(Securities code: 6728)

# Business Results

## FY2017 (July 2017–June 2018)

**August 09, 2018**

**ULVAC, Inc.**

## Disclaimer regarding forward-looking statements

Forward-looking statements of the company in this presentation are based on information that was available at the time these documents were prepared. ULVAC's customers in the flat-panel display (FPD), semiconductor, and electronic parts industries face challenges due to the rapid pace of technological advances and fierce competition.
There are a number of factors that directly and indirectly impact performance, such as the global economy; fluctuations in exchange rates; market conditions for FPDs, semiconductors, electronic parts, and raw materials; and trends in capital expenditures. Consequently, actual net sales and profits may vary substantially from the projections included in this presentation.

## Data included in the documents are stated as follows:

(All figures are stated on a consolidated basis unless otherwise noted.)

Yen values: Rounded to the nearest 10$^{th}$ of the unit stated.
Percentages: Rounded to the nearest 10$^{th}$ after yen values are rounded.

Abbreviations of accounting periods:

1Q and 2Q (cumulative): First and second quarter consolidated cumulative period
2Q: Second quarter consolidated period

# Overview

- **FY2017**

  **Highest sales ever, record-breaking profits for three consecutive terms**

  **⇨ Achieved profit plan for final year of medium-term business plan**

- **FY2018 forecast**

  **Net sales of ¥255.0 billion, operating profit of ¥36.5 billion**

- **FY2019 (final year of medium-term business plan) revised plan**

  **Net Sales: ¥265.0 billion (+¥15.0 billion)**

  **Operating Profit: ¥38.0 billion (+¥3.0 billion)**

# Overview of FY2017 Consolidated Business Results

# Summary of FY2017 Consolidated Business Results Highlights

- **Highest sales ever, record-breaking profits for three consecutive terms**
- **Orders received: ¥243.0 billion (+3% year-on-year)**
  - Owing to an increase in capital expenditures for memory, orders for semiconductor and electronic parts increased significantly, and orders for components were higher year-on-year.
- **Net Sales: ¥249.3 billion (+8% year-on-year)**
  - Net sales of semiconductors and electronic parts were up year-on-year.
- **Operating Profit: ¥35.4 billion (+20% year-on-year)**
  - Operating profit was up year-on-year, with all profit categories at high levels.
- **Dividends**
  - Dividend (per share): ¥95 (+¥45 year-on-year)

# Summary of FY2017 Consolidated Business Results

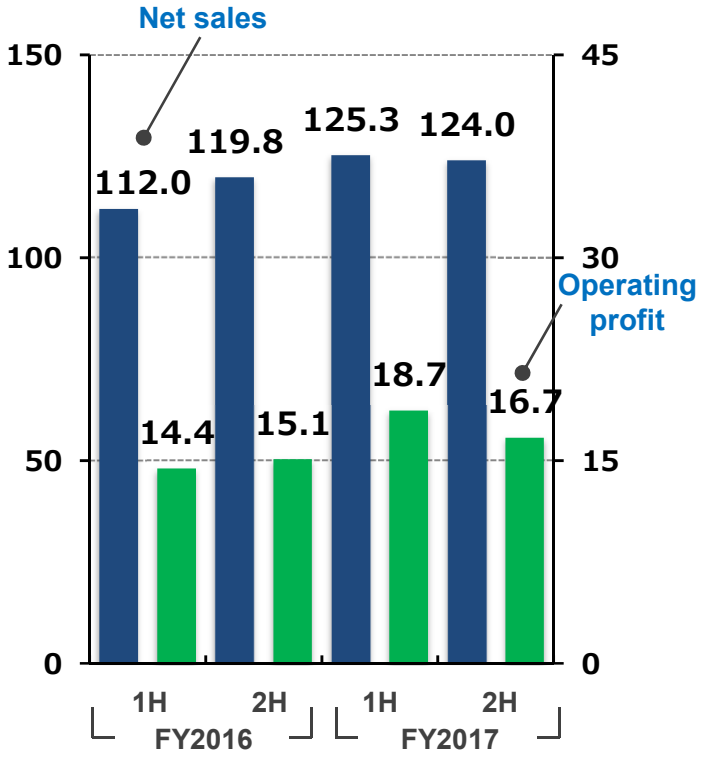
- **Orders received, net sales, and profits were up year-on-year**
- **The operating profit margin also increased 1.5 points year-on-year, owing to semiconductor and electronic parts production equipment etc.**
- **Net profit increased by 47% due to deferred tax assets and gains on sales of stocks**

(Unit: ¥1 billion)

| | June '17 | June '18 | | | Y-o-Y | |
|---|---|---|---|---|---|---|
| | Result | Plan*1 | Revised*2 | Result | (Change) | |
| Orders received | 235.5 | 245.0 | 265.0 | **243.0** | 7.5 | 3.2% |
| Orders back-log | 106.3 | - | - | **100.0** | - | - |
| Net Sales | 231.8 | 239.0 | 250.0 | **249.3** | 17.4 | 7.5% |
| Operating Profit | 29.5 | 31.0 | 35.5 | **35.4** | 5.9 | 20.0% |
| Ratio | 12.7% | 13.0% | 14.2% | **14.2%** | | + 1.5 pt |
| Net Income | 24.5 | 25.5 | 30.5 | **35.9** | 11.4 | 46.7% |
| Ratio | 10.6% | 10.7% | 12.2% | **14.4%** | | + 3.8 pt |

*1: Figures published in August 2017 *2: Figures published in February 2018

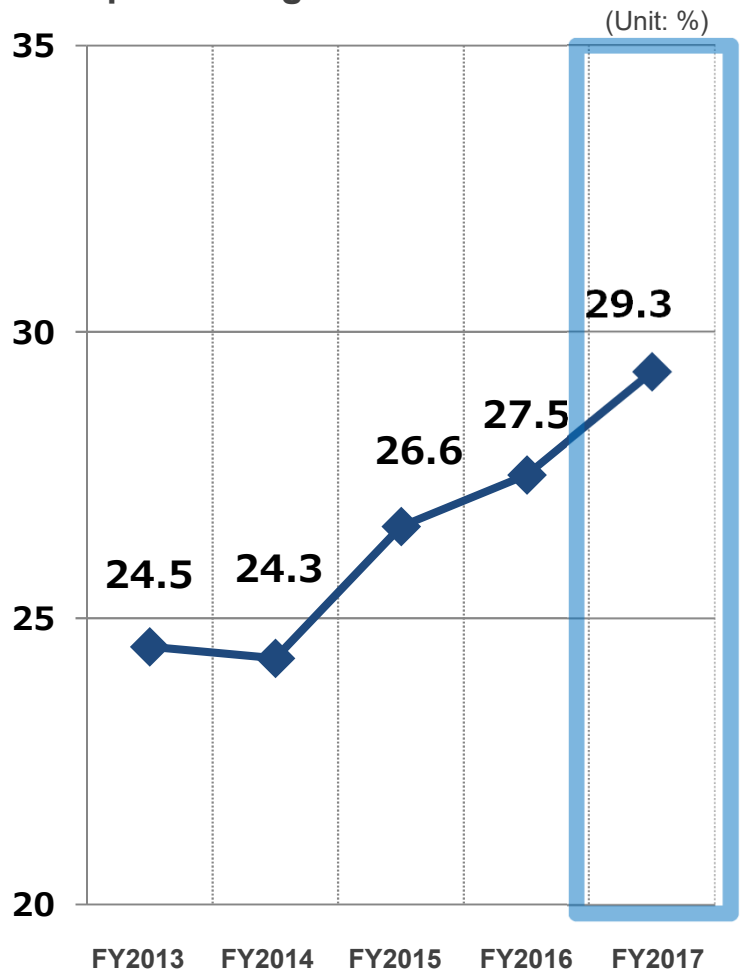
Net sales and operating profits
(by semi-annual period)



