



## FY2019 2Q

(Three months ended September 30th, 2019)

## Financial Briefing

October 30th, 2019  
Advantest Corporation

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## **NOTE**

### **Accounting Standards**

– Our results and outlook, described in this presentation, have been prepared in accordance with IFRS.

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– This presentation contains “forward-looking statements” that are based on Advantest’s current expectations, estimates and projections. These statements include, among other things, the discussion of Advantest’s business strategy, outlook and expectations as to market and business developments, production and capacity plans. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as “anticipate,” “believe,” “estimate,” “expect,” “intend,” “project,” “should” and similar expressions. Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause Advantest’s actual results, levels of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking statements.

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    operation == "MIRROR_X":  
        mirror_mod.use_x = True  
        mirror_mod.use_y = False  
        mirror_mod.use_z = False  
    operation == "MIRROR_Y":  
        mirror_mod.use_x = False  
        mirror_mod.use_y = True  
        mirror_mod.use_z = False  
    operation == "MIRROR_Z":  
        mirror_mod.use_x = False  
        mirror_mod.use_y = False  
        mirror_mod.use_z = True  
  
    #selection at the end - add  
    _ob.select= 1  
    _ter_ob.select=1  
    context.scene.objects.active = _ob  
    ("Selected" + str(modifier))  
    mirror_mod.select = 0  
    mirror_mod.select = 1  
    mirror_mod.select = 0
```

## Financial Results for FY2019 2Q

Atsushi Fujita  
Director, Managing Executive Officer (CFO)

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## FY19 2Q Summary of Results

	FY18					FY19				
	1Q	2Q	3Q	4Q	1Q	2Q	QoQ (Δ)	(%)	YoY (Δ)	(%)
Orders	70.6	76.2	62.7	65.7	65.9	58.3	-7.6	-11.5%	-17.9	-23.5%
Sales	70.9	72.7	74.9	64.0	66.2	71.6	+5.4	+8.2%	-1.1	-1.5%
Gross Profit	38.2	38.9	42.5	34.4	39.4	41.0	+1.7	+4.2%	+2.1	+5.4%
Gross Margin	53.9%	53.6%	56.8%	53.8%	59.5%	57.3%	-2.2pts		+3.7pts	
Operating Income	15.8	18.0	20.7	10.2	15.2	17.7	+2.6	+16.9%	-0.2	-1.3%
Operating Margin	22.3%	24.7%	27.6%	15.9%	22.9%	24.8%	+1.9pts		+0.1pts	
Income Before Tax	16.5	18.6	20.6	10.5	14.9	18.4	+3.4	+22.6%	-0.2	-1.2%
Net Income	13.9	16.2	17.9	9.0	12.1	14.7	+2.6	+21.5%	-1.6	-9.7%
Net Income Margin	19.6%	22.4%	23.9%	14.0%	18.3%	20.5%	+2.2pts		-1.9pts	
IFRS15 Backlog adjustment	-3.0									
Increase in backlog due to acquisition of Astronics SLT business				+2.4						
