

## MEC COMPANY (4971 JP)

FY20 GROWTH LED BY SERVERS. CATALYST FOR GROWTH IN FY21 & BEYOND WILL BE EMIB (CHIPLET PACKAGING) AND AIP.

### FY20 Q3 EARNINGS RESULT

MEC reported FY20 (Dec year-end) cumulative Q1~3 OP of ¥1,836mil (+34.4% YoY) on sales of ¥8,728mil (+7.7% YoY). Sales (+6.2% YoY) and sales volume (+6.1% YoY) growth of the Chemicals division contributed to earnings as well as improving the division's gross profit margin (GPM) by ¥196mil YoY. OPM also improved by +4.1ppt YoY to 21.0%.

A boost in server demand at data centres, bolstered by the increase in data transmission on the back of COVID-19-led remote working and distant learning, as well as a penetration of 5G infrastructure, was a key driver of MEC's sales growth. The 6.2% YoY rise in cumulative FY20 Q1~3 Chemicals sales to ¥8,438mil was bolstered by solid sales of Copper Surface Treatment chemicals (¥8,076mil, +7.0% YoY), which comprises 1) Adhesive Enhancer (CZ series, V-Bond) (¥5,243mil, +12.4% YoY), and 2) Etching Chemicals (EXE, SF) (¥2,832mil, -1.7% YoY).

#### 1) Adhesive Enhancer (CZ series, V-Bond)

Q3 cumulative Adhesive Enhancer sales rose 12.4% YoY to ¥5,245mil (+12.4% YoY) thanks to a boost in sales of CZ-8101 which was supported by the rapid rise in demand for servers. Q3 cumulative sales of CZ-8101 improved 16.7% YoY to ¥2,430mil.

In the Q3 alone, CZ-8101 sales hit yet another record of ¥822mil (+9.3% YoY / +0.2% QoQ) thanks to increase in demand for packages. In 1H, MEC enjoyed rise in sales of CZ-8101 on the back of a rise in demand for packages used in laptops and tablet computers – when demand for those devices rose rapidly as people shifted to remote working and distant learning under the pandemic. This also led to rapid rise in server demand because of increasing data transmission.

In the Q3 alone, the demand for PCs remained solid with increasing remote working and distant learning, leading to continuous rise in server demand amid increasing data transmission. As 5G infrastructure becomes widespread, demand for servers at data centres will likely remain solid.

On the other hand, Q3 cumulative sales of CZ-8100 fell 1.9% YoY to ¥737mil due to weakness in package boards used in automobiles amid low automobile production in 1H. However, in the Q3 alone, CZ-8100 sales rebounded (+2.6% YoY / +17.1% QoQ) to ¥264mil as automobile part-use packages started to recover amid the restart of automobile production.

V-Bond, another adhesive enhancing chemical used in multilayer substrates for autos, also saw the sales trend bottoming out in Q3 as automobile production picked up. Q3 cumulative sales fell 7.3% YoY to ¥473mil but in the Q3 alone sales were ¥170mil (-5.4% YoY / +14.7% QoQ).

### EXECUTIVE SUMMARY

- MEC's FY20 Q1~Q3 results saw OP of ¥1,836mil (+34.4% YoY) on sales of ¥8,728mil (+7.7% YoY), thanks to a rise in both sales value and volume growth of the Chemicals division.
- Earnings growth was led by the core chemical product CZ-8101 in the Adhesive Enhancer segment, which enjoyed a strong demand associated with surge in data centre servers. Q3 cumulative sales of CZ-8101 rose 16.7% YoY, with Q3 alone, achieving a record in quarterly sales.
- CZ-8100 and V-Bond were negatively affected by the weak demand from the automobile industry, however, Q3 sales showed signs of bottoming out.
- In Etching Chemicals, both SF and EXE remained weak. SF was affected by some new tablet models no longer using touch panel sensors. For EXE, demand for use in COF remained weak while testing for use in the subtractive method for HDI motherboards was delayed.
- Thanks to better than expected Q3 cumulative results, MEC revised up FY20 guidance again. The new guidance though indicates dip in 4Q OP due an increase in costs.
- For the rest of FY20, CZ-8101 will continue being the growth driver.
- The chiplet-based technology such as EMIB will be deployed by package makers in FY21, to manufacture packages for servers. Some customers are still using CZ-8101 for EMIB but are expected to shift to CZ-8201 from FY21 onwards.
- Another growth driver for the newest CZ series, CZ-8401 relies on millimetre wave 5G smartphone device, which will likely take some time to see contribution to earnings.

