

## **MEC COMPANY LTD. (4971)**

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### **Amagasaki Headquarters completed, aiming to speed up development and improve efficiency**

#### **◆ Results for the second quarter of the year ending March 2017**

Net sales in the first half of the current fiscal year were 4,520 million yen (up 1.5% year on year), exceeding the plan by 260 million yen (6.1% increase). Due to the impact of foreign exchange rates, net sales were down 272 million yen year-on-year, sales of chemical were 4,285 million yen (down 8 million yen), sales of machinery were 48 million yen (a decrease of 20 million yen) and sales of materials amounted to 172 million yen (up 88 million yen). Chemicals accounted for 94.8% of total sales, the overseas sales ratio was 53.8%, and sales of the CZ Series came to 2,284 million yen, accounting for 53.3% of chemical sales. The overseas sales ratio becomes 74% (74.6% in the previous year) when adding in sales of the Company's chemicals for use overseas that were sold by agents in Japan. Gross profit was 65.2%, which was about level with the same period of the previous year. The decrease in gross profit was attributable to an increase in manufacturing expenses such as personnel expenses and repair expenses, and a temporary decline in the profit margin of our subsidiary in Taiwan.

Selling, general and administrative expenses decreased by 31 million yen, down 1.6% year-on-year, mainly due to the impact of foreign exchange rates. Operating income increased by 31 million yen, up 3.2% year-on-year, and exceeded the plan by 71 million yen (up 7.5%). There was almost no effect from foreign exchange rates—they increased operating income by about 1 million yen. Ordinary income decreased by 42 million yen, down 4.2% year-on-year, and fell below the plan by 15 million yen (down 1.6%). The main reason was foreign exchange losses of over 54 million yen in non-operating expenses. Income taxes decreased mainly due to a reduction in the income tax effect on retained earnings at subsidiaries and a decline in the Japanese tax rate. Net income was 813 million yen (up 110 million yen, a 15.7% increase over the same period of the previous year) and exceeded the plan by 73 million yen, or up 9.9%.

Looking at the balance sheet, total assets amounted to 17,038 million yen. Items related to the Amagasaki Headquarters had a large impact, and construction in progress increased by 1,294 million yen. The same factor affected liabilities and net assets, and we took out long-term borrowings totaling 2,000 million yen—500 million yen as current liabilities and 1,500 million yen as noncurrent liabilities. In addition, foreign currency translation adjustment decreased by 706 million yen due to the appreciation of the yen.

Looking at the cash flow statement, in the cash flow from investing activities there was an expenditure of 1,754 million yen for acquiring tangible fixed assets and this was related to the Amagasaki Headquarters. In cash flows from financing activities, income from long-term debt increased by 2,000 million yen, and the amount of dividend slightly increased.

On October 28, we announced a change to our fiscal year. We decided to unify the accounting period with overseas consolidated subsidiaries and disclosed changes to the fiscal year-end, going from the current March 31 to December 31.

Net sales decreased slightly on a consolidated basis compared to the first quarter. The factors in this were foreign exchange rates, where the yen is starting to appreciate, and the beginning of a transitional period with regards to demand at subsidiaries. Net sales increased slightly on a non-consolidated basis. Operating income increased both on a consolidated and non-consolidated basis in the second quarter, because the

profitability in the first quarter was very low. Ordinary income saw a similar situation, with net profit growing. Looking at trends in net sales by product category, chemical sales were slightly lower than in the first quarter. There were hardly any sales of machines, and strong sales of materials handled in Europe.

Sales trends by chemical did not change, with copper surface treatment agents accounting for the majority. There was a small fall in sales of adhesion improvers centered on the CZ Series, and sales of etching agents slightly increased although they were affected by the exchange rate. The same trend was seen with the CZ Series (8100, 8101) as with overall sales.

In terms of regional segments, sales in Japan remained almost unchanged, as ever, and sales in Asia declined somewhat due to the effects of exchange rates. Sales in Europe slightly increased, and the overseas sales ratio fell a little bit.

