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PRESENTATION

Satoru Nagumo - *Advantest Corporation - Managing Executive Officer & Executive VP of Corporate Relations Group*

Thank you very much for your participation today despite your busy schedule. It is now scheduled time, so let us begin the Fiscal Year 2018 Third Quarter Information Meeting of Advantest Corporation. First, let me introduce our attendees starting from next to the center screen: President and CEO, Yoshida; Corporate Vice President, Myung; Managing Executive Officer, Fujita; and I am Nagumo. I'll be your facilitator today.

To start off, our Management Executive Officer, Fujita, will explain the financial results for fiscal year 2018 third quarter, then President and CEO Yoshida will explain our fiscal year 2018 business outlook. After that, we will entertain your questions. This meeting is scheduled to be finished at 5.

Now Mr. Fujita, please.

Atsushi Fujita - *Advantest Corporation - CFO, Executive VP of Corporate Administration Group & Managing Executive Officer*

Good afternoon, everyone. I am Fujita. I am going to outline the financial results for FY 2018 third quarter. This slide shows summary of our results for the third quarter. Orders decreased by 17.6% quarter-on-quarter and increased 10.5% year-on-year to JPY 62.7 billion. Sales rose 3.1% quarter-on-quarter and grew 47.3% year-on-year to JPY 74.9 billion.

Operating income was up 15.4% quarter-on-quarter and increased 6.4-fold year-on-year to JPY 20.7 billion. Net income grew 10.1% quarter-on-quarter and increased just 7-fold year-on-year to JPY 17.9 billion.

At the previous results briefing in October 2018, we had a cautious forward outlook in view of the possibility that U.S.-China trade friction would affect our business. And currently, uncertainties surrounding the trade friction between U.S. and China is considerably dampening enthusiasm for tester investment, and the entire semiconductor industry is undertaking inventory adjustments. With that trend, orders for memory testers declined considerably from the previous quarter, and overall orders decreased year-on-year.

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On the other hand, with respect to SoC testers, chipmakers actively invested in reinforcement of their semiconductor test capability in Q3 against a backdrop of advancing smartphone performance. Due to this continued high demand for SoC testers, both sales and profit exceeded our assumptions 3 months ago.

This slide is about FY 2018 third quarter orders by segment. In Semiconductor and Component Test Systems, orders declined 16.2% quarter-on-quarter to JPY 48.8 billion. SoC testers continued to see a high level of orders, particularly for application processors and display driver ICs, which are becoming more sophisticated, leading to orders of JPY 43.1 billion. Memory tester orders declined sharply as major customers proceeded with memory chip inventory adjustments and stood at only JPY 5.7 billion.

Mechatronics Systems decreased 45.4% quarter-on-quarter to JPY 6.8 billion. Device interface orders declined along with memory testers.

Services, Support and others rose 30.7% quarter-on-quarter to JPY 7.1 billion, as annual maintenance contract orders recovered.

This slide shows FY 2018 Q3 sales by segment. Semiconductor and Component Test Systems grew 4.8% quarter-on-quarter to JPY 56.8 billion. Thanks to growth in smartphone-related areas, SoC testers could achieve another quarterly sales record of JPY 39.5 billion. Memory tester sales plateaued at JPY 17.3 billion as we worked through our order backlog. Mechatronics Systems were flat quarter-on-quarter as JPY 10.6 billion. Services, Support and Others were also flat quarter-on-quarter to post JPY 7.5 billion.

As for orders and sales by region, let me go through orders trend in major regions. In Korea, memory testers have been sluggish since the second quarter, but orders for SoC testers such as for display driver IC and image sensors increased. In Taiwan and China, memory testers and testers for display driver IC, which was strong in the second quarter, suffered reactive downturn. However, orders for testers for display driver IC will come back in the fourth quarter.

As for sales by region, in Asian countries such as Korea, Taiwan and China, where semiconductor [tester] production processes are concentrated, higher level of sales continued.

In Taiwan, where many customers which perform high-end SoC test are located, sales accelerated further. Overseas sales ratio was 95.6%.

As for operating income in the third quarter, gross margin was 56.8%. Improved product mix contributed to achieve high profitability.

SG&A was JPY 24.4 billion, up JPY 2.5 billion quarter-on-quarter. It is mainly due to the increasing accrued performance-based bonus that is backed by the growth in sales and profit in the third quarter. Operating income was JPY 20.7 billion, which includes the settlement gain of JPY 2.5 billion from the transition of a part of Advantest Corporation pension plan for employees in Japan to a defined contribution plan.

