

# Strategy

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## CEO Message

Advantest's first mid-term management plan (MTP1), a three-year plan that started in fiscal 2018, ended with strong results that exceeded targets across all metrics. We faced risks during the period that dwarfed our initial expectations, such as the intensification of US-China friction and the spread of Covid-19. However, these risks spurred changes in markets, which were vigorously embraced, bringing new opportunities for companies, and encouraging them to take on new challenges. In April this year, we launched our second mid-term management plan (MTP2). We anticipate that demand for semiconductors will continue to grow in the medium to long term. I believe we have entered a phase where the true value of our company as a global leader and advocate of our corporate philosophy (Purpose & Mission), "enabling leading-edge technologies," is being put to the test.



**Higher, Stronger.  
The Promise of Further Growth**

Representative Director, President and CEO

### FY2020 Results

|  |   |                         |
|--|---|-------------------------|
| <b>Orders</b> <small>Record high</small>     | <b>Sales</b> <small>Record high</small> | <b>Operating Margin</b> |
| ¥330.6 <sub>B</sub>                          | ¥312.8 <sub>B</sub>                     | 22.6%                   |
| <b>Net Income</b> <small>Record high</small> | <b>ROE</b>                              | <b>EPS</b>              |
| ¥69.8 <sub>B</sub>                           | 27.3%                                   | ¥354                    |

| Key management metrics      | FY2015-17 Average | MTP1 Targets (FY2018-20 Average) | MTP1 Actual (FY2018-20 Average) | MTP2 Targets (FY2021-23 Average) | Grand Design |
|-----------------------------|-------------------|----------------------------------|---------------------------------|----------------------------------|--------------|
| <b>Sales</b> (¥B)           | 175.1             | 250                              | 290.4                           | 350~380                          | > 400        |
| <b>Operating Margin</b> (%) | 9                 | 17                               | 22                              | 23~25                            |              |
| <b>Net Income</b> (¥B)      | 13                | --                               | 60.1                            | 62~70                            |              |
| <b>ROE</b> (%)              | 12                | 18                               | 29                              | 20                               |              |
| <b>EPS</b> (¥)              | 74                | 170                              | 309                             | 320~370                          |              |

**Strong performance in the MTP1 period puts us ahead of schedule with respect to the goals of our Grand Design**

At the conclusion of the MTP1 period, results exceeded the targets we had set for all 4 metrics (sales, operating margin, net income, ROE, and EPS). This performance greatly exceeded our initial expectations, but in terms of medium- to long-term trends in the semiconductor market, it was in line with the scenario set forth in our Grand Design. I believe these trends simply developed sooner than expected. Our Grand Design, announced in April 2018, foresaw that a "data explosion" would lead the semiconductor market into a new growth phase in the future. This "data explosion" accompanies the development of social infrastructure such as 4G / 5G base stations and data centers, and the recent evolution and wider adoption of technologies such as data sensing, edge devices, high-speed communications, and data storage, which generate zettabytes of data traffic. Our scenario sees semiconductor test demand also increasing as demand for semiconductors, which handle all this data, grows dramatically.

Early 2020 saw the beginning of the global Covid-19 pandemic. This unprecedented event has caused hardships for many and has badly damaged various businesses. On the other hand, it has also accelerated transformational changes in communication styles. The value of gathering at work and having face-to-face conversations has become less obvious to many, due to the normalization of digital communications, which are unaffected by physical distance, but while this change may seem to

- Grand Design: Mid/Long-Term Management Policy (FY2018~2027: For more information, please visit <https://www.advantest.com/about/management-policy.html>)
- MTP1: First Mid-Term Management Plan (FY2018~2020): For more information, please visit [https://www.advantest.com/investors/ir-library/pdf/E\\_MLTP\\_180426\\_slide.pdf](https://www.advantest.com/investors/ir-library/pdf/E_MLTP_180426_slide.pdf))
- MTP2: Second Mid-Term Management Plan (FY2021~2023): For more information, please visit [https://www.advantest.com/investors/pdf/E\\_MLTP2\\_210524\\_slide.pdf](https://www.advantest.com/investors/pdf/E_MLTP2_210524_slide.pdf))



have occurred abruptly in response to Covid-19, it is nothing more than the very shift to a new style of communication that we always expected to see in the future.

In the past, sales of products used directly by people, such as replacement personal computers, or the adoption of digital cameras, and LCD TVs, drove demand for semiconductors. Trends in demand for these items drove waves of demand for semiconductor test, and had a major impact on our business. However, in the current IoT era, where all manner of things are connected to the internet, data communications are rapidly expanding into the realm of M2M (Machine to Machine) where human intervention is minimal or absent, including social / transportation infrastructure, data centers, and industrial equipment. More and more products in this area are being equipped with semiconductors, further diversifying the industry's end-product base. At the same time, I believe that the absolute number of semiconductors in use will increase steadily due to the "data explosion" mentioned above. In addition, against the background of increasing social demand for decarbonization, semiconductors are required to save energy and use less power, which promotes higher performance, greater complexity, and stronger reliability guarantees. As a result, more advanced and efficient semiconductor test is indispensable. These trends, combined with the early spread and global expansion of digital communications impelled by Covid-19, were among the factors that boosted demand for semiconductors and test during the MTP1 period (FY2018-2020).

## MTP2 Targets Further Growth

We launched MTP2 in April 2021. While following the same route as MTP1, this plan will accelerate growth further through steady engagement with the following five strategic issues, we will strengthen Advantest's foundation for corporate value improvement and sustainable growth.

### 5 Strategic Issues

- 1 Reinforce core businesses, invest strategically
- 2 Seek operational excellence
- 3 Explore value to reach a higher level
- 4 Pioneer new business fields
- 5 Enhance ESG initiatives



Our mid-term management plans (MTP1, MTP2) aim to achieve the goals of our Grand Design by 2027, but at the same time, they are initiatives to strengthen and expand Advantest's ability to sustainably bring in revenue to achieve social value," and thus we can say that they are blueprints for growth that will continue beyond that date. I believe that this sustainable "earning power" is key to improving our corporate value, as I explained in our MTP2 announcement.

## Enhancing Corporate Value by Expanding the "Value Cube"

The corporate value enhancement we aim for is the expansion of social contributions through business growth. The ability of Advantest's core business to grow steadily is itself a contribution to humanity's sustainable future. Conversely, businesses that do not reflect the values of society will not grow sustainably. Figure-(1) shows the improvement of corporate value that we aim for under MTP2 as the sustainable expansion of future profits (earning power) along the three axes of ① shareholder value, ② stakeholder value, and ③ ESG value, using the analogy of an expanding cube. Above all, I believe that enhancement of our ESG initiatives is key to promoting growth along the other two axes, and we therefore added it as our fifth strategic issue under MTP2, as mentioned above.

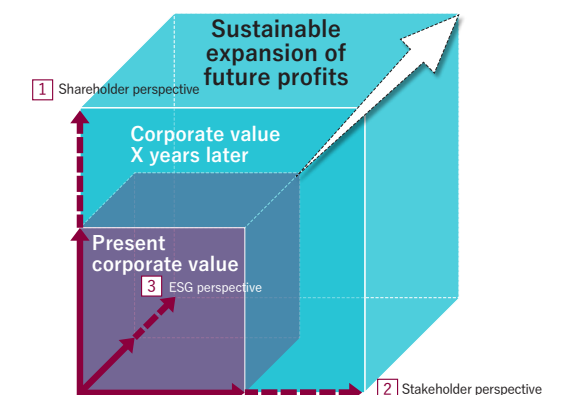


Figure-(1)

## Growth Investments Spur Innovation

Growth investments are indispensable for leveraging the sustainable strength and earning power of a company over the medium to long term. Based on this belief, we carried out two M&As (the system level test business transfer from Astronics, and the acquisition of Essai), and one capital and business alliance (with PDF Solutions) during the MTP1 period. These acquisitions and partnerships aim to reduce the time, cost, or risk of in-house development by buying already-established technologies, products, customer bases, etc., but that is not their only advantage: Incorporating external knowledge also means seizing opportunities for new innovation.

Economist Joseph Schumpeter, in 1934, defined innovation as "new combinations" of new or existing knowledge, resources, equipment, and other factors. Advantest's purpose and mission of "enabling leading-edge technologies" has enabled us to establish our current position as a global leader in semiconductor test while further advancing the unparalleled measurement technology that we have amassed over many years. However, in-house technology development is limited by a "knowledge boundary" imposed by an inevitable degree of organizational homogeneity, which makes it difficult to search for new knowledge. M&A and business alliances bring the advantages of being able to start a business in a short period of time by supplying what the acquiring company does not have, and also promote "new combinations" of new and existing knowledge, that is, innovation. As an example, we acquired Verigy, another tester provider, in 2011. Although it operated in the same industry, Verigy was



a treasure trove of knowledge that was new to Advantest at the time, ranging from development, design, quality assurance, production and procurement, to corporate culture, personnel systems, market communications, and beyond. 10 years have passed since then. There is no doubt that the success of MPT1 was supported by many innovations, including products, new systems, new cultures, and more, created from “new combinations” of knowledge. This also gives us confidence that we will achieve our MTP2 goals. In this light, growth investments undertaken during the MTP2 period will also be long-term measures to hone our strength (earning power) and enable Advantest to grow further beyond the 2027 finish line of our Grand Design.

