

4971 **MEC COMPANY LIMITED**

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**Helping to reduce power consumption and achieve
faster information transfer**

◆ **Amagasaki Headquarters will be completed in October.**

In the fiscal year ended March 31, 2016, we recorded sales of 9,078 million yen (year-on-year increase of 0.2%), operating income of 2,185 million yen (up 8.8% year-on-year), ordinary income of 2,207 million (up 3.7% year-on-year), and net income of 1,514 million yen (up 12.7% year-on-year). Sales of chemicals were 8,718 million yen, and their percentage of the total sales rose to 96.0%, up 2.3 points compared with the previous fiscal year. The overseas sales ratio was 54.6%, up 2.2 percentage points year on year, but this becomes 74.9% (68.8% in the previous year) when adding in sales of the Company's chemicals for use overseas that were sold by agents in Japan. The impact of foreign exchange rates meant that sales grew by 345 million yen, and operating income increased by 56 million yen. Sales of the flagship products of the CZ Series came to 4,641 million yen, and they accounted for 53.2% of all chemicals sold. The gross margin rose to 66.5% from 64% the previous year.

Looking at the quarterly changes in sales, both consolidated and non-consolidated sales have been growing steadily. Operating income increased significantly in the third quarter, and we were also able to keep it at about the same level in the fourth quarter. Non-consolidated ordinary income and net income grew significantly in the fourth quarter but this was because dividends from subsidiaries were included. Looking at consolidated sales by product type, sales of machinery increased in the fourth quarter, and a factor in that was a new process that has been adopted. By chemical, as ever copper surface treatment agents accounted for most of our total sales. Even if we classify them by etching agent or adhesion improver (mainly the CZ Series), no large movements have been observed. With regards to sales of the CZ Series, although sales of CZ-8101 decreased slightly in the third quarter, sales of both CZ-8100 and CZ-8101 increased in the fourth quarter. In terms of sales by regional segment, those in Japan were flat and those in Asia saw a slight decrease.

For the fiscal year ending March 31, 2017, we expect to see sales of 8,900 million yen (a year-on-year decrease of 2%), operating income of 2,000 million yen (down 8.5% year-on-year), ordinary income of 2,050 million (down 7.2% year-on-year), net income of 1,450 million yen (down 4.3% year-on-year), and we forecast net income per share will be 74.85 yen. We plan to pay an interim dividend of 10 yen and a year-end dividend of 10 yen, making for an annual dividend of 20 yen (payout ratio of 26.7%).

The earnings forecast for the current fiscal year includes elements that are different from those seen so far. First of all, we assumed the foreign exchange rate (to the U.S. dollar) would be 105 yen. The actual figure for the fiscal year ended March 31, 2016 was 120.97 yen, and because the yen rapidly appreciated we were negatively affected. In addition, we completed building the Amagasaki Headquarters in October, and it is scheduled to start operating in April 2017. Our accounts have incorporated 271 million yen as a cost associated with this Headquarters. Looking at the breakdown, moving costs and such like amount to 92 million yen, tax and insurance premiums pertaining to real estate are 78 million yen, and depreciation and amortization (straight-line method) have become 101 million yen. On the other hand, we forecast the effect of changing to the straight-line method from the declining-balance method as a way to depreciate and amortize business sites other than the Amagasaki Headquarters will amount to 104 million yen, and this will have a positive effect on operating income.

◆ **Roughen the surface to improve the adhesion**

Our core technologies are forming wiring, improving adhesion by roughening the surface of components, and selectively etching different areas of metal on the same substrate. To improve adhesion, not only the process of roughening surfaces but also flat processing has been attracting attention. Although time will be needed until such process can contribute significantly to sales, we want to continue working on development and validation.

When the era of the IoT arrives, sensors will be able to grasp exact information and convert it into electrical signals. Analyzing these signals will then make it possible to optimize entire systems and individual components. And the Company can make contributions in areas such as responding to an increase in the amount of information, achieving faster information transfer and analysis, and reducing power consumption. To reduce power consumption, the main points to focus on are the switch to low-profile and compact mobile devices. To handle an increase in the amount of information and have faster information transmission and analysis, it is necessary to increase the number of data center or edge side servers. With regards to sensors, it is said that the market size in the next 10 years will increase a hundredfold in volume terms, and to be able to make the large-scale investment along with that increase, we want to utilize technology as a base and ensure we make good use of opportunities.

There are currently approximately 30 billion IoT devices, and this number is expected to rise to 53 billion in 2020. Our products have been used in electronic boards and components for a variety of applications. And amid a situation where general-purpose electronic substrates are becoming high-density ones with high added value, from now on it will become important to enhance adhesion by roughening the surface of parts to join. Further, in order to cope with faster electrical signals it is necessary to be able to carry out flat processing. Moreover, without reducing productivity, chemical processes for making thin wiring patterns that can handle the switch to compact products can contribute to areas such as precise exchanges of electric signals.

◆ New adoption of EXE Series and FlatBOND process

As a future stepping stone, we have built up a good track record with the EXE Series for use on HDI boards, flexible boards, and package substrates. We have a proven track record in using FlatBOND for substrates that can handle high-speed signal transmission. With regards to AMALPHA, because we were able to achieve results in using it on the metal housing of portable devices, we will expand into areas such as lighter cars, and robots.