## 2) Etching Chemicals (SF and EXE)

Etching Chemicals Q3 cumulative sales fell 1.8% YoY to ¥2,832mil, with the Q3 alone seeing sales slump to ¥996mil (-17.1% YoY / -1.0% QoQ). SF, a key material used in touch panel sensors, saw quarterly sales deteriorate (-39.2% YoY / -17.1% QoQ) to ¥247mil. Although 1H SF sales were boosted thanks to strong demand for tablets, in the Q3, a delay in the launch of a new high-end smartphone model negatively impacted sales. Furthermore, even though tablet sales remained strong in general, two out of four new high-end models did not use touch sensors due to the launch of a new technology that replaces the need for touch panel sensors hence the drop in SF sales. MEC had already expected this change in demand for SF, therefore, it was not a negative surprise.

EXE, another of MEC's etching chemical products, saw Q3 cumulative sales of ¥981mil (-3.5% YoY). In the Q3 alone, sales declined to ¥316mil (-14.2% YoY and -12.6% QoQ). Demand for use in COF (chip-on-film) remained weak. The company was expecting a stronger performance as the product was to be used as an etching chemical in smartphones' HDI motherboards in the subtractive method – and likely to partially replace the existing MSAP method – but due to COVID-19, the subtractive method production testing was postponed.

## UPWARD REVISION OF FY20 GUIDANCE

Thanks to better than expected earnings results during up to Q3, MEC revised up its full year FY20 earnings guidance. The OP estimate is up from ¥2,000mil to ¥2,300mil and sales from ¥11,100mil to ¥11,700mil.

Earnings results and company estimate (Cumulative)									
(¥mil)	FY19		FY20						
	FY	YoY(%)	1H	YoY (%)	Q3	YoY (%)	CE Old	CE New	YoY (%)
Sales	10,865	-4.1	5,701	14.6	8,728	7.7	11,100	11,700	7.7
OP	1,637	-26.4	1,133	85.8	1,836	34.4	2,000	2,300	40.5
OPM (%)	15.1		19.9	+7.6pp	21.0	+4.1pp	18.0	19.7	+4.6pp
RP	1,722	-23	1,126	76.4	1,819	30.4	2,000	2,300	33.5
NP for the parent's s/holders	1,236	-30.5	794	73.8	1,196	18.8	1,400	1,500	21.3
EPS (¥)	65.16	-29.8	41.85	73.8	63.03	18.8	73.77	79.03	21.3

Source: Nippon-IBR based on MEC's FY20 Q3 results material

## 1) Adhesive Enhancer (CZ series, V-Bond)

CZ-8101 will likely remain the largest growth contributor in FY20. The start of the 5G services will further increase the need for data transmission which will subsequently boost demand for data centre servers. MEC also assumes that demand for CZ-8101 will be further enhanced as package makers they begin the shift to a chiplet packaging technology, such as EMIB, in 2H. Initially CZ-8201, the next generation product in the CZ series, was to be used for chiplet packaging. However, due to a delay in the miniaturisation of package substrate's line and space (L&S), package makers are still using the existing CZ-8101. Though they are expected to gradually shift to CZ-8201, MEC reckons that a notable earnings contribution from CZ-8201 will most likely come in from FY21. Package makers continue to increase CAPEX to meet potential 5G infrastructure development-led demand from data centre servers. It is said that by 2025, 50% of packages for servers will likely use chiplet packaging, which enables the size of a package to be larger and more layered, therefore, will require ca. 8x more CZ chemicals than the current technology used to produce packages for PCs.

Furthermore, since millimetre wave 5Q high-end smartphone models have been launched only in the US so far, the rise in sales of CZ-8401 – the newest version of the CZ series used in AiP (Antenna-in-Package) – will likely be limited in FY20.

Growth of V-Bond sales will largely depend on the production recovery in the automobile sector. V-Bond is also used in multilayer substrate mounted on middle-end smartphone models; therefore, the sales performance of those models will impact V-Bond sales.

## 2) Etching Chemicals (SF and EXE)

While MEC expects sales of SF will fall due to smartphone touch panels are now being replaced by a new technology that does not use touch panel sensor, the company has seen rising enquiries for other applications.

