growth.

- To invest for increasing production output in the promising fields of semiconductors and electronic devices, and increase our position
- To promote investment related to electric vehicles (EVs) for future growth

Fortification of the financial standing

We will fortify the financial standing, and secure an appropriate balance between investment opportunities and the financial status.

- To use net income as a KPI, enhance the management of return on investment and ROIC, and appropriately discuss the utilization of external capital

Quality improvement

Considering that “quality is vital,” we will enhance quality control.

- To upgrade our production system through quality control, automation, and digitization

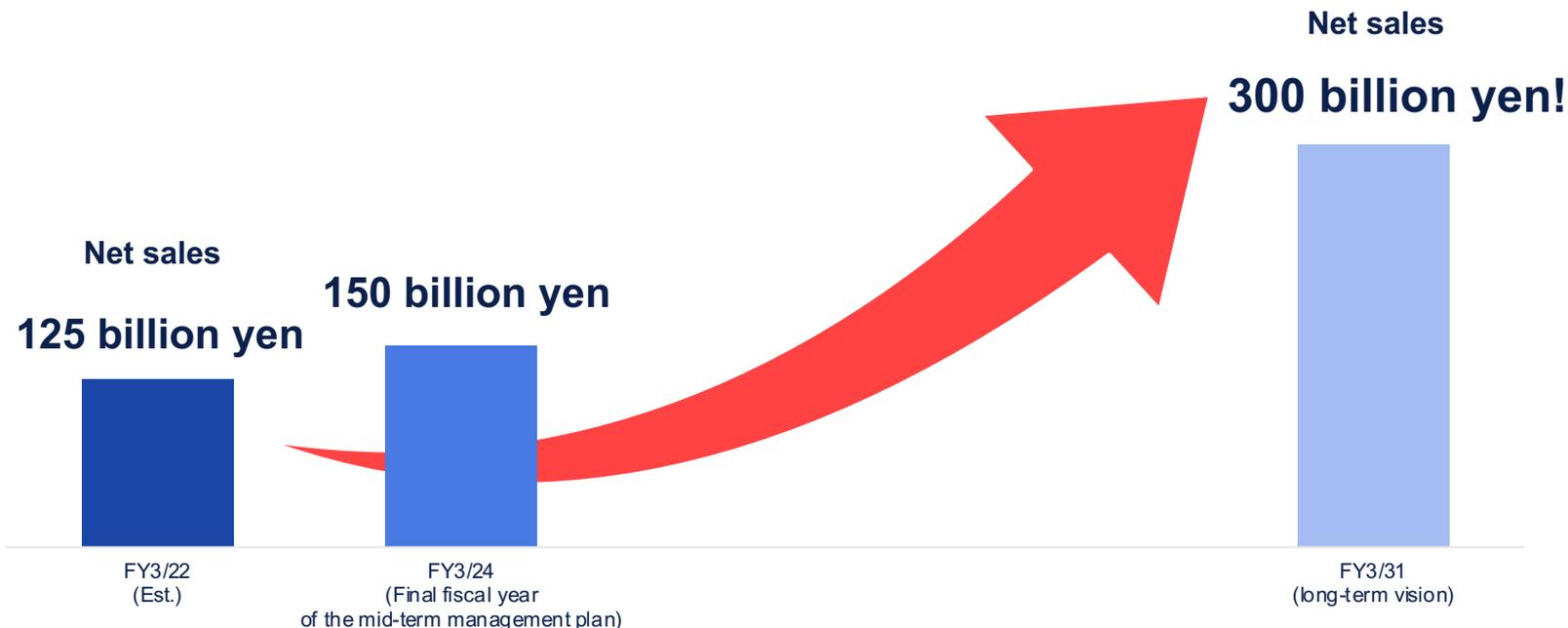
Strengthening of personnel

We will strengthen personnel and reform organizational structures.

- In order to achieve sustainable growth while our corporate scale is expanding, we will recruit and train personnel, reform our organizational structure, and foster our corporate culture.

Beyond a billion-dollar company*

By FY2030 (FY3/31), we aim to achieve net sales of 300 billion yen and a net income of 30 billion yen!



- 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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