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**MEC's Past and Future**  
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Date and time of the event : Saturday, March 23, 2024

Attendants	:	MEC	CEO & President	Kazuo MAEDA
		MEC	Director & CFO/Executive Operating Officer	Toshiko NAKAGAWA
		MEC	Corporate Communication Office Head	Aya MATSUSHITA

Overview of the Fiscal Year Ended December 2023 (FYE12/2023)

Summarizing the business environment for FYE12/2023, demand swelled until 2022 to some extent mainly due to the COVID-19 pandemic. We believe that there was a frontloaded portion included in the demand. As a result, demand became weak from around January 2023, and then with an inventory adjustment starting, demand has been gradually recovering throughout the year. However, overall 2023 saw a stagnant market. Regarding the overview of major products, sales of the CZ series declined as demand for related electronic devices was low. V-Bond (hereinafter referred to as “VB”) decreased due to the condition of smartphones although production of automobiles showed signs of a slight recovery. EXE posted a little increase as the inventory adjustment of related electronic devices ran its course. SF was down due to poor demand for related electronic devices.

Consequently, net sales were 14,000 million yen and operating income came to 2,490 million yen.

FYE12/2024 Consolidated Financial Forecasts

We plan net sales of 16,300 million yen and an operating income of 3,000 million yen.

Company Outline

We are headquartered in Amagasaki, Hyogo Prefecture, where we have our head office, a main factory and an R&D center. The company was founded in 1969.

Shareholder Returns

Total dividends were 45 yen per share, and the payout ratio was 36.8% for FYE12/2023. Total dividends are planned to be 45 yen per share with a payout ratio of 39.2% for FYE12/2024. We are striving to continue paying stable dividends with a consolidated payout ratio of 30% as the guideline.

Corporate Motto and Management Principle

The corporate motto is “Enjoy your work.” We have held this up since the early days of our founding. Our management principle is based on three pillars: “Visionary Technology,” “Reliable Quality,” and “Meticulous Service.” We hold up the slogan “We contribute to the creation of a prosperous and diverse society and sustainable environment, inspired by an unconventional approach based on the principles and creating and fostering value at various interfaces through global activities.”

Our Business

We develop, manufacture and sell chemicals for manufacturing electronic substrates and electronic components. We develop and sell chemicals that dissolve metals, especially copper, and add a variety of value to them. In recent years, products for manufacturing package (PKG) substrates, which are materials for the semiconductor backend process, have been widely employed for adding extremely high value. We focus on R&D. With a third of all employees on an unconsolidated basis as researchers, we have the policy of investing about 10% of our consolidated net sales in R&D. We are running operations with an eye on having a production system that enables any of our production bases across the world to offer products with the same quality. We are sometimes mistaken for a substrate manufacturer, but we are not. Although our company name is MEC, we do not manufacture or sell chemicals for plating (*mekki*, which sounds like MEC, is the Japanese word for plating).

Sales Evolution since the Founding

Our sales have generally grown since the company founding although there have been ups and downs. The significant point in our business is that the CZ series, which we put on the market in 1995, has come to be used globally. These products have been adopted by a variety of end-products, driving our earnings. Down the road, sales will be boosted by 5G, AI/IoT, autonomous driving, digital transformation (DX), green transformation (GX) and others.

Bases in Japan and Overseas

Domestically, we have a factory and an R&D Center in the Amagasaki Head Office. There is the Higashi-hatsushima Business Site near the Head Office. The Nagaoka Factory for mass-production is situated in Nagaoka, Niigata Prefecture, and we have our Tokyo Sales Office in Tachikawa, Tokyo. We are operating in these four bases. Overseas, we have subsidiaries, one in Taiwan, two in China, one in Belgium, and one in Thailand,

with a factory attached to each. As a new base in Japan, we are moving forward with a plan to build a plant in Kitakyushu, and it is scheduled to start operations in 2025.

Flow of Our Products

We set hypotheses, run experiments in R&D, and turn research themes into products for sale. Once a product for sale is finalized, it is handed over to the manufacturing section to advance the process toward mass-production. Products (liquids) are shipped in packages of polyethylene containers or tanks. The main destinations are substrate manufacturers and component manufacturers. Our products end up being incorporated into various applications.