Operating margin was 27.6%, up 2.9 points quarter-on-quarter.

R&D in the third quarter was JPY 10.2 billion, and this is due to the increased human resources investment into R&D sections. R&D to sales ratio was 13.7%.

CapEx was JPY 1.2 billion, and the depreciation and amortization was also JPY 1.2 billion.

As for cash flow, in the last 2 years, sales have been expanding without a major production capacity expansion. In the third quarter, we had a net cash inflow of JPY 15.2 billion. As for the balance sheet as of the end of December 2018, total asset were JPY 296.6 billion. Cash and cash equivalents were JPY 124.8 billion. Bonds were JPY 5.9 billion, and it was almost unchanged from the end of September. As of the end of December, conversion rate of convertible bond exercisable by February 2019 was approximately 80%.

Equity attributable to owners of the parent was JPY 188.1 billion. The ratio of equity went up 1.5 point quarter-on-quarter to 63.4%.

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With this, I conclude the presentation on financial results for the third quarter FY 2018. Thank you for your attention. Next presenter, Yoshida, please.

Yoshiaki Yoshida - *Advantest Corporation - CEO, President & Representative Director*

Good afternoon, everyone. I am Yoshida. I'd like to explain FY 2018 business outlook. This slide describes FY 2018 forecast with SoC testers compensating for the deceleration in memory testers. Q3 orders and sales progressed considerably better than we expected 3 months ago. Based on this, we will again raise our annual forecast for Semiconductor and Component Test Systems segment as well as our company-wide FY 2018 financial forecast.

We anticipate Q4 orders of about JPY 55 billion and Q4 sales of about JPY 60 billion. Our full year forecast for orders, sales and net profit will be the highest ever with JPY 278 billion for sales and JPY 54.5 billion for net income, setting a new record for the first time in 18 years since FY 2000.

Our dividend policy calls for a half-year consolidated payout ratio of 30%. Our forecast 3 months ago anticipated the year-end dividend of JPY 25, which would make a total dividend of JPY 75 for the full year. We now expect a year-end dividend of JPY 38, making a total dividend of JPY 88 for the full year.

This will be an increase of JPY 56 year-on-year. We anticipate earnings per share for the full year to be slightly less than JPY 290 and ROE to be over 30%. As such, calendar year 2018 was a great year, but I think you're wondering how about 2019. So let me touch upon calendar year 2019 market forecast.

In 2018, the performance was improved in a variety of semiconductors used in various applications such as data centers, smartphones, industrial equipment, automobiles and displays. We have closely monitored trade friction between the U.S. and China for potential negative impact on semiconductor demand. However, despite a sense that it was running out of steam in the second half, the semiconductor market was basically steady in 2018. As a result, various semiconductor manufacturers reinforced their test capabilities in 2018, driving very good results for us. However, as U.S.-China trade friction intensifies, uncertainty in the global economy is increasing. This has affected customer sentiment and customers' corporate activities, including inventory control and capital investment. Many product supply chains and customers are currently undergoing inventory adjustments. Demand for new testers is expected to decrease until this inventory adjustment cycle closes. It is very difficult to make predictions at this time, but we think that demand will bottom out in the first half of the calendar year and will recover in the second half. Tester investment should pick up again from 2020 onward. The SoC tester market increased in 2018 to approximately $2.4 billion, up 9% year-on-year, but it is estimated to be approximately $2 billion in 2019, down about 15% year-on-year. The memory tester market grew 33% year-on-year to approximately $1 billion in 2018, but now we think that it will shrink to approximately $700 million to $800 million in 2019, down about 20% to 30% year-on-year. These are our key measures. Demand for testers is expected to slow down in the short term. But on the other hand, we and our customers are already preparing for the next growth phase. While inventory adjustment and capital investment restraint may temporarily depress demand, in the larger wave of the digital transformation, customers are working hard to develop the next generation of devices in order to achieve higher-performance semiconductors than ever before.

To enable continuous innovation, we collaborate with customers from the device development stage by developing and providing new test technologies and solutions. In fact, our collaboration with leading customers in the semiconductor market on technologies, including AI, 5G, ADAS and high-end memory has been successful. This led to a growth in FY 2018.

