



**ADVANTEST**<sup>®</sup>

**FY2023 2Q**  
(Three month ended September 30<sup>th</sup>, 2023)

**Financial Briefing**

October 31<sup>st</sup>, 2023  
Advantest Corporation

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# NOTE

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

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```
...mirror_object = obj
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
obj_ob.select-1
mirror_ob.select-1
context.scene.objects.active
obj_ob.select-1
mirror_ob.select-1
```

# Financial Results for FY2023 2Q

Yasuo Mihashi  
Senior Executive Officer, CFO & CSO (Chief Financial Officer & Chief Strategy Officer)  
Executive Vice President, Corporate Strategy Group

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## FY23 2Q Summary of Results

(¥B)

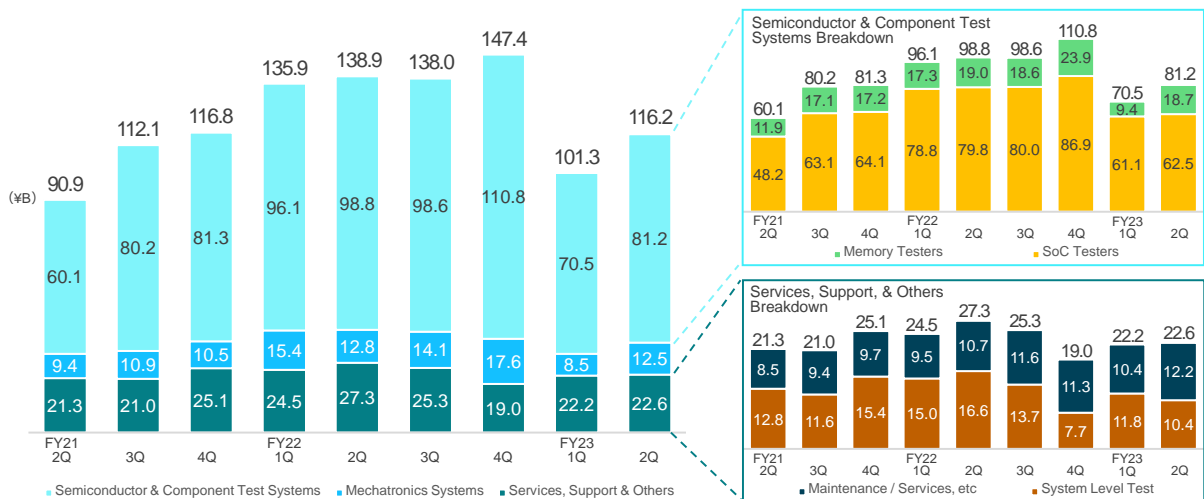
	FY22				FY23						
	1Q	2Q	3Q	4Q	1Q	2Q		QoQ		YoY	
						Forecast	Results	Change	(%)	Change	(%)
Sales	135.9	138.9	138.0	147.4	101.3	112.7	116.2	+15.0	+14.8%	-22.6	-16.3%
Gross Profit	78.9	79.9	81.6	78.7	51.0	-	58.0	+7.1	+13.9%	-21.8	-27.3%
Gross Margin	58.1%	57.5%	59.1%	53.4%	50.3%	-	49.9%	-0.4pts		-7.6pts	
Operating Income	44.8	43.1	41.2	38.6	14.3	22.3	21.0	+6.7	+47.2%	-22.1	-51.3%
Operating Margin	32.9%	31.1%	29.9%	26.2%	14.1%	19.8%	18.1%	+4.0pts		-13.0pts	
Income Before Tax	48.4	46.8	37.7	38.4	13.0	22.2	20.3	+7.4	+57.1%	-26.5	-56.5%
Net Income	36.5	34.7	28.6	30.6	9.2	16.8	16.7	+7.5	+81.9%	-17.9	-51.7%
Net Income Margin	26.8%	25.0%	20.8%	20.8%	9.1%	14.9%	14.4%	+5.3pts		-10.6pts	
Exchange Rate	1 US\$	¥124	¥135	¥144	¥133	¥135	¥135	¥142	¥7 Depreciation		¥7 Depreciation
	1 Euro	¥134	¥139	¥144	¥142	¥146	¥150	¥156	¥10 Depreciation		¥17 Depreciation
Dividend Per Share*1	-	¥65	-	¥70	-	¥65	¥65	-	-	-	-

\*1: Advantest enacted a 4-for-1 share split of its common share with an effective date of October 1, 2023. FY22 dividend and FY23 interim dividend present the amount prior to the share split.