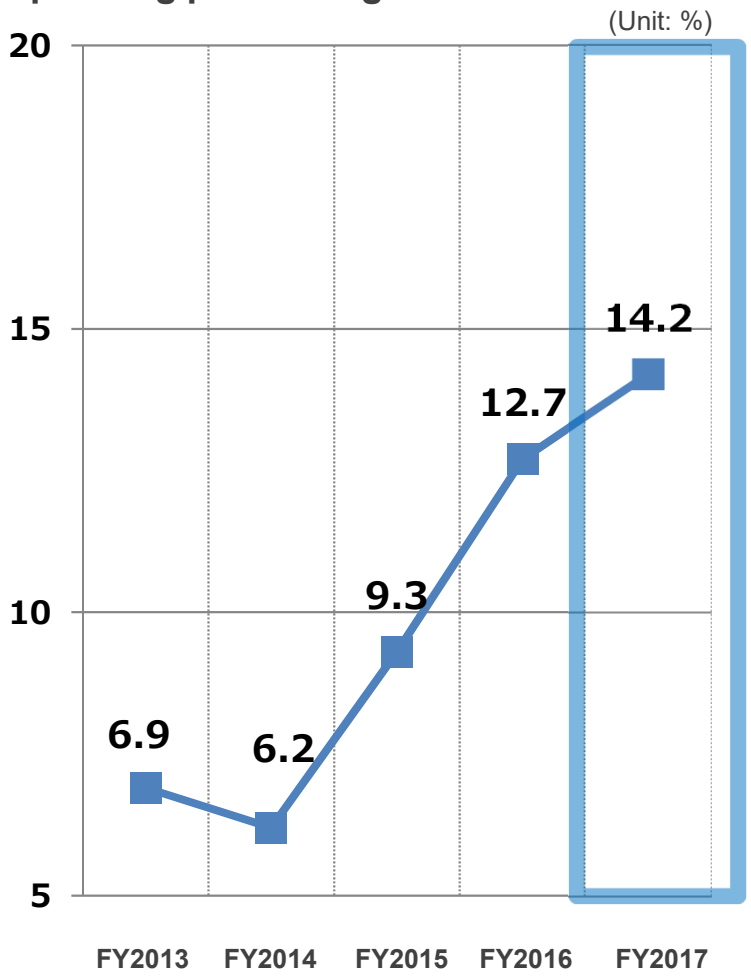
# Summary of FY2017 Consolidated Business Results (Profit Margins)

- **Because of an increase in the weight of semiconductor and electronic parts production equipment, which has high profit margins, both the gross profit margin and operating profit margin rose.**

## Gross profit margin



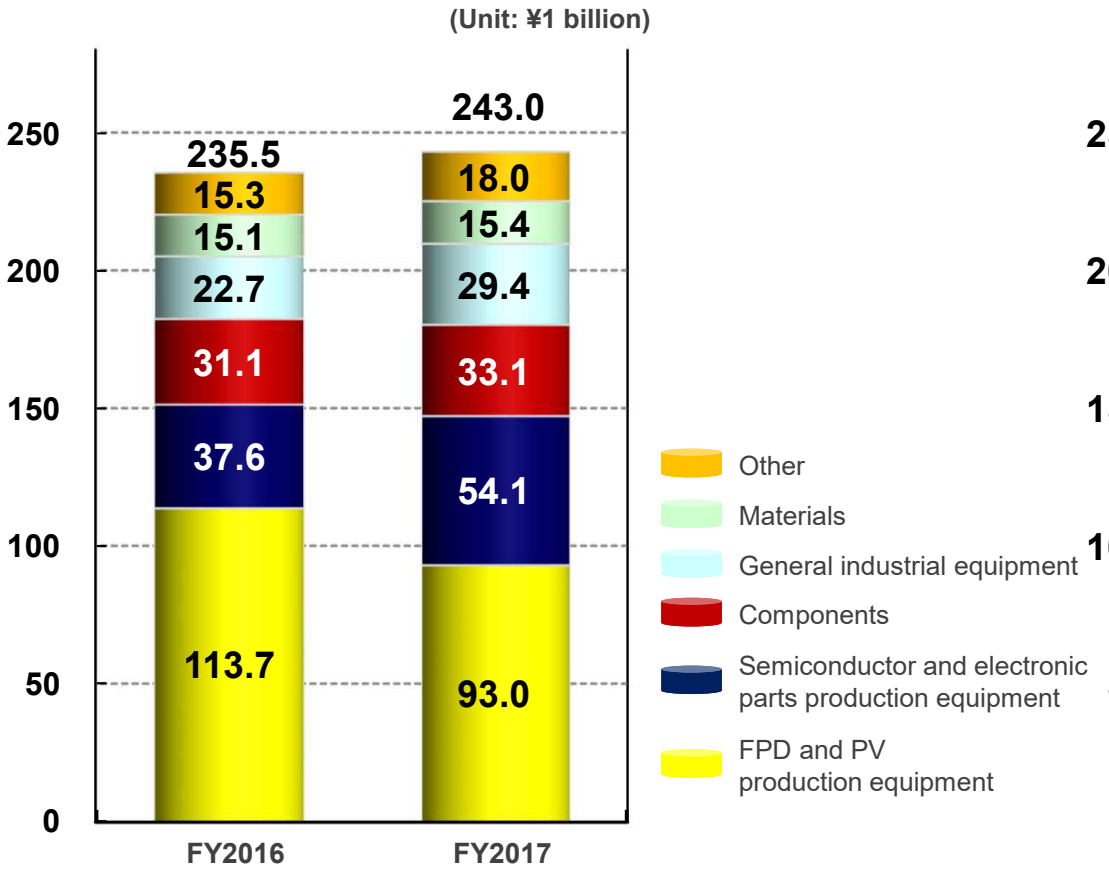

## Operating profit margin



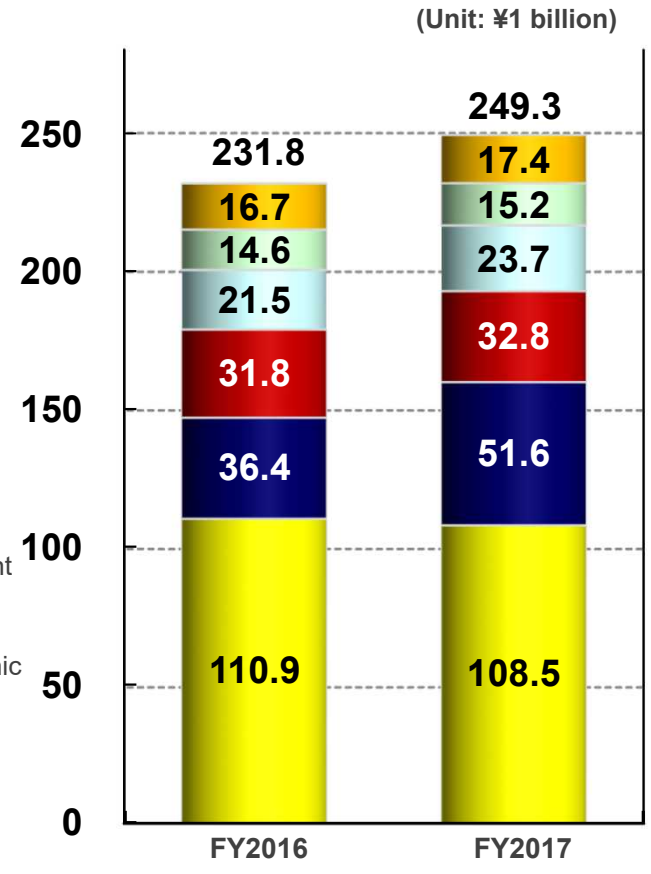
# Summary of FY2017 Consolidated Business Results (Orders Received and Net Sales by Segment)