Backlog	79.5	83.0	70.8	74.9	74.6	61.3	-13.3	-17.8%	-21.7	-26.1%
Exchange Rate	1 US\$	¥108	¥111	¥113	¥111	¥111	¥108	¥3 Appreciation	¥3 Appreciation	
	1 Euro	¥131	¥129	¥130	¥126	¥125	¥121	¥4 Appreciation	¥8 Appreciation	

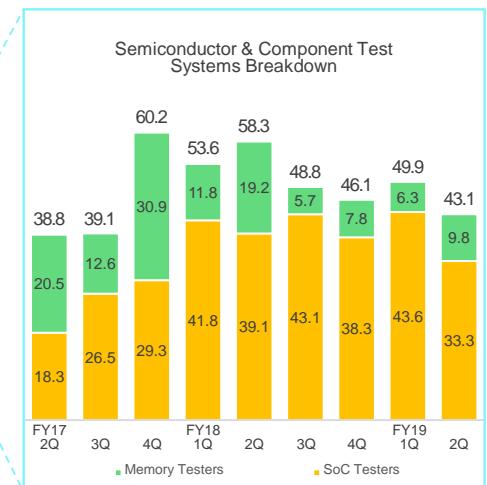
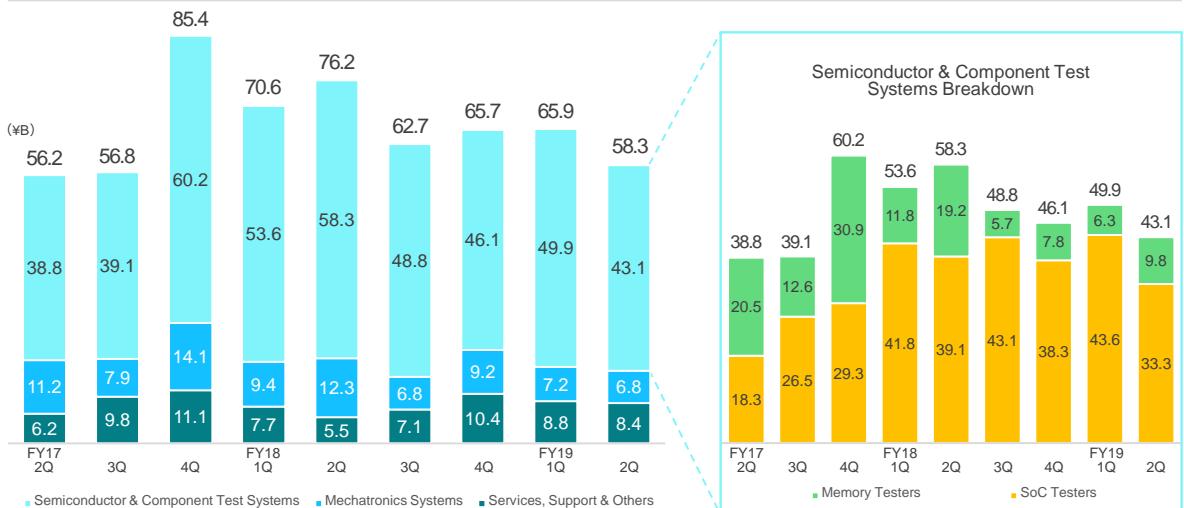
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### ○ FY2019 2Q Results Summary

- Looking back at the industry environment three months ago, there was considerable uncertainty in response to macroeconomic weakness and the proliferation of protectionist trade policies.
- We were cautious about the business environment in the second quarter. In addition, due to strong first-quarter results, we expected a QoQ slowdown in the second quarter.
- As expected, reflecting sluggish demand for end-products, many customers continued to review their tester investments.
- However, with the impending full-scale commercial rollout of 5G, aggressive tester investment by 5G-related SoC semiconductor manufacturers continued.
- As a result, orders declined QoQ, but not to the extent that we expected, coming in at 58.3 billion yen.
- Sales and profits also progressed better than expected, and both exceeded the figures posted in the first quarter.
- YoY, memory tester orders fell due to a halving of demand in the sector, which was in a boom phase one year ago. But the decline in sales and profit was compensated for by the strong performance of SoC testers, holding results flat YoY.
- Regarding operating income, in the same period of the previous year we posted a one-time profit from the sale of business sites of approximately 1.0 billion yen. Excluding that, profit for FY2019 2Q rose YoY.
- In the current period, the U.S. dollar moved in a somewhat negative direction against our forex sensitivity.

## Quarterly Orders by Segment



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### ○ FY2019 2Q Orders by Segment

### ○ Semiconductor & Component Test Systems

- ¥43.1 billion      -13.6% QoQ
- SoC tester orders were 33.3 billion yen. As in 1Q, demand was mainly for new smartphone SoC devices utilizing advanced processes.
- 1Q saw demand for testers for engineering applications for devices used in 5G smartphones, such as application processors and baseband processors. Going one step further, 2Q saw investments in testers for initial ramp-up of volume production of these devices.
- Orders for SoC testers in other areas were generally weak.
- Memory tester orders increased from 1Q to reach 9.8 billion yen. This was due to the continued demand for testers for high-speed DRAM, and the expanding demand from local memory companies in China.