### ○ FY2023 2Q Summary of Results

- The 2<sup>nd</sup> quarter sales and profits exceeded those of the 1<sup>st</sup> quarter.
- Although the yen's depreciation against the U.S. dollar also boosted our performance, the business environment remained challenging as in the previous quarter, as customers continued to curb investment, especially in smartphone-related applications.
- Gross profit margin fell below the previous quarter's level due to a deteriorating product mix.
- Operating income margin was higher than the previous quarter, partly due to the impact of yen depreciation.
- Regarding the interim dividend, the Board of Directors today, October 31<sup>st</sup>, approved 65 yen per share, the same as the forecast as of July. 65 yen is the dividend amount per share before the 4-for-1 share split as of October 1.
- Details will be explained sequentially in the following pages.

# Quarterly Sales by Segment



Note: Intersegment transactions have been eliminated from totals

○ FY2023 2Q Sales by Segment

○ Semiconductor & Component Test Systems

- SoC tester sales were ¥62.5 billion, an increase of ¥1.3 billion QoQ.
- Sales for semiconductors mainly related to mature processes, such as for automotive and industrial equipment, increased. On the other hand, sales for application processors (APU), which have been weak, decreased. Although sales for high-performance computing (HPC) semiconductors, where demand is solid, also decreased, deliveries of new tester equipment continued to be moderate while excess capacity in customers' supply chain is being digested.
- Memory tester sales were ¥18.7 billion, an increase of ¥9.4 billion QoQ. Although sales for non-volatile memory continued to be weak as in the previous quarter, sales for high-performance DRAM, including generative AI, increased markedly.

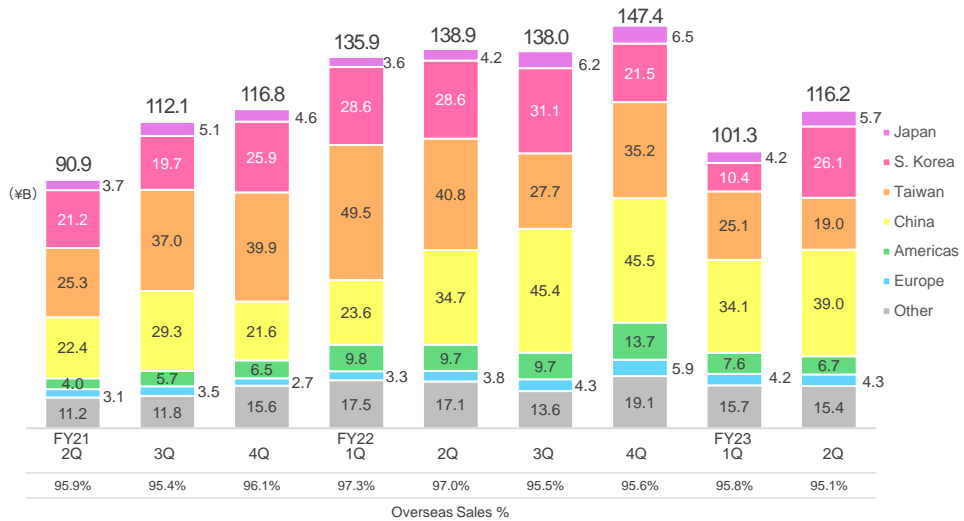
○ Mechatronics Systems

- Sales of device interface products and test handlers increased QoQ in tandem with an increase in tester sales. Sales of SEM metrology products also increased.

○ Services, Support, & Others

- Sales were on par with the previous quarter.