- **FPD and PV production equipment: Investment in LCDs for large-screen TVs and OLEDs for smart phones, particularly in China, remains high**
- **Semiconductor and electronic parts production equipment: Backed by strong server demand, there was an increase in production equipment for memory (NAND, DRAM, next generation non-volatile memory). Up significantly year-on-year**

## Orders Received

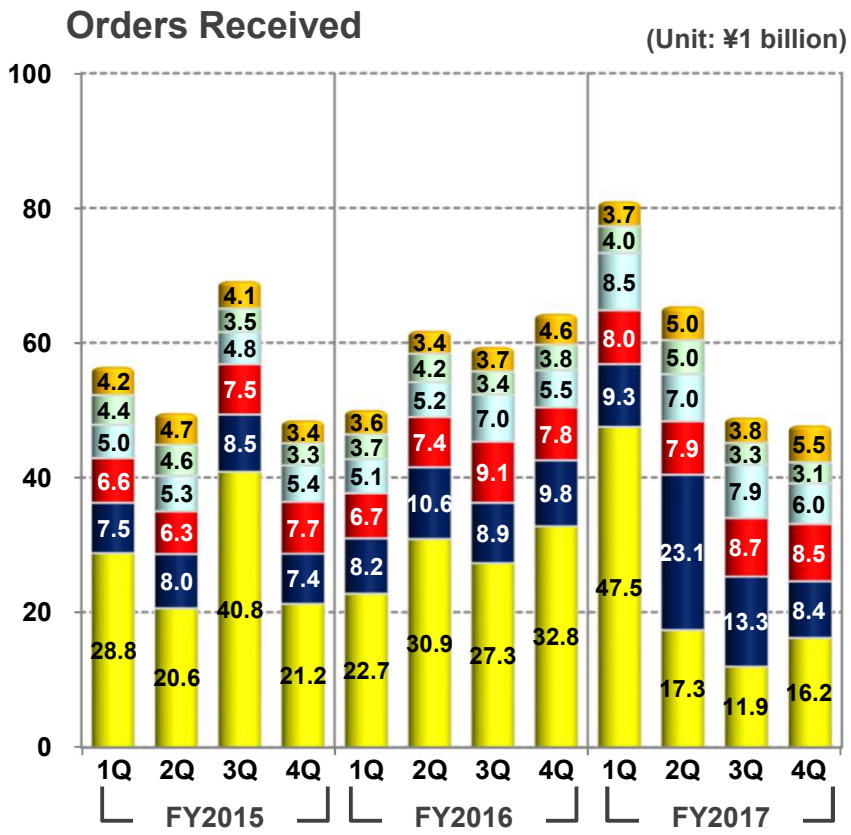


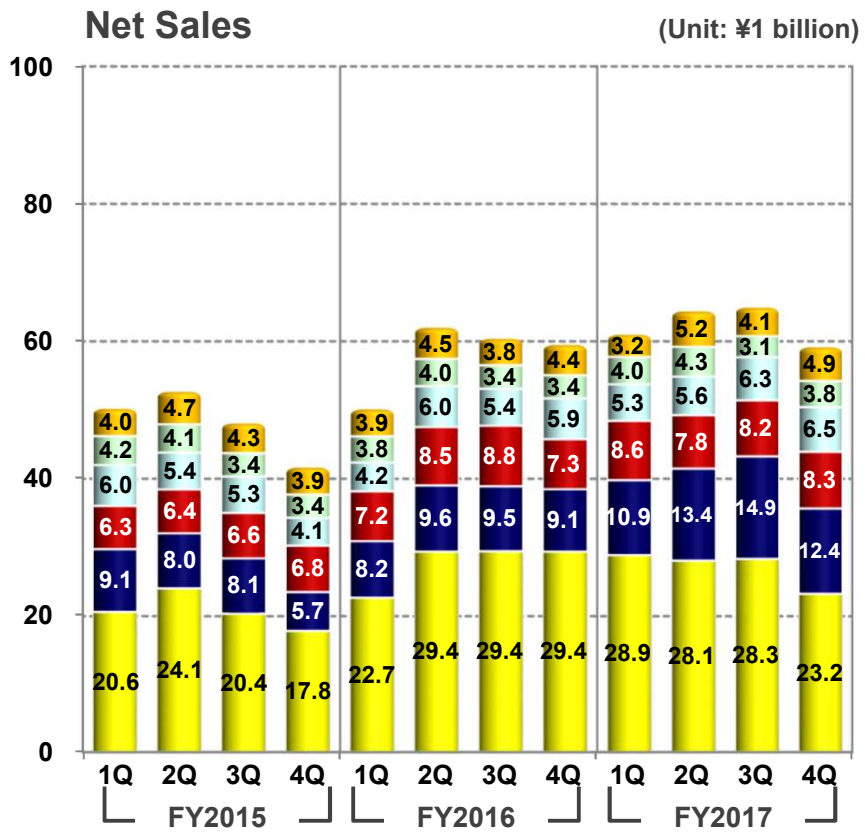

## Net Sales



# Summary of FY2017 Consolidated Business Results (Orders Received and Net Sales by Segment: Quarterly)

- Net sales continued to perform at a high level.
- Orders received: Sales negotiations are expected to be concentrated in the 1Q more than initially planned (1H ¥140.0 billion, 2H ¥105.0 billion).
- Large deals expected in June ended up sliding to the next term, which caused a temporary decline (expected to recover in 1Q of the next term).

