

# Mid/Long-Term Management Policy

## Grand Design & Mid-Term Plan FY2018~FY2020

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# Objectives of Grand Design and Mid-Term Plan

Amidst the digital transformation driven by semiconductor evolution, Advantest's business environment is dramatically changing.

Our **Grand Design (10 years)** and **Mid-Term Plan (FY2018 – FY2020)** are designed to create customer value and to enhance corporate value.



# Agenda

**1**

**Business Environment**

**2**

**Changes in the Tester Market**

**3**

**Grand Design**

**4**

**Mid-Term Plan (FY2018 - FY2020)**

# 1

## **Business Environment**

Data explosion sets the stage for a new era  
in the semiconductor market

# Megatrends

- ◆ Population Growth
- ◆ Aging population
- ◆ Urbanization
- ◆ Growth of developing countries

- Energy
- Water
- Food
- Environment
- Climate change

+

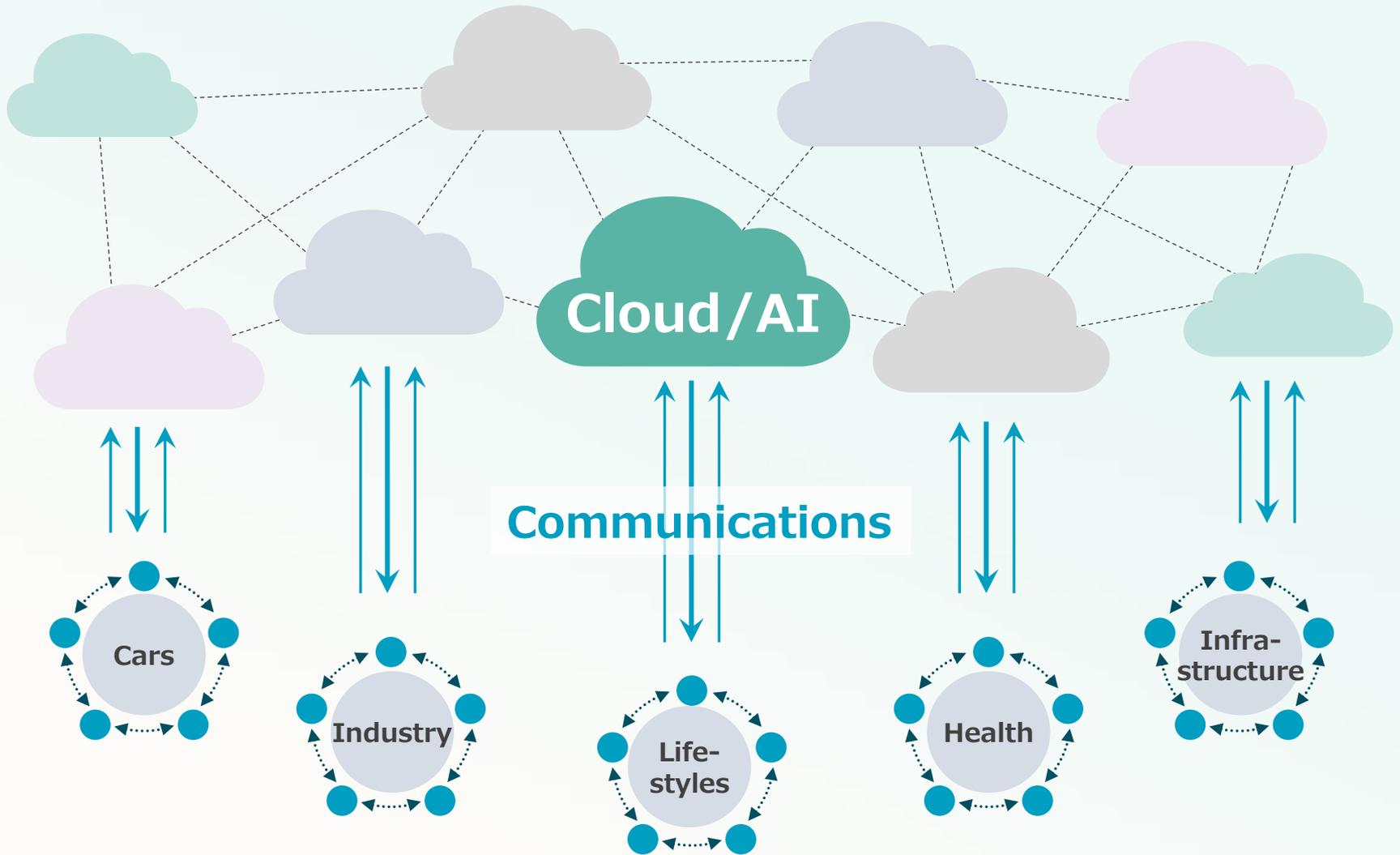
◆ Smart

◆ Global

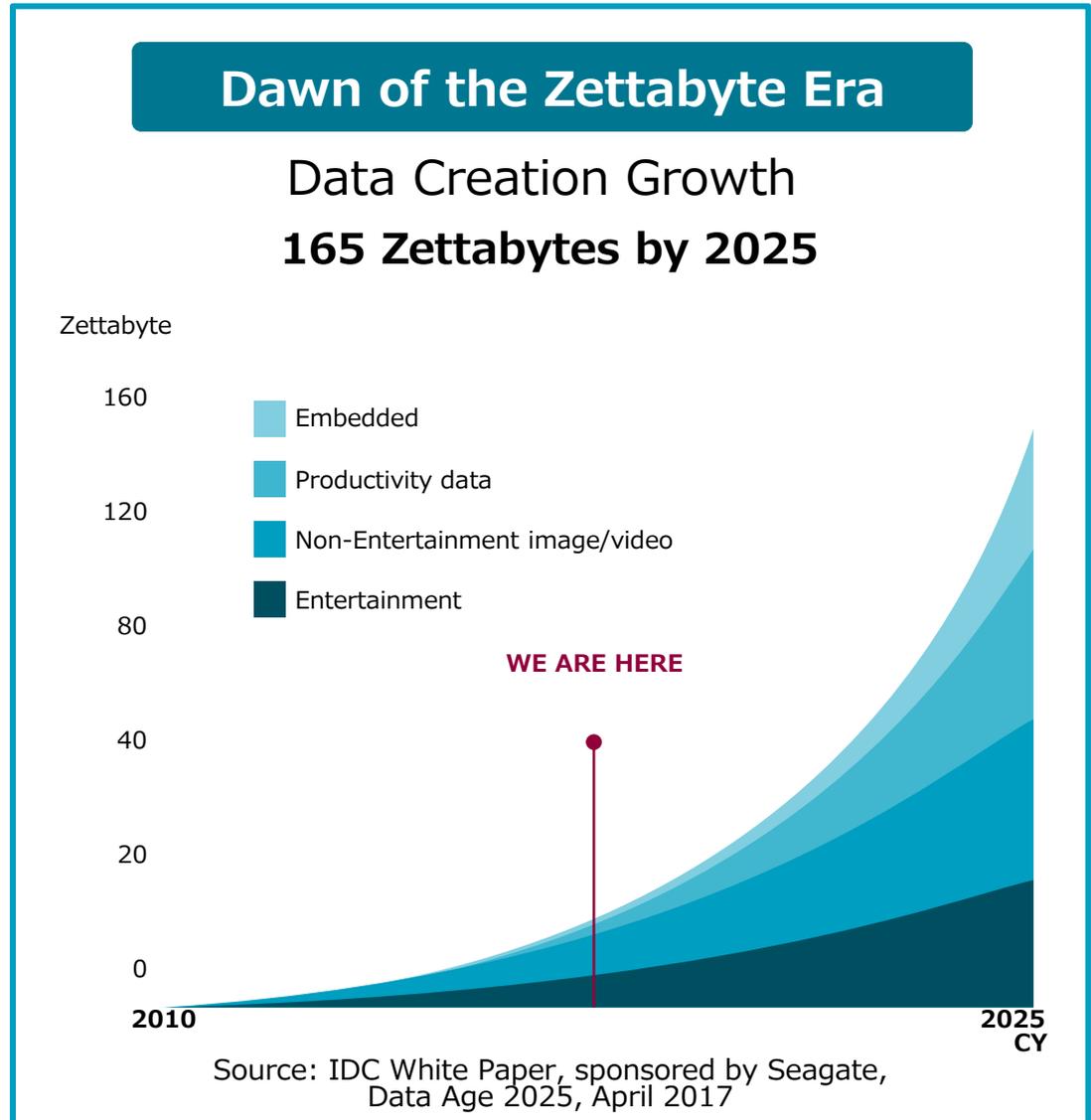
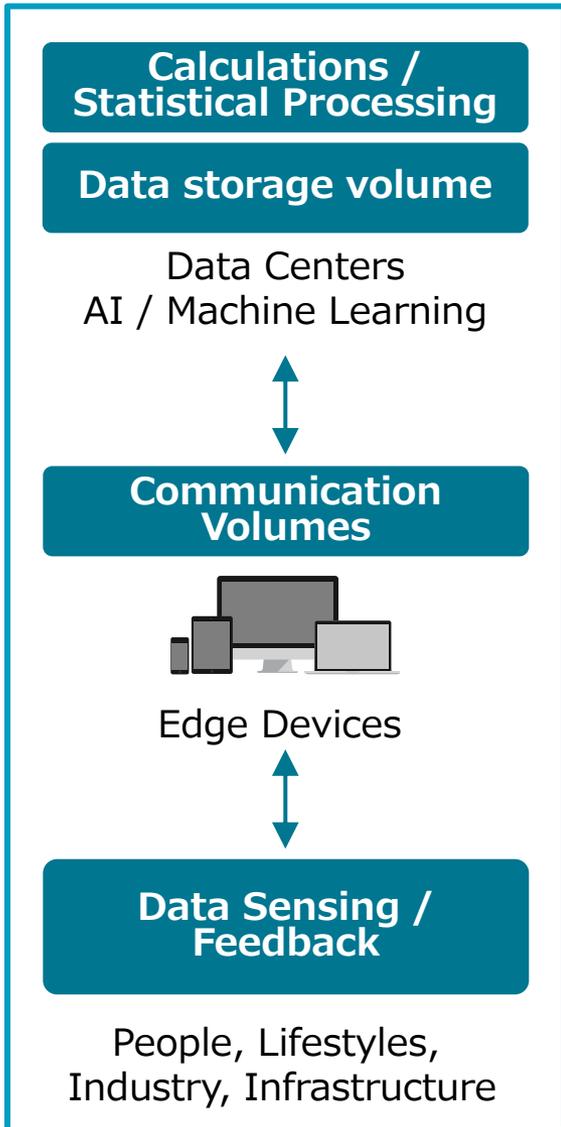
● Security