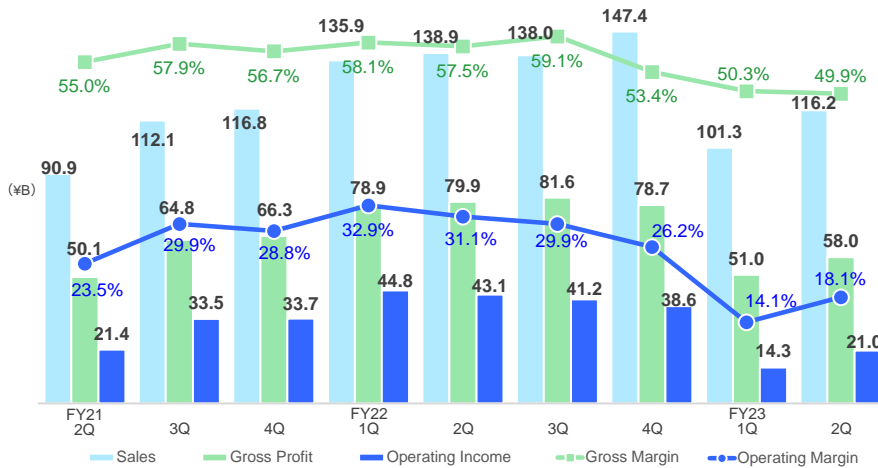
## Quarterly Sales by Region



### ○ FY2023 2Q Sales by Region

- **South Korea**  
Sales of memory testers grew substantially, with marked growth for DRAM. In addition, SoC tester sales were solid.
- **China**  
Sales increased in SoC testers and memory testers respectively, due to delivery of testers for a variety of semiconductors.
- **Taiwan**  
Sales decreased mainly for high-end SoC due to continuation of excess tester capacity related to smartphones. Testers that had been configured to test smartphones are now being converted to test HPC. As such, we expect Taiwan sales to increase along with an improvement of utilization ratio going forward.

## Sales / Gross Profit / Operating Income



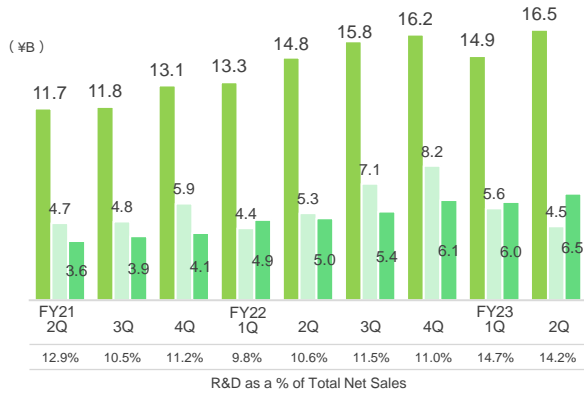
### ○ FY2023 2Q Sales / Gross Profit / Operating Income

- At the time of the 1<sup>st</sup> quarter results announcement in July, we had expected gross profit margin show improvement in the 2<sup>nd</sup> quarter and beyond, with the 1<sup>st</sup> quarter being the bottom.
- However, sales for high-end SoC did not pick up as much as expected, resulting in a deteriorated sales-product mix. In addition, higher parts procurement costs resulted in a lower gross profit margin than in the previous quarter.
- SG&A (including other income and expenses) was ¥37.0 billion, on par with last quarter. This includes other income of approximately ¥3.2 billion. This is mainly due to a settlement of a dispute with a counterparty. As a result, operating income was ¥21.0 billion.

# Investments / Cash Flow

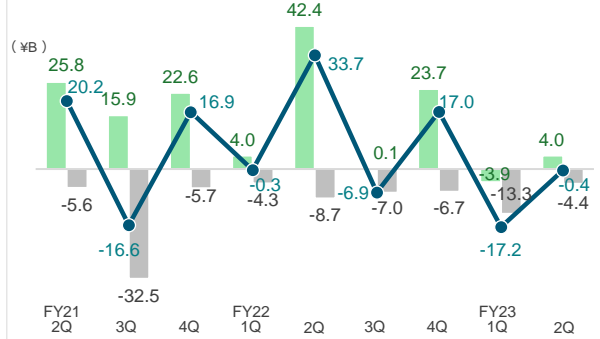
## <Investments>

- R&D Expenses
- Capital Expenditure
- Depreciation & Amortization



## <Cash Flow>

- Cash flows from operating activities
- Cash flows from investing activities
- Free cash flows



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

### ○ FY2023 2Q R&D/CapEx/D&A

- R&D, CapEx, and depreciation were largely in line with expectations.