### Further Enhancement of ESG Initiatives

As I mentioned earlier, the driving force of our corporate value is sustainable earning power, which is the ability to grow while doing business that delivers the value society is demanding and I believe this will be enhanced by the further promotion of ESG. In July 2019, we updated “The Advantest Way,” our corporate philosophy system. The Advantest Way sets guidelines for ESG promotion, but in order to connect these guidelines to more practical activities, we added “further enhancement of ESG initiatives” as our fifth strategy under MTP2, announced in July 2021. This newly establishes a basic policy for ESG promotion, stipulates that Executive Management Committee and the Board of Directors will hear reports on the status of ESG promotion and discuss these issues twice a year, and makes clear that “further enhancement of ESG initiatives” is one of the important issues that executives in central management roles should tackle. In addition, to promote ESG within the Advantest Group as a whole, we have formulated our “ESG Action Plan 2021,” [see pages 45-46](#), which provides activity guidelines for the entire Group, as well as for ESG activities that each business group and regional subsidiary can work on.

On that note, I believe that one important element in the further enhancement of ESG is individual employee buy-in. At this point many companies are focusing on ESG and initiatives related to the SDGs, which is well and good, but if we cannot offer convincing answers to employee questions such as “Why is this necessary?” and “How does my work contribute to social sustainability?”, we will just end up nagging employees into going through the motions. Even if a person understands that combating global warming is an urgent issue, or even if he or she knows there are not many female managers in the company, he or she is not going to put much effort into solving those issues if they don’t particularly impact his or her own life and work, or to put it another way, if he or she doesn’t see any value in

it. Again, our story is that growing our core business (from employees’ point of view, this means doing their jobs well) is the driving force for improving corporate value, and that this capacity contributes to society. So first of all, I believe it is management’s responsibility to clearly demonstrate the value of ESG, talk about it often, and proactively hold discussions. To be honest, I think it will take a while until all employees buy into this story. However, I think it is important for management to grow the number of employees who see value in ESG and are “hungry” to solve ESG challenges, even if just one by one, with clear awareness and determination.

### Advantest Leadership Model Improves Teamwork

Advantest operates on a global stage. Since more than 90% of our consolidated sales are made overseas, and the semiconductor industry increasingly disperses design and manufacturing across regional borders, our customers are located all over the world, in Europe, America, Southeast Asia, Taiwan, South Korea, and China. We cannot win business without controlling complex value chains and responding quickly to market changes and geopolitical risks. Team strength is the key to that, on both a global and local level. Of course, improving the skills of individual employees is important, but establishing and instilling a leadership model is essential for achieving solid results as a team. One could liken a team to an orchestra. Depending on the conductor, a piece can be played in a wide variety of ways. While respecting individual diversity, we will strengthen our leadership to produce results. As a part of our corporate philosophy system, The Advantest Way, we started holding “Advantest Leadership Model” workshops in 2021. [see pages 64](#) Approximately 1,200 managers in Japan and overseas are eligible. These workshops are not “employee trainings” to impart knowledge and skills, but rather define “leader”, “manager”, “coach” and “expert” as the four types of skills required for leadership. We have positioned this as a “journey” where leaders seek to discover through their daily work how these skills should be deployed and balanced. There is no one easy answer, of course. However, I am convinced that regularly thinking about these things and taking on challenges as team leaders, without fear of failure, will, in sum, make our global team more powerful.



### Towards the Future Beyond “Tested by Advantest”

Our Grand Design targets a semiconductor test market share of 50% or more by 2027. This means that more than half of all the world’s semiconductors that need to be tested will have been tested with our products and solutions. It is no exaggeration to say that “Tested by Advantest” is a synonym for semiconductor safety and security. That said, we have our roots in measurement technology, and to this day it is our core competence. The semiconductor testing business is just one application of that technology. More and diverse applications for measurement technology exist, and though it may take some time to commercialize them, we are working on developing business opportunities in some of these new areas, including the medical field. We will continue to take on challenges with our eyes on a future that extends beyond “Tested by Advantest.”

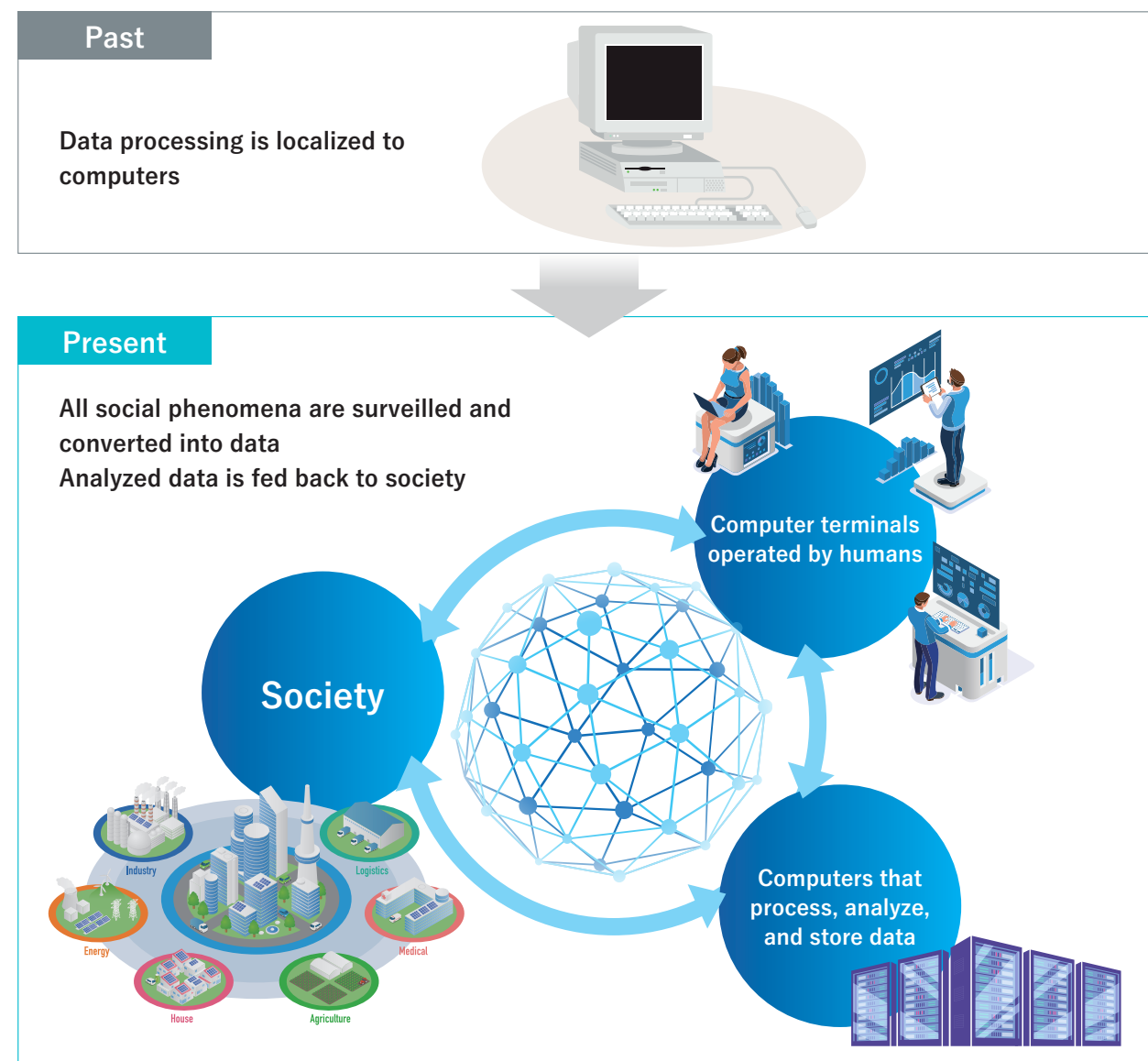
# Mega Trend and Our Market

## The Digital Revolution and the Data Explosion

In the decades since the electronics industry took off in the latter half of the 20th century, many have talked about the “digital revolution,” meaning the dramatic changes wrought upon society by digital technology. However, we believe that the evolution of digital technology over the last few years has accelerated to the point where the “revolution” tag is finally warranted.

At the heart of the present digital revolution is the analysis of big data. The evolution of sensing and networks has made it possible to convert all events affecting society, from road congestion to atmospheric conditions, into data. By collecting vast amounts of data and deeply analyzing it, we

can obtain new knowledge that was hitherto unavailable. People have begun to make major judgements affecting our lives and our industries, ranging from proposed solutions for major issues such as urban problems and climate change to forecasts of product sales and stock prices, based on data, which now occupies a position so important that it could be called the “new oil.” In addition, as a result of Machine-to-Machine exchanges of data without human intervention, the amount of data generated worldwide continues to grow exponentially. This is the “data explosion.”

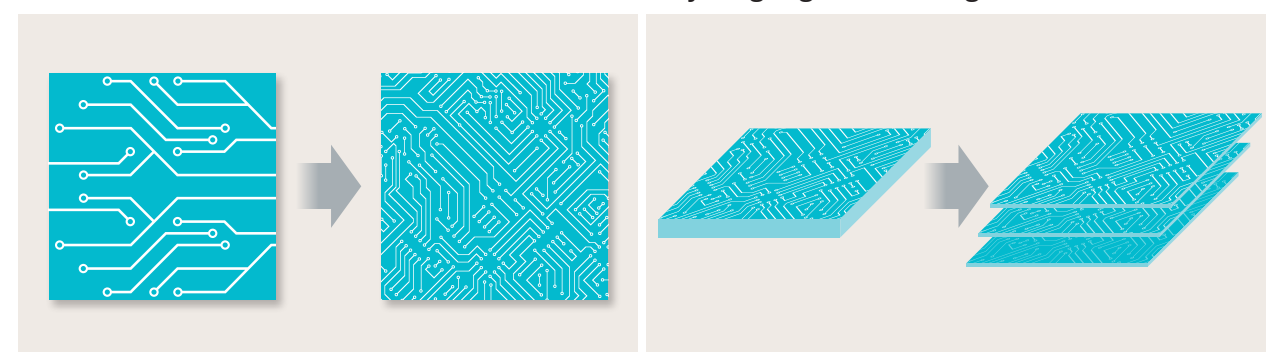


## Semiconductors Are Evolving Into Social Infrastructure

Improvements in semiconductor performance led to the data explosion. Semiconductor and semiconductor production equipment manufacturers constantly strive to develop manufacturing technologies that can integrate more semiconductor components onto each chip. Thanks to the success of EUV (extreme ultraviolet) lithography technology, which enables the drawing of finer circuits, and the evolution of laminate package technology, which enable higher integration of semiconductor devices “stacked” into three-dimensional structures, it is certain that semiconductor performance improvements will continue inexorably.