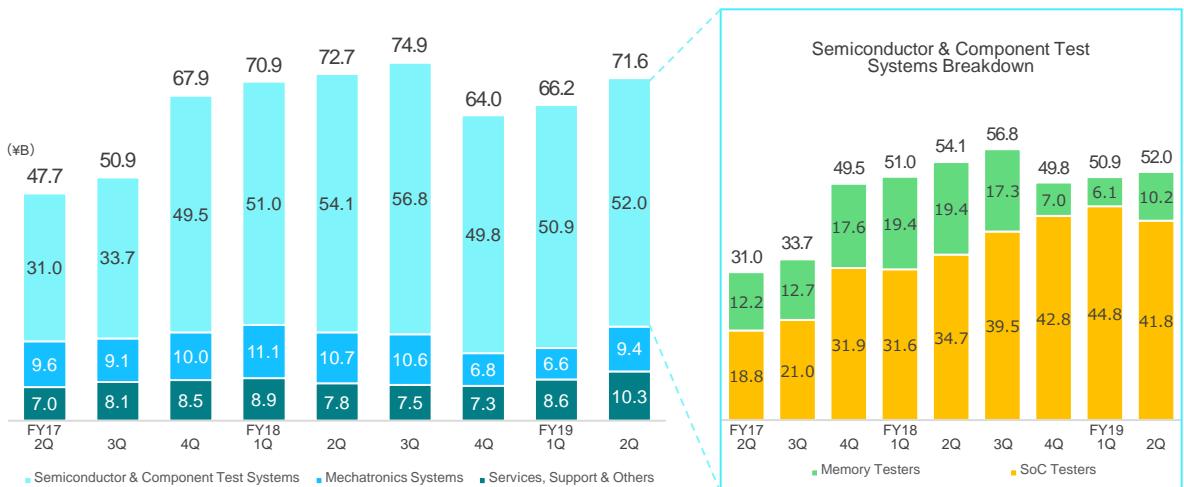
### ○ Mechatronics Systems

- ¥6.8 billion      -5.8% QoQ

### ○ Services, Support & Others

- ¥8.4 billion      -4.6% QoQ
- Annual maintenance contract orders decrease every summer, but this year that was offset by an increase in system-level test-related orders, so the rate of decrease in orders overall was lower than usual.

# Quarterly Sales by Segment



Note: Intersegment transactions have been eliminated from totals

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- FY2019 2Q Sales by Segment

- Semiconductor & Component Test Systems

- ¥52.0 billion                  +2.1% QoQ
- SoC tester sales were 41.8 billion yen. As with orders, these were mainly driven by 5G smartphone-related demand.
- Memory tester sales were 10.2 billion yen. As with orders, these were mainly driven by high-speed DRAM test demand.

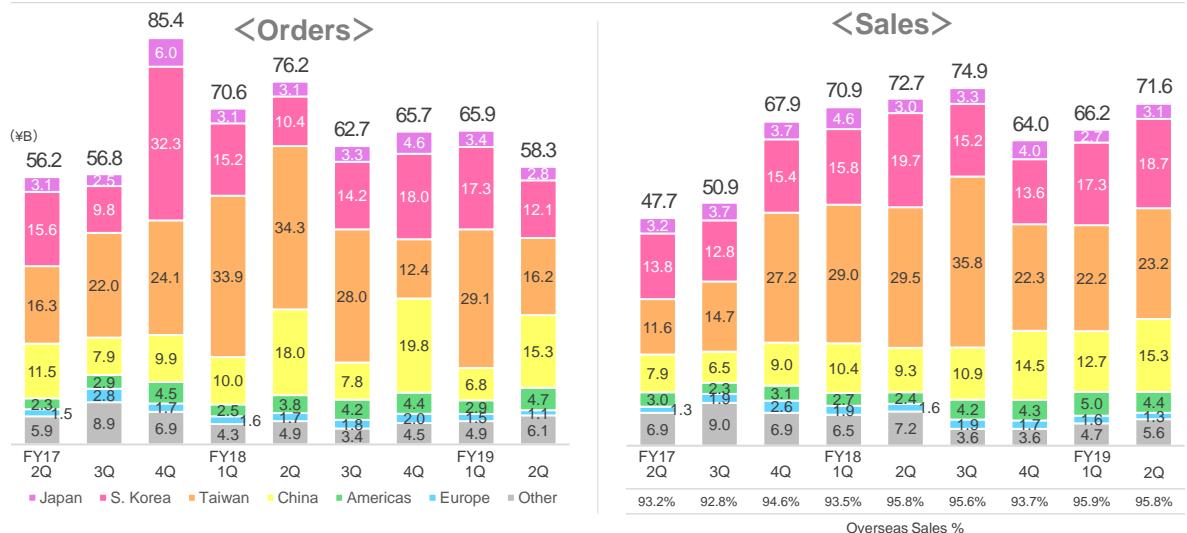
- Mechatronics Systems

- ¥9.4 billion                  +40.6% QoQ
- Device interface sales increased in step with the growth of memory tester sales.

- Services, Support & Others

- ¥10.3 billion                  +18.9% QoQ
- Sales of system level testers for SSDs and SoCs increased.