From the second half of 2019 onward, volume production of new devices is expected to start in a more sophisticated and reliable way. This will be affected by the length of the inventory adjustment cycle, but we are confident that the tester market will be driven by the adoption of these new devices and will continue to grow. This is in line with our mid- to long-term management plan announced in April 2018. It is our view that the tester market will grow over the medium to long term despite repeated fluctuations. Therefore, undaunted by the current sense of deceleration, we will continue to take necessary measures for future growth. As one early step for this, we announced the acquisition of the system-level test business of Astronics, an American company, in November 2018. Unfortunately, we have not closed the deal yet, but the 2 companies are proceeding toward closing it. We'll make an announcement as soon as these procedures are completed.

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FY '18 outlook by segment. First of all, SoC testers outlook for FY '18. In FY '18, amid improved performance, increased complexity and the miniaturization of semiconductor for smartphone processors and display panels, many customers are expanding test capacity. Robust test demand for display driver IC will continue in 2019, following the prior year with the sustained momentum. The growth of our SoC tester business was backed by the advancement of semiconductors, but we were benefited by the test expansion of many customers because of extensive customer base, enhanced product portfolio and a strengthened global support network. Partly affected by slow growth of smartphones and other [high end] products, fourth quarter, we will face some slowdowns. However, series of SoC tester in this fiscal year will clearly exceed the initial expectations supported by share increase among others.

Talking about the market share. Usually, it is based on the calendar year rather than the fiscal year. And in calendar year 2018, we'll be increasing strongly from slightly above 30% in 2017 to approximately 50% in 2018.

Memory testers. In memory market, since last autumn, customers have increasingly adjusting inventories. Manufacturers have been interacting with the effects of U.S.-China trade frictions, slowdown in data center investment and a shortage of CPU and others. Due to memory inventory adjustment, customers' appetite for investment has been weakening, and we lowered the tester sales outlook from [the end] of October. That said, investment adjustment in memory tester will not be as substantial and serious as before compared with IT bubble burst or Lehman Crops because memory capacity expansion will drive the investment to expand testing capacity. Memory sales will go down, but that will be more than offset by SoC. Therefore, as Semiconductor and Component Test System as a whole, we will make substantial upward revision.

Mechatronics Systems, Services, Support and Others outlook. Some Mechatronics Systems are closely connected to memory testers. Though device interface business was robust in the first half, it slowed down in the second half. Therefore, we revised down by JPY 2 billion. Services, Support and Others have been in line with the projection, and we didn't make any revisions from October. As for summary, although it turned more uncertain in the second half of the year, calendar year 2018 was an excellent year. We successfully captured the growth opportunity. And in the fiscal year 2018, we marked the record high orders net sales and net profit. They were boosted by structural changes in tester market in the last few years. Semiconductor application has been expanding and [associated measures] for ensuring reliability of semiconductors has been mounting, and the customers have been continuously strengthening the initiatives to that end.

Under such circumstances, strengthening global operation for global customers delivered results. FY '18 results are supported by consistent development investment, wide product portfolio, global network of sales, development and after-sales support and global management system. And in this one year, in particular, the production network that helped to respond flexibly to the drastic demand increase supported the FY '18 result.

Calendar year '19, tester market will slow down for some time, and that is already counted in our midterm business plan. Structural changes of tester market will continue into calendar year 2019 and onward. We'll continue to prepare for sustainable growth without fear for the current weakening sentiment. To be more specific, for the upcoming 5G and AI, we will enhance the development structures. We will spend more for human resources and address the shortage of manpower. Further down the road, we will explore new businesses leveraging our technologies. For those objectives, we will take necessary initiatives. This concludes my presentation. Thank you very much for your attention.

Satoru Nagumo - *Advantest Corporation - Managing Executive Officer & Executive VP of Corporate Relations Group*

Now we will entertain your questions from the floor. (Operator Instructions)

QUESTIONS AND ANSWERS

Tetsuya Wadaki - *Nomura Securities Co. Ltd., Research Division - MD, Senior Research Officer and Analyst*

I am Wadaki from Nomura. I have a few questions. My first question is about your assumptions used for 2019 market forecast. What do you think about the impact of U.S.-China trade conflict on the tester demand, especially for SoC testers, which have been strong so far? Also, regarding memory testers in which Korea plays an important role, when do you think the memory tester market will recover? This is my first question.