High-speed, high-precision sensing and conversion into data of real-world events; high-speed calculations; the writing and reading of vast amounts of data; and high-speed communications. These were the necessary conditions for a digital revolution, and it is the evolution of semiconductors which has supplied them. By enabling advanced processing of massive amounts of data, semiconductors are now playing an indispensable role as infrastructure for society.

### Semiconductor circuit miniaturization (left) and 3D layering (right) technologies continue to evolve.



## Opportunities and Risks for Advantest

Test systems that can verify the performance of advanced technologies also contribute to semiconductor evolution. Data obtained from test systems is not only useful for determining the quality of semiconductors, but can also signpost potential improvements in manufacturing processes. By utilizing test data, semiconductor manufacturers can improve manufacturing yields for advanced semiconductors and ramp up volume production quickly. The current situation, in which demand for advanced semiconductors for applications such as 5G communication, AI, and connected vehicles, is expanding at an unprecedented rate, presents enormous business opportunities for Advantest.

Of course, opportunities are always accompanied by risks. The response to the Covid-19 pandemic has boosted demand for semiconductors via the imposition of remote work requirements, but it has also created risks, such as supply chain disruptions and adverse effects on semiconductor

demand owing to macroeconomic decline. In addition, it is still impossible to predict whether and how movements related to geopolitical risks and national economic security policies will affect the semiconductor industry. The dangers of climate change and natural disasters cannot be understated. There are also movements to reframe the traditional values of the market economy, ranging from the backlash against globalization to “stakeholder capitalism.”

In summation, it is important for Advantest to strengthen our information gathering and analysis capabilities and flexibly respond to change while pursuing our vision of “adding customer value in the evolving semiconductor value chain” and implementing our existing growth strategies. In addition, for us and for all companies, ESG initiatives such as supply chain management and corporate governance are now indispensable to sustainable growth.



The Basic Structure of the Semiconductor Tester Market

For many years, the semiconductor tester market has been driven by two main types of opportunity: “technology buys” and “capacity buys.”

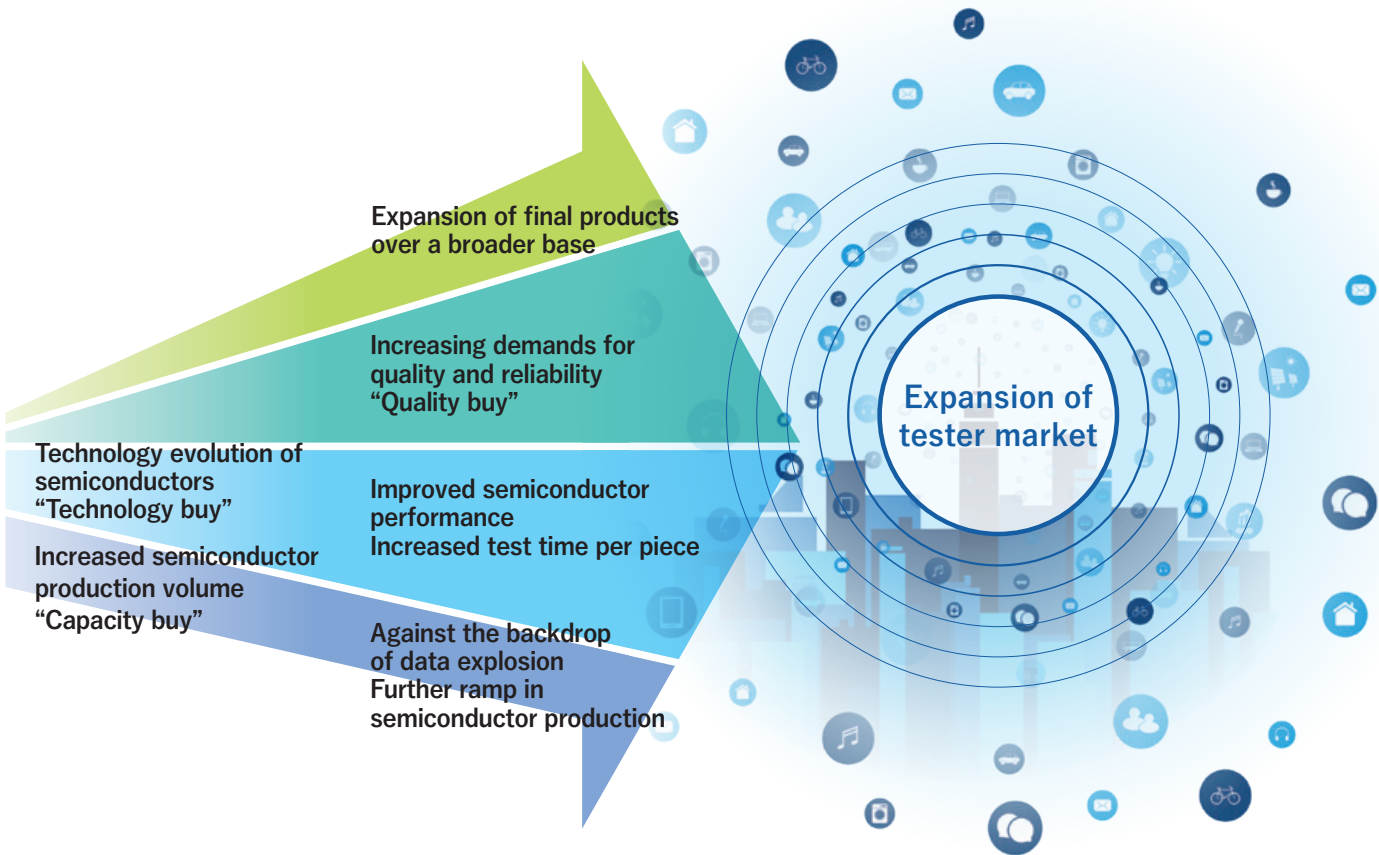
When designing and evaluating their new products, semiconductor manufacturers adopt new testers that support the latest technologies and standards. By using the same test systems from the design stage, volume production can be started smoothly. When evaluations are completed and production lines are set up, testers that support the volume production plan are required. Then, if yield falters and the volumes needed for the target market are not reached, manufacturers add more testers to secure higher production volumes. Tester purchases driven by these technical factors are termed “technology buys.”

After that point, if a new semiconductor succeeds in the market, or if sales of final products that use it increase, greater production of the device will create further demand for testers. Tester purchases driven by the need to increase production are termed “capacity buys.”

The semiconductor market is affected by demand for final products utilizing semiconductors. Additionally, semiconductor testers, which are capital goods, are always subject to larger demand fluctuations than semiconductors, which are consumer goods.

Until the early 2010s, the tester market was a cyclical market linked to semiconductor demand fluctuations, where vendors benefited greatly from technology buys and capacity buys in the growth phase of the cycle, but saw sales crash on the downswing. Cyclicalty was further exacerbated by the fact that there were only a few final products that exerted a great influence on the semiconductor market, such as personal computers and digital domestic appliances.

However, since the late 2010s, the semiconductor tester market has undergone a structural transformation stemming from the digital revolution that itself has been brought about by the evolution of semiconductors. This transformation can be explained in terms of four changes.



The Digital Revolution Has Ushered in Structural Change in the Tester Market

The first change is surging technology buys driven by semiconductor performance evolution. In the past, efforts to increase the integration, complexity, capacity, and speed of semiconductors, and to lower power consumption, were renewed once every few years. However, in recent years, efforts aimed at improving the performance of semiconductors have been broad and continuous, and as a result, the difficulty of designing and manufacturing semiconductors is continuously increasing. Test times and the man-hours needed for test have increased, and the time required for semiconductor test has grown faster than has semiconductor production itself.

The second change is the increase in “capacity buys.” As data now mediates every action and event in the world, and helps people to make decision in many aspect of society, the number of semiconductors installed in each smartphone and automobile is increasing year by year. As a result, semiconductor shipments are no longer dependent on final product supply and demand as they once were. This has encouraged semiconductor manufacturers to continuously invest in expanding their test capabilities, leading to a rise in demand for testers.

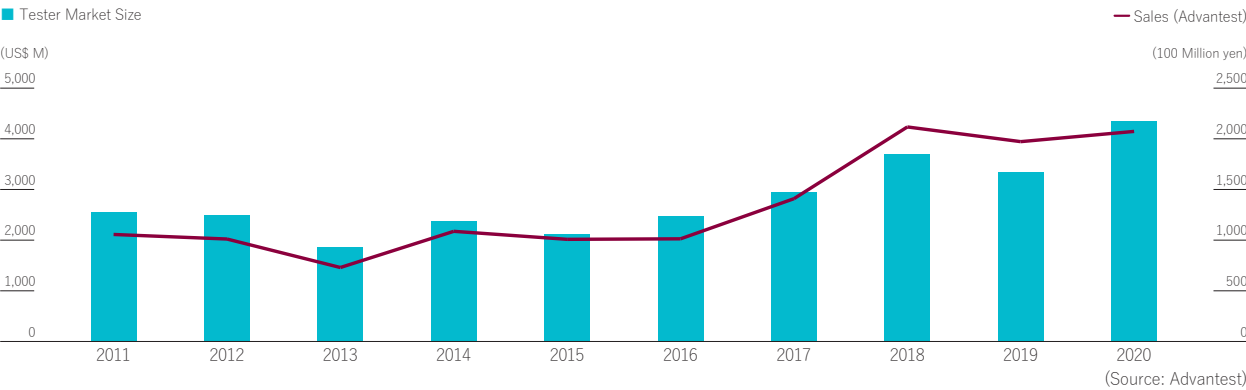
The third change is the appearance of “quality buys” spurred by increasing demands for quality and reliability.

