

BRIDGE REPORT



He Xian Han,
President

Ferrotec Holdings Corporation (6890)



Company Information

Exchange	Standard market of TSE
Industry	Electric Equipment (Manufacturing)
President	He Xian Han
HQ Address	Nihonbashi Plaza Building, Nihonbashi 2-3-4, Chuo-ku, Tokyo
Year-end	March
Website	https://www.ferrotec.co.jp/en/

Stock Information

Share Price	Shares Outstanding (Term end)	Market Cap.	ROE (Act.)	Trading Unit	
¥2,666	44,645,431 shares	¥119,025 million	26.9%	100 shares	
DPS (Est.)	Dividend Yield (Est.)	EPS (Est.)	PER (Est.)	BPS (Act.)	PBR (Act.)
¥70.00	2.6%	¥380.78	7.0x	¥2,940.93	0.9x

*Share price as of closing in June 16. Each number is based on the results of the fiscal year ended March 2022.

Consolidated Earnings Trends

Fiscal Year	Sales	Operating Income	Ordinary Income	Net Income	EPS (¥)	DPS (¥)
March 2019 (Act.)	89,478	8,782	8,060	2,845	76.90	24.00
March 2020 (Act.)	81,613	6,012	4,263	1,784	48.12	24.00
March 2021 (Act.)	91,312	9,640	8,227	8,280	222.93	30.00
March 2022 (Act.)	133,821	22,600	25,994	26,659	668.06	50.00
March 2023 (Est.)	180,000	30,000	28,000	17,000	380.78	70.00

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*The forecast is from the company. Unit: million-yen, yen. DPS for FY 3/21 includes a commemorative dividend of 4.00 yen/share. The dividend forecast for the term ending March 2022 includes a special dividend of 18.00 yen/share. Net income is net income attributed to parent shareholders. The same shall apply hereafter.

This Bridge Report reviews the overview of Ferrotec's earnings results of fiscal year ended March 2022 and earnings estimates for fiscal year ending March 2023.

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Key Points

- The sales of the fiscal year ended March 2022 were 133,821-million-yen, up 46.6% year on year. Amid the global shortage of semiconductors, the sales of the material products (quartz, silicon parts, ceramics, and CVD-SiC) used for the semiconductor manufacturing process increased 35.4%, while the sales of the electronic device business grew 56.4% year on year, thanks to the good performance of products for devices related to the next-generation telecommunication system 5G, etc. Regarding profit, gross profit rose due to the sales growth, and gross profit margin increased 2.7 points due to the rise in utilization rate. Operating income grew significantly by 134.4% year on year to 22,600 million yen, as the augmentation of SG&A was offset. Ordinary income increased 215.9% year on year to 25,994 million yen. There was no foreign exchange loss, which was posted in the same period of the previous term, and a foreign exchange gain of 2.5 billion yen was recorded.
- For the term ending March 2023, sales are expected to increase 34.5% year on year to 180 billion yen, and operating income is projected to grow 32.7% year on year to 30 billion yen. Projecting considerable increase of sales and profit, further breaking past records this term as well. In terms of sales, in response to requests for production increase from semiconductor clients, the company is continuing proactive investment in production increase and project increase in sales backed by this investment. In terms of profit, projecting considerable increase in profit by reinforcing facilities and establishing new factories at an early point. The company plans to pay an ordinary dividend of 70.00 yen/share. This is the third consecutive term of dividend increase, and the expected payout ratio is 18.4%.
- Based on the strong business performance, the company increased the sales target for the final term of the medium-term management plan (the term ending March 2024) by 53% from the previous plan and net income by 40% and set a goal to achieve 230 billion yen in sales and 40 billion yen in operating income. Moreover, the company plans to further grow sales to 290-billion-yen, operating income to 52 billion yen, and net income to 27 billion yen in the term ending March 2025.
- The target figures for the medium-term management plan and the long-term vision have been significantly raised. It seems that there will be no major changes in the favorable business environment in this term as well, and we would like to keep an eye on its status.
- On the other hand, sales of new businesses are expected to be approximately 29 billion yen in the term ending March 2024. Businesses that cannot be categorized at this time, such as new base businesses and M&A candidate businesses, are being considered. Thus, we would like to pay attention to their contents as well.

1. Company Overview

Ferrotec Holdings Corporation conducts business mainly on the basis of the following two segments: the semiconductor and other equipment-related Business, in which it offers parts for semiconductors and fine panel display (FPD) manufacturing equipment, consumable materials and wafers used in the process of manufacturing semiconductors, and semiconductors for equipment offering cleaning services of equipment parts, and the Electronic Device Business that focuses on the thermal element “thermo-electric modules,” with 64 companies serving as Ferrotec’s subsidiaries (55 consolidated subsidiaries and 9 non-consolidated affiliated companies accounted for by the equity method and other related companies).

Ferrotec was born as a company with highly unique technologies including thermoelectric modules with uses in thermal elements and vacuum technologies that respond to magnetic fluids that were born from the NASA space program in the 1980s. Over the course of its 42 years history of operations, the Company has developed a wide range of diverse technologies with applications in the automobile, electronics, next generation energy and other industries. As a transnational company, Ferrotec deploys its businesses in Japan, Europe, the Americas, China, and Asia, and boasts of marketing, development, manufacturing, sales, and management capabilities in various countries and regions. A holding company structure was implemented from April 2017. In April 2022, due to market reorganization, the company got listed on the Standard Market of TSE.

[Corporate Ethos and Priority Policies for Enhancing Organizational Strength and Achieving Sustainable Development]

The Ferrotec group strives to be a company that is trusted by stakeholders such as customers, shareholders, employees, business partners, and local communities, by achieving sustainable growth and complying with laws, regulations, social order, and international rules with decency in its corporate activities.

Initiatives to enhance corporate value	Promote independent management of all subsidiaries, and redistribute management resources
Thorough awareness that puts quality first	Perfect design and product quality that pleases customers, and improvement of the quality of services inside and outside the company
Strengthen corporate governance	Thorough internal control and management of affiliated companies, and strengthening of risk management and compliance

1-1. Business Segments

Ferrotec’s operations includes semiconductor seal related products such as vacuum seal, quartz products, ceramic products, etc. used in manufacturing equipment of semiconductor, FPD, LED etc., electronic device business centering on thermo modules and business segments that are not included in the reportable segments. Other businesses, which handle silicon crystal and solar cell wafers, saw blades, machine tools, surface treatment, industrial washing machines etc.