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Unidentified Company Representative

We still cannot have a clear view about the level of impact of the U.S.-China relationship on the SoC business. But based on the assumption that Chinese smartphones will increase their market share, we can expect growing demand for high-performance smartphones with 7-nanometer node application processors or APs. In China, new middle range smartphones are adopting advanced functionalities, and this makes test time longer. We expect demand for new smartphones-related testers will continue in 2019, although it will not be as strong as 2018. As for memory testers, we estimate major manufacturers would finish their inventory adjustment by June, and we assume capital investment will resume in June-September time frame as a result of various adjustment measures such as managing inventory with shorter times than the current 3 months. Regarding the assumption of tester market forecast I mentioned earlier, we expect that trade conflict between U.S. and China will not be resolved easily. However, it does not consider cases the U.S. administration will apply tougher measures on Chinese semiconductor companies such as suspension of business transactions. If this happens and macro economy deteriorates, we assume market situation could be more miserable than earlier mentioned forecast.

Tetsuya Wadaki - *Nomura Securities Co. Ltd., Research Division - MD, Senior Research Officer and Analyst*

Let me ask my second question. You revised SoC tester sales for this fiscal year upward by JPY 22 billion. Can you tell me the breakdown by product?

Unidentified Company Representative

This upward revision comes from V93,000 and T2000 series including display drivers and CMOS image sensors.

Tetsuya Wadaki - *Nomura Securities Co. Ltd., Research Division - MD, Senior Research Officer and Analyst*

This is my last question. I heard from a friend of mine that President Yoshida is very much interested in micro LED, so LED driver IC testers could be promising. Do you have any comments on prospects of LED driver IC testers?

Unidentified Company Representative

The rate of TDDI is still low. We anticipate test time would be doubled or tripled by the market growth for 4K TVs and growth of COF, which currently accounts for 30% of the market and still smaller than COG. Based on this assumption, with full deployment of 5G system in the market, by shifting from 4K to 8K TV in 2019, we expect test demand for display driver ICs will continue for another 2 years.

Tetsuya Wadaki - *Nomura Securities Co. Ltd., Research Division - MD, Senior Research Officer and Analyst*

How about LED driver IC testers?

Unidentified Company Representative

Do you mean testing micro LED itself?

Tetsuya Wadaki - *Nomura Securities Co. Ltd., Research Division - MD, Senior Research Officer and Analyst*

I heard that a new driver IC will be required for micro LEDs.

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Unidentified Company Representative

We think the driver circuit will not be so different from existing ones. However, the technologies to check colors on LED display by panels with them. Manufacturers are thinking hard how it can be checked visually or automatically. So that is still under study about how we should build algorithm on testers for checking colors. We'll focus on this matter going forward.

Yoshitsugu Yamamoto - *Mizuho Securities Co., Ltd., Research Division - Senior Analyst*

I am Yamamoto from Mizuho. My question is about the background of market share increase of SoC testers. I can think of some reasons such as the growth in the market sector in which you are already strong, for instance, driver IC testers or you could grab the market share from your competitors such as Teradyne. Can you tell me the background of the market share increase in 2018? And based on that, I appreciate if you comment on the direction in 2019.

Unidentified Company Representative

There was a significant change of market share in 2018. We announced in the midterm management plan that our strategy was to increase the share steadily. Still, we did not expect such a drastic change in the short term. The largest reason for it was that major customers of our competitors did not execute much investment. As a result, their market shares dropped sharply. However, as I said earlier, SoC market was larger in 2018 than that of 2017, and the entire growth was taken by us. We assume this is because all of our existing customers enhanced their test capabilities. I hear a competitor made a comment in their information meeting that special demand was created for us by a change of supply chain of a certain semiconductor company, but there was no such an event. Demand for testers increased in CMOS image sensors, analogues and vehicles in which we had been relatively weak before. Our wide product portfolio could address the demand, and this increased our market share. Having said that, impact caused by an individual company is getting larger. Demand fluctuation of major mobile phone companies would affect market share significantly so we understand if demand from one of our major customers suddenly becomes 0, it could change our market share. Still, our strength lies in the wide customer base, and sales is distributed among them. We are determined to maintain this market share by orchestrating global efforts by our sales, support and development teams.

Yoshitsugu Yamamoto - *Mizuho Securities Co., Ltd., Research Division - Senior Analyst*

Do you see or expect any changes in market share for CPU, GPU and FPGA for PC and servers?

Unidentified Company Representative

CPU and GPU are slightly different from the situation of APs. For system operations, AP needs the largest number of equipment, and CPU and GPU need slightly a smaller number of equipment than APs. Currently, most major GPU manufacturers are using our products, and we do not expect a significant change in market share.