Semiconductors are now rooted in people’s lives and businesses as social infrastructure, so losses and reputational risks due to semiconductor defects can be much larger than in the past. For instance, data in data centers must not be lost or damaged, while defects in automotive semiconductors can cost lives. To ensure higher quality and reliability, with a focus on mission-critical applications, test now has to be even more accurate, forcing more time to be spent on testing.

The fourth change is the expansion and diversification of final products. In addition to smartphones and data centers, semiconductor applications now extend beyond electronics to various fields such as automobiles, factory automation, healthcare and “smart cities.” The structure of the semiconductor test market is becoming more stable than before, with multiple layers and other products able to compensate when demand for any given product stagnates.

These structural changes in the semiconductor tester market are making a positive difference in Advantest’s results. Increased semiconductor production and increased test time per semiconductor lead to increased demand for testers, while diversification of semiconductor demand and continuous technological evolution stabilize our profit base. Going forward, although there will always be some ups and downs due to the investment trends of semiconductor companies and test technology efficiency gains, as long as the digital revolution continues to drive semiconductor performance evolution and application expansion, we anticipate that the semiconductor tester market will continue to grow on a more stable trajectory in the medium to long term.

Test System Market Scale Trends (2011~2020)



Semiconductor Test Contributes to Our Sustainable Future

Semiconductors also play a role in solving various social issues. They are powering many social innovations such as remote learning, telemedicine, monitoring of cultivated land and farms, smart housing, and smart cities. Through their evolution, semiconductors also play a very important role in reducing the power consumption of electronic devices and improving the energy efficiency of automobiles

and industrial devices. Semiconductor test not only benefits from the digital revolution, but also directly contributes to humanity’s sustainable future by supporting the evolution of semiconductors. We believe that its role will become even more important going forward.

# Grand Design Update

## Advantest's Basic Management Policy

Our management philosophy is to “enable leading-edge technologies,” and our mission is to contribute to people’s lives through the development of leading-edge technologies. With semiconductors expected to play an increasingly important role as social infrastructure, we will continue to add customer value in the evolving semiconductor value

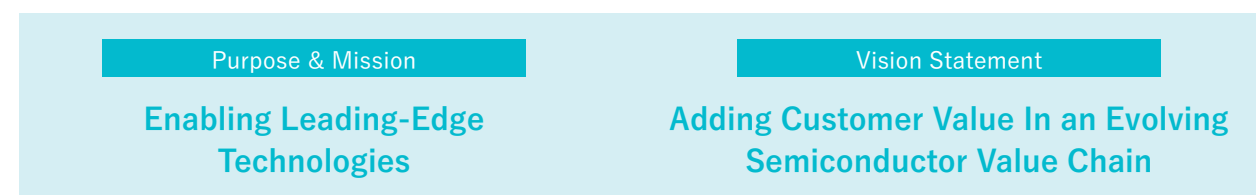
chain. In carrying out that mission, all executives and employees are guided by “The Advantest Way,” and commit to respecting all stakeholders and working for sustainability, while at the same time seeking to ensure the sustainable development of our company and achieve medium- to long-term improvement of corporate value.

## Mid/Long-Term Management Strategy

Our “Grand Design” medium- to long-term management policy (duration: 10 years), formulated in 2018, defines who we want to be as a company and sets forth guidelines for what we should do to continue being a company that embodies our corporate philosophy of “enabling leading-edge technologies.” At the same time, in 2018, we formulated our first three-year plan, the “First Mid-Term Management Plan (FY2018-2020)” (MTP1) for the achievement of our Grand Design goals, and proceeded to implement it.

Based on the fact that we successfully completed MPT1 in FY2020 with results exceeding all management metrics, we have updated our Grand Design and newly formulated our “Second Medium-Term Management Plan (FY2021-2023)” (MTP2). Under MTP2, we aim to make further strides forward to secure our path toward achievement of our Grand Design.

## Grand Design Update (FY2018~FY2027)



### Background to Formulation of the Grand Design

In the past, demand for semiconductor testers was influenced by the trends in the markets for final products such as PCs. The tester market was cyclical, such that semiconductor production volumes expanded and technology advanced in some years, but then test efficiency improved and the demand for testers dropped off again. However, around 2017, against the backdrop of growing and diversifying applications for semiconductors, the shift to semiconductors as social infrastructure, and the digital revolution, the market transitioned into a booming cyclical growth market that is firmly set on a growth trajectory, despite fluctuations in demand. This major change supports our confidence in

Advantest's future growth prospects centered on our core business, the semiconductor tester business.

In addition, past M&As have transformed Advantest into an organization embracing human resources with diverse backgrounds. For all employees to work together to create customer value and improve corporate value under these circumstances, it was necessary to have a common mid- to long-term management axis.

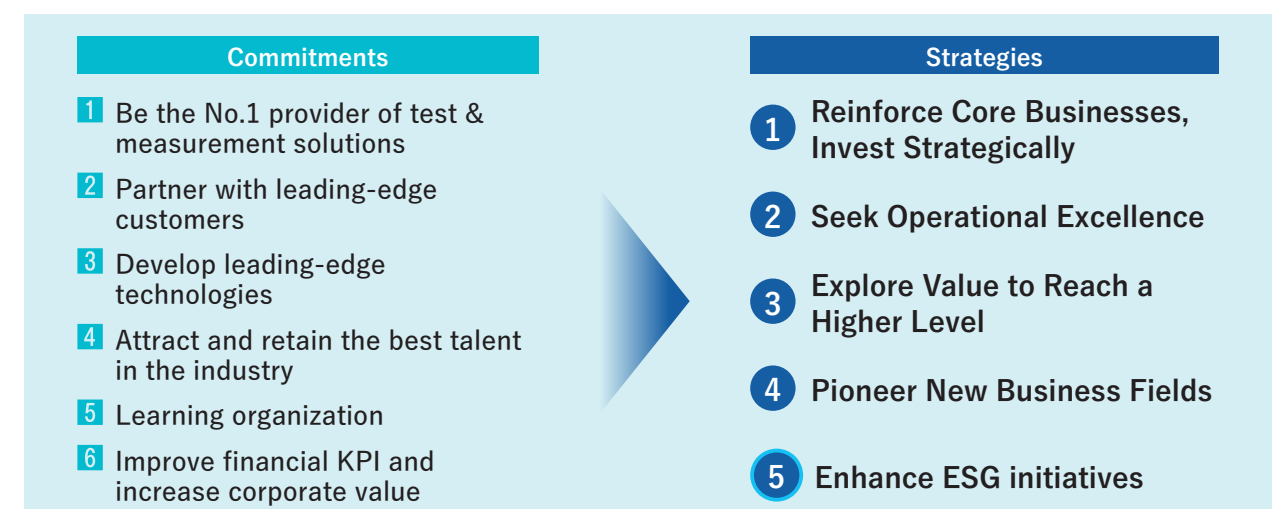
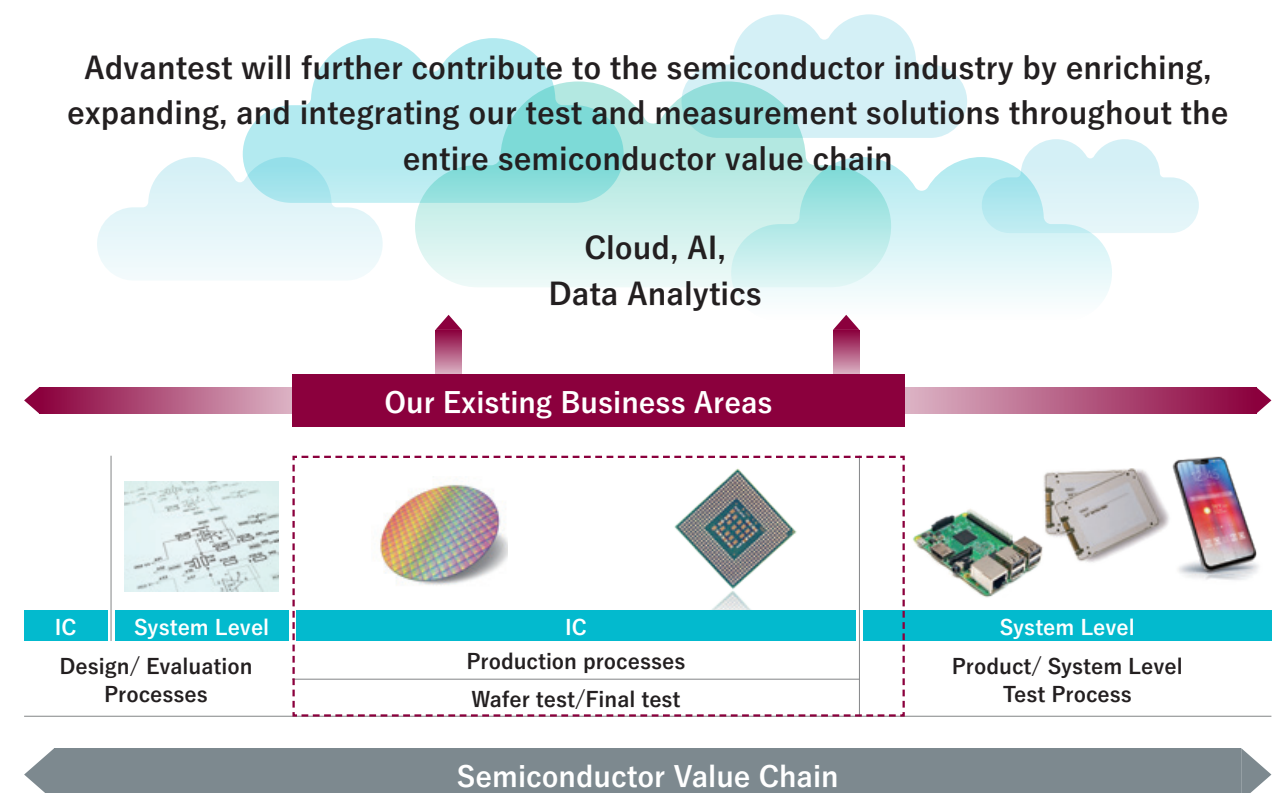
These considerations led us to formulate our Grand Design and Vision Statement as common management goals for employees around the world.