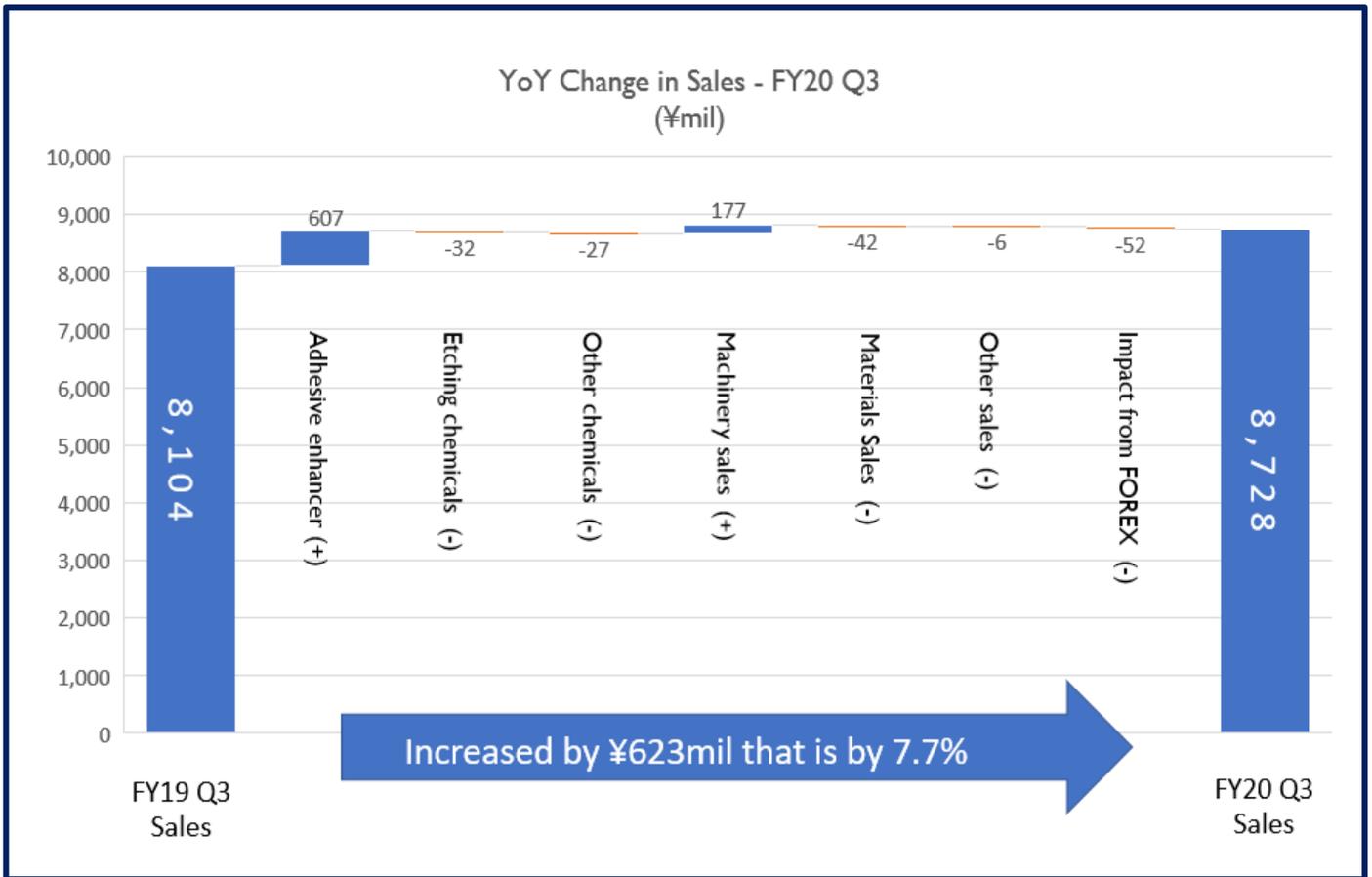
As for EXE, its sales growth is assumed to be led by applications on COF for displays in 4Q. Further upside would be possible if EXE is to be used in smartphones' HDI motherboards. However, earnings contribution from the subtractive method will likely be from FY21.

The new guidance suggests that 2H OP was revised from the previous forecast of ¥867mil to ¥1,167mil on sales which was revised up from the previous ¥5,399mil to ¥5,999. However, company estimates suggest that in Q4 alone, OP will drop to ¥464mil from Q3's ¥703mil and 2Q's 635mil. So far in Q4, the firm has not observed any slowdown in sales, however, it assumes an increase in SG&A such as consulting fees and personnel cost. In addition to cost increases, there will be costs incurred for the delayed closure of the Nishinomiya Factory. MEC planned to consolidate the production capability of Nishinomiya Factory to MEC Thailand within FY20, however, because of COVID-19, production line inspections by its customers had to be postponed. Until the production line approval is completed at MEC Thailand, the existing capacity at Nishinomiya will continue to operate during FY20 and FY21.