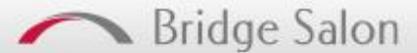
Semiconductor equipment related business

Ferrotec provides total engineering services in the Equipment Related business segment, including the manufacture and sale of Vacuum Feedthrough of equipment parts for solar power, semiconductor, FPD and LED applications, consumable products used in manufacturing of devices, quartz products, ceramic products, CVD-SiC products, quartz crucibles, silicon wafer processing and equipment cleaning services.

Its vacuum seal boasts of top market share in the world and is a functional part that insulates the interior of manufacturing equipment from gas and dust contamination while supporting rotating action of the above-mentioned equipment. These Vacuum Feedthrough use magnetic fluids (Fluids that respond to magnetic fields), which has been a core technology of Ferrotec since its founding. Because of instability in these applications arising from their link with corporate capital investments cycles, the Company focuses its marketing efforts upon expanding sales to applications for which demand is more stable, including transportation equipment, precision robots, and general industry usages. In addition, Ferrotec has also focused its efforts upon assuming consigned manufacture of vacuum chambers that use Vacuum Feedthrough and gate valves (Both use vacuum related equipment). At the same time, quartz, ceramic, and CVD-SiC products are critical elements in the process of semiconductor manufacturing. Quartz products are able to resist high temperature conditions that exist in the semiconductor manufacturing process and are a high purity silica glass product that protects semiconductors from undergoing chemical reaction by preventing it from activating with gas. The Company boasts of semiconductor manufacturing equipment manufacturers as their main clients in Japan and overseas who purchase ceramic products, which are Ferrotec’s core material and technology. At the same time, semiconductor inspection tools for machinable ceramics and fine ceramics used in semiconductor manufacturing equipment are two main products in this CVD-SiC.

*CVD-SiC products are the term used to describe SiC products manufactured by "CVD method (Chemical Vapor Deposition

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method)" (created from compounds of silicon and carbon gas). Currently, semiconductor equipment and structural parts are provided, and research and development for products used in aeronautics and space (Turbine, mirrors), automobile (Power semiconductors), energy (Nuclear power related), information technology (Semiconductor manufacturing equipment parts) and other applications are also being conducted.

As for silicon wafer processing, the posting of sales of 12-inch (diameter) wafers started in the term ended March 2021, in addition to 6-inch and 8-inch wafers and has a leading share of more than half of the manufacturing equipment cleaning services market in China.

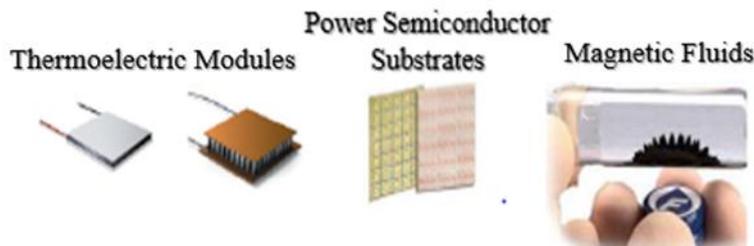


(From the company website)

Electronic Device Business

Thermal element “thermoelectric modules” are products that can instantly raise or lower temperatures to a highly precise degree and are a core product of this business. Thermo modules are mainly used for automotive temperature control seats and many other purposes, including wafer temperature control in semiconductor manufacturing equipment, genetic testing apparatus, optical communications, home appliances, and other application products such as power semiconductor substrates. The company has the largest share in the global market of thermo modules. By developing new products using high-performance materials and reducing costs and improving quality by adopting automated manufacturing lines, the company is stirring new demand and diversifying purposes of use of its products.

Furthermore, the company has the largest share in the global market of magnetic fluid, which is used increasingly for linear vibration motors for smartphones, speakers for 4K TV and automobiles, high-quality sound headphones, etc.



Others



(From the company website)

2. Fiscal Year ended March 2022 Earnings Results

2-1. Consolidated Earnings

	FY 3/21	Ratio to sales	FY 3/22	Ratio to sales	YoY	Ratio to forecast
Sales	91,312	100.0%	133,821	100.0%	+46.6%	+7.1%
Gross Income	30,782	33.7%	48,677	36.4%	+58.1%	-
SG&A	21,141	23.2%	26,076	19.5%	+23.3%	-
Operating Income	9,640	10.6%	22,600	16.9%	+134.4%	+0.4%
Ordinary Income	8,227	9.0%	25,994	19.4%	+215.9%	+10.4%
Quarterly Net Income	8,280	9.1%	26,659	19.9%	+221.9%	+13.4%

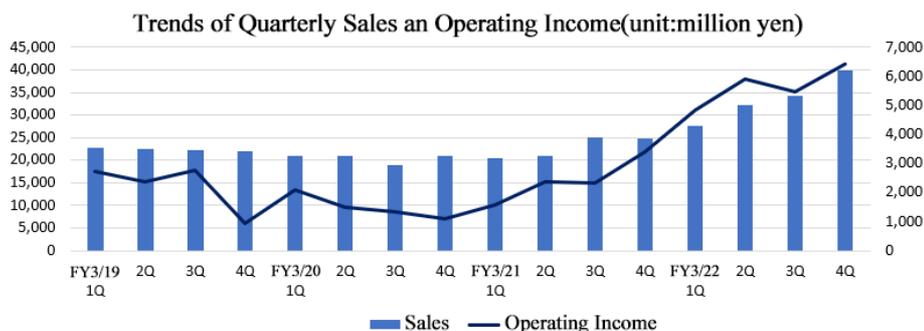
*Unit: million yen. Ratio to forecast is increase and decrease to the forecast announced on November, 2021.

Significant increase in sales and profit, with sales and profit both reaching record high

The sales of the fiscal year ended March 2022 were 133,821-million-yen, up 46.6% year on year. Amid the global shortage of semiconductors, the sales of the material products (quartz, silicon parts, ceramics, and CVD-SiC) used for the semiconductor manufacturing process increased 35.4%, while the sales of the electronic device business grew 56.4% year on year, thanks to the good performance of products for devices related to the next-generation telecommunication system 5G, etc.

Regarding profit, gross profit rose due to the sales growth, and gross profit margin increased 2.7 points due to the rise in utilization rate. Operating income grew significantly by 134.4% year on year to 22,600 million yen, as the augmentation of SG&A was offset.

Ordinary income increased 215.9% year on year to 25,994 million yen. There was no foreign exchange loss, which was posted in the same period of the previous term, and a foreign exchange gain of 2.5 billion yen was recorded.



Both sales and profit reached record highs.

In the fourth quarter (January-March), both sales and operating income increased year on year and quarter on quarter.