### Strategy

Our vision statement “Adding customer value in an evolving semiconductor value chain” demonstrates our philosophy of providing higher added value to customers and winning their loyalty.

It calls for us to strengthen our core business (the development and sales of semiconductor volume production

test systems) and expand our business domains to related markets such as semiconductor design / evaluation processes and product / system level test processes, which come before and after the semiconductor volume production process, respectively. In this way, we aim to grow our business and enhance corporate value.



Grand Design Updated

Three years have passed since we first announced our Grand Design in April 2018. Together with the formulation of our new mid-term management plan, we also updated our Grand Design in May 2021 to incorporate up-to-the-minute environmental awareness.

1 Numerical Targets Updated

Previously, we had set our ultimate Grand Design goal at annual sales of ¥300 to ¥400 billion, but we have raised this target to ¥400 billion in response to reaching the lower limit of the range (¥300 billion) in FY2020. In addition, whereas we originally planned to achieve this goal in 2027, we now aim for it to be achieved earlier, depending on our business performance and future outlook.

We have also revised our market share target upward to 50% or more, because the former target of 46% was achieved early under MTP1.

|                           | FY2017 Actual          | MTP1<br>FY2018-20<br>Tester market CAGR: 9%<br>(vsCY17) | Grand Design Goal<br>FY2027 or earlier |
|---------------------------|------------------------|---|--|
| Tester Market             | Approx.\$ 3.0B<br>CY17 | Approx.\$ 3.8B<br>(CY basis, 3-year Avg.)               | > \$5.0B                               |
| Advantest Share           | 36%<br>CY2017          | 50%<br>(CY basis, 3-year Avg.)                          | > 50%                                  |
| Core businesses           | —                      | ¥272.4B   | > ¥340B                                |
| New businesses (e.g. SLT) | —                      | ¥18.0B  | ¥60B                                   |
| Sales                     | ¥207.2B                | ¥290.4B   | >¥400B                                 |

(1USD=109JPY)

2 Corporate Philosophy (Purpose & Mission) Updated

“Enabling leading-edge technologies” is our corporate philosophy, describing our mission of refining leading-edge technology and contributing to the development of customers and society in general. Even 30 years after formulation, this philosophy is as timely as ever. We hold it as an important starting point for a future in which we will increasingly “grow into” this vital mission.

In recent years, as people have increasingly begun to question the purpose of any given company’s existence, we have posed these questions to ourselves, and as a result reaffirmed that our corporate philosophy is our purpose. We are now calling our corporate philosophy our “Purpose & Mission” to make it clearer what we stand for.

3 “Further Enhancement of ESG Initiatives” Added as a Strategic Issue, in Line with Changes in Society

As a result of reviewing our business environment after completing MTP1, we clearly recognized that we would have to do more to promote ESG in the future, and we added this as a new strategy under MPT2.

During the period of our previous mid-term management plan, latent risks such as US-China trade conflict and the spread of new infectious diseases materialized, while uncertainty increased. In addition, public awareness of concerns relating to sustainability, such as climate change, human rights, and resource depletion, has reached new heights.

Through our ESG initiatives, we will keep our antennae tuned to social demands, and discuss management guidelines for various scenarios to hone our ability to respond to them (information gathering ability, analytical ability, adaptability to change), and improve our ability to respond to opportunities and risks alike.

Through our business activities, we will contribute to solving social issues and bringing about a sustainable future for humanity, and at the same time, we will aim for sustainable management of our own company.

First Mid-Term Management Plan (duration: 3years)  
〔MTP1, FY2018~FY2020〕 Summary

Management Metrics & Actual Results

|                  | MTP1 Numerical Targets                      |                                     | MTP1 Results         |
|------------------|---|-------------------------------------|----------------------|
|                  | Targets (FY2018-20 Average)<br>Conservative | Targets (FY2018-20 Average)<br>Base | FY2018-20<br>Average |
| Sales            | ¥230.0B                                     | ¥250.0B                             | ¥290.4B              |
| Operating Margin | 15%   | 17%                                 | 22.3%                |
| ROE              | 15%   | 18%                                 | 29.1%                |
| EPS              | ¥135  | ¥170                                | ¥309                 |

At the time of formulating MTP1, we recognized that our numerical targets for the conservative and base scenarios were ambitious targets compared to our actual results from FY2015 to FY2017, and we thought it would be hard to achieve them.

However, in the event, business results far exceeded all management metrics.

This clearly demonstrates that not only the external factor of semiconductor tester market expansion, but also our company-wide efforts to achieve our Grand Design goals, contributed to results.

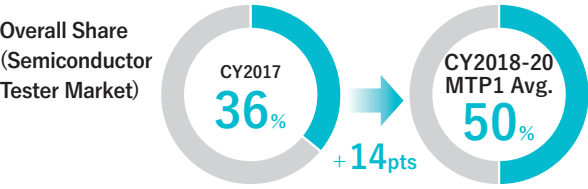
We analyzed the factors supporting our achievement of our MTP1 goals, and have identified the following three key factors.

Contributing Factor 1: Accurately calibrated efforts during an expansion phase in the tester market

As the semiconductor market grew, Advantest’s strengths, including our broad product portfolio and customer base, comprehensive solutions including peripheral devices, and global support capabilities, worked to our advantage, leading to an increase in market share.

During the MTP1 period, SoC tester demand grew strongly across various semiconductor device types and regions, led by 4G / 5G smartphone demand. This, as well as having continuously grown our customer base and expanded our range of solutions to meet diverse needs contributed to the growth of our market share.

In the memory tester market, we were able to maintain the high market share we have enjoyed for many years by leveraging our broad customer base and the versatility of our solutions.



Contributing Factor 2: Progress in expansion of business domains

In line with the vision of our Grand Design, we executed two M&As and one capital and business alliance during the MTP1 period, aiming to expand our business domains to adjacent fields.

The two M&As conducted in the SLT sector contributed significantly to business performance at an earlier date than expected, due to growing demand for high-performance semiconductors.

Only about half of the ¥100 billion fund earmarked for strategic investments under MPT1 was utilized, but results were greater than expected.

Contributing Factor 3: Non-financial initiatives during MTP1 period

To achieve our Grand Design goals, we made sweeping changes to “The Advantest Way”, which guides our business activities, to focus on fostering a corporate culture and human resources optimized for global operations, which gives all Advantest Group employees around the world common goals to work towards.

In terms of ESG, we promoted measures such as greater diversity of directors, further globalization of our executive corps, support for TCFD, participation in the Global Compact, and workstyle reforms.

These efforts supported our success in maintaining the quality of our business globally in terms of, for instance, keeping up with rapidly expanding product demand and enhancing customer support in the face of major changes in the environment occasioned by the Covid-19 pandemic, and contributed to our achievement of all MTP1 targets.



# Mid-Term Management Plan

## Second Mid-Term Management Plan(duration: 3years) 〔MTP2, FY2021~FY2023〕 Summary

Under MTP2, as a step towards the final goal of our Grand Design, we are targeting annual sales of ¥400 billion by focusing on the following two axes of business expansion to strengthen our earnings base over the medium to long term:

- (1) Reinforce our core semiconductor tester business by leveraging our strengths
- (2) Expand our business into new business domains—a medium- to long-term theme

To achieve our Grand Design goals, we have set strategic investment limits of ¥100 billion for M&A and ¥40 billion for capex during the MPT2 period, continuing our policy of

aggressive growth investments. In addition, while maintaining financial soundness, we will allocate newly generated cash flow to growth investments and shareholder returns to improve capital efficiency and strengthen shareholder returns. We will also enhance our ESG initiatives and improve our ability to adapt to future changes in the environment and to respond to risks and opportunities. We will strive to increase corporate value and strengthen our foundation for sustainable growth.

### MTP2 Priority Measures

#### Strategy 1: Reinforce Core Business, Invest Strategically

We aim to achieve our MTP2 goals by further enhancing our strengths in the semiconductor tester business.

##### Strengthen relationships with industry-leading customers

Continuously deepening our partnerships with customers who lead the industry in technology, and keeping up with the evolution of cutting-edge technology—these things are the source of our competitiveness. Over the years, we have cultivated the industry's best customer base of semiconductor manufacturing companies, including IDMs, fabless companies, foundries, and OSATs, across all regions. We will further strive to accelerate the acquisition of emerging players, including major IT companies that have entered the growing semiconductor market in recent years and promising fabless companies, with the aim of solidifying our mid- to long-term growth base.

##### Launch of competitive new test platforms and growth of linked stock business

Our test systems employ highly scalable platforms with modular architecture, and with this as a base our broad product portfolio can capture semiconductor test demand from every angle. In growth fields such as DRAM, NVM, and HPC, we will continue to provide solutions in step with the evolution of semiconductors and further strengthen our position. By launching even more competitive new test platforms one after another, we help our customers to quickly

bring their advanced semiconductors to market (Time to Market) and achieve early yield improvement (Time to Quality). In addition, by steadily expanding our installation base, we will grow recurring business revenue from sources such as maintenance services and device interfaces.