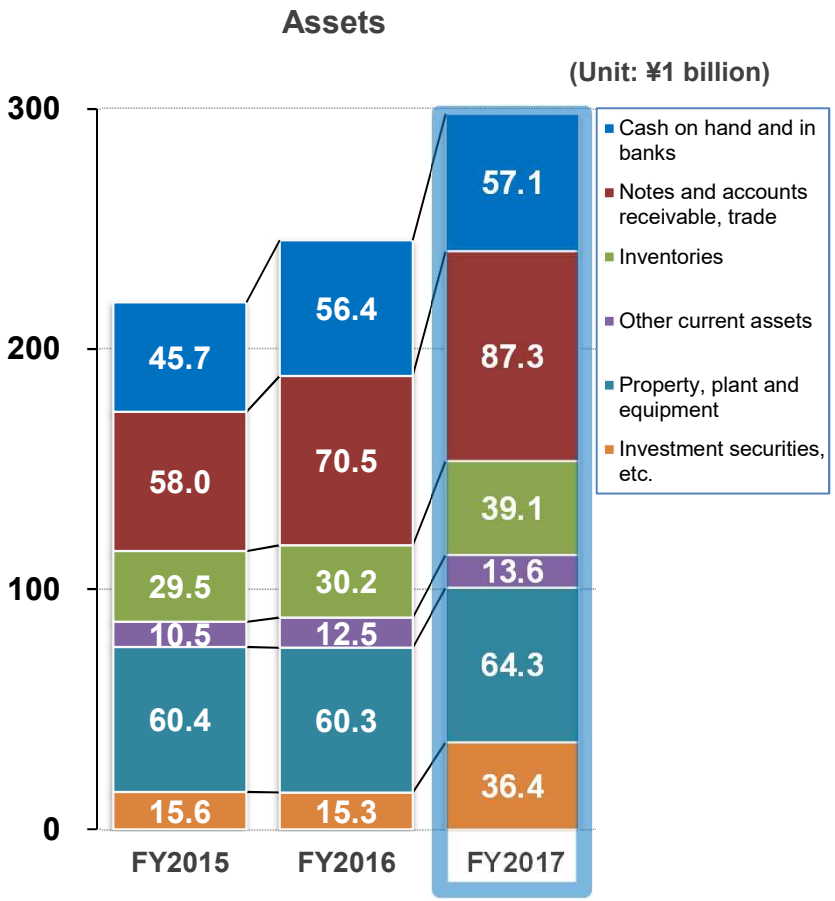


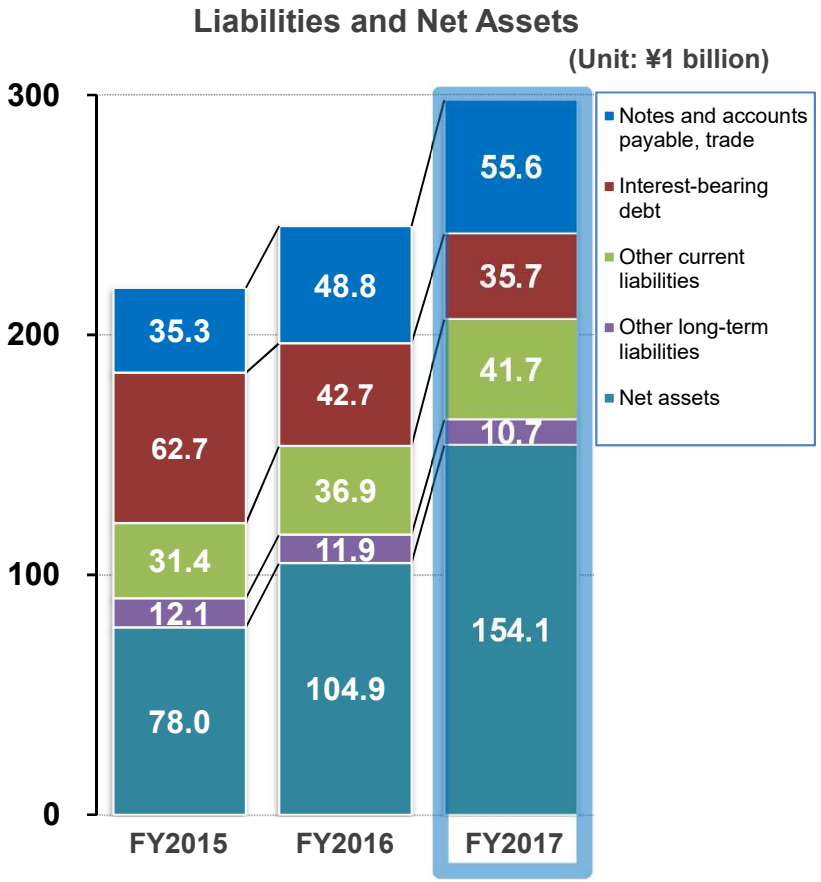




FPD and PV production equipment
Semiconductor and electronic parts production equipment
Components
General industrial equipment
Materials
Other

# Summary of FY2017 Consolidated Business Results (Consolidated Balance Sheet)

- **Total assets increased due to increases in orders received and net sales, but net assets also increased by ¥49.2 billion and the equity ratio improved to 49.5% due to increases in net profit and in the market valuation of investment securities.**
- **Interest-bearing debt decreased by ¥7.0 billion, and net cash improved to ¥21.4 billion.**

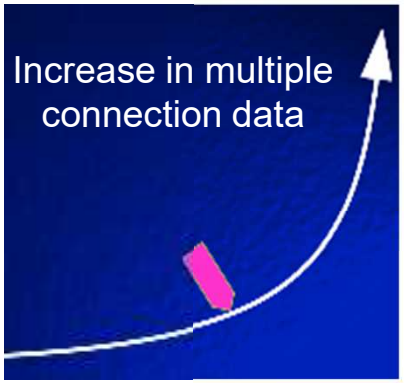


# Review of Medium-Term Plan

# Review of Medium-Term Plan (Business Environment)

**5G accelerates the development of a smart society**
- **Ultra fast x100**
- **Ultra low latency x1/10**
- **Massive connectivity x100**




**Technical innovations required for a smart society**




**Higher capacity servers, high-speed processing, lower energy consumption**

**Devices that are multi-functional, environmentally tolerant, small, low-cost, self-powered, and use new energy**

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# Review of Medium-Term Plan (Business Environment)

## Trends in technical innovations

## Big opportunity seen only once every few decades

High capacity
High-speed processing
Low power consumption

Multifunctional, environmentally tolerant
Small, low cost
Self-powered, new energies

Next generation non-volatile memory NVM

Logic

3D-NAND

DRAM

High frequency devices
Multi-band SAW, BAW

Multifunctional sensors MEMS

Power devices SiC GaN

Base station GaN RF devices

High-precision displays, flexible OLEDs

High efficiency solar cells

Communication infrastructure Fiber-optic waveguides

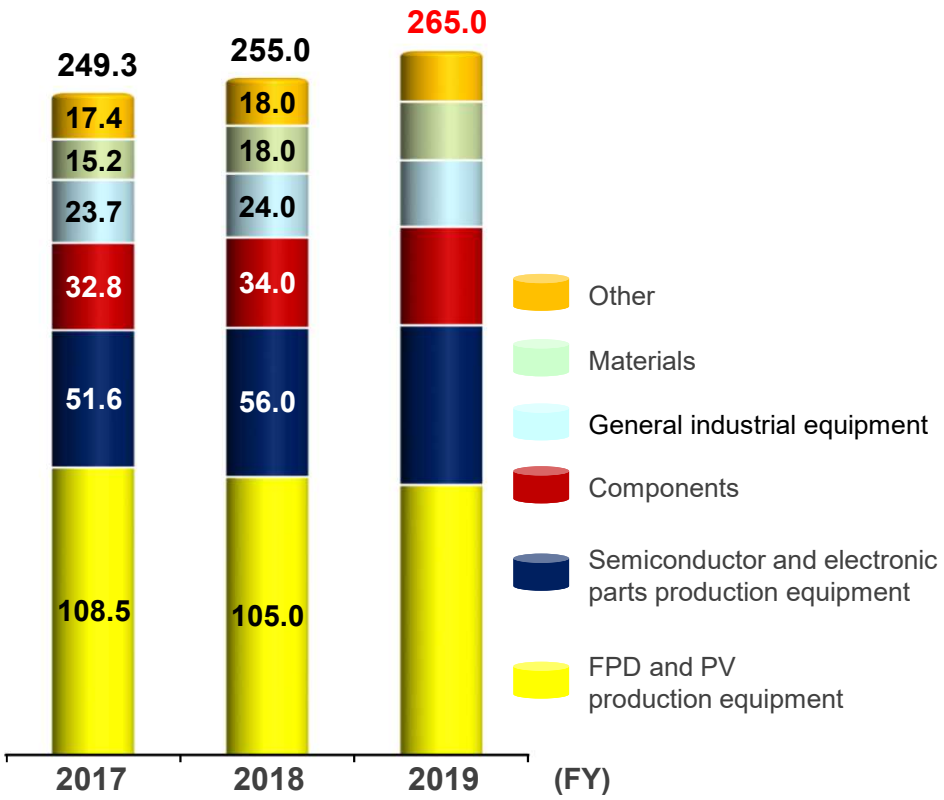
Imaging devices

Power storage TFB Capacitors

# Review of Medium-Term Plan (FY2019 Plan)

**Review of FY2019 plan:**
**Net sales of ¥265.0 billion (+¥15.0 billion), operating profit of ¥38.0 billion (+¥3.0 billion)**
- **Review only the plan figures with no changes to the framework of the current medium-term plan.**