The EXE Series have come to be used as subtraction etching agents for use in COF, flexible substrates, and HDIs, and because they are an addition type of product, manufacturers can use them just by adding etching agents to their current equipment. In addition, subtraction etching agents feature an ability to make high-density wiring and offer wide management margins. Currently, in order to give portable small devices a high performance and long operating time, manufacturers are fitting them with large batteries and miniaturizing electronic components, and as a result the EXE Series has begun to be used in HDI substrates. In addition, the EXE Series are also being used for digital TV displays.

FlatBOND is an adhesion promoter for substrates that can handle high-speed transmission of signals. When the frequency increases, the electrical signals pass close to the surface of a substrate and so the speed does not increase when roughening treatment is performed. Therefore, the FlatBOND process that brings a flat copper body into close contact with resin is attracting attention, and it is being newly adopted for motherboards used in base stations and supercomputers. AMALPHA agents are for joining various types of metal and resin, and they help produce lightweight products, reduce processing time, and enhance sealing.

In the future, technology will change significantly when there are portable electronic devices with even higher performance. Subtraction agents will continue to be applied to boards that are not high-density ones, but addition agents such as the EXE Series will be required in order to achieve more dense wiring. Because there is a high probability that organic EL devices will be external, a business opportunity will arise with regards to chemicals for touch panels.

◆ CI Series for MSAP is highly rated.

The key to having compact boards is to reduce the width of lines and spaces. In order to form a fine wiring pattern, rather than using a subtraction process to remove unnecessary parts and make wiring, it is better to use a semi-additive process (MSAP, SAP) that makes wiring by plating the necessary parts. While the subtraction method has advantages such as being simple and offering high productivity and low cost, it is not suitable for forming highly fine line patterns. The semi-additive process is capable of forming highly fine lines, but it is very complex and costly. Also, in the subtraction method, by using the EXE Series of products, it becomes possible to form highly fine line patterns to a certain degree, and in the future we expect manufacturers to selectively use them depending on the application.

In the semi-additive process known as MSAP, copper foil is used as the seed layer, while in SAP electroless copper is the seed layer. The Company is developing chemicals in the CI Series for use in removing the ultra-thin copper foil seed layer of the MSAP method, and in the QE Series for doing so in the SAP method.

The CI Series of products are used for processor packages for mobile applications, and with their high

performance they are highly rated by our customers. In addition, the adhesion promoter STZ-3100 has also started being adopted for some electronic components in treatment before plating a resist for SAP and MSAP. In a typical pickling process, it is impossible to form a pattern without attaching a dry film as a plating resist. But by pre-treating with STZ-3100, a dry film can be attached and it is possible to make a clean pattern.

Looking toward the IoT era, in the future there will be more demands relating to enhancing adhesion by roughening the copper surface, strengthening adhesion with flat processing, enhancing technology to fabricate electronic parts without compromising the appropriate qualities and productivity of an ultra-fine copper body, and improving technology to bond different materials with an agent. Hence, we want to extend our capabilities in the respective fields. We will also continue to strengthen our global development while also enhancing our abilities to develop new products, and improve our total quality assurance system, aiming for sustainable growth.

◆ Q&A ◆

Please tell me the amount of impact that foreign exchange rates will have on the earnings forecast for the current fiscal year.

We forecast that foreign exchange rates will negatively affect sales by 700 million yen and each of operating income and ordinary income by 100 million yen.

Will taxes and depreciation and amortization related to the Amagasaki Headquarters double in the year ending March 31, 2018?

Depreciation and amortization will double to about 200 million yen. On the other hand, although real estate acquisition tax will be nearly the same amount as it was in the current fiscal year, we expect that for the fiscal year ending March 31, 2018 it will become a fixed asset tax.

Tell me what positive impact there will be from operating the Amagasaki Headquarters.

It is difficult to quantify but in future it will be possible to suppress any increase in personnel by sharing management and maintenance tasks. In addition, expenses such as utility costs will also be reduced to some extent. In terms of manufacturing, we will be able to vertically start up production and we will also be able to speed up tasks such as research and development and marketing.

In the current fiscal year under review, sales grew substantially by 500 million yen if you exclude the impact of foreign exchange rates. I want to ask about the business environment surrounding the main products.

For the CZ Series, excluding the impact of foreign exchange rates, we expect their sales to be almost flat, but in terms of volume we see them as extending by 6 to 7%. Also for the EXE Series, though they will be affected by exchange rates, their sales can be expected to grow by 20 to 30%. For AMALPHA, although their sales are at the level of just several tens of million yen at the moment, in the current fiscal year we expect them to reach 100 million yen.

For the current fiscal year, are you assuming there will be any negative factors other than the impact of foreign exchange rates and the cost of the Amagasaki Headquarters?

Demand for small displays has become weak, and it will have a negative impact. In addition, personnel expenses due to the increase in the number of personnel will become slightly more burdensome.

(May 12, 2016, Tokyo)

The materials for use on the day of this briefing can be viewed at the address below.

<http://www.mec-co.com/en/ir/library/>