##### Providing comprehensive consulting for test know-how

Due to increasing semiconductor complexity and manufacturing difficulty, customers are focusing more than ever on the time it takes to achieve stable volume production of high-performance semiconductors (Time to Market / Time to Quality).

Being close to the customer, grasping their needs, and providing high-quality test consulting will increase our value as a tester vendor and will differentiate us in the competitive landscape.

In today's globally decentralized semiconductor supply chain, we are expanding our engineering resources globally across all regions so that we can promptly support customer test processes—anywhere.

By providing comprehensive consulting, including for test peripherals such as devices interfaces, we contribute not only to ensuring the reliability of semiconductors, but also to optimizing the entire test process.

#### Strategy 2: Seek Operational Excellence

We will strengthen the infrastructure that supports the business operations of our entire company.



We will continue to invest in R&D from a long-term perspective with an eye on future technology roadmaps, and continue to reinforce our core technologies.



We will reinforce the development and training of our human resources, who are the source of our growth. In addition to improving individual skills, we will promote the development of leaders who can unite teams.



We will strengthen our production system to support our business expansion, and maintain high product quality. We will also maintain our BCP and ensure a stable product supply system.



We will conduct balance sheet management and cash management according to our profit status, raise the level of our business management, and support management stability and flexible strategy execution.

#### Strategy 3: Explore Value to Reach a Higher Level

We will provide integrated test solutions covering processes from semiconductor design verification to system level test.

##### Business Domain Expansion

We will continue to expand our system level test business, which has been growing since the MTP1 period, by expanding its customer base.

##### Quest for New Customer Value

In the data analytics field, we will develop innovative solutions that integrate hardware and software, based on our "AT Cloud solution," through dialogue with customers.

#### Strategy 4: Pioneer New Business Fields

We will apply our measurement technologies to develop new businesses outside the semiconductor value chain with a long-term perspective.

Exploring new ways to provide value in other industries, such as the medical field, will enhance our own sustainability.

By diversifying our businesses, we believe that we can continue to provide value to society through measurement

technology, regardless of what major changes may occur in society or the structure of industry.

#### Strategy 5: Further Enhance ESG Initiatives

Contribute to solving social issues and achieving sustainability through business activities

We will lay the foundation for ongoing reinforcement of Advantest's sustainable growth through corporate governance that provides for the establishment and operation of management and execution systems and succession plans, which also form the basis for our own sustainability.

At the same time, we will strengthen sustainability factors related to human capital, such as respect for human rights and the development and training of human resources, and reinforce our climate change response.

Additionally, we will enhance our ESG activities throughout the company and contribute to the promotion of ESG activities in our supply chain.

By enhancing these ESG initiatives, we will make our own business healthier and stronger, and contribute to safe, secure and comfortable lifestyles for people everywhere as well as to the sustainable future of our world.

\*1 NVM: Non-Volatile Memory  
\*2 HPC: High Performance Computing

Management Metrics

Under MTP2, we will endeavor to position our business for further growth, expand both growth investments and shareholder returns, and strive to increase corporate value. Thus, the management metrics emphasized in MTP2 are sales, operating margin, net income, return on equity attributable to owners of the parent (ROE), and basic earnings per share (EPS). We will seek to achieve numerical targets for each of these metrics as follows: sales of ¥350 to ¥380 billion:

operating margin of 23 to 25%, net income of ¥62 to ¥70 billion, ROE of 20% or more, and EPS of ¥320 to ¥370 on average over the FY2021-FY2023 period. We are using three-year averages to smooth out the effects of single-year performance fluctuations, with the aim of evaluating the progress of the plan from a medium- to long-term perspective.

|                  | Targets of MTP2*1<br>Avg. of FY2021-23 |
|------------------|--|
| Sales            | ¥350-380B                              |
| Operating Margin | 23-25%                                 |
| Net Income       | ¥62-70B                                |
| ROE              | 20% or more                            |
| EPS              | ¥320-370                               |

\*1. FY2021-23 financial targets are based on exchange rate assumptions of 105 yen to the US dollar

Market Environment

As during the MPT1 period, the importance of semiconductors is increasing against the backdrop of the digital revolution, while growing needs for semiconductor performance, complexity, and reliability continue to shape our market. Our business environment is expected to remain positive for the time being.

We expect the CAGR of the MTP2 (CY21-23) tester market to be 7% -8% (3-year average) and the CY21-23 tester market size to be approximately \$ 4.6-4.8B (3-year average). Our market share target is 50% or greater.

|                      | CY2017<br>Actual | MTP1 Actual<br>CY2018-2020<br>(Average) | MTP2 Target<br>CY2021-2023 (Average)        |   |
|----------------------|------------------|---|---|---|
|                      |                  | Tester Market<br>CAGR 9%<br>(vs CY2017) | CAGR 7% Case<br>(vs CY2018-2020<br>Average) | CAGR 8% Case<br>(vs CY2018-2020<br>Average) |
| Tester Market        | Approx. 3.0B     | Approx. 3.8B                            | Approx. 4.6B                                | Approx. 4.8B                                |
| Advantest Share      | 36%              | 50%                                     | > 50%                                       | > 50%                                       |
| SoC Tester Market    | Approx. 2.2B     | Approx. 2.8B                            | Approx. 3.3B                                | Approx. 3.4B                                |
| SoC Tester Share     | 30%              | 47%                                     | > 50%                                       | > 50%                                       |
| Memory Tester Market | Approx. 0.8B     | Approx. 1.0B                            | Approx. 1.3B                                | Approx. 1.4B                                |
| Memory Tester Share  | 57%              | 57%                                     | 60%   | 60%   |

(in USD)

Focus Points by Segment



\*1 OEE: Overall Equipment Effectiveness

## The Need for SoC Test is Expanding in Multiple Dimensions

Senior Executive Officer  
Executive Vice President, 93000 Business Unit, ATE Business Group

### Juergen Serrer

The semiconductor industry is fueled by the digital transformation, 5G, AI/HPC, autonomous drive, ... a mobile, secured and connected society.

Devices become complex systems and need to be designed at an accelerating speed and to be tested as complete HW-SW system. New failure mechanisms appear due to new process and 3D packaging technologies.

Test must expand to much earlier in the semiconductor lifecycle, cooperating with EDA for fast design cycles but also to system-level verification.

The test content of digital devices continues to grow driven by structural tests and must be complemented by ATE-based system-test – also driven by emerging 3D/chiplets. Furthermore, the power and thermal environment needs to be managed.

In RF devices the combination of more band, modes and concurrent transmission drives the complexity to be tested.

Quality demands drive up the test coverage. Test results need to be analyzed for fast yield and design learning.

The EXA Scale generation, our latest expansion of the 93000 SoC platform, deploys a test-processor ASIC, which includes innovations for throughput, result processing and yield learning. All processing elements are connected via a proprietary high-bandwidth backplane for data intensive application.



(Figure2: TAKA test processor)

Our power instruments lead in density and offer multi-functional capabilities needed for advanced application like battery management.

Test data is processed on multiple levels – at the instrument, at the test-cell but also on the edge to the cloud - shared over our Advantest Cloud and enabled by AI technology.

We partner to offer complete test-cells, addressing economics challenges improving OEE and COT.

All the innovations are and will be done in a compatible way to ensure lasting ROA for our customers. This will allow re-use and leverage of previous investment.

All the above will fuel the demand for our 93000 SoC platforms and Advantest is and will continue to expand test in multiple dimensions.

- \*1 HSIO-SCAN: High Speed Input/Output Scan (An efficient test method utilizing high-speed serial interface)
- \*2 SCAN-fabrics: (A network structure that efficiently handles test data)
- \*3 DFT: Design for Test
- \*4 EDA: Electronic Design Automation
- \*5 DPS: Device Power Supply
- \*6 COT: Cost of Test
- \*7 ROA: Return on Assets

Our digital instrument covers the broadest application range from MCU to up HPC. It's unique features enable emerging DFT innovations like HSIO-SCAN and SCAN-fabrics.

EXA Scale enables new test methodologies like ATE-based system-test and DFT innovations. This is done in cooperation with EDA to ensure effectiveness.

Our DPS instruments use patented digital-control-loops offering superior load regulation for yield enhancement and protects expensive probe cards.

Our RF instruments have a RF-sub-system per channel and local processing providing superior CoT and unique coverage of 5G and Wifi on a single instrument.