As the earnings exceeded the forecast, the dividend forecast for the term ended March 2022 was revised from 46 yen/share to 50 yen/share (an ordinary dividend of 32 yen/share and a special dividend of 18 yen/share).

2-2. Business Segment Trends

Business Segment Sales and Profits

	FY 3/21	Ratio to sales Profit margin	FY 3/22	Ratio to sales Profit margin	YoY
Semiconductor and other equipment - related	60,669	66.4%	82,122	61.4%	+35.4%
Electronic Device	17,273	18.9%	27,023	20.2%	+56.4%

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Others	13,370	14.6%	24,674	18.4%	+84.5%
Consolidated Sales	91,312	100.0%	133,821	100.0%	+46.6%
Semiconductor and other equipment - related	6,183	10.2%	15,886	19.3%	+156.9%
Electronic Device	4,453	25.8%	6,689	24.8%	+50.2%
Others	-321	-	315	1.3%	-
Adjustments	-674	-	-291	-	-
Consolidated Operating Income	9,640	10.6%	22,600	16.9%	+134.4%

*Unit: million yen

(1) Semiconductor and other equipment-related business

	FY 3/21	Ratio to sales	FY 3/22	Ratio to sales	YoY
Vacuum Feedthroughs	8,795	14.5%	13,732	16.7%	+56.1%
Quartz	17,116	28.2%	21,217	25.8%	+24.0%
Silicon parts	3,226	5.3%	8,565	10.4%	+165.5%
Ceramics	12,267	20.2%	18,816	22.9%	+53.4%
CVD-SiC	2,186	3.6%	2,975	3.6%	+36.1%
EB-Gun, LED	3,872	6.4%	4,889	6.0%	+26.3%
Wafer processing	4,638	7.6%	59	0.1%	-98.7%
Recycled wafers	0	0.0%	98	0.1%	-
Equipment parts cleaning	7,579	12.5%	9,672	11.8%	+27.6%
Quartz crucibles	990	1.6%	2,100	2.6%	+112.1%
Sales	60,669	100.0%	82,122	100.0%	+35.4%

*Unit: million yen. Wafer Processing is no longer consolidated from the Fourth Quarter of FY3/21, 2021.

Sales and profit increased.

With the expansion of remote work worldwide, the demand for personal computers, data servers, etc. increased. Hence, the supply and demand for electronic components, especially semiconductors, became tight, affecting various industries. As a result, semiconductor device manufacturers and material manufacturers started building new manufacturing bases and systems to expand production. Thus, demand for semiconductor manufacturing equipment grew. Therefore, the sales of the company's vacuum feedthroughs and metal processing products for manufacturing equipment significantly increased.

The sales of material products (quartz products, ceramics, silicon parts, etc.) used in the semiconductor manufacturing process supplied by the Ferrotec group increased significantly as they met the strong demand of semiconductor manufacturers, which was attributed to the high-capacity utilization rate of the device manufacturers and growth in capital investment.

The sales of the parts cleaning service business, which mainly operates in China, for semiconductor manufacturing equipment, etc. grew steadily, thanks to the increase of service providing bases as well as the active demand.

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The operating income in this segment grew significantly due to the transformation of the wafer business subsidiary, a low-profit division, into an equity-method affiliate in the previous third quarter in addition to the increase in sales.

(2) Electronic Device Business

	FY 3/21	Ratio to sales	FY 3/22	Ratio to sales	YoY
Thermo-electric module	13,036	75.5%	17,635	65.3%	+35.3%
Power semiconductor substrates	3,491	20.2%	8,473	31.4%	+142.7%
Ferrofluid, Others	746	4.3%	916	3.4%	+22.8%
Sales	17,273	100.0%	27,023	100.0%	+56.4%

*Unit: million yen

Sales and profit increased.

(Electronic Device Business)

The sales of thermo-electric modules, which are the mainstay, grew steadily, as the sales of products for automobile temperature control seats weakened due to a decrease in automobile sales, but the sales of products for 5G communication system devices and equipment for medical testing such as PCR testing increased, and the sales of products for consumer fields and semiconductor fields exceeded the forecast.

The sales of power semiconductor substrates grew significantly due to the increase in demand for DCB substrates for IGBTs and the progress of mass production of AMB substrates for automobiles. The company is working on increasing the production capacity of power semiconductor substrates through efforts such as constructing new plants and researching and developing new materials.

The sales of ferrofluids for vibration motors of new smartphones were firm.

2-3. Financial Condition and Cash Flow**◎Balance Sheet Summary**

	Mar, 21	Mar, 22	Increase Decrease		Mar, 21	Mar, 22	Increase Decrease
Current Assets	88,024	133,414	+45,390	Current liabilities	58,978	68,800	+9,822
Cash	30,202	52,579	+22,377	Payable	20,012	26,702	+6,690
Receivable	32,201	41,797	+9,596	ST Interest-Bearing	17,407	14,825	-2,582
Inventory	17,072	28,436	+11,364	Noncurrent liabilities	40,174	35,014	-5,160
Noncurrent Assets	89,367	131,358	+41,991	LT Interest-Bearing	30,222	22,736	-7,485
Tangible Assets	53,146	84,083	+30,937	Total Liabilities	99,152	103,814	+4,662
Intangible Assets	1,966	1,996	+30	Net Assets	78,239	160,957	+82,718
Investments and Other assets	34,254	45,277	+11,023	Retained earnings	18,221	43,317	+25,096
Total Asset	177,392	264,772	+87,380	Total Assets	177,392	264,772	+87,380

*Unit: million yen.

Total assets increased 87.3 billion yen from the end of the previous term to 264.7 billion yen and total liability increased 4.6 billion yen to 103.8 billion yen, thanks to the growth of cash due to the allocation of new shares to third parties, the increase of tangible assets through the investment in equipment for recycled wafers, silicon parts, crucibles, and quartz, and so on. Net assets grew 82.7 billion yen from the end of the previous term to 160.9 billion yen, due to the increases in retained earnings and foreign currency translation adjustment.

Capital to asset ratio rose 11.7 points from the end of the previous term to 49.5%.

◎Cash Flow

	FY 3/21	FY 3/22	Increase Decrease
Operating cash flow (A)	13,217	17,833	+4,616
Investing cash flow (B)	-20,879	-29,399	-8,520
Free Cash Flow (A + B)	-7,661	-11,566	-3,905
Financing cash flow	21,694	30,601	+8,907
Cash and Equivalents at the end of term	30,202	52,579	+22,377

*Unit: million yen

3. Fiscal Year ending March 2023 Earnings Forecasts

3-1. Full Year Consolidated Earnings

	FY 3/22	Ratio to sales	FY 3/23 Est	Ratio to sales	YoY
Sales	133,821	100.0%	180,000	100.0%	+34.5%
Gross Income	48,677	36.4%	66,395	36.9%	+36.4%
SG&A	26,076	19.5%	36,395	20.2%	+39.6%
Operating Income	22,600	16.9%	30,000	16.7%	+32.7%
Ordinary Income	25,994	19.4%	28,000	15.6%	+7.7%
Quarterly Income Net	26,659	19.9%	17,000	9.4%	-36.2%

*Unit: million yen.