**The Promise of the Digital Transformation:  
Semiconductors Can Solve Diverse Social Problems**

# The Promise of the Digital Transformation: Data Explosion



# Data Explosion: A new era in the semiconductor market



# 2

## **Changes in the Tester Market**

Evolving Together with the Semiconductor Market

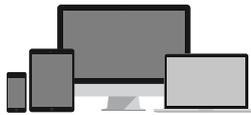
# Changes in the Semiconductor Market Inducing Changes in the Tester Business Environment

## ● Changes in the Semiconductor Market

Past

From Mainframes to  
PCs / Smartphones

- Smaller, Cheaper
- +  
- Greater Tester Efficiency



Future

Data Takes the Spotlight,  
Semiconductors as Infrastructure  
(Data Centers, 5G Comms, Human I/F)

- Greater Semiconductor Functionality, Complexity, Capacity
- High Reliability



More Test Items & Longer Test Times × Greater Difficulty of Failure Detection = Test to be Reinforced to Guarantee Reliability

**Testers will become more important and more of them will be needed**

**The semiconductor tester market: A cyclical growth market**

# 3

## **Grand Design** Adding Customer Value in an Evolving Semiconductor Value Chain

Note: The descriptions of tester market size that follow are based on estimates of the market value of the total semiconductor test equipment market, including test equipment that Advantest currently does not provide. These market size estimates use calendar years. Exchange rate assumptions for these market forecasts and our own future performance estimates are 1 USD = 110 yen and 1 euro = 135 yen.

## ***Enabling the Leading-Edge Technology***

Our management philosophy of “enabling leading edge technology” drives continuous improvement in our mission to provide technologies, products and services that satisfy our customers around the world, while contributing to human flourishing through our advanced technologies.