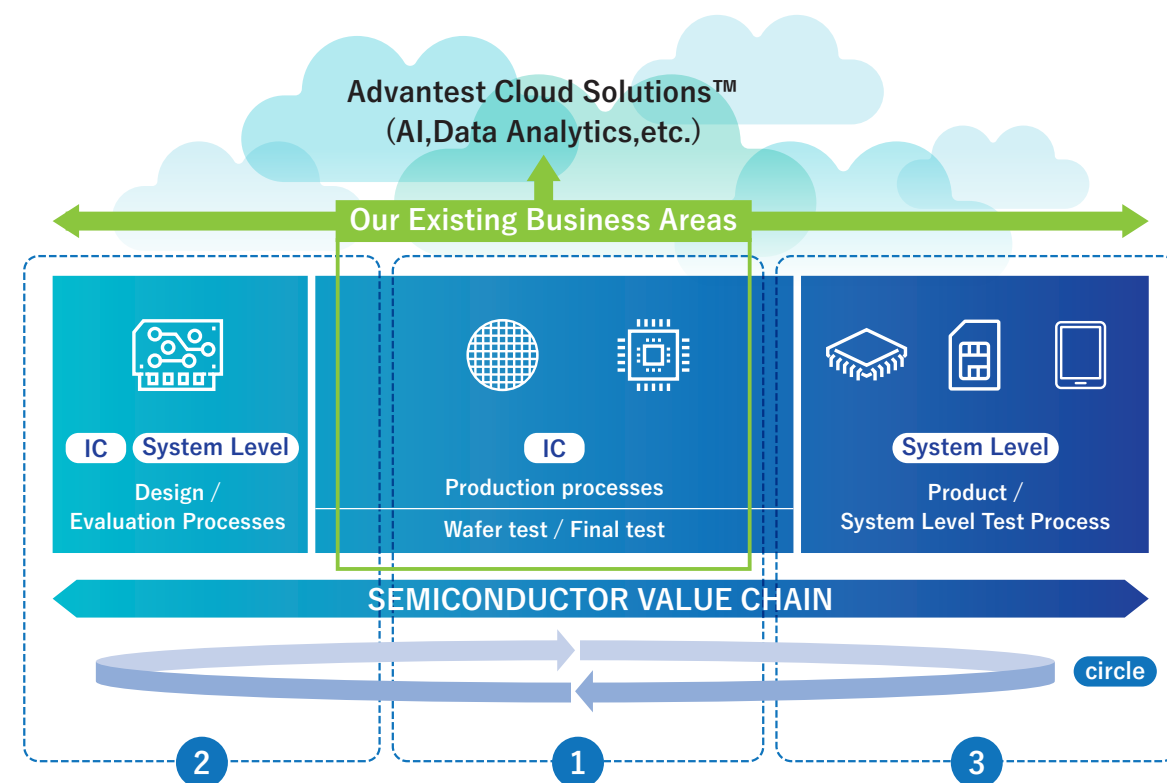


Figure 1: Broadening Coverage of Tests



## CFO Message



Director, Senior  
Executive Officer (CFO)

Atsushi Fujita

### Advantest's Policy on Capital Allocation Going Forward

Regarding how we plan to use cash, the operating cash flow generated during the period of the mid-term management plan starting in 2021 is expected to be ¥220 billion. Adding to that the ¥70 billion held in cash deposits at the beginning of the period in surplus to our minimum cash holding level, we have a total of ¥290 billion as our source of growth investments and shareholder returns over the next three years. To break down our growth investment plans, we are considering capital investments of ¥40 billion and an investment limit of ¥100 billion for M&A, etc., over the next three years, leaving ¥150 billion which we intend to return to shareholders. Regarding the balance between growth investment and shareholder returns, we are considering giving top priority to growth investments. We have set guidelines for growth investment and shareholder returns, but if projects appear that we believe will lead to business expansion, we may reduce the amount of shareholder returns below ¥150 billion by actively spending money on them. Conversely, if promising investment projects do not appear and growth investment costs less than ¥140 billion, shareholder returns

**When cash is derived from a favorable business environment, we will appropriately utilize and allocate it to shareholder for growth**

In May, we announced our new mid-term management plan running from FY2021 to FY2023. Under this plan, we have substantially revised our management indicators related to profit and loss compared to the previous mid-term management plan, and also clarified our plans for strengthening shareholder returns and how to use the cash flow generated. I would like to explain the background to these efforts.

may exceed ¥150 billion. In other words, although we have certain guidelines for growth investment and shareholder returns, we take a fundamentally flexible stance. In addition, depending on the amount of investment projects and the status of funds held at the time of investment, we may continue to utilize debt so as not to miss growth opportunities. We do not intend to actively raise our debt ratio, as we have set our shareholders' equity ratio at 50% or higher in the interest of financial soundness, but we are not unreasonably committed to debt-free management.

### Shareholder Return Policy

We have changed our shareholder return policy from a dividend payout ratio of 30%, linked to business performance, to a total return ratio\* of 50% or more, which is the sum of dividends and share repurchase. Let me explain the thinking behind this change. Advantest's business performance has been relatively stable for the past few years, but while dividends were increased in line with our dividend rate calculation based on business performance on a semiannual basis—in accordance with our dividend policy before the

### Capital Policy and Capital Allocation

**Allocate cash flow generated to investments and shareholder returns, while maintaining financial soundness, to improve capital efficiency**

#### Operating cash flow outlook

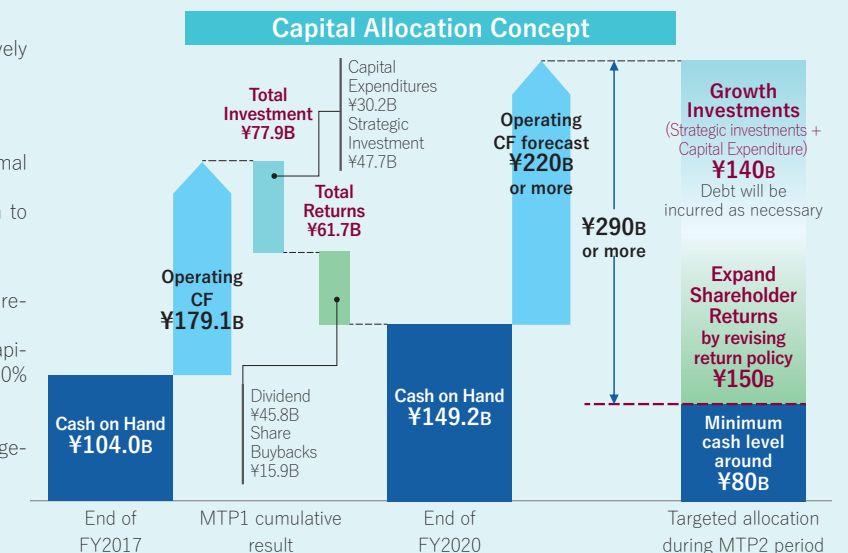
- Expected to exceed ¥220B cumulatively over the next three years (MTP1 result approx. ¥180B)

#### Minimum cash reserves

- Expected to be around ¥80B under normal business conditions
- Consider flexibly returning excess cash to shareholders

#### Balancesheet KPI:

- Foundation for further growth and shareholder returns
- Financial soundness: Seek appropriate capital level with shareholder equity ratio of 50% or more
- Capital efficiency: ROE 20% or more
- ROIC-based business/investment management



### Growth Investments & Shareholder Returns

**While prioritizing active investments, expand shareholder returns**

#### Strategic Investment in M&A, etc.

- Search for good targets with potential synergies in areas that will lead to strengthening our end-to-end test solutions
- Additionally, execute initiatives in line with mid/long-term strategy such as ramping up new businesses

#### Capital Expenditures

- Mainly for improving development & production capabilities and work efficiency to strengthen growth foundation, as well as employee engagement

#### Revised Shareholder Return Policy

- Our dividend payout model shall be revised from the performance-linked semi-annual dividend payout ratio of 30% to a minimum amount of ¥50 per share semi-annually and ¥100 per share annually, with the goal of ensuring stable and continuous dividends
- Our target is a total annual return ratio\* of 50% or more, including share buybacks. (However, there is a possibility that we may not be able to disburse the targeted level of shareholder returns due to the occurrence of investment growth opportunities that require more funds than expected, and / or the deterioration of business performance due to changes in our market environment.)



|                                | FY2018-20 Result | FY2021-23 Investment Targets |
|--------------------------------|------------------|------------------------------|
| Strategic Investments e.g. M&A | ¥47.7B           | ¥100B                        |
| Capital Expenditure            | ¥30.2B           | ¥40B                         |

|   | FY2018-20 | FY2021-23 (estimate) |
|---|-----------|----------------------|
| Shareholder Returns (Dividend + Share buybacks) | ¥61.7B    | ¥150B or more        |

\*Total return ratio: (Dividend amount + Share buybacks)/consolidated net income

change—dividend amounts were unstable, including some reductions in comparison to the previous period or the same period in the previous fiscal year. Our new policy ensures a minimum dividend amount of 50 yen as an interim dividend and 100 yen as an annual dividend, with the primary goal of eliminating dividend instability, i.e. ensuring stable payouts that will not decrease.

\*Total return ratio: (dividend amount + share repurchase) ÷ consolidated net income

Previously, we returned about 30% of net income to shareholders and flexibly acquired treasury stock when we had the opportunity. With this change in our shareholder return policy, we will return more than 50% including share repurchase, and we are considering more aggressive acquisitions of treasury stock. Unlike dividends, share repurchase does not directly deliver money to shareholders, but the expectation of a positive effect on stock prices by reducing the supply of shares on the market will benefit long-term shareholders. In July, we announced that we would acquire

treasury stock worth up to ¥70 billion (10 million shares) from August to March 2022. This was planned and is being implemented in consideration of the balance between capital efficiency and the effect on shareholder returns mentioned above, while taking into consideration Advantest's business performance and cash on hand for the current fiscal year. In addition, in the past, we used acquired treasury stock in our stock-based compensation system for executives and employees, or paid it out when convertible bonds with stock acquisition rights were exercised, resulting in the return of the acquired shares to the market. This time, we are considering canceling the acquired treasury stock as a measure to strengthen shareholder returns.

Minimum Cash Holding Level Policy

We are planning to shorten our cash conversion cycle compared to our previous mid-term management plan, but expenses incurred are expected to increase. We have calculated our minimum cash holding level based on a certain amount of expenses other than expenses such as capital investment, in addition to expenses that do not involve cash expenditure, such as depreciation and stock compensation, which must be financially supported during the period from materials purchase to collection of revenue from customers. Under this mid-term management plan, we believe that cash and deposits held as working capital will be about ¥80 billion. Under the previous medium-term management

plan, it was ¥50-60 billion, so this is a significant increase. The background to the increase is that due to further business expansion, we anticipate increases in hiring and capital investment, as well as increases in dividends and tax payments, depending on timing. Regarding hiring, our employee headcount increased by about 800 in the last three years, although this included new personnel brought in through M&A. Capital investment is also expected to increase further under the new mid-term management plan. Regarding taxes, we had a long-term loss carryforward due to losses that occurred in the past, which suppressed our tax payments somewhat, but the balance of the loss carryforward was consumed at the end of FY2020, so our tax burden and hence tax payments will increase from FY2021.