Fields Where We Can Be Active

It is highly likely that our products have been used in the everyday electrical and electronic appliances in your home. PCs, smartphones, displays and servers must use our products. Automobiles too likely employ our products.

Trend in Consolidated Full-year Performance

We posted year-on-year decreases in both net sales and profits for FYE12/2023. We expect a full-fledged recovery to come after the second half of FYE12/2024. To capture a demand increase, we are also moving forward with the plan to build the Kitakyushu Factory.

Sales Composition

Chemicals constitute most of our sales.

Sales by Region

Japan accounts for 39.5% of all sales for FYE12/2023. South Korea makes shipments from Japan and is included in Japan, accounting for about 15% of total sales. Among our bases, the percentage of our sales increase in the order of Suzhou, China; Taiwan; and Zhuhai and Hong Kong, China. We expect Thailand to increase its importance in the future.

Keywords That Relate to MEC's Growth

5G, AI/IoT, and automobiles are crucial. With 5G already used broadly, the more advanced 6G will make the communication speed faster and faster. We think it will

become an extremely important source of our business expansion. There is an issue because AI is expected to consume more electricity as the volume of information processed increases and as the processing speed rises. We will provide chemicals that solve this problem. In the IoT, more and more electronic components and substrates are being incorporated into a single electronic device. The IoT and AI are sources of business, indispensable for us. These technologies can make advancements, in a sense, thanks to the very availability of our products.

Automobiles are also extremely important in terms of automated driver assistance systems and connectedness. In response to the increasing global demand for semiconductors, semiconductor manufacturers are making massive investments. Along with investments by semiconductor manufacturers, PKG substrate makers are also investing. Under these circumstances, we expect demand for our chemicals to rise and we will ensure we have a production capacity that allows us to fulfill our responsibility to supply the required products. Moreover, as the technical difficulty level has risen mainly in cutting-edge areas, we will focus on developing the most advanced products to match the technology level and supply them to customers.

Kitakyushu Factory

Construction started in April 2024 with a total investment of approximately 4,000 million yen, and the cost will be financed primarily by our funds on hand and partly by debt capital. The production capacity is planned to be a maximum of 30,000 tons per year. We aim at making a factory equipped with as much automation as possible and new production technology. It is scheduled to start operating in July 2025. After evaluation and approval by customers, we expect to start full-scale mass production in the early summer of 2026.

Our Core Technologies

1. Roughening copper surfaces to mechanically improve the adhesion to resin.

This is the CZ process, which is employed in the manufacturing process of PKG substrates, on which semiconductors are mounted.

2. Forming wiring patterns.

Although it is difficult to form fine wiring patterns neatly, the use of EXE makes it extremely easy to form extremely neat wiring patterns.

3. Allowing selective etching

This is a technology that ensures when two or more different kinds of metals are mounted on the same substrate, only one will be kept intact and the others dissolved and

removed. For example, our product has the function of removing metals such as nickel, chrome, and nichrome, and leaving copper wiring intact.

4. Treating copper surfaces to chemically improve adhesion.

This technology is the same as CZ, mentioned first, in terms of adhesion enhancement, but it can also boost adhesion strength. It works by skipping the roughening step, and chemically forming a thin film between resin and copper and adding an adhering or crimping treatment. It provides adhesion equal to or stronger than that of roughening. This process is employed for the most advanced substrates.

Major Chemicals and Examples of Their End Products

As examples of its end products, CZ is employed in difficult-to-produce areas of data centers, PCs, smartphones, tablet PCs, etc. VB is used in multilayer substrates inside automobiles, smartphones, and others. EXE is used as a wiring-formation chemical for monitors of TVs, PCs, and others. SF is adopted in the manufacturing of tablet PCs as a copper-selective etching solution.

Fields in Which We Excel

The fields where we excel are the parts of PKG substrates that are technically highly difficult to produce. The lower the technical difficulty is, the lower our market share is. Flexible substrates were originally a segment of the market where our share was low. However, as the function of flexible substrates has been upgraded, our chemicals have been adopted more broadly, causing our market share to grow.

PKG Substrates and CZ Series

CZ is used nearly 100% of the manufacturing of PKG substrates as a chemical that improves adhesion between copper and resin. CZ melts copper wires slightly to shape them into a unique convex and concave copper surface topography, thereby enhancing the adhesion strength.