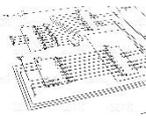
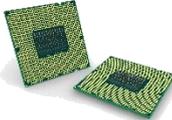
# Grand Design: Vision Statement

## Adding Customer Value in an Evolving Semiconductor Value Chain

- Advantest will further contribute to the semiconductor industry by enriching, expanding, and integrating our test and measurement solutions throughout the entire semiconductor value chain

**Cloud, AI, Data Analytics**

**Our Existing Business Areas**

					
IC	IC		System Level		
Design/ Evaluation Processes	Production processes			Product / System Level Test Process	
	Wafer test/Final test				

**Semiconductor Value Chain**

# Grand Design: Commitments

- 1. Be the No.1 provider of test & measurement solutions**
- 2. Partner with leading-edge customers**
- 3. Develop leading-edge technologies**
- 4. Attract and retain the best talent in the industry**
- 5. Learning organization**
- 6. Improve financial KPI and increase corporate value**

# Grand Design: Strategies

1

**Reinforce Core Businesses, Invest Strategically**

2

**Seek Operational Excellence**

3

**Explore Value to Reach a Higher Level**

4

**Pioneer New Business Fields**

# Grand Design: Sales Scenario

- Improve market share by 1% a year by focusing on growth areas and strengthening partnerships with customers
- Develop new business around our core business area

FY2017 (actual)	¥1B
Tester Market	363.0
Advantest Share	36%
<b>Sales</b>	<b>207.2</b>

Conservative Case	
Tester market growth rate = 0%	
FY2027 (Forecast)	¥1B
Tester Market	380.0
Advantest Share	46%
Existing Business	240.0
New Business	60.0
<b>Sales</b>	<b>300.0</b>

Base Scenario	
Tester market growth rate = 4%	
• The same pace as the semiconductor market growth	
FY2027 (Forecast)	¥1B
Tester Market	580.0
Advantest Share	46%
Existing Business	340.0
New Business	60.0
<b>Sales</b>	<b>400.0</b>

# Cost / Profit Structure Model

	FY2017 (Actual)		Cost structure model @ ¥300B
Sales	¥207.2B		¥300.0B
Cost of Sales	49%	→	46%
SG&A as % of Sales	40%		32%
(of which R&D expenses)	16%		13%
Operating Margin	11%		22%

## Balancing growth investment with cost structure

- Consecutive R&D investment
- Improve cost of sales ratio
- Enhance production system flexibility to respond quickly to demand fluctuations
- Improve SG&A efficiency

# 4

## Mid-Term Plan (FY2018 - FY2020)

# Mid-Term Plan Objectives: Sales by Business

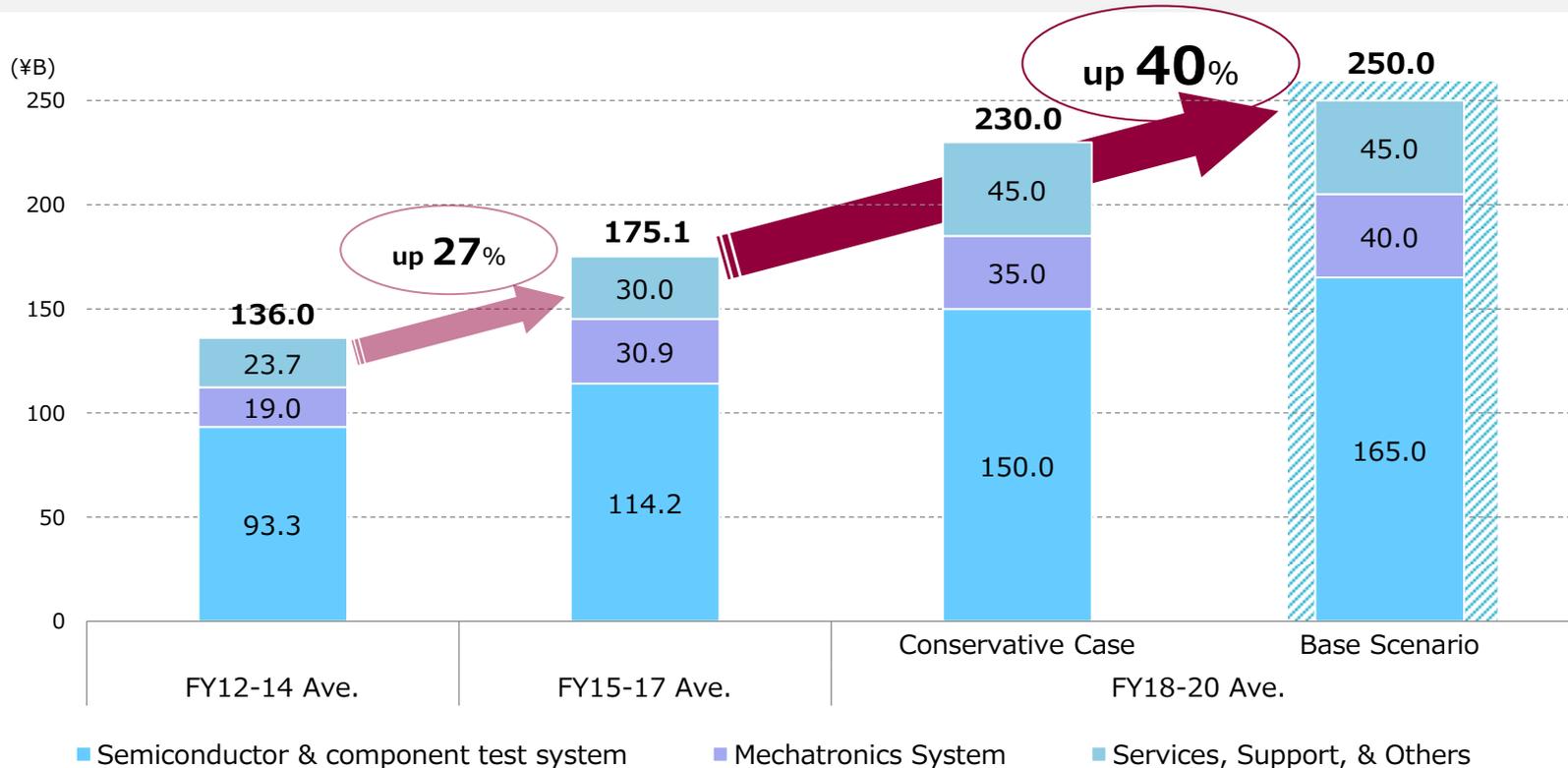
- 2018 tester market size; 400 billion yen
- Focus on growth areas, strengthen partnerships with customers, improve market share by 1% annually