Capital Balance Policy

A larger capital balance is better from the viewpoint of safety. However, since Advantest's goals include efficient management and a ROE over 20%, we are careful not to accumulate too much capital. However, maintaining financial soundness is a top priority. We also emphasize metrics such as reliability evaluations from customers, that is, whether we are a partner that companies can rely on to support their business, in addition to financial numbers such as D / E ratio. In the past, we have experienced significant decreases in equity capital due to impairment of inventories and long-term assets, or the reversal of deferred tax assets due to the rapid deterioration

of our business environment. We therefore retain a level of capital that will not lead to insolvency in the unlikely event of an economic crisis that requires us to recognize several adverse events at the same time. Since the level of damage in these cases varies from asset to asset, a different amount of stress is applied to each asset category, and even, in a worst-case scenario, they were all to occur at the same time, we have made sure that we hold the minimum capital required, taking into account fluctuations on the asset side, to secure a certain capital balance in that event. Of course, we understand that ROE would be maximized by minimizing our capital balance, but in a growth phase like we are in at present, we also need to increase our invested capital. Some recommend covering those needs with debt, but we think that excessive leverage causes problems in terms of impairment. On the other hand, we believe that too much capital is also a problem. Thus, we aim for an optimal balance by, for example, adjusting our capital balance by reducing cash and deposits with a low return rate through shareholder returns with the goal of maintaining financial soundness and hitting our ROE targets.

Mid-Term Management Plan  
P/L Model Policy

Our previous mid-term management plan presented a profit and loss model with sales of ¥300 billion. In FY2020, we achieved sales of ¥312.8 billion, exceeding ¥300 billion for the first time in Advantest's history. Operating profit margin was 22.6%, which seemed to achieve the 22% set forth in

the profit and loss model, but excluding other income and expenses such as temporary profit from the revision of the pension system at a subsidiary, it was only 20.0%, which was less than the profit and loss model aimed for. This is because we discerned that our business could be expanded further during the mid-term management plan period than originally planned, so we secured personnel and invested in development sooner than originally foreseen. As a result of such upfront investment, we expect average sales of ¥350 to ¥380 billion in the current mid-term management plan period, which greatly exceeds the average sales of ¥290.4 billion over the previous three years. The cost of sales depends on the mix of products sold, so it is somewhat difficult to forecast an improvement such as a 1% reduction every year, but we hope to secure our gross profit margin even in an environment where material costs are expected to rise. Regarding SG&A expenses, although increased hiring imposes a cost burden, we aim to keep the cost ratio down to about the level of FY2020 by increasing sales. The ratio of R&D costs to sales may appear to have declined, but this is due to our growing sales, and our policy is to increase R&D expenditures in absolute terms. Since we always have a long-term growth perspective, we have no intention of easing off on R&D investment. Our results for fiscal 2020 make it look as if operating profit margin has not increased much, but the present mid-term management plan period still keeps us on the road of continuing growth investments, aiming for sales of ¥400 billion. Of course, we will pay attention to cost controls, but we plan to invest with an awareness of growth and profitability from a long-term perspective rather than focusing on single-year operating profit margins.

Cost/Profit Model

Increase profitability on a consistent basis by improving operational efficiency, while maintaining R&D investment as a source of growth

Maintain our high level of R&D investment to date as a driving force for value creation and social contribution, aiming for a cumulative total of approximately ¥150B during Mid-Term Plan 2

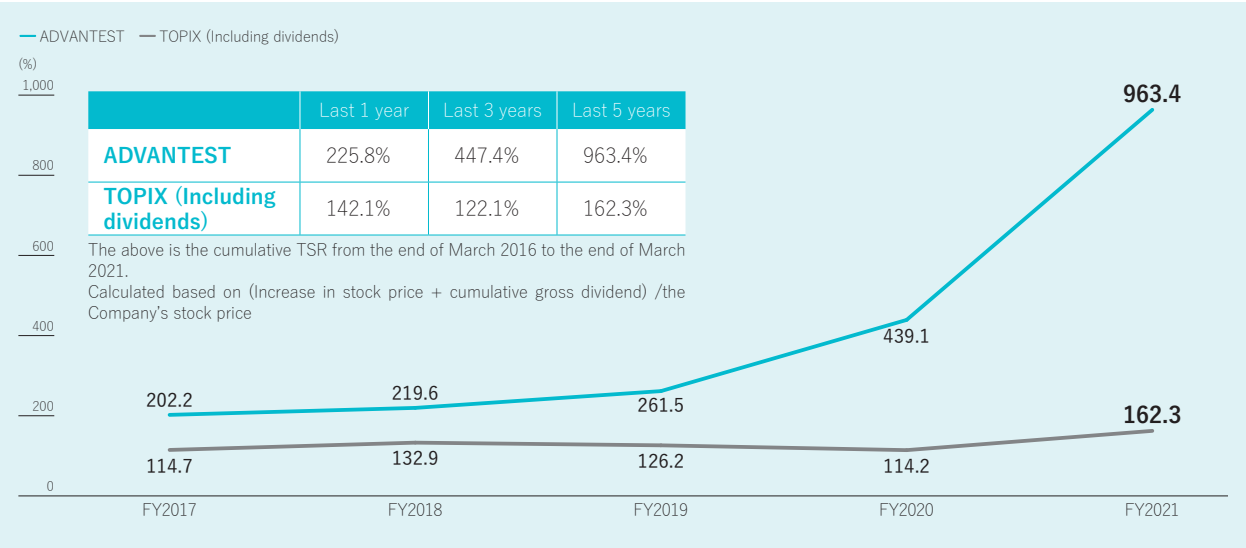
(during Mid-Term Plan 1: approx. ¥120B)

Maintain and improve gross margin by introducing competitive platforms

Suppress the rise of SG&A as % of sales by pursuing operational excellence

|                         | FY2020 result | MTP1<br>(FY2018-20 Avg.) | MTP2<br>(FY2021-23Avg.) |
|-------------------------|---------------|--------------------------|-------------------------|
| Sales                   | ¥312.8B       | ¥290.4B                  | ¥350-380B               |
| Cost of Goods Sold      | 46%           | 45%                      | 45-46%                  |
| SG&A as % of Sales      | 31%           | 33%                      | 30-31%                  |
| (of which R&D expenses) | 14%           | 14%                      | 13%                     |
| OperatingMargin         | 23%           | 22%                      | 23-25%                  |

Total shareholder return (TSR)



## System Level Test and/or new business opportunities that stay close to our core business (ATE)

Senior Executive Officer Chief Strategy Officer

**Douglas Lefever**

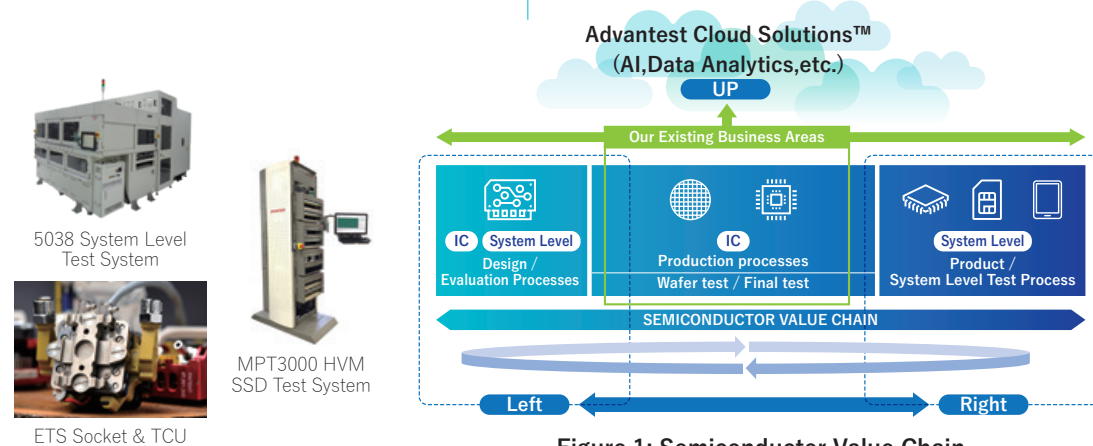


Over the past several years, Advantest has made investments organically as well as through M&A to expand into new business areas that complement our core ATE business. We recognized the need in the industry for additional test solutions to achieve the required test coverage at the right economics, so we have made these investments. The investments begin in focused areas and when we integrate them into the broader Advantest test and measurement portfolio, we are unlocking additional synergistic value. As our customers' semiconductor devices and modules continue to increase in complexity, various combinations of different test insertions and strategies are being employed, and it is Advantest's responsibility to support these different workflows. A high-end IC can have as many as a dozen test insertions from start to finish, and these insertions can change over the life of an IC.

These new Advantest businesses include test platforms for performing system level test (SLT) for high end SoC devices as well as SSD testing for storage drives. Additionally, we have invested in the critical consumable components that interface between these test platforms to a customer's device under test.

These additional test platforms, components, and technologies provide Advantest with important building blocks to adapt to the future needs of our customers. In many cases, customers want to shift as much of their testing earlier (**to the "left"**) to avoid wasting costs on packaging bad parts. This requires innovations at the wafer or die level. In other cases, a last test insertion (**to the "right"**) to guarantee device system performance can require long test times with lots of power, so a massively parallel platform with active thermal control must be adopted. Therefore, depending on the customer and industry needs, Advantest is in the position to provide the best combinations of test solutions.

The next exciting piece to realize will be how test insertions can be linked together through data analytics which we call "going up". Helping our customers to fully utilize the data between their test insertions to make the most efficient use of their test equipment can unlock a great deal of value. This linkage will create additional synergies and new business models for Advantest that leverage our core ATE business together with these new system test businesses.



**Figure 1: Semiconductor Value Chain**