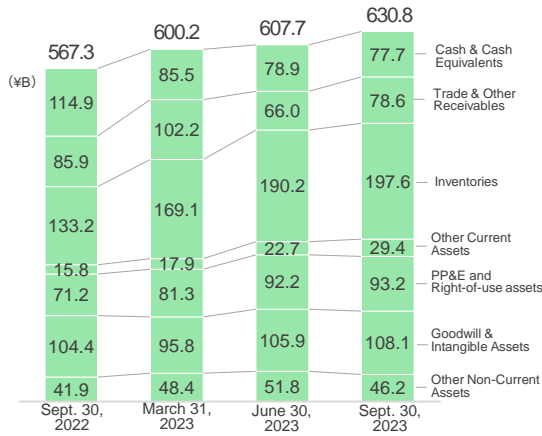
### ○ FY2023 2Q Cash Flow

- In the 1<sup>st</sup> quarter, there was investment cash outflow due to the acquisition of Shin Puu. In the 2<sup>nd</sup> quarter, free cash flow increased by ¥16.8 billion QoQ.

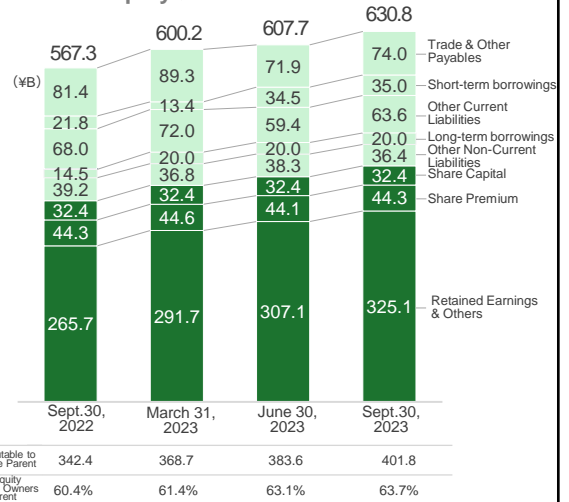


# Financial Position

## < Assets >



## < Liabilities & Equity >



## ○ Balance Sheet for Period Ending September 30<sup>th</sup>, 2023

- Trade and other receivables increased by ¥12.6 billion from the previous quarter due to an increase in sales.
- Inventories are at the similar level as in the previous quarter, despite the incoming delivery of strategically procured long lead time parts. We are currently working to establish a delivery system to meet customers' delivery deadlines. In order to monetize inventories as quickly as possible, we will make further efforts to strengthen inventory management.



## **FY2023 Outlook**

Yoshiaki Yoshida  
Representative Director, President, Group CEO

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## Business Environment / Semiconductor Tester Market Trends: Oct. 2023 Outlook

### < Business Environment >

- Recovery of global economy is lagging, including the economic slowdown in China. In addition, business environment remains highly uncertain due to factors such as the expansion of geopolitical risks, rising prices of natural resources, and the risk of sharp exchange rate fluctuations
- Some semiconductors, such as those used in automotive and industrial equipment, were firm. However, the slowdown in investments in data centers, in addition to a decline in demand for semiconductors used in major consumer electronics products such as smartphones, has led to continued capital investment restraints at related semiconductor manufacturers

### < Semiconductor Tester Market >

- In the SoC tester market, demand for automotive and industrial applications remains resilient. For high-performance semiconductors, while tester utilization rate in our customers' supply chains is improving, recovery is likely to take longer than expected
- In the memory tester market, while demand remains weak for consumer applications, test demand for high-performance memory such as HBM for generative AI and DDR5 is increasing in conjunction with customers' increased production plans and efforts to strengthen quality assurance

	CY22 Actual	CY23 Estimate
SoC Tester Market	Approx. \$4.0B	Approx. \$3.3B-3.4B (July estimate: approx. \$3.2B - 3.5B)
Memory Tester Market	Approx. \$1.2B	Approx. \$1.0B-1.1B (July estimate: approx. \$0.9B - 1.1B)

Source: Advantest

## ○ Business Environment / Semiconductor Tester Market Trends

- The current business environment is characterized by a slow recovery of the global economy, including the economic slowdown in China. In addition, business environment remains highly uncertain due to factors such as the expansion of geopolitical risks, rising prices of natural resources and other commodities, and the risk of sharp exchange rate fluctuations.
- In the semiconductor market, despite resilient and stable demand in certain areas such as automotive and industrial equipment, data center investment has slowed in addition to a decline in semiconductor demand in smartphones and other major consumer electronics applications, leading to continued capital investment restraints at related semiconductor manufacturers.