## Quarterly Orders / Sales by Region



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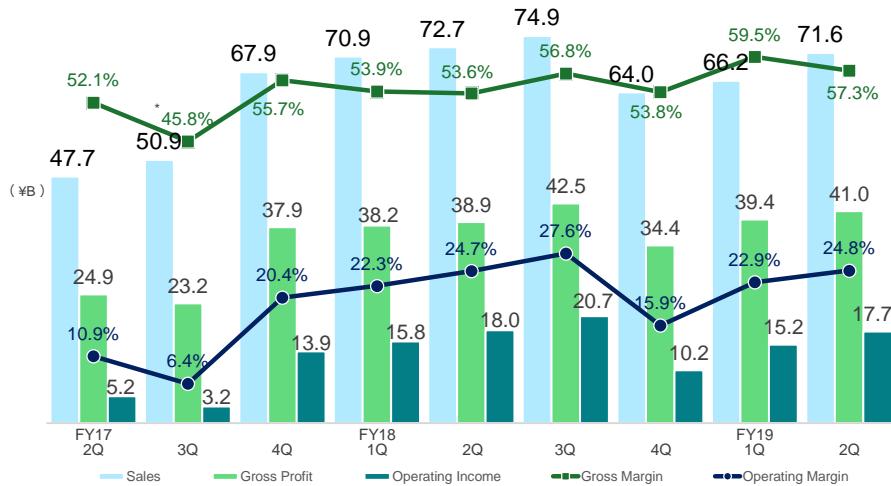
### ○ FY2019 2Q Orders by Region

- Taiwan  
Orders decreased in reaction to the clumping of tester orders for engineering purposes for 5G smartphone SoCs in 1Q.
- China  
Orders increased as the launch and expansion of China's local semiconductor supply chain progressed across the SoC and memory sectors.

### ○ FY2019 2Q Sales by Region

- South Korea, Taiwan, & China  
These regions saw strong sales of testers used for image sensors, power management ICs, etc., as well as high-end SoCs utilizing advanced processes.  
  
In South Korea, although memory tester sales stayed at a low level in 2Q, overall sales held steady thanks to the contribution of SoC testers.

## Sales / Gross Profit / Operating Income



\*In FY17 3Q, a ¥3.3 billion write-down of inventories was recorded in our nanotechnology business.

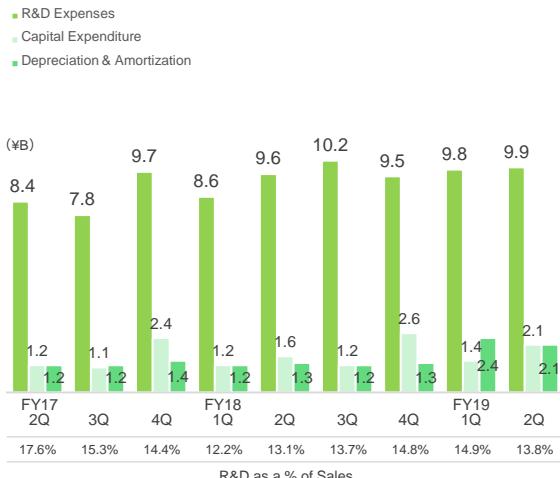
The gross margin in FY17 3Q excluding the effect of the write-down was 52.3%.

### ○ FY2019 2Q Sales / Gross Profit / Operating Income

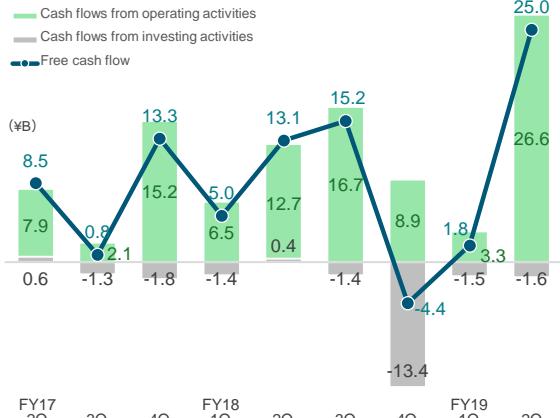
- Gross margin 57.3%  
Although product mix worsened slightly, gross margin stayed above 55%.
- SG&A ¥23.3 billion  
SG&A expenses declined slightly from 1Q.
- Operating income ¥17.7 billion
- Operating margin 24.8%, an improvement of 1.9 points  
We are currently adding personnel for future business expansion, making it difficult to improve profitability, but we were nevertheless able to achieve an operating margin of nearly 25%.