## FY2019 net sales plan (Unit: ¥1 billion)



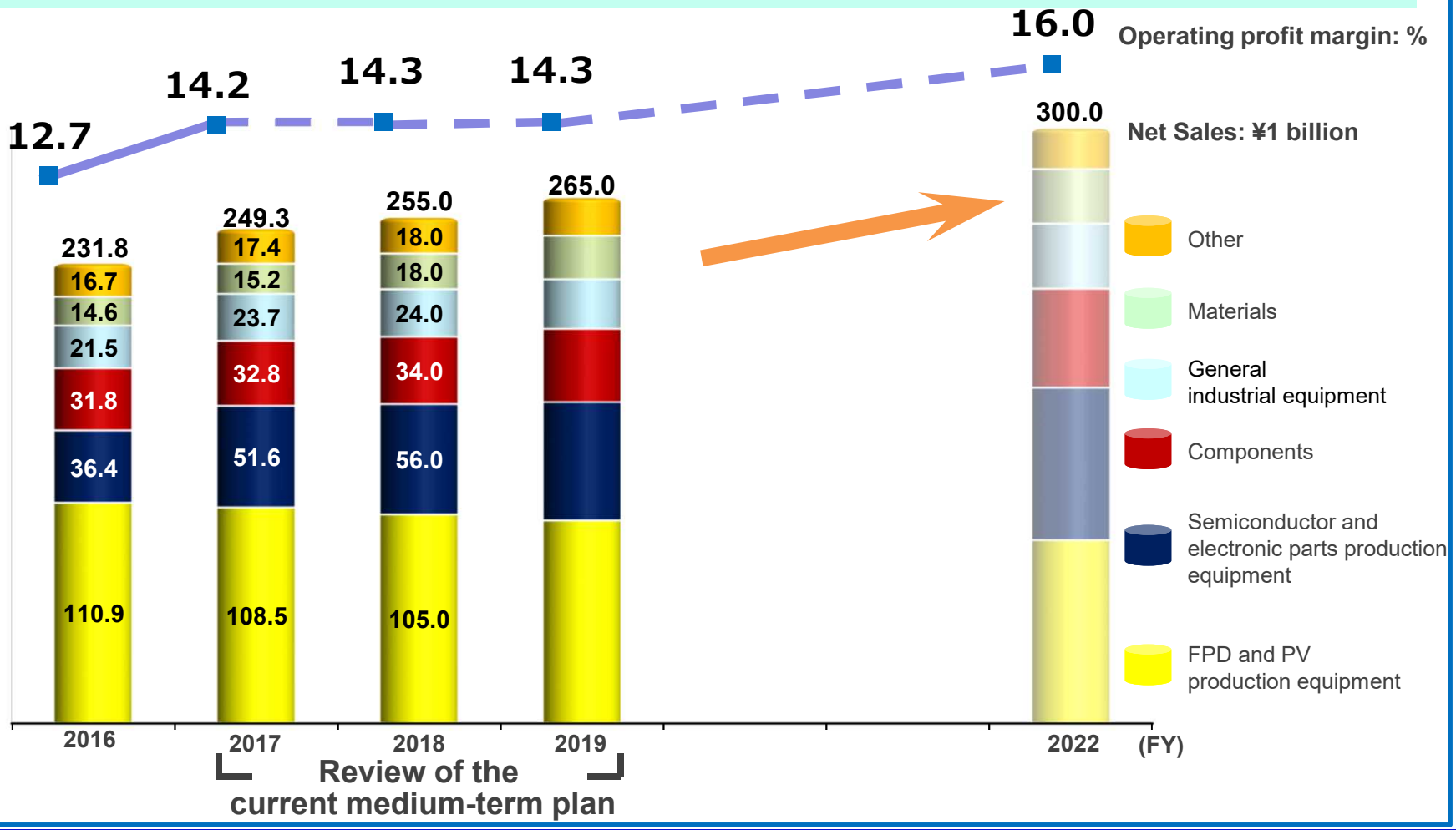

### Growth strategy

- **Semiconductors are poised to grow in tandem with memory and logic.**
- **Electronics are expected to grow owing to the business opportunities in technical innovation presented by 5G.**
- **In FPDs, continued long-term investment is expected primarily in large-screen TVs and OLEDs.**
- **Growth in components, materials, and customer support (stable base).**
- **Growth in the China market**

# Review of Medium-Term Plan (Goals)

**Aim for net sales of ¥300.0 billion and an operating profit margin of 16% in FY2022.**

- **Growth based on multiple business lines with high profit margins, such as semiconductors (growth in logic together with memory), electronic parts (growth due to development of smart equipment), and components**



# Review of Medium-Term Plan (FPD and PV Growth Strategy)

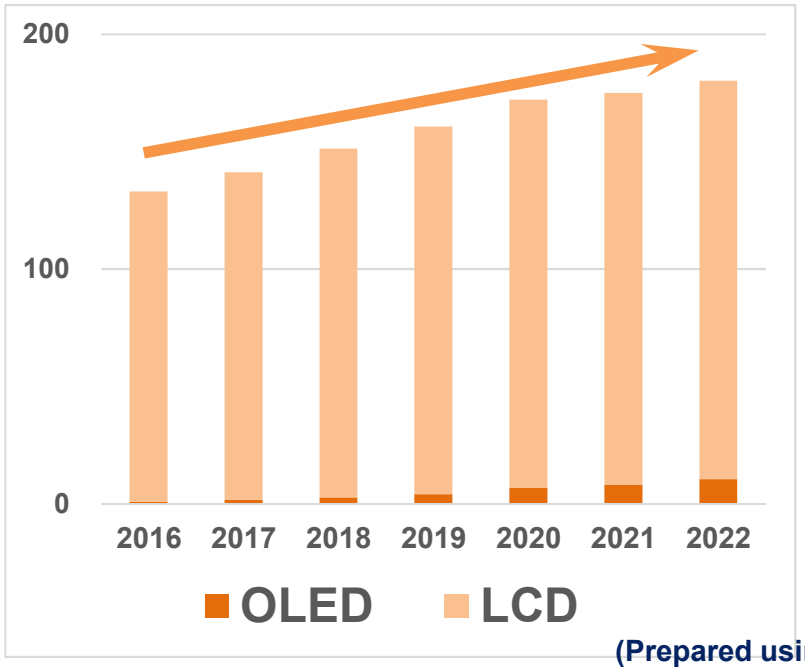
**Continued long-term investment in FPDs is expected**

- **Continued investment in large-screen TVs**
- **OLED production equipment for smartphones**
  - **Restraint in South Korea on near term investment**
  - **Continued capex in China**

**Future OLED market expected to use flexibility and expand to TVs, etc.**

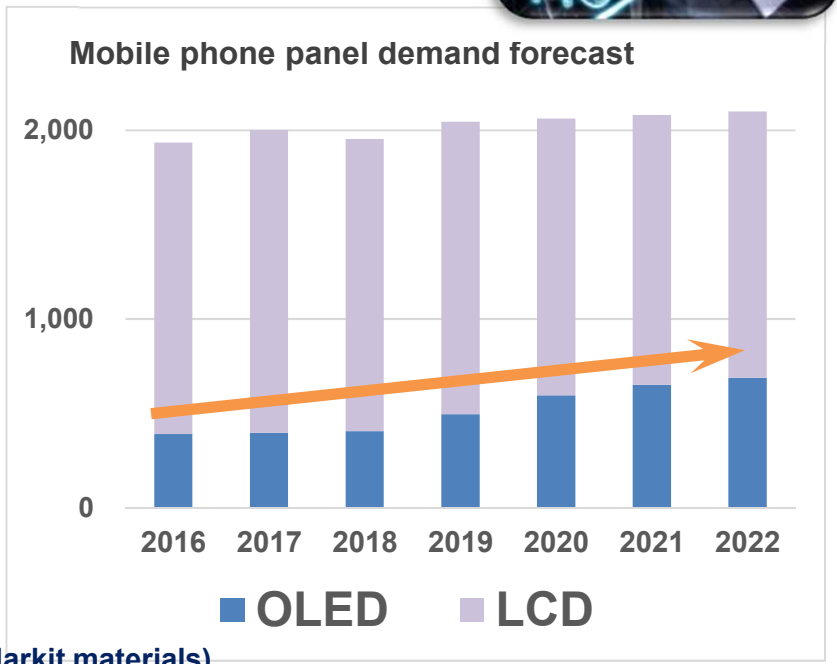
(Million m²)