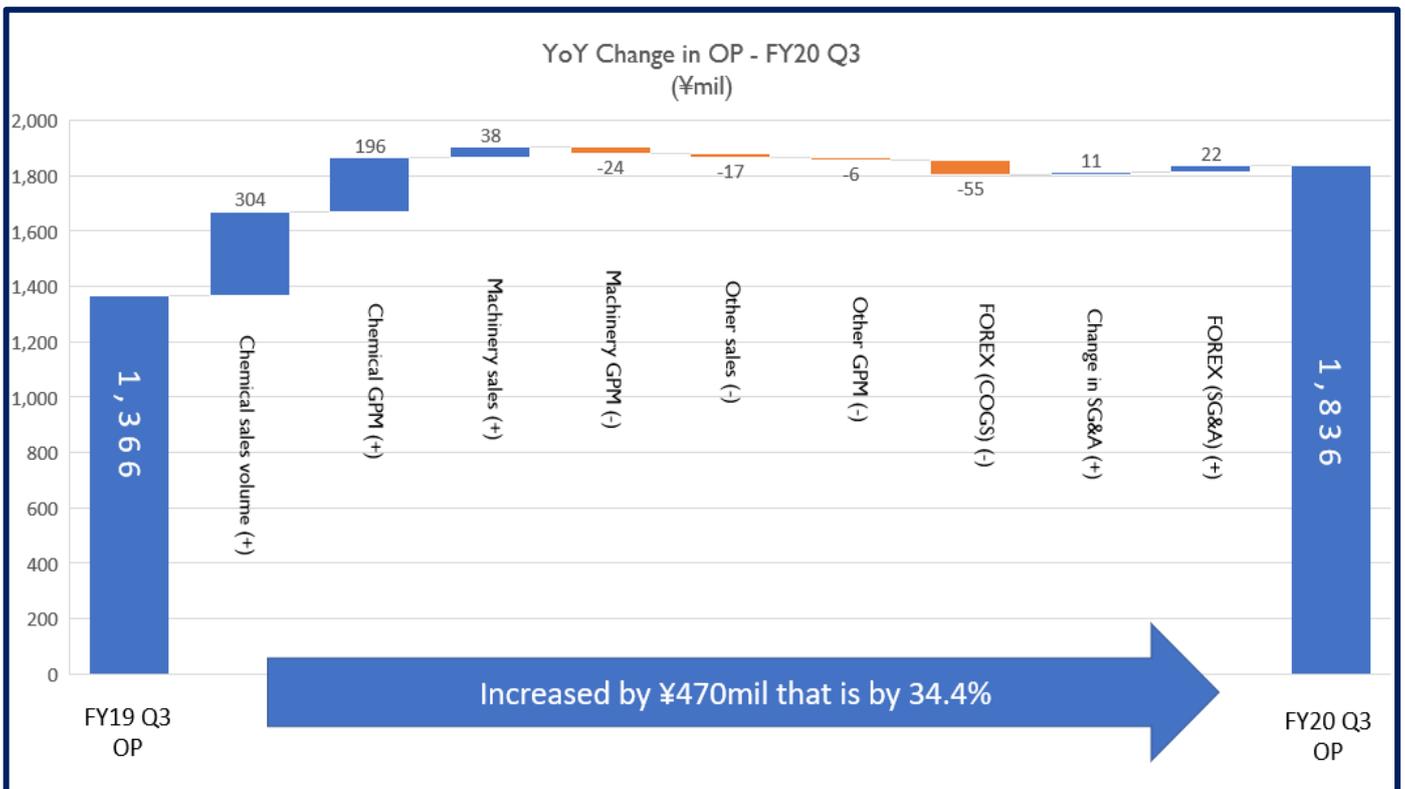
Although FY20 guidance was revised up, dividend per share remains unchanged at ¥26/share.