Yu Yoshida - *Deutsche Bank AG, Research Division - Precision Instruments Analyst*

I am Yoshida from Deutsche. My first question is about your market outlook for calendar year 2019. What do you estimate for your market share growth? Will it be higher than the market growth or equal to the market growth?

Unidentified Company Representative

We intend to maintain 2018 market share of SoC testers. As for memory testers, although I did not mention this earlier, we already have market share of over 60%. We expect newly generated demand will be more for high-end testers. And higher demand for high-end testers, more opportunities

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for us to increase market share. So we intend to maintain the current market share for SoC testers and to gain more share for memory testers. We estimate market will shrink, but we expect our sales decrease will be smaller than the shrinking of the market.

Yu Yoshida - *Deutsche Bank AG, Research Division - Precision Instruments Analyst*

Still in next fiscal year, if sales declined by 15% or 20%, considering your high marginal profit ratio, which would affect operating income to be decreased by JPY 20 billion or JPY 30 billion, I understand you will continue investment but do you have any measures to reduce expenses to compensate for the decline of marginal profit?

Unidentified Company Representative

I guess you mean expenses rather than marginal profit. In our system, labor cost decreases in conjunction with sales decline. Having said that, if you ask whether we will contain cost in order to increase profit, honestly speaking, we don't think it is not an appropriate time to do so. In FY 2019, even though sales are expected to decline slightly, we think it is the phase for investment. Of course, this does not mean we will do wasteful spending and if production decline associated expenses will get lower by themselves. So we are sure our system will reduce expenses appropriately for sales decline. Based on this assumption, how can we restore the declined sales? For instance, there might be some contributions from earlier mentioned M&A, and that is not necessarily the only M&A deal for us. We will continue to strive for sales increase and business growth by various measures.

Yu Yoshida - *Deutsche Bank AG, Research Division - Precision Instruments Analyst*

This is my last question. As described in the presentation slide, if 2019 is one step in the cyclical growth cycle, what can be expected in the market of 2020?

Unidentified Company Representative

For memory testers, it can be expected to recover demand as inventory adjustment will be finished and 5G investment will be implemented. But for SoC testers, demand for application processors with AI function or TDDI may die down.

Yu Yoshida - *Deutsche Bank AG, Research Division - Precision Instruments Analyst*

What do you expect for new demand in this area?

Unidentified Company Representative

As for SoC, full-scale implementation of 5G will be the market driver in 2020. With this trend, memory density will be two or threefold and the data transfer speed will be faster. Based on this perspective, base station business is expected to start to grow in 2020, and SoC tester market will enter into growth stage. Especially, 5G base station related business is expected to be quite large and when full-scale investment starts for 5G system, demand for testers in this area will rise accordingly.

Yu Yoshida - *Deutsche Bank AG, Research Division - Precision Instruments Analyst*

Would you comment on the scale of the market of base stations?

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Unidentified Company Representative

For 5G, there will be the progress from 7 nano into 5 nano in 2020 and onwards. And use needs to be addressed, and testing time will be longer with improvement of performance. In 2018, our SoC series marked a peak, and I think that will be achieved again.

Mikio Hirakawa - *BofA Merrill Lynch, Research Division - Research Analyst*

I am Hirakawa from Merrill Lynch Japan Securities. I have 2 questions. First, as a follow-up for the previous question, orders focused were revised up from JPY 255 billion to JPY 265 billion for the full year. Would you give us a breakdown? Does it simply reflect the upside in the third quarter? And does your forecast for the fourth quarter remain unchanged?

Unidentified Company Representative

In October, our forecast for the third and fourth quarter were almost the same. In the third quarter, actually, orders grew. And as mentioned before, it was mainly driven by SoC.

Mikio Hirakawa - *BofA Merrill Lynch, Research Division - Research Analyst*

Every year, both our orders and sales tend to be strong in the fourth quarter, but that wouldn't be likely in this fourth quarter. Is that correct?

Unidentified Company Representative

You may have the impression over years that orders and sales are strong in the fourth quarter. But this year, the capital investment in memory was substantially controlled, and it is not likely that we received big orders in the fourth quarter. Especially, around this time last year, exactly one year ago, situation was completely different. It was hard to deliver in time, and lead time was stretching to 6 months from the usual 3 months. Anticipating the delays in delivery, customers who are placing orders arrear and that led to the substantial orders in the fourth quarter last year. But this year, no one is making orders arrear for the fear of delayed delivery for memory. But for some display drivers, we are still not able to deliver in time. Having that said, with increased uncertainty of macro economy, customers are not willing to place orders arrear. That is the reason why we cannot have aggressive outlook for the fourth quarter.