TV panel demand forecast




(Million Units)

Mobile phone panel demand forecast




(Prepared using IHS Markit materials)

# Review of Medium-Term Plan (FPD and PV Growth Strategy)

## Continued investment in large-screen TVs and OLEDs, more active investment in high efficiency solar cells as well in China

| | | | |
|---|---|---|---|
| Large-screen TVs | Large-screen 4K/8K, low-cost, high-precision | • High productivity: G10.5 substrate compatible<br>→maintain a share near 100%<br>• High precision: Particle strategy<br>→magnetic suspension system<br>• Oxide semiconductors: Increase in sputtering<br>→Higher demand for equipment and materials | Sputtering |
| OLED | Flexible, high-precision | • Process development: Including main units<br>→Support system including processes<br>• High precision: Particle strategy<br>→Thorough testing on in-house evaluation equipment | Vacuum evaporation<br>Sputtering<br>P-CVD |
| Solar cells | Improvement in conversion efficiency | • Capital investment in high-efficiency SHJ*<br>Success in commercial mass production of the world's only SHJ in low-damage Cat-CVD<br>→Achieve conversion efficiency exceeding 23% by using SHJ | Cat-CVD<br>Sputtering |

*SHJ: Silicon heterojunction

# Review of Medium-Term Plan (Semiconductor and Electronic Parts Growth Strategy)

## Poised to grow in tandem with memory (NAND, DRAM, PcRAM) and logic

| | | | | |
|---|---|---|---|---|
| DRAM, NAND | Servers, edge computing, mobile | Provide equipment for wiring and rewiring to memory makers | Wiring film deposition<br>TSV/UBM/RDL<br>Natural oxide layer stripping |  |
| Next generation non-volatile memory PcRAM | Servers, DIMM/SSD | Deliveries of equipment for mass production are underway.<br>Other memory makers are also thinking about entering the market → market expansion expected in the future | Memory Cell film deposition |  |
| Logic/foundry | MPU/GPU | New delivery on major logic lines<br>⇨ increase share<br>*Advanced miniaturization process via EUV introduction | Wiring film deposition<br>EUV generation MHM* |  |

*Metal Hard Mask

# Review of Medium-Term Plan (Semiconductor and Electronic Parts Growth Strategy)

## Technical innovation accelerated by 5G

⇨ **Expansion of business opportunities in electronic parts production equipment**

**Smaller, more refined, higher density, higher capacity, energy-efficient electronic devices**

⇨ **Provide an extensive equipment lineup with sputtering target materials and processes**

| | | |
|---|---|---|
| Communi-cation devices | Expansion of frequency bands<br>Increase in base stations due to higher frequencies<br>→Shift to multi-band | SAW, BAW<br>RF devices |
| Sensors | IoT expansion, installation in cars<br>→ Smaller, higher-performance | MEMS sensors and infrared sensors |
| Power devices | Energy efficiency<br>→Energy saving, high efficiency, low loss | IGBT, SiC, GaN |
| High density packaging | High density packaging<br>→ Smaller, higher-performance | WLP*<br>PLP** |

**Supporting equipment**
Sputtering
Vacuum evaporation
CVD
Etching
Ashing
Ion implantation

**Film deposition materials and processes**

*WLP: Wafer Level Packaging; **PLP: Panel Level Packaging

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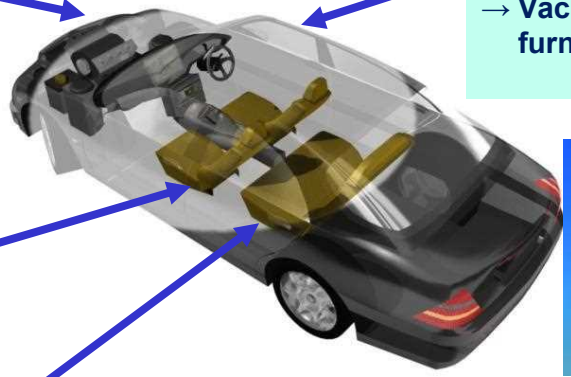
# Review of Medium-Term Plan (Growth Strategy in Diverse Fields)

**By using its characteristics as a vacuum manufacturer, ULVAC is developing diverse businesses in general industry ⇨ Globalization**

**Heat exchangers**
Radiators, EGR coolers, electronic parts cooling, etc.
→ Vacuum brazing furnaces, vacuum leak testing

**Rare-earth magnets for electric motors**
HV, EV, and similar vehicles
Wind power, home appliances
→ Vacuum sintering furnaces and melting furnaces



**High function films**
**High efficiency capacitors in HV, EV, and similar vehicles**
→ Share of more than 90% in evaporation roll coater

**Resin fuel tanks**
→ Vacuum leak testing

**High efficiency solar cells**
**For high efficiency SHJ***
→ Cat-CVD equipment
The world's only commercial mass production facility
*Silicon heterojunction

**Drugs and food**
**Generic drug manufacturing**
**Extraction of high purity substances**
→ Vacuum freeze-drying equipment
Vacuum distillation equipment

# Review of Medium-Term Plan (Component Growth Strategy)

**Component* strengths**

- In-house manufacture of various equipment
- Diverse lineup
- High reliability by linking with vacuum equipment
- Diverse customers
- Production of vacuum pumps in China for more than 20 years

**Component growth strategy**

- Expansion of vacuum applications (general industry)
- Expansion of refrigeration business (advanced technology)
- Demand due to expansion of device market in China
- Expansion of production and sales due to group synergies
- Improved lineup by means of alliances

Cryo pumps

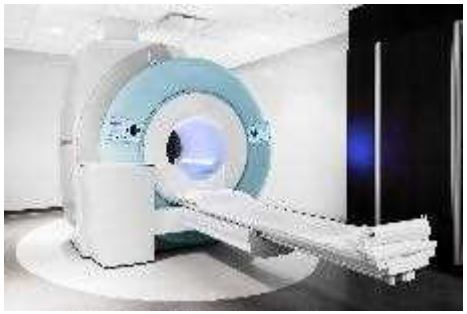
Vacuum valves

Dry pumps

Vacuum evaporation equipment for OLED manufacturing

Film deposition controllers

4K refrigerators for cooling superconductive magnets



Medical MRI example


Liquid nitrogen generators that manufacture and store liquid nitrogen from air
Use in research and medical settings

*Components: Components essential to vacuum equipment
Vacuum pumps, vacuum gauges, vacuum valves, vacuum leak testers, gas analyzers, power supply for film formation, etc.
Delivery to vacuum device makers, device customers, etc.