- For the CY2023 SoC tester market, we adjust our SoC tester market size estimate range from the July estimate to between \$3.3 billion and \$3.4 billion. We raised the lower end of the range compared to our estimate three months ago, as tester for automotive/industrial equipment and DDIC showed steady delivery progress, while lowering the upper end of the range as we trimmed the potential for upside. We expect it will take it more time to digest capacity that grew during COVID-19.
- For the CY2023 memory tester market, we adjust our estimate range to between US\$1.0 billion to US\$1.1 billion by raising the lower end of the range. While signs of demand recovery for non-volatile memory remain uncertain, test demand for high-performance memory is growing as customers' investment appetite is increasing due to plans to increase production and strengthen quality assurance.
- For high-performance semiconductors, such as those for HPC/AI, the efforts to increase assembly capacity is going into full swing, leading to an expectation for an increase in production volume from 2024 onward. There is also a strong trend toward increasing test volume driven by the demand for higher performance in order to add value to semiconductors and for higher reliability. This trend is currently utilizing excess capacity in our customers' supply chains, but we are also seeing our customers materialize their investment plans toward 2024-2025, based on medium-term plans for demand growth.

## FY23 Forecast

	FY22		FY23						Change vs. Prior Full-Year Forecast	
	Results	1H		2H		Full-year Forecast	vs. FY22		FY23 Forecast as of July	Change
		1Q Results	2Q Results	Results	Forecast		Change	(%)		
Sales*1	560.2	101.3	116.2	217.5	252.5	470.0	-90.2	-16.1%	480.0	-10.0
Operating Income	167.7	14.3	21.0	35.3	44.7	80.0	-87.7	-52.3%	105.0	-25.0
Operating Margin	29.9%	14.1%	18.1%	16.2%	17.7%	17.0%	-12.9pts		21.9%	-4.9pts
Income Before Tax	171.3	13.0	20.3	33.3	45.2	78.5	-92.8	-54.2%	103.5	-25.0
Net Income	130.4	9.2	16.7	25.9	34.1	60.0	-70.4	-54.0%	78.0	-18.0
Net Income Margin	23.3%	9.1%	14.4%	11.9%	13.5%	12.8%	-10.5pts		16.3%	-3.5pts
R&D Expenses	60.1	14.9	16.5	31.4	32.6	64.0	+3.9	+6.5%	63.0	+1.0
CapEx	25.0	5.6	4.5	10.1	10.9	21.0	-4.0	-16.0%	21.0	-
D&A	21.4	6.0	6.5	12.5	13.5	26.0	+4.6	+21.5%	24.0	+2.0
Exchange Rate*2	1US\$	¥134	¥135	¥142	¥139	¥145	¥142	¥8 Depreciation	¥135	¥7 Depreciation
	1Euro	¥140	¥146	¥156	¥151	¥155	¥153	¥13 Depreciation	¥149	¥4 Depreciation

\*1: Intersegment transactions have been eliminated from totals

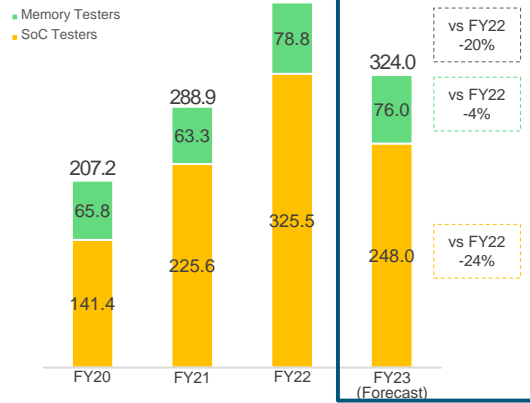
\*2: Our latest forecast for the impact of exchange rate fluctuations on FY23 operating income is plus ¥0.9 billion per 1 yen of JPY depreciation vs USD, and minus ¥0.3 billion per 1 yen of JPY depreciation vs the Euro

### ○ FY2023 Forecast

- In light of the 1<sup>st</sup> half results and the outlook going forward, we are revising down full-year consolidated forecasts.
- Sales forecast is revised down to ¥470 billion, which is ¥10 billion below the July forecast.