## Conservative Case

Yearly market growth rate **0%**

## Base Scenario

Yearly market growth ratio **4%**



# Business Strategy Highlights

- Provide outstanding solutions for the next generation of test needs

## Semiconductor & Component Test Systems

- Wave of next human/machine I/F

- ✓ 5G
- ✓ HPC
- ✓ ADAS
- ✓ IoT/Smart devices
- ✓ Cloud/AI
- ✓ Storage
- ✓ Mobile
- ✓ VR/AR

- Semiconductor process miniaturization:
  - Greater semiconductor
  - Capacity complexity
- Semiconductor as infrastructure:
  - Higher reliability

## Mechatronics

- Complete test cell solutions
- Thermal control support
- Support for high-reliability test

## Service & Others (incl. new businesses)

- Support evolving customer needs
  - Factory automation
  - Traceability
- SSD platform solutions
- M&A, alliances
- Open innovation

# Our Advantages in the Semiconductor Tester Market

## Global **No.1** Product Portfolio

- Highly scalable modular architecture platforms
- Dominant position in growth areas:  
DRAM, NVM, high performance computing, networks

## Global **No.1** Customer Base

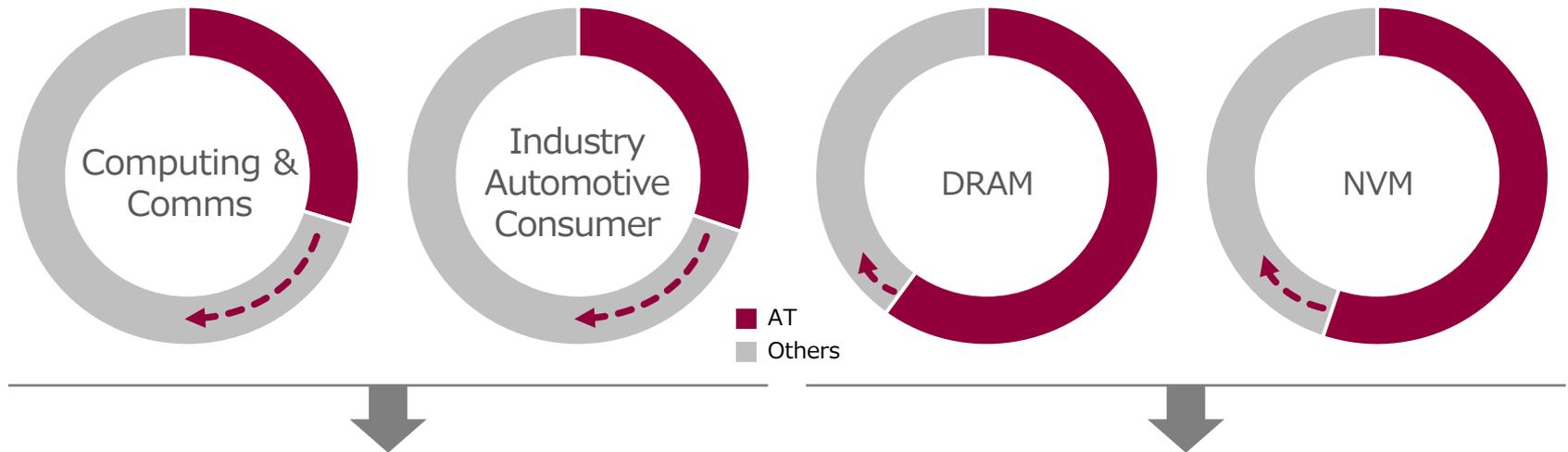
- Unparalleled customer base nurtured over many years
- Greater presence in the growing Asia market