## Investments / Cash Flow

### <Investments>



### <Cash flow>



\*Free Cash Flow = Cash flows from operating activities + Cash flows from investing activities

### ○ FY2019 2Q R&D Expenses / Capex / D&A

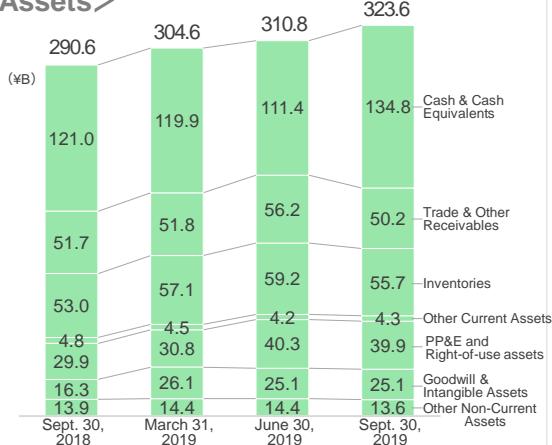
- R&D Expenses      ¥9.9 billion
- Depreciation and Amortization      ¥2.1 billion  
Although this is an increase over the previous year, it is due to the fact that IFRS's new lease accounting standard was applied from this fiscal year, and by a temporary increase of the amortization of intangible assets caused by our acquisition of Astronics's system-level test business in February.

### ○ Cash Flow

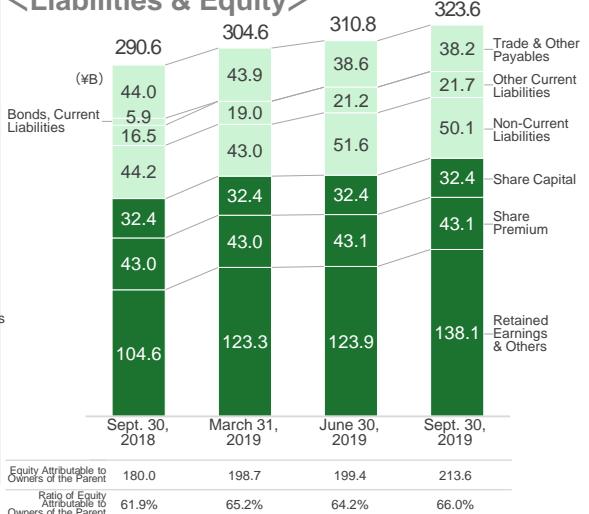
- Free cash flow      ¥25.0 billion  
Due to the balance between orders and sales, collection of trade receivables improved, and then operating cash flow increased in 2Q.

## Financial Position

### <Assets>



### <Liabilities & Equity>



### ○ Balance Sheet for Period Ending September 30th, 2019

- Total Assets                    ¥323.6 billion
- Cash and cash equivalents     ¥134.8 billion  
Up ¥23.4 billion from the end of the previous quarter
- Equity Attributable to Owners of the Parent     ¥213.6 billion
- Ratio of equity attributable to owners of the parent 66.0%  
Up 1.8 point from the end of the previous quarter



## FY2019 Outlook

Yoshiaki Yoshida

Representative Director, President & CEO

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# Semiconductor Tester Market Trends (Outlook as of Oct. 2019)

## CY18 Actual

– Many semiconductor manufacturers maintained active tester investment throughout the year in response to demand for higher device performance and reliability

## CY19 Estimate

- With uncertainty in the global economy growing, demand for testers is slowing across many device types.
- Advanced process chips and 5G-related SoC semiconductors are exceptions, showing strength. We have revised our SoC tester market outlook.
- Demand for memory testers is also showing signs of picking up compared with our estimate three months ago.
- Test capacity investment for high-end semiconductors continues to drive the market. Positive events are expected to continue in CY20.

	CY18 Actual	CY19 Estimate
SoC Tester Market	Approx \$2,550M	Approx \$2,600M (Guidance in July: \$2,000M or greater)
Memory Tester Market	Approx \$1,150M	Approx \$550M (Guidance in July: May fall below the \$550M level)

## ○ CY19 Tester Market Outlook

- First of all, a brief discussion of our business environment.
- The trade friction between the U.S. and China has not yet been resolved, and inventory adjustments continue in the supply chain of many products.
- With the exception of individual strategic investments, many customers are not in any hurry to invest in testers.
- However, test demand for 5G-related semiconductors has been booming since spring, and based on this, we have raised our CY19 outlook for the SoC tester market to approximately \$2,600M. The expectation in July was about \$2,000M.
- The memory tester market has been in a slump, but investment from several customers has been picking up a little. Taking this into account, we estimate that the market in CY19 will be worth around \$550M. We had commented in July that this could be below \$550M.
- Advantest's strength is our broad customer base. The current tester market situation and customers' investment stances can be disadvantageous for us in terms of market share. It means that when overall customer investments fall, the share of specific customers can greatly affect the entire market share.
- However, if our market estimates are accurate, and we achieve our current sales forecast, we will be able to maintain a share of approximately 50% or above in CY19 in both SoC and memory.