Forecast increase in sales and profits

For the term ending March 2023, sales are expected to increase 34.5% year on year to 180 billion yen, and operating income is projected to grow 32.7% year on year to 30 billion yen. Projecting considerable increase of sales and profit, further breaking past records this term as well.

In terms of sales, in response to requests for production increase from semiconductor clients, the company is continuing proactive investment in production increase and project increase in sales backed by this investment.

In terms of profit, projecting considerable increase in profit by reinforcing facilities and establishing new factories at an early point.

The company plans to pay an ordinary dividend of 70.00 yen/share. This is the third consecutive term of dividend increase, and the expected payout ratio is 18.4%.

3-2 Business Segment Earnings Trends

	FY 3/22	Ratio to sales Profit margin	FY 3/23 Est	Ratio to sales Profit margin	YoY
Semiconductor and other equipment - related	82,122	61.4%	123,532	68.6%	+50.4%
Electronic Device	27,023	20.2%	37,937	21.1%	+40.4%
Others	24,674	18.4%	18,532	10.3%	-24.9%
Total Sales	133,821	100.0%	180,000	100.0%	+34.5%

*Unit: million yen.

(1) Semiconductor and other equipment-related business

	FY 3/22	Ratio to sales	FY 3/23 Est	Ratio to sales	YoY
Vacuum Feedthroughs	13,732	16.7%	31,533	25.5%	+129.6%
Quartz	21,217	25.8%	25,937	21.0%	+22.2%
Silicon parts	8,565	10.4%	17,906	14.5%	+109.1%
Ceramics	18,816	22.9%	22,914	18.5%	+21.8%
CVD-SiC	2,975	3.6%	4,196	3.4%	+41.0%
EB-Gun, LED	4,889	6.0%	4,889	4.0%	0.0%
Wafer processing	59	0.1%	0	0.0%	-
Recycled wafers	98	0.1%	799	0.6%	+715.3%
Equipment parts cleaning	9,672	11.8%	12,254	9.9%	+26.7%
Quartz crucibles	2,100	2.6%	3,106	2.5%	+47.9%
Sales	82,122	100.0%	123,532	100.0%	+50.4%

*Unit: million yen. Wafer Processing is no longer consolidated.

Sales and profit are expected to increase significantly like in the previous term. The company will continue to expand its facilities in response to requests from semiconductor-related customers to increase production. Therefore, sales are forecast to increase due to the expansion of production capacity.

* Semiconductor materials

Due to expansion of demand for semiconductor materials stemming from the expansion of the semiconductor manufacturing equipment market and semiconductor device market; the company is addressing requests for increase in production.

The sales of quartz will increase as the company continues to expand the capacities of Changshan Factory and Dongtai Factory.

The sales of silicon parts will increase due to the expansion of the capacity of Yinchuan Factory.

For ceramics, the company will continue to expand the capacity of the Hangzhou Factory for semiconductor manufacturing. Demand for ceramics for probe card will increase.

Regarding CVD-SiC, the company will expand the capacity of Okayama Factory in response to customer requests for increased production.

* Cleaning Business

Healthy expansion of demand, capacity enhancement and establishment of the Guangzhou Factory.

* Vacuum feedthroughs

In metal processing, commissioned metal processing for chambers, robot parts, etc., for semiconductor manufacturing equipment at Changshan Plant will see sales growth.

(2) Electronic Device Business

	FY 3/22	Ratio to sales Profit margin	FY 3/23 Est	Ratio to sales Profit margin	YoY
Thermo-electric module	17,635	65.3%	19,354	51.0%	+9.7%
Power semiconductor substrates	8,473	31.4%	17,142	45.2%	+102.3%
Ferrofluid, Others	916	3.4%	1,441	3.8%	+57.3%
Sales	27,023	100.0%	37,937	100.0%	+40.4%

*Unit: million yen.

Sales are expected to increase like in the previous term. It is forecast that the sales and profit of power semiconductor substrates will grow significantly.

* Thermo-electric modules

Demand for products for 5G communication equipment, medical fields such as PCR testing equipment, home appliances, and consumer product fields will remain strong.

* Power semiconductor substrates

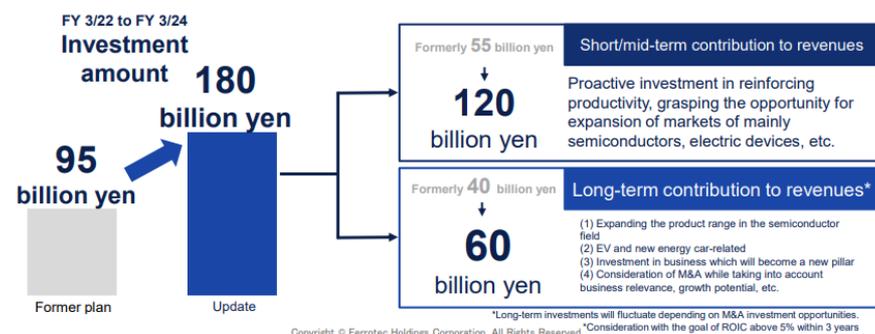
Sales are increasing in line with the growing demand for DCB substrates for industrial equipment and consumer products and the continued expansion of production capacity.

• The company has established a mass production system for AMB substrates for automobiles and EVs. The company's efforts for recognition and acquisition of customers are also progressing and are expected to lead to rapid sales expansion and contribute to earnings.

3-3 Investments

The investment amount, which was scheduled to be 95 billion yen in total over three years, will be increased to 180 billion yen to meet market demand (including M&A prospects).

To secure sustainable growth potential while capturing the demand of the rapidly growing market, the company will aggressively make strategic investments for long-term growth as well as short-term and medium-term growth.



(From the company material)

4. Update of the Medium-term Management Plan

4-1 Review of the Term Ended March 2022

◎ Business results

The Semiconductor-related and the Electronic Device Businesses performed well, and sales, operating income and net income grew significantly year on year, hitting new highs, because their new factory, which has been in operation for several years, is in full production.