Mikio Hirakawa - *BofA Merrill Lynch, Research Division - Research Analyst*

I would like to have more information about 5G. Would you comment on the timing when the demand for 5G handset and 5G base stations will make full contribution? And also, would you comment how large was the impact by the demand for the 4G base station in the past?

Unidentified Company Representative

For 5G base station, chip tester is mainly V93000, and for 4G base station V93000 was used substantially around 2015 and '16. And it was a peak time. But for 5G smartphone and 5G networks, it has just started and technology is not yet well established, and it is still in nascent state. And through commercialization, we will be in 2020 according to makers and the peak time will be in late 2020.

Takeo Miyamoto - *Mitsubishi UFJ Morgan Stanley Securities Co., Ltd., Research Division - Senior Analyst*

I'm Miyamoto from MUFJ Morgan Stanley Securities. I have 2 questions. First, as for the upside of SoC in the third quarter, would you comment on the strong regions?

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Unidentified Company Representative

For application processors, foundries demand for making AP with 7 nano was strong. And for the display driver, Taiwan was strong with OSAT and Korea also. And In China, also the OSAT has started to use the display driver testing. These 3 countries were the major contributors.

Takeo Miyamoto - *Mitsubishi UFJ Morgan Stanley Securities Co., Ltd., Research Division - Senior Analyst*

You presented the outlook for the 2019 market size. Based on that, can you sustain a gross margin of 55% of 2018 with the contraction of the market? Or we wait for to some extent?

Unidentified Company Representative

As you may know already, currently the profitability of SoC is better than the memory per unit. And proportionally, memory will be shrinking, so gross margin will be sustained or may go up slightly compared with this year.

Toru Sugiura - *Daiwa Securities Co. Ltd., Research Division - Research Analyst*

I'm Sugiura from Daiwa Securities. I have a confirmation on 2019 market. SoC tester market is shown as minus 15%. Would you give us the balance how it is based between the first and the second half? If market recovers in the second half, then the balance will be 40-60 or 30-70. How strong the second half will be? And what will be the key driver for recovery? Is it HPC or application processors?

Unidentified Company Representative

Well, that's a tough question. It's after the launch time of new smartphones, and the timing of when the yield will be high enough and stable around 90% for 7 nano needs to be monitored. In 2018 third quarter, substantial capital investment was made. And given the utilization of that capacity, as for SoC, their balance will be 40-60 between the first and the second half of the year.

Toru Sugiura - *Daiwa Securities Co. Ltd., Research Division - Research Analyst*

In 2018, TDDI and AI chip contributed to extend that testing time. In 2019, what's your prospect for extending testing time. For example, GPU circuit area will be wider in AP and will that be beneficial?

Unidentified Company Representative

What matters us most for series of testers is manufacturing process change and the extension of testing time. From customer's perspective, to cut cost, they are eager to stabilize yield and shorten testing time. In 2019, UV will be rightly adapted but yield of 7-nano UV is not stable yet. And this is where we have some expectation. As for TDDI, testing time is too long and chip on film vis-à-vis the chip on glass extends this testing time to two or threefolds. And due to technological constraint for packaging column tree, the prior testing limit is 4. With further use of COF, the display driver demands will be increasing.

Damian Thong - *Macquarie Research - Head of Asia Technology Research*

I'm Damian Thong of Macquarie Capital Securities. What will be the impact of DDR5 on your company after 2020, especially for your memory tester business? And Teradyne was saying that they will be coming in to the high-speed DRAM tester market. Do you have any comment on this?

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Unidentified Company Representative

DDR5 launch will be at the end of 2019, after shifting 3 months. Application of DDR5 will be cyber CPU and smartphones. And ERP DDR5 is also relevant to new smartphones by 3 major companies, including Chinese. Presumably, they'll be adapting DDR5 in 2020, given that mass production will be at the end of this year 2019. Memory makers will ship samples, the CS and ES, around June. Advantest has already shipped solutions while our competition also shipped solutions. Considering DDR5 specification of 6.5 giga bps and the including margin 8 giga bps will be the appropriate one. In high-speed tester market, because of Advantest technological edge, we think it can gain market share.

Satoru Nagumo - *Advantest Corporation - Managing Executive Officer & Executive VP of Corporate Relations Group*

With this, I'd like to close the Advantest Information Meeting for FY 2018 Third Quarter. Thank you very much for joining us despite your busy schedule.

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