- In recent years, the driving force behind tester demand has been test reinforcement and extended reliability assurance needed for higher-performance semiconductors. In fact, volume production of high-end semiconductors is now expanding in SoC and even in memory, although it is not widely noticeable in the latter sector yet.
- Thus, we believe there is more room for the tester market to grow from next year onward.

## FY19 Forecast

	FY18 Results	FY19			vs. FY18		(¥B)	
		1H Results	2H Forecast	Full-Year Forecast	(Δ)	(%)	FY19 Forecast as of July	(Δ)
Orders	275.2	124.2	110.8	235.0	-40.2	-14.6%	230.0	+5.0
Sales	282.5	137.8	109.2	247.0	-35.5	-12.6%	230.0	+17.0
Operating Income	64.7	32.9	12.1	45.0	-19.7	-30.4%	30.0	+15.0
Operating Margin	22.9%	23.9%	11.1%	18.2%	-4.7pts		13.0%	+5.2pts
Income Before Tax	66.2	33.3	12.5	45.8	-20.4	-30.8%	31.0	+14.8
Net Income	57.0	26.8	9.7	36.5	-20.5	-36.0%	26.0	+10.5
Net Income Margin	20.2%	19.4%	8.9%	14.8%	-5.4pts		11.3%	+3.5pts
Backlog	74.9	61.3	62.9	62.9	-12.0	-16.0%	74.9	-12.0
Exchange Rate*1	¥110 ¥129	¥109 ¥123	¥105 ¥120	¥107 ¥121	¥3 Appreciation ¥8 Appreciation		¥110 ¥130	¥3 Appreciation ¥9 Appreciation
ROE	35.3%	-	-	17.6%	-17.7pts		12.6%	+5.0pts
Dividend per share*2	¥92	¥41	TBD	TBD	-		TBD	-

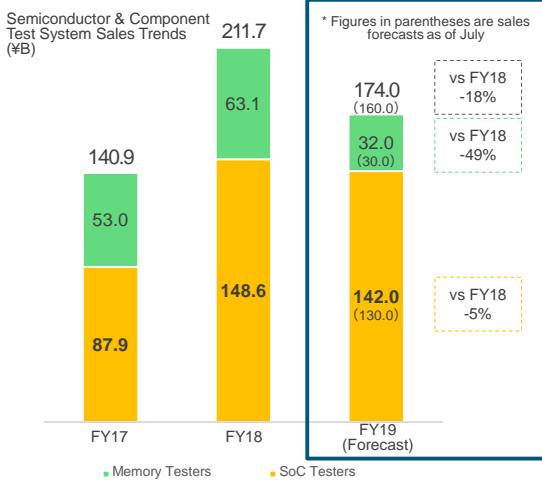
\*1: Our latest outlook for the impact of exchange rate fluctuations on FY19 operating income is minus 500 million yen for each 1 yen of yen appreciation vs USD, and plus 100 million yen for each 1 yen of yen appreciation vs the euro.

\*2: FY18 dividend per share: 50 yen in 1H, 42 yen in 2H.

### ○ FY19 Forecast

- Although uncertainty in the global economy, and a sense of deceleration in end-product demand and semiconductor demand, continue as before, increased demand for 5G-related SoC semiconductors has made up for it, boosting Advantest's results in 1H to a higher level than originally expected.
- Based on this, we have revised our full-year forecast.
- We have increased our estimates for sales by 17.0 billion yen, for operating income by 15.0 billion yen, and for net income by 10.5 billion yen.
- Because of the acceleration of 5G-related demand, tester investment was very vigorous in the first half of FY19. We therefore expect that 5G-related orders may slow down temporarily in the second half of FY19.
- On the other hand, memory- and storage-related demand, which has been soft, is increasing, if only slightly. We are making comprehensive orders and sales plans around that assumption.
- Gross profit margin is expected to improve by a few percentage points YoY from 54.5% to around 56-57%.
- Exchange rate assumptions for the second half of the fiscal year have been revised to 105 yen to the US dollar and 120 yen to the euro, taking into account the most recent actual figures.
- For the full year, we assume 107 yen to the US dollar and 121 yen to the euro.