Also, the company achieved the key performance target value for the term ending March 2023 in their medium-term management plan established in 2021, one year ahead of schedule.

They greatly exceeded their medium-term management plan due to the improvement of the production capability and the rapid expansion of demand meshing well.

◎ Fortification of the financial standing

As the company met vigorous demand and removed the Wafer Business from the scope of consolidation, interest-bearing debt decreased, and capital to asset ratio rose. Operating income margin and ROE both increased significantly.

As a base for achieving active investment, the company and their subsidiaries in China carried out capital increase. Both capital to asset ratio and net asset ratio increased.

◎ Investment for growth

To pursue further growth, increase production, and aggressively invest in development and technology.

Invested for increasing production output by establishing the Changshan Factory for semiconductor-related quartz and metal processing and the Yinchuan Factory for SiP, and expanding the Dongtai Factory for quartz. Increased the production output of AMB for power substrates and established a research institute in anticipation of growth of the EV market, etc.

◎ Strengthening of quality and personnel

While strengthening quality control, the company advanced automation and digitalization at their production sites.

The company decided to establish China headquarters. They will strengthen human resources and organization for business, technology, and management.

4-2 The Market Environment and the company's current status

The semiconductor market continues to be strong, with growth in China exceeding expectations. The forecast for the semiconductor market in each region has been strong in 2021 and 2022. In particular, the sales of semiconductor manufacturing equipment in China in 2021 increased 60% year on year, and the Chinese market became the largest in the world.

Under such circumstances, the company continues to carry out active business development in the Chinese market.

4-3 Update of the Medium-term Management Plan

◎ Performance Targets

The final year of the med-term management plan (the term ending March 2024) is set to achieve a 53% increase in net sales and a 40% increase in net income compared to the precious plan.

The company aims to achieve 230 billion yen in sales and 40 billion yen in operating income in the term ending March 2024, the final term of the med-term management plan.

Further growth is planned for the term ending March 2025. Net sales of 290 billion yen, operating income of 52 billion yen and net income of 27 billion yen.

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Former plan		Performance targets as formulated last year (¥ in millions)			
		FY3/21 (actual)	FY3/22 (plan)	FY3/23 (plan)	FY3/24 (plan)
Net sales	91,312	105,000	125,000	150,000	
Operating income	9,640	15,000	19,000	25,000	
Operating margin	10.6%	14.3%	15.2%	16.7%	
Net income	8,280	7,800	11,000	15,000	

↓

New plan		Updated performance Targets (¥ in millions)				Target value
		FY3/21 (actual)	FY3/22 (actual)	FY3/23 (forecast)	FY3/24 (plan)	FY3/25 (plan)
Net sales	91,312	133,821	180,000	230,000	290,000	
Operating income	9,640	22,600	30,000	40,000	52,000	
Operating margin	10.6%	16.9%	16.7%	17.4%	17.9%	
Net income	8,280	26,659	17,000	21,000	27,000	

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(From the company material)

© Investment Plan

The company increased the accumulated investment amount during the period from the term ended March 2022 to the term ending March 2024 from 95 billion yen to 180 billion yen.

They maintained their plan to exceed 40% in capital to asset ratio, and rose the shareholder return (annual dividend amount).

Former plan		Performance targets as formulated last year (¥ in millions)				Cumulative total for 3 years
		FY3/21 (actual)	FY3/22 (plan)	FY3/23 (forecast)	FY3/24 (plan)	
Investment amount	14,297	40,000	29,000	26,000	95,000	
ROE	14.3%		15.0%			
ROIC	7.2%		8.0%			
Equity ratio	37.9%		Over 40.0%			
Annual dividends	30.0 yen	28.0 yen				

↓

New plan		Updated performance Targets (¥ in millions)				Cumulative total for 3 years
		FY3/21 (actual)	FY3/22 (actual)	FY3/23 (forecast)	FY3/24 (plan)	
Investment amount	14,297	35,378	73,622	71,000	180,000	
ROE	14.3%	26.9%	Over 15.0%			
ROIC	7.2%	15.8%	Over 8.0%			
Equity ratio	37.9%	49.5%	Over 40.0%			
Annual dividends	30.0 yen	50.0 yen	70.0 yen	Mentioned later		

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Note: The investment amount includes acquisition of tangible fixed assets, as well as M&A and investments under consideration.

(From the company material)

As previously mentioned, the company will increase the total investment amount in three years from 95 billion yen to 180 billion yen (including the fund for M&A), to meet the market demand. Forging ahead with proactive strategic investment not only for short-term and mid-term growth, but also for long-term growth in order to ensure potential for sustainable growth while grasping demand in the rapidly growing market.

The accumulated amount of capital increase to date is 70.3 billion yen. The assumed accumulated amount of operating CF (net income + depreciation) over three-year period is 173.2 billion yen. The company expects that they will need to raise funds to deal with the increase in working capital, but even if the IPO of the Chinese subsidiaries is not factored in and the total amount is raised through borrowings from financial institutions, the company expects to maintain an equity ratio of 40% and a D/E ratio of about 0.5.

Their equipment parts cleaning subsidiary in China passed the listing examination on May 6, 2022, and plans to be listed

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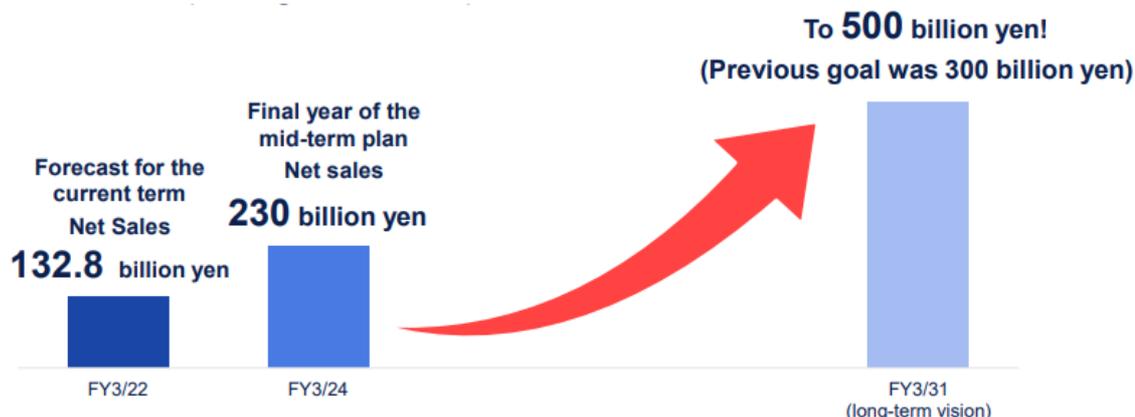


between September and November 2022. New shares with a 25% equity stake will be issued. The equity-method silicon wafer company will raise 3.3 billion yuan (56.5 billion yen) through a third-party allotment of new shares in 2021.