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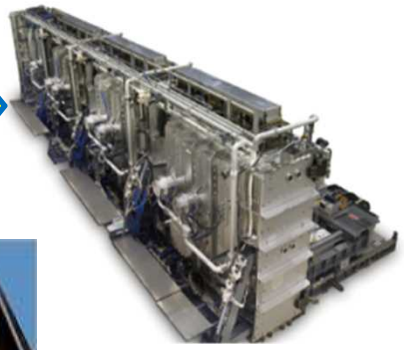
# Review of Medium-Term Plan (Materials Growth Strategy)

**Strengths in materials***
- **Production locations near customers (Japan, China, South Korea, Taiwan)**
- **Material development in conjunction with the deposition process**
  **→Ultra-materials research lab**
- **Sampling system using mass production machines**
- **Development of new materials and applications**

**Materials growth strategy**
- **Meet the demand due to increased equipment operation in China**
  **→Suzhou, China plant (FPDs, semiconductors, etc.)**
- **Meet the increasingly sophisticated demand for FPD and semiconductor manufacturing processes**
  **→High definition (wiring material AL→Cu, thicker film)**
  **→Increased mobility (a-Si→oxide IGZO, etc.)**
  **→Foldability**
- **Provide support for high-tech applications**
  **→(Nb materials, etc. for high-performance accelerators)**

*Materials business
Use in sputtering, i.e., the main method of vacuum deposition
Develop business based primarily on targeted materials
Work also on developing and manufacturing function materials

**Target used in sputtering**



**Sputtering systems for large-screen TV manufacturing**

**Target used in sputtering**

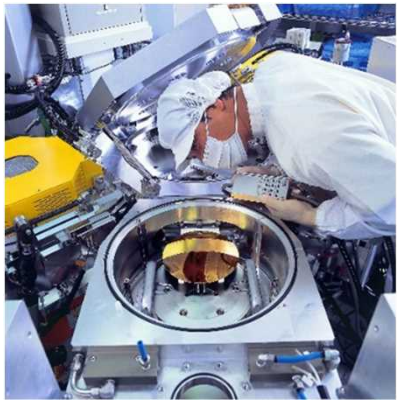
**Sputtering systems for semiconductor manufacturing**

**Acceleration cavity for high-performance accelerators (Use high-purity Nb materials)**

# Review of Medium-Term Plan (Growth Strategy in the Customer Support Business)

**(Strengths in the customer support business)**
- Support throughout the life cycle
- Domestic/overseas network (near customers)
  71 locations in 14 countries
  (33 in Japan, 15 in China)
- Comprehensive maintenance including components
- Continuous improvement including processes, proposals for change

**Growth strategy in the customer support business**
- Global deployment
- Upgrading and expansion of the field support system
- Maintenance of products made by other companies
- Expansion of used machine sales business
- Expansion of proposals for modification/improvement




Field support (maintenance)

Parts sales

Cleaning and surface treatment

Sales of refurbished used machines

Modification/ improvement

Before refurbishing

After refurbishing

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# Review of Medium-Term Plan (Growth Strategy in the China Market)

- Revitalization of investment in FPDs (large-screen TVs and OLEDs), semiconductors, and electronics due to policies advocating domestic production
- Increase in demand for components, materials, and customer support

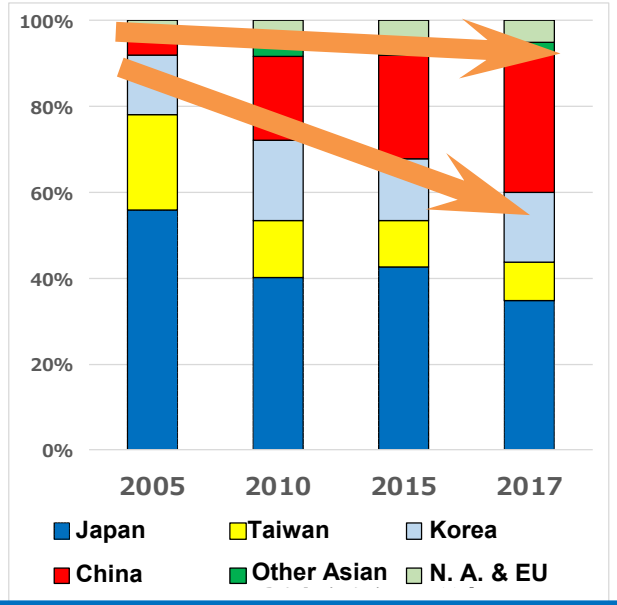
**Strengths of the China market**

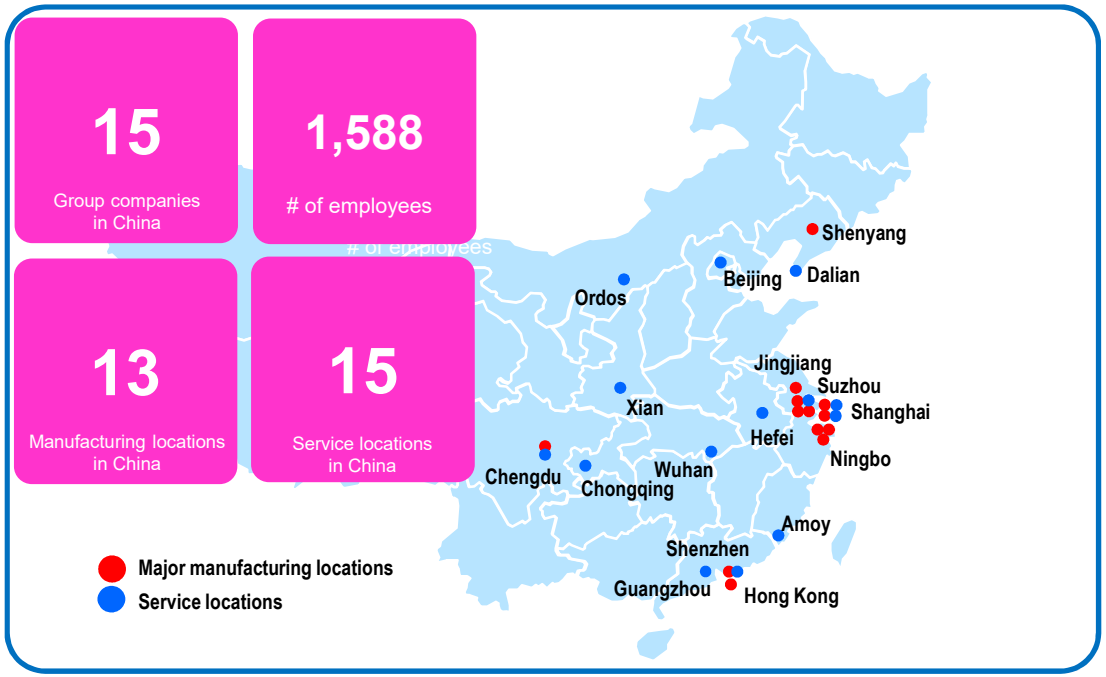
- Network
  →Approximately 1,600 employees in 15 companies
- Supply chain
  →Local production of G8.5 sputtering equipment
- Local management

**Growth strategy**

- Reinforcement of the sales and production system
- Growth in FPDs, semiconductors, and electronics
- Expansion of the component, material, and customer support business in tandem with an increase in delivery equipment