## FY19 Outlook by Segment



### Semiconductor & Component Test Systems

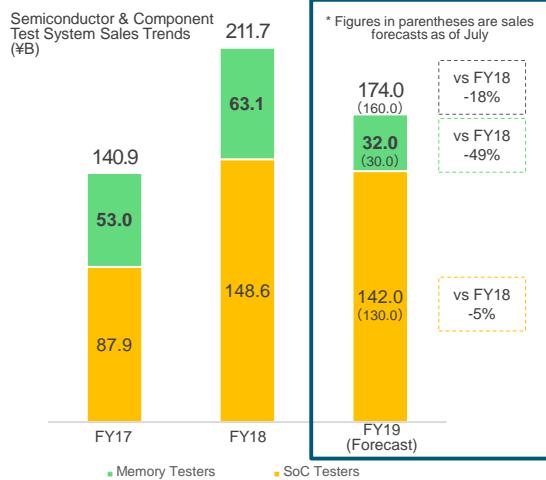
#### <SoC Testers>

- Advances in semiconductor performance underpin SoC tester demand. We have increased our full-year sales forecast.
- Representative higher-performance devices are application processors and baseband processors to be used for future 5G handsets, as well as image sensors.
- 5G-related orders may slow down temporarily in the second half, but the trend of semiconductor test capacity enhancement for SoCs is expected to continue for several years.

### ○ SoC Tester Business Outlook

- The major trend for the progress of semiconductor performance to underpin SoC tester demand is continuing.
- In particular, sales this year have been heavily driven by testers for application and baseband processors for future 5G handsets.
- In the first half, we received unexpectedly high volumes of tester orders for these device types from several major semiconductor manufacturers. These orders will convert to sales in the second half of FY19, so that sales in our SoC tester business are expected to be flat with the previous fiscal year.
- On the other hand, considering the timing of 5G smartphone production next year, we suppose that 5G-related orders may slow down temporarily in the second half of FY19.
- However, we think this adjustment will be temporary.
- The adoption of 5G handsets has still to become widespread, meaning it would happen next year and beyond, and the performance of servers and game consoles will also be improved next year. Additionally, full-scale demand for 5G using millimeter-wave bands is expected a few years from now.
- We expect that these major electronics industry trends will continue to stimulate demand for SoC testers through advances in SoC semiconductor performance, growth in production volumes, and the further adoption of advanced processes.

## FY19 Outlook by Segment



### Semiconductor & Component Test Systems

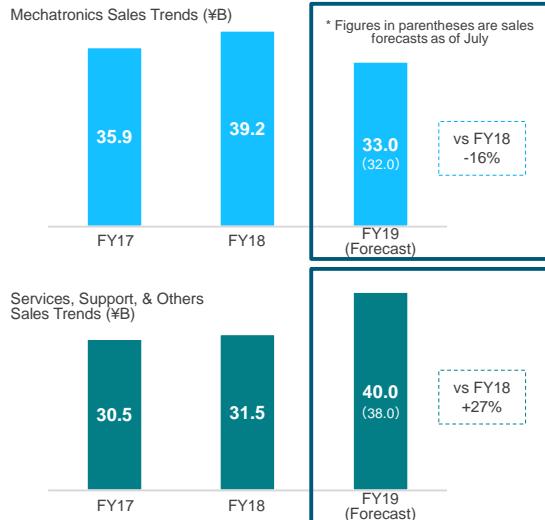
#### <Memory Testers>

- Despite prolonged inventory adjustments, the environment is improving slightly.
- We see signs of growing demand in areas that are less susceptible to memory supply and demand issues, such as the DRAM shift to DDR5, and high-speed products for HPC.
- We expect a recovery in tester demand following bit demand recovery.

### ○ Memory Tester Business Outlook

- In DRAM there exist well-defined technological drivers of memory tester sales that are less susceptible to memory supply-demand fluctuations, such as the shift to DDR5 and the expansion of demand for high-speed products for HPC (high-performance computing).
- Amid poor overall market conditions, we have not changed our expectation that tester investments for these advanced devices will start in 4Q in this sector. At the beginning of this fiscal year the demand was expected to begin in 3Q, but for now our estimate is from 4Q.
- Also, as indicated by our 2Q orders, we have received more customer inquiries for DRAM testers than expected three months ago. Thus, we have slightly raised our full-year sales forecast for memory testers. The forecast has been raised from 30.0 billion yen to 32.0 billion yen.
- In addition to increasing demand for high-end DRAM, the number of layers stacked on NAND flash continues to increase. If bit demand returns, the tester market will see an overall structural recovery. Moreover, following NAND, the DRAM tester market in China is also beginning to ramp up.
- We will watch future developments with anticipation.

## FY19 Outlook by Segment



### Mechatronics Systems

- Although the impact of the decrease in memory customers' tester investments is large, device interface sales are growing slightly in step with memory tester sales.
- Nanotech product sales are expected to increase due to capture of EUV-related demand.

### Services, Support, & Others

- Customer tester utilization ratios are holding steady, and we expect a solid trend in field service sales, which are the core business of this segment.
- SSD and SoC system-level tester sales are healthy.