◎ The Long-term Performance Target

Strong performance trend led to the updating of the long-term performance target.

They aim to achieve 500 billion yen in sales (the former target was 300 billion yen) and 50 billion yen in net income in the term ending March 2031.



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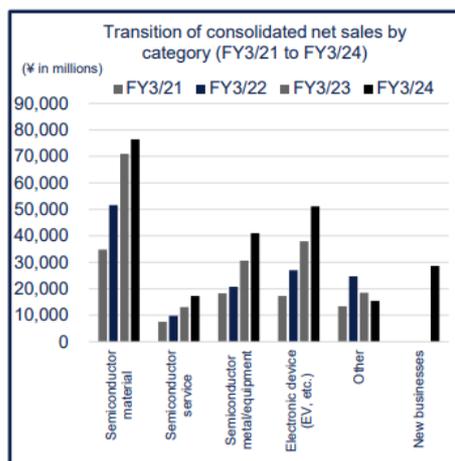
(From the company material)

4-4 Updated targets for respective major businesses and product

The company discloses its net sales target for core businesses and core products for the term ending March 2024.

New businesses include businesses that cannot be categorized at this time, such as businesses at new business locations and M&A candidates.

	Category	Products	Results for FY3/22	FY3/24 (plan)	Increase/decrease rate
A	Semiconductor material	Quartz, ceramics, silicon parts, CVD-SiC, etc.	51,573	76,493	+48.3%
B	Semiconductor service	Parts cleaning, wafer recycling, etc.	9,829	17,269	+75.7%
C	Semiconductor metal/equipment	Vacuum feedthroughs, metal processing, deposition apparatus, etc.	20,721	41,008	+97.9%
A+B+C	Total of semiconductor Equipment-related	Total of material/service/semiconductor metal/equipment	82,123	134,770	64.1%
D	Electronic device (EV, etc.)	Thermo-electric modules, power semiconductor substrates, ferrofluid, etc.	27,024	51,164	+89.3%
E	Other	Blades, cleaning, other manufacturing equipment, etc.	24,675	15,436	-37.4%
F	New businesses*		-	28,630	-
A+B+C+D+E+F	Grand total (consolidated net sales)		133,821	230,000	+71.9%



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(From the company material)

(1) Semiconductor Materials

Sales growth target for the term ending March 2024: 48.3%

The semiconductor market is expected to remain healthy because of the increased digitalization-related investment, the expanding demand for EVs, etc.

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.

The Wafer Fab Equipment (WFE) market is estimated to grow year by year after 2022, so the company will respond to an increase in demand by strengthening production capacity for materials as needed.

Quartz Products

Sales growth target for the term ending March 2024: 30.4%

In addition to a high level of new investment by semiconductor manufacturing equipment manufacturers and device manufacturers, the demand for consumables is remarkably firm. As the semiconductor manufacturing equipment market is expected to show positive growth toward 2022 and 2023, the company established a system for increasing production output with factories in Hangzhou and Changshan, Zhejiang and Dongtai, Jiangsu, China, as well as Yamagata City, Japan.

In response to requests from customers in Southeast Asia, the company plan to produce products at a new site in Malaysia.

Silicon Parts

Sales growth target for the term ending March 2024: 124.4%

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.

The company is going to build factories in Yinchuan, Ningxia, Hangzhou and Changshan, Zhejiang, China.

They are also preparing for the listing of the subsidiary in Yinchuan which manufactures silicon parts and quartz crucibles in the Chinese market.

Ceramics

Sales growth target for the term ending March 2024: 31.7%

Ishikawa Daini Plant is under construction to be completed in October 2022, to increase their capacity to produce fine ceramics and machinable ceramics in Japan.

In response to requests from customers in Southeast Asia, the company plans to manufacture fine ceramics at a new site in Malaysia.

For fine ceramics, which account for about 80% of the total sales, inside and outside Japan, the parts of semiconductor manufacturing equipment are selling well. In response, the company enhancing the production capacity at the factory in Hangzhou, Zhejiang, China. Moreover, the company plans to start manufacturing at Changshan, China as well.

For machinable ceramics (MC), which account for about 20% of sales, the sales of ceramics parts of jigs for semiconductor inspection grew considerably inside and outside Japan. The company will further enhance the sales of laser-processed (high value-added) products.

CVD-SiC

Sales growth target for the term ending March 2024: 62.3%

The company have the advantage in developing “materials and technologies for processing and coating” in Japan. (Okayama Factory in charge of development and mass-production). They plan to add another building in Okayama to increase production. They also plan to produce CVD-SiC in Changshan, China.

They 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.

It is essential to increase production capacity in response to the mid-term growth of Chinese client companies.

Vacuum feedthroughs and Metal Processing Products

Sales growth target for the term ending March 2024: 143.4%

The demand for new investment in products for semiconductor production equipment has been healthy. Moreover, the business of undertaking metal processing has been growing substantially mainly in the Chinese and U.S. markets.

In China, the company have manufacturing sites in Hangzhou and Changshan, and they plan to greatly increase the production capacity in Changshan, under the assumption that the business of undertaking the processing of metal will grow.

To respond to the increased demand in the metal processing business, the company also plans to more production in Japan and Malaysia.

Parts Cleaning

Sales growth target for the term ending March 2024: 64.8%

This business is targeted at the Chinese market. Its scale has been growing steadily year by year, in response to the expansion of demand mainly by semiconductor manufacturers. Since this business is a recurring-revenue type that depends on clients' production operation, like semiconductor materials, the company can readily secure stable sales and the business is expected to keep growing steadily

Since they are increasing the cleaning volume with 5 bases and 9 factories (from 2022), our market share in China is approaching 60%.

Wafer Recycling

Sales target for the term ending March 2024: 1.3 billion yen

The company launched the business in the term ended March 2022, received a certification, and started mass production. Sales totaled to 98 million yen.

Due to the acceleration of domestic production of semiconductors in China, the demand for wafer recycling has been rising sharply. Production will be increased step by step, mainly for 12-inch wafers, to meet strong customer demand, with plans to establish a system to produce 200,000 wafers/month in FY2023.

Leveraging resources from the wafer business and know-how from the cleaning business. For the film removal process, the company

will form a technical alliance with a partner. Capital investment funds have been procured through two third-party allotments of new shares by the production subsidiary Ferrotec (Anhui) Changjiang Semiconductor Material Co., Ltd.