We will refrain from making forecasts for the full fiscal year, although there is a possibility of fluctuations based on the results of the first half.

### ◆ Future business developments

We have three core technologies: forming wiring (etching agents), roughening the surface and improving adhesion (adhesion improvers), and performing selective etching (others). In recent years, it has become important for devices to operate at a high frequency, and we are focusing on improving adhesion without roughening the surface of material. As a field in which we can be active, we have specialized in chemicals used especially for high-value-added semiconductors and modules of electronic parts, and these chemicals are used in various devices. Demand for PCs is falling now, and our chemicals have come to be used frequently in Internet infrastructure such as servers and base stations. There is stable demand for our chemicals for use with televisions and automobiles. They are also often used in car navigation systems, and new adhesion improvers have started to be used for high-frequency applications in supercomputers and base stations. Demand is also spreading widely in various areas including wearable devices and medical instruments. And we expect to see a further increase in demand due to an expansion of infrastructure, improvements in device quality, and a rapid increase in the number of sensors.

Mutual transmission of data between machines is the basic concept of the IoT, and any delay in a signal poses the risk of causing serious troubles. Something that is able to meet all the new requirements related to communication speed and the physical quantity of data is the fifth-generation communication network (5G). When using the high-frequency band, the biggest problem is that the radio waves cannot propagate over such a long distance, and various technological measures have been taken to overcome this. With 5G, it is necessary to replace equipment with a new base station or 5G terminal. It is said that this will gradually start to take place from around 2020, and further improvements in the performance of portable electronic devices can be expected. We expect to see new needs due to the limitation of the subtraction method, and high hopes are being placed on developments in motherboards and making systems compatible with high-density flexible substrates.

Package-less technology (fan-out wafer-level packages or "FOWLP") is a method that the Taiwanese company TSMC is using, and it has been adopted since iPhone 7. The cost of a device is lowered because there is no package board. But there is the remaining problem of an increase in cost because new parts must be created. This method is advantageous since the package is thin, and also the transmission speed is fast because the wiring length is short, little power is consumed, and only a small amount of heat is given off.

Introduction of this technology has reduced sales of our CZ Series, but the impact is limited. Since the method uses a very small package substrate, there is almost no problem for our operations in monetary terms.

The density of flexible printed circuit boards is increasing, and we believe from now there will be an increase in small component mountings that can handle various shapes and that were conventionally used in hinge parts. HA copper foil is a rolled product that is made thin by pulling it out, unlike ordinary electrolytic copper, and it is resistant to bending and often used for flexible substrates. Since the conventional soft etching agents do not uniformly roughen a material, unevenness occurs in the surface and so these agents cannot be used. The UT Series of chemicals we are developing were created with the aim of ensuring adhesion of a dry film to be used before a wiring pattern is formed, and they were highly praised immediately after their release.

The main products of the CZ Series are designed to roughen a surface more finely as the wiring pattern gets thinner, so that the same effect can be obtained. And we have been developing and commercializing them for about 15 years. The FlatBOND products that are compatible with high-frequency applications are mass-produced in high-end areas. They use chemical adhesion to attach resin to flat copper.

We expect to see ongoing demand for digital televisions in the future. Demand from emerging economies, in particular, will increase going forward, and our chemicals for wiring patterns for use in displays are becoming the de facto standard. In addition to displays, the EXE Series are used when cutting fine patterns with the subtraction method, and they are being mass produced since they have proved popular in some applications. Patterns that were difficult to create with ordinary etchants are relatively cleanly cut with the EXE Series. This suppresses any variation in wiring width and the bottom section can be cut firmly while holding the top. They command a high market share for use in the COF of TVs, and they are also being partially adopted for HDIs. Because they are an additive type of product, a manufacturer can use them by simply adding them to etching agents at its current facilities.