### ○ Mechatronics / Service Business Outlook

- Although we have not changed our forecast for decreased sales in our mechatronics-related business due to the prolonged slowdown in memory customers' tester investments, we have slightly raised our segment sales forecast to match with the raised expectations in memory tester sales, by 1.0 billion yen to 33.0 billion yen.
- For Services, Support, & Others, we have increased our forecast by 2.0 billion yen to 40.0 billion yen.
- In addition to expected solid sales in field services, SSD system-level test is growing more strongly than previously forecast. In addition, the system-level test business of Astronics, which we acquired in February, is progressing as expected. The new forecast reflects these factors.

# Measures for Medium- to Long-Term Growth

## Grand Design (Long-Term Management Policy·FY18-27)

<Vision statement>

### Adding Customer Value in an Evolving Semiconductor Value Chain

<Management Goals>

#### ¥300B - ¥400B in annual sales

- Improve market share by 1% a year by focusing on growth areas and strengthening partnerships with customers (CY17 results: 36% → CY27 target: 46%)
- Develop new business around our core business area

## Mid-Term Plan (FY18-20 Average)

	Conservative	Base
Yearly market growth rate	0%	4%
Sales	¥230.0B	¥250.0B
Operating Margin	15%	17%
ROE	15%	18%
EPS	¥135	¥170



## Important Measures for FY19

- Enhance engagement with most important industry-leading customers
- Maintain and expand market share
- Reinforce personnel and develop human resources for medium-to long-term growth
  - Reinforce R&D engineering staff and marketing / sales / SE / service staff in priority regions
- Improve business efficiency for operational excellence
- Maximize utilization of ROIC in business operations

### R&D / Capital Investment Outlook

	FY18 actual	FY19 forecast
R&D Expenses	37.9	39.0
Capex	6.6	10.0
D&A	5.0	9.5

## ○ Measures for Medium- to Long-Term Growth

- To explain our activities for mid- to long-term growth, Advantest is promoting management in line with the 10-year mid- to long-term management policy announced in April last year.
- Our key measures for the second half of FY19 remain the same as given at the beginning of the fiscal year. In order to maintain and expand our market share from CY20 onwards, we will prioritize stronger engagement with industry-leading key customers, and the maintenance and expansion of our market share.
- Customer support requests for next-generation 5G devices and future new device development continue to increase. We will accelerate our investments in staff such as SEs and in R&D.
- At the beginning of the fiscal year we were planning to increase our employee headcount by about 200 this year, but with strong demand for support from customers, we would like to push our hiring plans above that.
- In terms of investments, although we are not currently considering large-scale investments to increase production capacity, as this is not necessary for the time being, we will actively renovate our facilities to improve production and development efficiency, and invest in IT systems.
- Putting this all together, R&D investment in FY19 is expected to be 39.0 billion yen. Capital investment will be 10.0 billion yen, unchanged from our initial plan. Depreciation and amortization will be 9.5 billion yen. SG&A expenses including R&D are expected to be around 95.0-96.0 billion yen.

## Summary

- Supported by increased SoC tester investment, performance has so far exceeded our initial forecast for FY19
- In light of this favorable progress, we have revised our full-year results forecast upward.
- In the second half of the fiscal year, we foresee a temporary slowdown in orders, but the trend of increasing demand for testers over the medium to long term remains unchanged.
- We will work to further reinforce customer support in line with our vision of Adding Customer Value in an Evolving Semiconductor Value Chain.

### ○ Summary

- In the first half of this fiscal year, results were supported by increased SoC tester investment, and performance exceeded our initial expectations. As a result, we have revised both our sales and profit forecast upwards.
- Although, based on the investment trends of major customers, we foresee the possibility of a temporary slowdown in the second half, many customers are developing leading-edge devices used in 5G, HPC, the IoT, etc.
- This means that technologies used for these devices, such as miniaturization, stacking, and greater integration of circuits on chips, which require more accurate testing, and technologies which make reliability more difficult to ensure, will grow in popularity.
- These trends should support the growth of the tester market over the medium to long term.
- Given the unresolved uncertainty factors in our external environment, such as US-China frictions, the global economy, and exchange rate fluctuations, we cannot yet be certain whether we will see a market recovery in 4Q. It is necessary to always be prepared for the risk of sudden market shifts. We will seek to further grow Advantest's business while carefully examining opportunities and risks to avoid opportunity losses.
- We will continue to strive to achieve the goals set forth in our Grand Design and mid-to long-term management policy by reinforcing our customer support capabilities.
- Advantest has this year created our first integrated report. We would appreciate questions and comments from our stakeholders.