Semiconductor Wafer (Non-consolidated Business)

Through the transfer of shares of the subsidiary producing semiconductor wafers (CCMC) and the capital increase through third-party allotment, the shareholding ratio of the Ferrotec Group decreased to the 23% , and the subsidiary has become an equity-method affiliate in the fourth quarter of the term ended March 2021.

As the demand for 6-inch wafers has been strong, the company plans to add 200,000 wafers per month to its current production of 500,000 wafers per month to 700,000 wafers.

For 8-inch wafers, the company is strengthening its own direct sales system, and engaged in full-scale operation in Shanghai and Hangzhou by the end of the fiscal year 2022. The capacity is 450,000 wafers per month.

As for 12-inch wafers, the company plans to gradually increase output from 70,000 wafers per month to 200,000 wafers per month by the end of the fiscal year 2023. The funds for capital investment will be procured through the third-party allotment in China.

(2) Electronic Device

Thermo-electric Modules

Sales growth target for the term ending March 2024: 15.6%

The thermo-electric modules for 5G communication devices are selling well, and the sales of products for bio-related equipment and semiconductors are growing.

The sales of thermo-electric modules for automotive temperature control seats are declining. The company 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.

Substrates for power semiconductors

Sales growth target for the term ending March 2024: 241.7%

The company is preparing for listing of the subsidiary in Dongtai, Jiangsu in the Chinese market. A research institute for power semiconductors was built in Dongtai in 2022.

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. They are planning to increase the monthly production capacity of the Shanghai and Dongtai factories from 1.1 million DCB substrates to 1.6 million DCB substrates, and from 200,000 AMB substrates to 450,000 AMB substrates. Further, they plan to produce insulated substrates in Neijiang in Sichuan Province, China.

They will actively apply DPC substrates with high heat resistance and high strength to the products for optical communication, power LED products, etc.

4-5 Topics

(1) Parts Cleaning

The company has been preparing for listing of the subsidiary in Tongling, Anhui in the Chinese market. To be listed on ChiNext of the Shenzhen Stock Exchange during September to November 2022.

The company is increasing production capacity for Chinese clients of semiconductors and FPDs in Tongling, Neijiang, and Guangzhou.

They are expanding their 7 factories in 5 bases to 9 factories in 6 bases from 2022 or later, to offer meticulous services in the vicinity of client.

(2) Started production in the SiC (silicon carbide) Business as a Joint Venture with the Chinese Academy of Science and Government and Private Funds

The company 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. They 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.

Currently, the company has 110 units of front-end ingot manufacturing equipment and is working on prototyping and certification. They plan to establish a system for producing 65,000 4-inch wafers per month.

The demand is for 5G radio frequency components, power semiconductors for electric vehicles, medical equipment, etc.

(3) Full-scale Sales to Customers in the Automobile field

With the advance of EVs (electric vehicles) and automated driving, automobiles are becoming more sophisticated, and the number of semiconductors installed in them continues to increase.

Strategically expanding production capacity of power semiconductor substrates (mainly AMB) in response to the increased EV demand.

Full-scale cultivation of the domestic and Chinese markets in the automotive field, based on collaboration with Ohizumi Mfg., which excels at sensor technology.

5. Conclusions

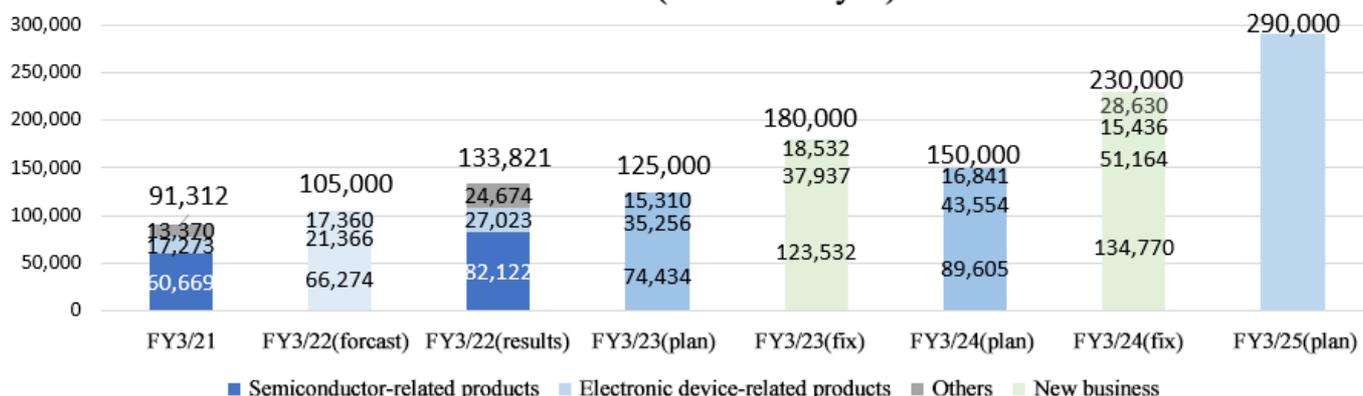
The target figures for the medium-term management plan and the long-term vision have been significantly raised.

It seems that there will be no major changes in the favorable business environment in this term as well, and we would like to keep an eye on its status.

On the other hand, sales of new businesses are expected to be approximately 29 billion yen in the term ending March 2024.

Businesses that cannot be categorized at this time, such as new base businesses and M&A candidate businesses, are being considered. Thus, we would like to pay attention to their contents as well.

Sales trends(unit:million yen)



<Reference 1: The Mid-term Management Plan (FY 3/22 to FY 3/24)>

[Basic Policies of the Medium-Term Management Plan]

The company has the following basic policies for each of the four areas: Business Growth, Fortification of Financial standing, Quality improvement, and strengthening of personnel.

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 in electric vehicles (EVs), etc. for future growth.
Fortification of 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

<Reference 2: Regarding Corporate Governance>

◎ Organization type, and the composition of directors and auditors

Organization type	Company with auditors
Directors	9 directors, including outside ones 3
Auditors	3 directors, including outside ones 2

◎ Corporate Governance Report (Updated on December 20, 2021)

Basic policy

While pursuing our corporate principles: “Strong commitment to our customers,” “Excellence in engineering precision solutions,” and “Delivering superior quality, value and service,” our corporate group has drawn up a code of conduct as follows: From a global perspective, Ferrotec always operates in harmony with the international community and acts in good faith with unwavering corporate ethics and social decency, as well as in compliance with the laws of each country as a company that provides products and services that contribute to everyday life of the people all over the world who are related to us; Ferrotec earns customer trust and satisfies our customers by proposing high-quality products and services and providing cost-competitive products and services mainly in the new energy and electronics industries; Considering proactive eco-friendly activities to be one of our high-profile business issues, Ferrotec contributes to solving global environmental problems by adapting ourselves to the requirements of the latest environmental regulations one by one and developing materials and products that can be used in the new energy industry; and Ferrotec contributes to society through manufacturing based on our core technology, continues to be a company whose stakeholders, including customers, shareholders, employees, business partners, and local communities, are looking forward to seeing it grow, and engages in business activities based on social decency, such as laws, social order, and international rules.

