Mid/Long-Term Management Policy

Grand Design & Mid-Term Plan FY2018～FY2020

Yoshiaki Yoshida
Representative Director & CEO
Advantest Corporation

April 26th, 2018
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)
Business Environment

Data explosion sets the stage for a new era in the semiconductor market
The Promise of the Digital Transformation: Semiconductors Can Solve Diverse Social Problems
The Promise of the Digital Transformation: Data Explosion

Cloud/AI

Communications

Cars

Industry

Life-styles

Health

Infra-structure
Data Explosion: A new era in the semiconductor market

**Dawn of the Zettabyte Era**

Data Creation Growth

**165 Zettabytes by 2025**

Source: IDC White Paper, sponsored by Seagate, Data Age 2025, April 2017

**Calculations / Statistical Processing**

**Data storage volume**

- Data Centers
- AI / Machine Learning

**Communication Volumes**

- Edge Devices

**Data Sensing / Feedback**

- People, Lifestyles, Industry, Infrastructure

WE ARE HERE

- Embedded
- Productivity data
- Non-Entertainment image/video
- Entertainment

Data Sensing / Feedback

People, Lifestyles, Industry, Infrastructure

Data Centers

AI / Machine Learning

Communication Volumes

Edge Devices

Data storage volume

2010

2025

Zettabyte

Source: IDC White Paper, sponsored by Seagate, Data Age 2025, April 2017
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

<table>
<thead>
<tr>
<th>Past</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Mainframes to PCs / Smartphones</td>
<td>Data Takes the Spotlight, Semiconductors as Infrastructure</td>
</tr>
<tr>
<td></td>
<td>(Data Centers, 5G Comms, Human I/F)</td>
</tr>
<tr>
<td>– Smaller, Cheaper</td>
<td>– Greater Semiconductor Functionality, Complexity, Capacity</td>
</tr>
<tr>
<td>+</td>
<td>– High Reliability</td>
</tr>
<tr>
<td>– Greater Tester Efficiency</td>
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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
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.
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.
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**

<table>
<thead>
<tr>
<th>IC</th>
<th>System Level</th>
<th>IC</th>
<th>System Level</th>
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<tbody>
<tr>
<td><strong>Design/Evaluation Processes</strong></td>
<td>Production processes</td>
<td><strong>Production processes</strong></td>
<td>Product / System Level Test Process</td>
</tr>
<tr>
<td></td>
<td>Wafer test/Final test</td>
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</table>

**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

### Base Scenario

Tester market growth rate = 4%

<table>
<thead>
<tr>
<th>FY2027 (Forecast)</th>
<th>¥1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tester Market</td>
<td>380.0</td>
</tr>
<tr>
<td>Advantest Share</td>
<td>46%</td>
</tr>
<tr>
<td>Existing Business</td>
<td>240.0</td>
</tr>
<tr>
<td>New Business</td>
<td>60.0</td>
</tr>
<tr>
<td>Sales</td>
<td>300.0</td>
</tr>
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</table>

### Conservative Case

Tester market growth rate = 0%

<table>
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<tr>
<th>FY2027 (Forecast)</th>
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<tr>
<td>Tester Market</td>
<td>580.0</td>
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<td>Advantest Share</td>
<td>46%</td>
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<tr>
<td>Existing Business</td>
<td>340.0</td>
</tr>
<tr>
<td>New Business</td>
<td>60.0</td>
</tr>
<tr>
<td>Sales</td>
<td>400.0</td>
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<tr>
<th></th>
<th>FY2017 (Actual)</th>
<th>Cost structure model @ ¥300B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>¥207.2B</td>
<td>¥300.0B</td>
</tr>
<tr>
<td>Cost of Sales</td>
<td>49%</td>
<td>46%</td>
</tr>
<tr>
<td>SG&amp;A as % of Sales</td>
<td>40%</td>
<td>32%</td>
</tr>
<tr>
<td>(of which R&amp;D expenses)</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>Operating Margin</td>
<td>11%</td>
<td>22%</td>
</tr>
</tbody>
</table>

**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
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

<table>
<thead>
<tr>
<th>Yearly market growth rate</th>
<th>Conservative Case</th>
<th>Base Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY12-14 Ave.</td>
<td>¥136.0</td>
<td>¥250.0</td>
</tr>
<tr>
<td>FY15-17 Ave.</td>
<td>¥175.1</td>
<td>¥230.0</td>
</tr>
<tr>
<td>FY18-20 Ave.</td>
<td>¥230.0</td>
<td>¥250.0</td>
</tr>
</tbody>
</table>

- Semiconductor & component test system
- Mechatronics System
- Services, Support, & Others
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

<table>
<thead>
<tr>
<th></th>
<th>FY2012-2014 Average</th>
<th>FY2015-2017 Average</th>
<th>Mid-Term Plan (FY2018-FY2020 Average)</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Conservative</td>
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<tr>
<td>Sales</td>
<td>¥136.0B</td>
<td>¥175.1B</td>
<td>¥230.0B</td>
</tr>
<tr>
<td>Operating Margin</td>
<td>-8%</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>ROE</td>
<td>-7%</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>EPS</td>
<td>-¥51</td>
<td>¥74</td>
<td>¥135</td>
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* In case Euro / yen denominated convertible bonds with stock acquisition rights maturing in 2019 (¥30.0B) converted to shares

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**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

<table>
<thead>
<tr>
<th>Growing Importance of Test in Cyclical Growth Market</th>
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<tbody>
<tr>
<td>“Data Explosion”</td>
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<td>“Semiconductors as Infrastructure”</td>
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<td>“Greater Semiconductor Functionality, Complexity”</td>
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<th>Expand Market Share, Solutions Portfolio</th>
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<td>“Focus on Growth Areas”</td>
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<tr>
<td>“Expand Solutions across Semiconductor Value Chain”</td>
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### Operations

<table>
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<th>Enhance Governance, Management efficiency</th>
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<tr>
<td>“ROIC-Based Business Management”</td>
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<td>“Human Resource Investment”</td>
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**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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