- Recovery of sales of testers for high-end SoC is expected to take longer than originally anticipated due to the delay in recovery of demand for semiconductors for smartphones and other major consumer electronics devices.
- Gross profit margin forecast, which was originally projected at around 55%, has been revised down to around 50% due to lower sales, a deteriorating product mix, and higher material procurement costs. Operating margin is revised down to a level below 20%, although we are working to reduce non-essential costs.
- Exchange rate assumptions for the 2<sup>nd</sup> half of the fiscal year are 145 yen for the US dollar and 155 yen for the Euro, respectively to reflect yen depreciation.
- Our latest forecast for the impact of exchange rate fluctuations on FY2023 operating income is plus ¥0.9 billion per 1 yen of JPY depreciation vs USD, and minus ¥0.3 billion per 1 yen of JPY depreciation vs the Euro. Due to the expected decrease in sales from U.S. dollar-based transactions, we have lowered our sensitivity estimate for the U.S. dollar by ¥ 0.2 billion from July.
- Regarding the tightened restrictions on the export controls of semiconductor production equipment to China by the United States and its allies, the direct impact on our FY2023 earnings is currently expected to be limited, but we will continue to closely monitor the situation as it is very fluid.

# FY23 Outlook by Segment

Semiconductor & Component Test Systems Sales Trends (¥B)



## Semiconductor & Component Test Systems

### < SoC Testers > (-¥20.0B vs July forecast)

– Despite a solid trend for mature processes, demand for advanced processes is expected to decline significantly due to weakness in the smartphone market

Applications	FY20	FY21	FY22	FY23*2
Computing / Comms	55%	60%	65%	55%
Automotive / Industrial / Consumer / DDIC*1	45%	40%	35%	45%

Numbers are rounded to the nearest 5%

### < Memory Testers > (+¥6.0B vs July forecast)

– Despite lack of signs of recovery for non-volatile memory testers, robust investment from customers is expected for DRAM testers mainly by high-end devices

Applications	FY20	FY21	FY22	FY23*2
DRAM	60%	60%	60%	90%
Non-Volatile Memory	40%	40%	40%	10%

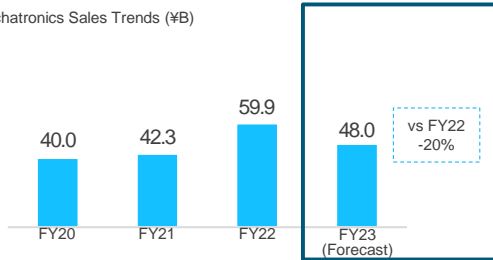
Numbers are rounded to the nearest 5%

## ○ FY2023 Semiconductor & Component Test Systems Outlook

- Full year FY2023 SoC tester sales forecast is ¥248 billion, which is ¥20 billion lower compared to the July forecast.
- For mature process products, customers' investment is expected to trend solidly for applications such as DDIC, in addition to automotive and industrial.
- On the other hand, demand for advanced process products is expected to fall more than expected against the backdrop of weak demand for smartphones and other factors. As a result, SoC tester sales for the current fiscal year are expected to decrease significantly YoY.
- Memory tester sales forecast for the full year is raised by ¥6 billion from the July forecast to ¥76 billion.
- In high-performance memory applications such as DDR5 and HBM, including those related to generative AI, a substantial increase in tester investment from customers can be expected going forward, as they set to increase production capacity against a backdrop of medium term demand growth and high reliability requirements.

## FY23 Outlook by Segment

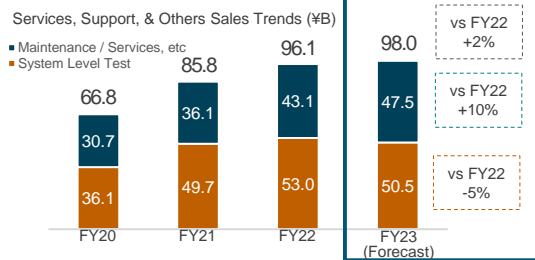
Mechatronics Sales Trends (¥B)



### Mechatronics Systems (+¥6.0B vs July forecast)

– Sales are expected to exceed the July forecast, as sales forecast has been revised upward for device interface products and test handlers in conjunction with an increase in the sales forecast for memory testers

Services, Support, & Others Sales Trends (¥B)



### Services, Support, & Others (-¥2.0B vs July forecast)

– We expect solid demand for maintenance services due to the steady growth of our installed base

– System level test business is expected to see a year-on-year decline in sales due to the impact of customers' investment trends affected by the sluggish semiconductor market conditions

### ○ FY2023 Mechatronics / Services, Support, & Others Business Outlook

- We have raised our full year FY2023 Mechatronics Systems sales forecast by ¥6 billion from the July forecast.