<b>Potential demand for CZ series - trend in technology for 5G infrastructure</b>			
<b>Packaging Technology</b>	<b>Specifications</b>	<b>Change in packaging</b>	<b>Applications</b>
EMIB	2.nD packaging by silicon bridge	Embed silicon bridge together with miniaturisation	Servers
Foveros	3D packaging with TSV	Miniaturisation	PCs
Co-EMIB	Convening Foveros and EMIB	Embed silicon bridge together with miniaturisation	Super computers, servers
Chiplets	2D packaging	Larger package with miniaturisation	Servers, PCs,

*Source: MEC's FY19 earnings results material*



Source: MEC's FY20 Q3 earnings results material



Source: MEC's FY20 Q3 earnings results material

<b>Earnings Summary (Cumulative)</b>										
(¥mil)	FY19				FY20					
	IQ	IH	3Q	FY	IQ	IH	3Q	YoY (%)	FY20CE (new)	YoY (%)
Sales	2,328	4,976	8,104	10,865	2,809	5,701	8,728	7.7	11,700	7.7
OP	205	610	1,366	1,637	498	1,133	1,836	34.4	2,300	40.5
OPM (%)	8.8	12.3	16.9	15.1	17.7	19.9	21.0	+4.1pp	19.7	+4.6pp
RP	240	638	1,395	1,722	463	1,126	1,819	30.4	2,300	33.5
RPM (%)	10.3	12.8	17.2	15.9	16.5	19.8	20.8	+3.6pp	19.7	+3.8pp
NP	158	457	1,006	1,236	317	794	1,196	18.8	1,500	21.3
EPS (¥)	n/a	24.09	53.07	65.16	n/a	41.85	63.03	18.8	79.03	21.3
DPS (¥)	n/a	12.00	n/a	26.00	n/a	12.00	n/a	n/a	26.00	0.0

Source: Nippon-IBR based on MEC's results presentation material

<b>Chemical Sales by Products (Quarterly)</b>														
(¥mil / Dec year-end)	FY2018				FY2019				FY20				QoQ (%)	YoY (%)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
Copper Surface Treatment Chemicals	2,454	2,617	2,716	2,685	2,134	2,497	2,919	2,592	2,551	2,701	2,824	4.6	-3.3	
Adhesive Enhancer (CZ,V-Bond etc)	1,598	1,641	1,640	1,577	1,360	1,588	1,718	1,695	1,720	1,695	1,828	7.8	6.4	
CZ-8100	270	279	272	253	232	260	257	269	246	225	264	17.3	2.7	
CZ-8101	723	733	725	713	540	789	752	753	787	820	822	0.2	9.3	
Other CZ Chemicals	392	407	420	382	413	330	475	446	474	446	476	6.7	0.2	
Etching Chemicals (EXE, SF etc.)	855	975	1,076	1,108	773	909	1,200	897	830	1,006	996	-1.0	-17.0	
SF	191	275	347	321	145	205	407	222	182	298	247	-17.1	-39.3	
EXE	277	286	296	381	297	349	369	278	301	362	316	-12.7	-14.4	
Other Surface Treatment Chemicals	158	156	181	162	132	125	133	122	109	127	121	-4.7	-9.0	
Chemical Sales Total	2,612	2,773	2,898	2,847	2,266	2,623	3,052	2,715	2,661	2,829	2,946	4.1	-3.5	

Source: Nippon-IBR based on MEC's FY20 Q3 earnings presentation material

<b>Chemical Sales by Products (Cumulative)</b>													
(¥mil / Dec year-end)	FY2018				FY2019				FY20				YoY (%)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
Copper Surface Treatment Chemicals	2,454	5,071	7,787	10,472	2,134	4,631	7,550	10,142	2,551	5,252	8,076	7.0	
Adhesive Enhancer (CZ,V-Bond etc)	1,598	3,239	4,879	6,456	1,360	2,948	4,666	6,361	1,720	3,415	5,243	12.4	
CZ-8100	270	549	821	1,074	232	492	749	1,018	246	471	735	-1.9	
CZ-8101	723	1,456	2,181	2,894	540	1,329	2,081	2,834	787	1,607	2,429	16.7	
Other CZ Chemicals	392	799	1,219	1,601	413	743	1,218	1,664	474	920	1,396	14.6	
Etching Chemicals (EXE, SF etc.)	855	1,830	2,906	4,014	773	1,682	2,882	3,779	830	1,836	2,832	-1.7	
SF	191	466	813	1,134	145	350	757	979	182	480	727	-4.0	
EXE	277	563	859	1,240	297	646	1,015	1,293	301	663	979	-3.5	
Other Surface Treatment Chemicals	158	314	495	657	132	257	390	512	109	236	357	-8.5	
Chemical Sales Total	2,612	5,385	8,283	11,130	2,266	4,889	7,941	10,656	2,661	5,490	8,438	6.2	

Source: Nippon-IBR based on MEC's earnings presentation materials

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