## Total Test Solutions Including Peripherals, Global Support

- We offer complete test environments including device I/F peripherals

# Sustaining & Reinforcing Our Competitive Advantages

## CY2017 Market Share Estimates by Application and Future Trend



### Non-Memory Testers

- Secure dominant position in new applications such as 5G
- Overwhelming share of HPC market, where growth is expected
- Expand share in Automotive

### Memory Testers

- Expansion of DRAM demand, where we hold a high share: Improve high-reliability product ratio, new generation devices
- Comprehensive solution proposals covering all devices and processes

# Numerical Targets for 3-Year Mid-Term Plan

	FY2012-2014 Average	FY2015-2017 Average	Mid-Term Plan (FY2018-FY2020 Average)	
			Conservative	Base
Sales	¥136.0B	¥175.1B	¥230.0B	¥250.0B
Operating Margin	-8%	9%	15%	17%
ROE	-7%	12%	15%	18%
EPS	-¥51	¥74	¥135	¥170

\* In case Euro / yen denominated convertible bonds with stock acquisition rights maturing in 2019 (¥30.0B) converted to shares

## Improving P/L, Efficient Use of Capital

- We will manage sales, operating margin, ROE, and earnings per share (EPS) in terms of KPI

# Financial Policy & Shareholder Returns

## Sustaining a Healthy Financial Status

- **Stable Free Cash Flow**
  - Create ¥85B~¥100B of cash flow in 3 years
- **Minimum cash reserves**
  - Hold ¥50B~¥60B for stable business activities
  - Excess cash will preferentially be invested in business growth, M&A, etc.

## Enhance Corporate Value through Mid-Term Investment

- **R&D Investments**
  - Continuous R&D investments of more than ¥30B annually
- **M&A Investment Frame**
  - ¥100B · Expand solutions across the semiconductor value chain

## Shareholder Returns

- **Returns Policy**
  - Half-term consolidated payout ratio 30%
  - If long-term residuals remain, we will aim to review our payout ratio, improve returns by repurchasing shares, etc.

# Governance & Human Resources Strategy

## Enhance Corporate Governance

- Diversity of Board of Directors (nationality, gender)
- Start Performance-based Stock Remuneration Plan

## Internal Business Management

- Introduction of ROIC-based tools for internal business management

## Human Resources Investment

- Foster global, frontier personnel
- Innovative workstyles

# Mid-Term Action Items

## Towards the Next Level

- Next wave business research team creation
- Greater involvement with customer processes in search of test solutions for each process
- AI, data analysis introduction and utilization
- Explore ways to win more recurring business



# Contributing to a Sustainable Future



**“Tested by Advantest”**

**By testing semiconductors used all over the world, Advantest contributes to safety, security, comfort, and the creation of our sustainable future**

# Conclusion

## Top line

### Growing Importance of Test in Cyclical Growth Market

"Data Explosion"  
"Semiconductors as Infrastructure"  
"Greater Semiconductor Functionality, Complexity"



### Expand Market Share, Solutions Portfolio

"Focus on Growth Areas"  
"Expand Solutions across Semiconductor Value Chain"



## Operations

### Enhance Governance, Management efficiency

"Enhance Governance"  
"ROIC-Based Business Management"  
"Human Resource Investment"



**Achievement of Grand Design & Mid-Term Plan Goals**

## NOTE

### ◆ **Accounting Standards**

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

### ◆ **Cautionary Statement with Respect to Forward-Looking Statements**

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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