Evolution of PKG Substrates

The structure up to the present has one semiconductor mounted on one PKG substrate. Recently, a structure called a chiplet, where multiple semiconductors are mounted on one PKG substrate, has emerged. This seeks to improve yields and upgrade performance without increasing costs extremely. Additionally, for further performance improvement, there is also the most advanced product that has a structure that employs silicon interposers and silicon bridges between semiconductors and PKG substrates. By

adopting such a structure, the size of a PKG substrate becomes larger, and the number of layers is expected to increase, and this can lead to an increase in the volume of our CZ used.

Roadmap of CZ Series

Our present major product is CZ-8101. In anticipation of the future evolution of PKG substrates, we completed the development of CZ-8201, which roughens more finely, and CZ-8401, which roughens much more finely. Customers have started using such products. Additionally, we are developing a type of product that realizes chemical adhesion that sticks copper on resin without the need for roughening.

Toward Expansion of Business Domains

Our major business and technologies are evolving. We are digging deep and pushing forward with technological development. In addition to that domain, we are also expanding applications of our existing technologies and are engaged in new businesses. We are a technology-based company, and we have technology at our core and are committed to R&D.

Medium-Term Management Plan

We are moving forward with a three-year plan with 2022 as its first year as we look toward 2030. Our vision is to tackle the challenges of achieving a sustainable society in collaboration with customers by creating new value with unique technology.

The Company That We Aspire to Be

“Become a truly global company that creates new value through original technologies.”

“Continue to be an R&D-oriented company.”

“Be a representation of an original AI company.”

With the above aspirations, our thinking is to remain an R&D-based company and position technology as the center. We are also thinking of establishing a meaningful presence as an AI company. It is extremely important to face customers with integrity.

Numerical Targets in Present Medium-term Management Plan

Our goals are to secure an operating profit ratio of at least 20% and ROE of 10% or more.

Q&A

Question 1: Since the Company has a high market share, is that why the company's performance is affected by demand for the entire industry?

President: That is correct. We aim at building several business pillars in fields where we can leverage our technologies. By doing so, we intend to smooth out any peaks and troughs in our performance.

Question 2: There are plenty of companies entering such fields anew, aren't there?

President: Such fields demand high technological levels and are niche markets. Therefore, there are few companies expanding into them. In cutting-edge and new technological domains, there are roughly one or two companies that are aiming at doing things similar to us. We are proud to be absolutely leading the technology of treating copper.

Question 3: If you say that the domains where MEC excels are products with hard-to-reach technical levels, can you afford to withdraw from the technology for other products?

President: It is possible that customers' technologies will be upgraded. Therefore, we are preparing for such situations. We want to closely watch technological trends.

Question 4: What do you think of the impact on the environment of the disposal of liquid waste?

President: Liquid waste is disposed of by our customers. We concentrate on designing products that can be applied to waste liquid treatment. We check the situation carefully with customers and sell our products after obtaining their approval.

Question 5: Do you have products other than the four major ones?

President: Yes, we do.

Question 6: Share with us the situation of the creation of new businesses and the broadening of applications of existing technologies.

President: We do not publicize quantitative figures, but we have plans and have been moving forward with them.

Question 7: Is it true that CZ cannot be copied easily?

President: Yes, we firmly protect it with patents.

Question 8: Will CZ or other products cease to be used in the future?

President: We believe that substrates and semiconductors will remain absolutely necessary in the future.

Question 9: Can you share with us the fields where you expect PKG substrates to grow?

President: At this moment, investments in AI servers are booming. We also look forward to an increase in the number of standard high-speed processing servers.

Question 10: Where do you deliver your products?

President: The destinations are manufacturers of electronic substrates and electronic components.

Question 11: What is your forecast for the external environment in 2024?

President: We expect the number of AI servers and standard high-speed servers to increase. Also, demand for PCs and smartphones will also return slightly as the economy goes through phases of the business cycle. Regarding automobiles, we expect products related to autonomous driving to increase.

Question 12: Was the recovery for the current fiscal year due to quantity or prices?

President: For the fiscal year ending December 31, 2024, we do not factor in a quantitative recovery to that extent.

Question 13: Share with us the direction of the 2030 Vision.

President: We are thinking of further expanding existing businesses and embarking on other markets by using our core technology in a technological manner.