Our company not only proactively promotes environmental preservation activities and our corporate group’s governance pursuant to the aforementioned corporate principles and code of conduct, but also strives to continue being a company whose stakeholders look forward to its growth. We have also formulated a quality philosophy saying that we focus on developing new materials and production technologies, such as semiconductor materials, and pursue customer satisfaction improvement by giving top priority to quality, and are moving forward with automation, digitalization, and standardization of our production

processes. Our basic business policies are to increase our share in the global market and form a corporate group with a stable profit structure.

Based on the above corporate principles, code of conduct, and basic management policy, the company considers that it is important to improve its corporate value, emphasize the soundness of its business administration to become an enterprise that will be trusted and supported by stakeholders, including shareholders, customers, business partners, and local communities, and also establish a managerial system responding the rapid changes to the business environment swiftly and accurately.

<Main Reasons for Non-compliance with the Principles of the Corporate Governance Code>

<Supplementary Principle 2-4-1: Ensuring diversity in promotion to core human resources>

While our business is expanding on a global basis, our corporate group drastically strengthens our human resources and organization, and proactively employs women, foreign nationals, and mid-career workers with extensive skills and experience to raise our corporate value in the medium/long term. In addition, we actively promote women, foreign nationals, and mid-career hires to managerial positions by comprehensively considering and evaluating such factors as their skills and valuable experience cultivated in companies outside of our corporate group.

We, however, have not disclosed our medium- and long-term policies on promoting women, foreign nationals, and mid-career hires to managerial positions and ensuring diversity, policies on human resources development, policies on internal environment development, and our progress and achievement in this regard.

We will hold diligent discussion as to formulation of these policies and disclosure of our progress to contribute to medium- and long-term improvement in our corporate value according to our global business expansion.

<Supplementary Principle 3-1-3: Disclosure of initiatives on sustainability and business strategies, such as investment in human capital and intellectual property>

Following our corporate principles: “Strong commitment to our customers, excellence in engineering precision solutions, and delivering superior quality, value and service,” our company has framed a basic policy on materiality and sustainability in 2021 because we consider ESG (Environment, Social, and Governance) to be extremely important for medium- and long-term improvement of our corporate value. We will build an organizational structure, enlighten our employees, and set quantitative goals for promoting ESG. Regarding investment in human capital and intellectual property, our Japanese subsidiaries proactively promote young employees to the position of executive officer and flatten their organizations. Meanwhile, our Chinese subsidiaries actively invest in intellectual property by, as necessary, founding research institutes related to semiconductors, employ a greater number of human resources who have degrees equivalent to doctor’s degrees, and granting their employees awards and rewards for superb patent applications. We will monitor quantitative goals that we set and announce our progress with them via our website, IR material, and other means.

<Supplementary Principle 4-2 (1): Objective and transparent management remuneration system>

Given that it is the mission of directors to continuously improve corporate value through corporate activities, the basic policy to establish a remuneration system for directors that can increase their incentives to improve their short-term and medium- to long-term performance was resolved by the Board of Directors held on March 22, 2021. The system consists of three types of remuneration: fixed remuneration, performance-based remuneration linked to consolidated net income (index), and restricted stock remuneration as a medium/long-term incentive. Outside directors can only receive fixed remuneration.

To ensure fairness and transparency, the company has set up a remuneration committee with outside officers as the majority of the members. Through this committee, the company has set medium/long-term remuneration percentages, such as the introduction of restricted stock remuneration as well as the target percentages for fixed remuneration and variable remuneration to achieve sustainable growth. The President and CEO, whom the Board of Directors has entrusted with determining the amount of remuneration for each director, decides the amounts of remuneration upon convening the remuneration committee, consulting with its members, and respecting the committee's recommendations.

However, the ratio of cash remuneration to treasury stock remuneration in the consolidated remuneration has not been set appropriately, and the company, centered on the compensation committee, which is dominated by outside directors, is intensively studying the matter while referring to the opinions of external remuneration consultants as appropriate.

<Main Disclosure Based on the Principles of the Corporate Governance Code>

<Principle 2-3: Issues related to sustainability, mainly social and environmental issues>

The semiconductor manufacturing process has a significant environmental load, and solving this is a challenge for

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the entire industry. The company sell products such as thermo-electric modules, which are CFC-free temperature control devices, and power semiconductor substrates and ferrofluids that effectively reduce power consumption. The company also rely on clean energy, using solar panels in power generation at our plants in Japan and China. Thus, our business activities contribute to reducing greenhouse gases, leading to environmental pollution reduction. Moreover, the number of university students in financial distress is increasing due to the COVID-19 crisis. Therefore, the company support the Akira Yamamura Scholarship Foundation, which provides scholarships to engineering students to develop talented human resources who can contribute to society in the future.

<Principle 2-4: Ensuring diversity, including active participation of women>

Believing that working with employees who have different experiences and senses of values within a company is an advantage in ensuring sustainable business growth especially when companies operate globally like our company, we endeavor to ensure diversity, including active participation of women, based on our policy of entrusting each of our local subsidiaries with management of their own companies.

<Supplementary Principle 4-11-1: View on the balance between the knowledge, experience, and skills of the board of directors as a whole, and on diversity and appropriate board size>

Our company's Board of Directors believes that a board of directors needs to be composed of directors with diverse perspectives and experience, and diverse and advanced skills for supervision of business execution and important decision-making. It also thinks that our auditors need to possess diversity and superior skills like the directors because they are obliged to attend board meetings and give their opinions as required. With regard to outside executives, we believe that we need outside directors who have voting rights in board meetings, in addition to outside statutory auditors, and it is essential that both the auditors and directors are highly independent so that a double check function, which consists of supervision by the Board of Directors and audits by the auditors, can work properly.

We have posted a skill matrix, a list of such elements as the knowledge, experience, and skills of each of our directors and auditors, on our website: (<https://www.ferrotec.co.jp/esg/sdgs.php>)

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