Sales of the FlatBOND series of chemical adhesives are gradually increasing as they are being newly adopted for base stations and motherboards for supercomputers. In electronics, there is a characteristic in which the electric signal runs near the surface of a metal as the frequency rises. And if roughening treatment is carried out, since the frequency does not rise, it is necessary to closely adhere materials while they are in a flat state.

Sales of AMALPHA, our metal surface treatment technology, are gradually increasing as it is adopted as a chemical solution used in the process of manufacturing the housing of mobile devices. It is also being adopted to a certain degree for industrial robots. We are aiming to mass produce some AMALPHA products mainly for the purpose of sealing, and ultimately we hope they will be adopted in automobiles. They can be used not only with copper but also with aluminum, nickel, stainless steel and other metals to make various shapes, and can enhance the adhesion between metal and resin.

The main part of the Amagasaki Headquarters was completed in October. We plan to relocate the head office functions in December, put in R&D plants in sequential order, and commence full-scale operations in April, and this plan is progressing well.

### ◆ Aiming to expand our business areas

Although we have been developing business mainly in fields related to the manufacturing of electronic substrates, we hope to capture demand for technologies and products that will support the IoT, an area where technology is changing rapidly. And we have been slightly successful in doing this in display-related fields. Furthermore, we would also like to develop the field related to resin–metal bonding as another major pillar. One of the core parts of our management strategy is our business growth strategy, and for this we will enhance our marketing activities to fully showcase our technologies, and expand operations globally. We will introduce our newly developed chemicals to customers in advance, and at the same time promote their adoption at our clients as we proceed to make them de facto items. Also, in the case of our company it is hard for us to have vertically integrated operations, and so we want to promote open innovation as much as possible. We will take the initiative where possible and actively incorporate external technologies and such like. As an environmental, social and governance (ESG) strategy, we have worked on various areas relatively quickly. With regard to social efforts, we are striving to achieve a good work–life balance for our employees, aiming to be a company that contributes to the region and be an organization in which all the members, and not only women, find it easy to work. In terms of the environment, we will ensure we carry out measures to reduce customers' environmental burdens, such as by designing chemicals in such a way that it is easy to handle their waste solutions.

◆ Q&A ◆

**I would like to confirm the direction you are heading in with the CZ Series.**

So far the CZ Series have not been used in FOWLP, and so we see their sales decreasing in that area; but in other aspects, demand for the CZ Series is increasing enough for us to get back on track. Currently only one company uses FOWLP for an application processor, and even if it replaces the CZ Series with FOWLP for all other products, it will not amount to much money, and probably that won't happen anyway. As a direction we want to head in to increase sales, from now on we will work to further increase the amount of the CZ Series used for memory and motherboards of package boards. Packages are tending to become smaller and thinner, and we are sure that this direction will enable us to increase sales, so we will also make efforts for that.

**What effect will the completion of the Amagasaki Headquarters have?**

Although it is difficult to quantitatively say, in many cases the marketing team bring back tips for research and development. And we will aim to speed up development and quickly launch products by having our sales force in the same location as our researchers, and having them exchange information. Even in the process of launching our developed products, since the head office factory is next to the Amagasaki Headquarters, our staff will not need to exchange information in the way they have been doing so far. So we are expecting greater efficiency. What's more, we are working to broaden the range of our R&D and expand the range of products, such as in the field of organic synthesis control, while making it easier to verify products, and avoid risks related to our BCP (business continuity plan).

**What figure do you expect to see for the Amagasaki Headquarters' operation rate?**

We will not operate it in the second half of this fiscal year; we will start operating it in the next fiscal year. Initially, we will need to conduct various verifications with customers, so I think the operation rate will be around 20 to 30%.

**What do you think about the decrease in overseas subsidiary sales in the second quarter?**

The production of old models converged quickly prior to the start-up of production at major North American companies, and that led to a transitional period in which we saw stagnant sales.

**What exchange rate do you expect to see in the second half?**

For now, we believe 1 U.S. dollar will be 105 yen, as it is now.

(November 9, 2016, Tokyo)