- Sales of device interface products and test handlers are expected to increase in conjunction with an increase in the full year sales forecast for memory testers.
- We have cut our full year FY2023 Services, Support, and Other sales forecast by ¥2 billion.
- For maintenance services, solid demand is expected due to the steady growth of our installed base.
- System level test business is expected to see a YoY decline in sales due to the impact of specific customers' investment trends affected by the sluggish semiconductor market conditions.

# Business Opportunities Arising from Generative AI (I)

**Advanced Packages such as 2.5D/3D**  
Increase in test time due to greater emphasis on testing

**Miniaturization/Scaling leading to Complexity**  
Response to new challenges such as new failure models leading to Increase in test time

**Diversification of Supply Chains**  
Geopolitical risks leading to capacity expansion worldwide

**High-performance memory such as HBM/DDR5**  
HBM & DRAM market revenue

Year	HBM Revenue	DRAM Revenue	HBM share
2023	4.1	17.7	19%
2024	7.1	17.7	29%
2025	11.1	17.7	39%
2026	17.1	17.7	49%
2027	26.1	17.7	59%

**Greater needs for quality assurance**  
due to increasing functions and complexity  
Increase in test insertions

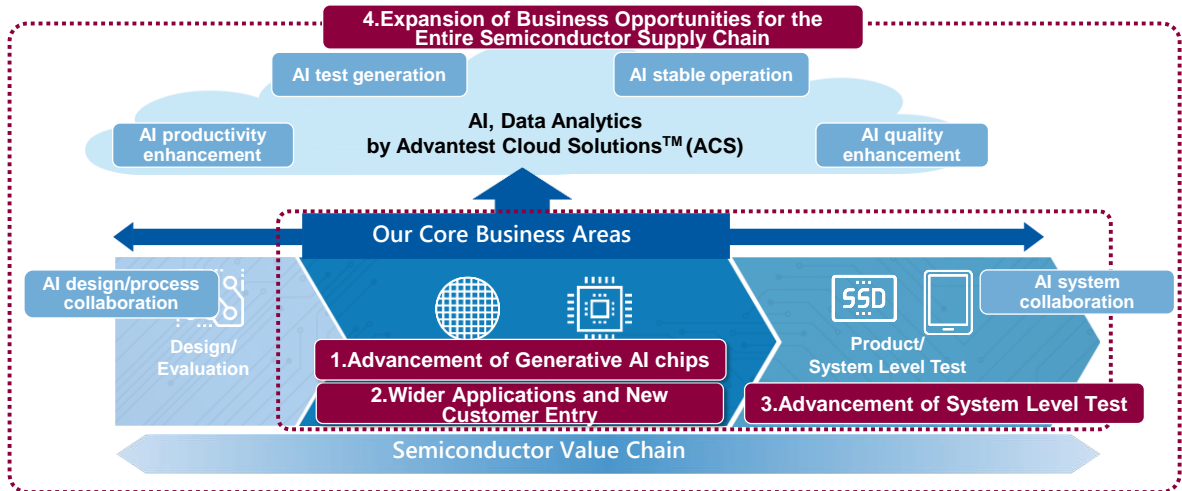
**Increasing Number of New Entrants**  
Intensifying competition over various application development ranging from AI to servers

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## ○ Business Opportunities Arising from Generative AI (I)

- So far, we explained that for this fiscal year's outlook, demand recovery is slower than expected compared to three months ago and ramp up is delayed. At the same time, in the past three months, we also saw concrete progress in our business opportunities arising from generative AI.
- There are two axes when it comes to factors which drive tester demand. One is the enhancement of testing in response to technological changes, such as increased semiconductor complexity and greater quality assurance. The other is the increase in semiconductor production volume. This slide is an expression of these points.
- As semiconductor technology evolves, demand for testing is increasing in response to the adoption of advanced technologies, such as the migration to 3 nm processes and other miniaturization advances, which require more testing time to address new failure models, and the increased importance of testing to enhance quality assurance for advanced packages that are stacked and mounted at the die level.
- In terms of semiconductor production volume growth, major semiconductor foundries are expected to gradually increase their advanced package assembly capacity from CY2024 onwards. In addition, customers that are developing and mass-producing high-performance memory such as HBM are working to increase their production capacity in response to medium-term demand growth and high reliability requirements. Concrete discussions with customers about their plans for future tester demand growth are ever-increasing.
- In addition, there is concrete progress for projects by several new players working on the design of semiconductors with diverse functions, from servers to end applications related to generative AI. The progress of those multiple projects is expected to increase demand for testers over the medium-term starting in 2024.

## Business Opportunities Arising from Generative AI (II)



### ○ Business Opportunities Arising from Generative AI (II)

- This is a diagram based on Grand Design, and we have shown this slide previously.
- For AI-related semiconductors, with the diffusion of advanced packages, test insertions in front end through wafer testing is important. In addition, efforts for various test insertions including packages testing after packaging and system level tests are gaining importance.
- Furthermore, for our customers to improve the yield of semiconductors, it is important to pursue quality improvement by utilizing our extensive testing expertise accumulated over the years in a series of processes from design to manufacturing.
- In the future, we believe it is highly likely that generative AI technology will change the very process of semiconductor development and manufacturing for our customers. We will contribute to our customers' Time to Market, Time to Volume, and Time to Quality by providing new solutions through Advantest Cloud Solutions™ (ACS) for their efforts to utilize various data and utilize them in their development and manufacturing.



## Summary

- **Full-year earnings forecast is revised downward**

- Sales forecast is lowered by ¥10.0 billion from the July forecast due to slower recovery in smartphone-related demand
- Despite improvement in tester demand for high-performance semiconductors such as HPC/AI, digestion of excess tester capacity will take time

- **Business opportunities arising from generative AI are steadily appearing, positioning tester demand to grow over the medium-term**

- Sustain R&D investment to address future technology (FY2022 result ¥ 60.1 billion → FY2023 forecast ¥ 64.0 billion)

- **Reinforce measures to improve profitability**

- Refine our supply chain management to improve responsiveness to demand fluctuations
- Improve gross margin profit by reviewing sales prices, implementing COGS reduction activities, etc.
- Review pricing and business processes while controlling non-essential costs
- Strengthen efforts to improve operational efficiency company-wide by actively utilizing DX

### ○ Summary

- We have lowered our full-year sales forecast by ¥10 billion from the July forecast of ¥480 billion to ¥470 billion. Customers continue to curb capital investment due to the slower recovery of smartphone-related demand, and digestion of excess tester capacity is likely to take longer than what we expected back in July.
- As mentioned earlier, there has been steady progress of business opportunities arising from generative AI. As such, our view remains intact for tester demand growth over the medium-term. Against this backdrop, we will certainly sustain R&D investment to address future technology.
- However, in the current fiscal year, the business environment has remained sluggish longer than expected. We will strengthen our ability to respond to demand fluctuation by establishing a delivery system to meet customers' delivery deadlines through advancement of our supply chain management.
- Furthermore, in light of soaring parts procurement costs, we will execute measures to improve gross profit margin by reviewing sales prices and facilitating COGS reduction activities. Recently, we have already cut non-essential costs and reduced head count in some businesses. We will strengthen our cost reduction efforts further by reviewing operational processes.
- Additionally, we will focus on measures to improve profitability over medium/long-term by strengthening efforts to improve company-wide operational efficiency through active utilization of DX and other initiatives.

## Other Topics

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- **Integrated Annual Report 2023 Published**

※ Web Link : <https://www.advantest.com/about/annual.html>

- **Sustainability Data Book 2023 Published**

※ Web Link : <https://www.advantest.com/sustainability/report/>

- **IR Technical Briefing on Memory Tester Business scheduled for November 29<sup>th</sup>**

- Other topics

- Finally, we have a few announcements to make.
- We have published the Integrated Annual Report 2023 as well as the Sustainability Data Book 2023 on October 20<sup>th</sup>.
- We are planning to hold a Technical Briefing again this year on November 29<sup>th</sup> to facilitate deeper understanding of our business.
- This concludes my presentation.

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