**Percentage of sales to China**

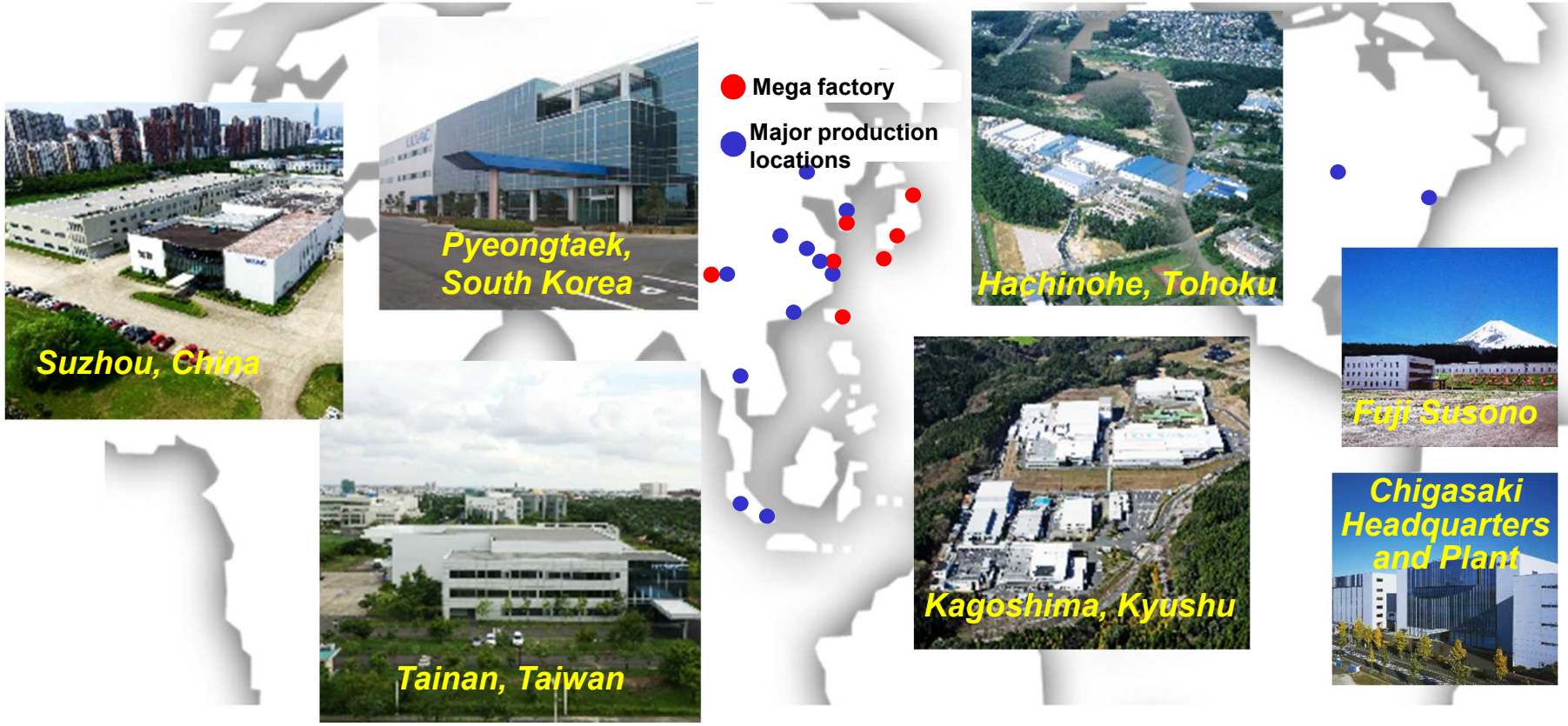


# Review of Medium-Term Plan (Strengths of the Production System)

**Strengths in production and procurement**
- Production locations and supply chains have been built in Japan, China, and Taiwan
  (1) Flexible coordination of production among locations
  (2) Engineers at each location respond across borders
  ⇨ Increase in sales, response to delivery requests

**Growth strategy**
- Production near customers
- Collaborative manufacturing among our facilities
- Further expansion of local suppliers



# FY2018 Consolidated Earnings Forecast

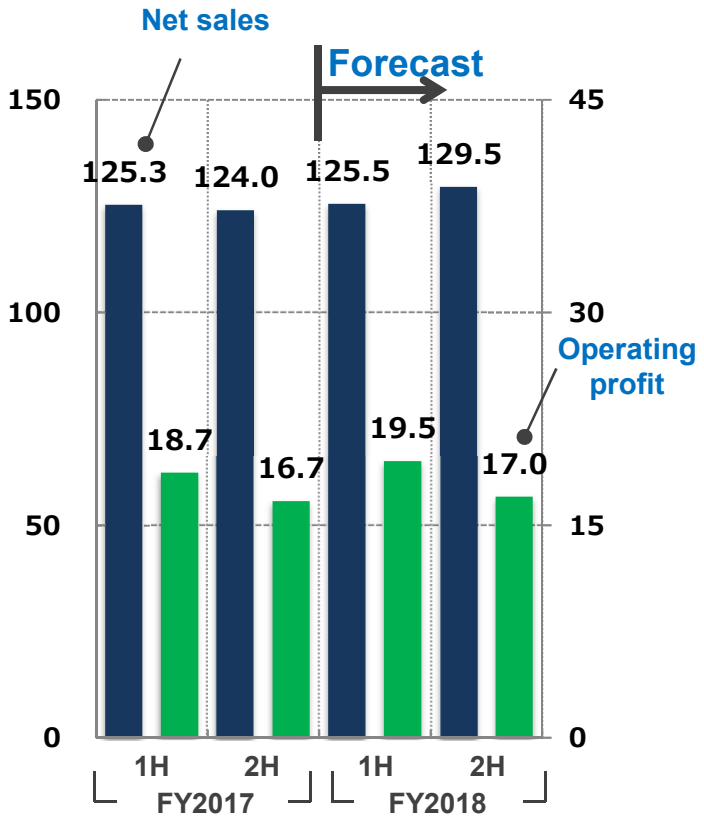
# FY2018 Consolidated Earnings Forecast

- Orders received, net sales, and operating profit are expected to increase year-on-year
- Net profit is expected to decrease in reaction to the posting of deferred tax assets last year

(Unit: ¥1 billion)

| | FY2017 Results | FY2018 Forecast 1H | FY2018 Forecast Full Year | Changes Y-o-Y |
|---|---|---|---|---|
| Orders received | 243.0 | 120.0 | 260.0 | 17.0 +7.0% |
| Orders back-log | 100.0 | 94.5 | 105.0 | |
| Net Sales | 249.3 | 125.5 | 255.0 | 5.7 +2.3% |
| Operating profit | 35.4 | 19.5 | 36.5 | 1.1 +3.3% |
| Ratio | 14.2% | 15.5% | 14.3% | |
| Net Income | 35.9 | 14.0 | 25.5 | ▲ 10.4 -29.0% |

Net sales and operating profits
(by semi-annual period)







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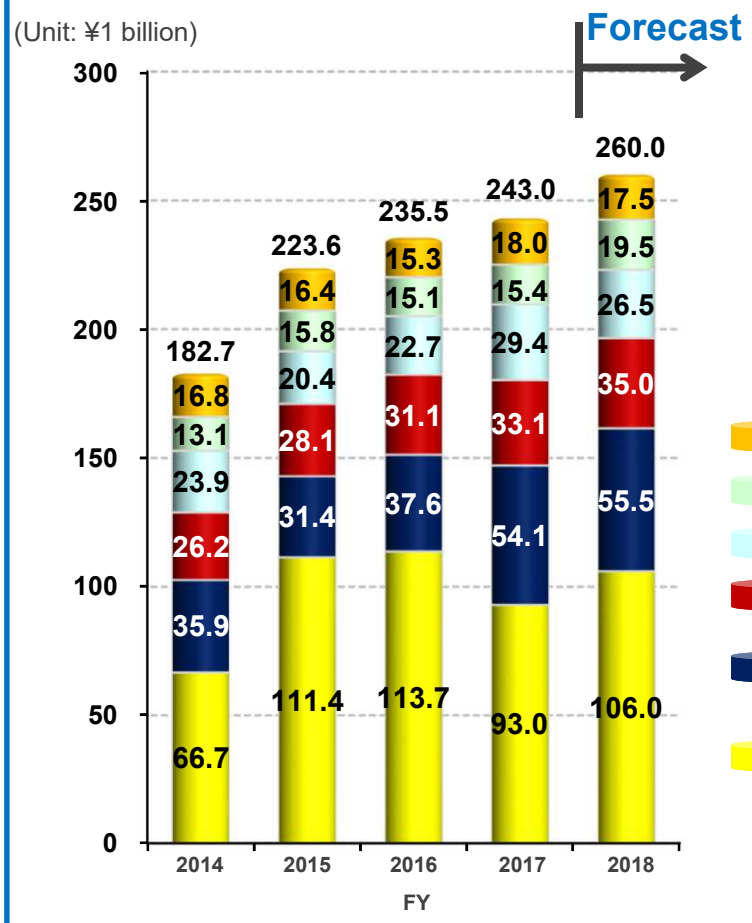
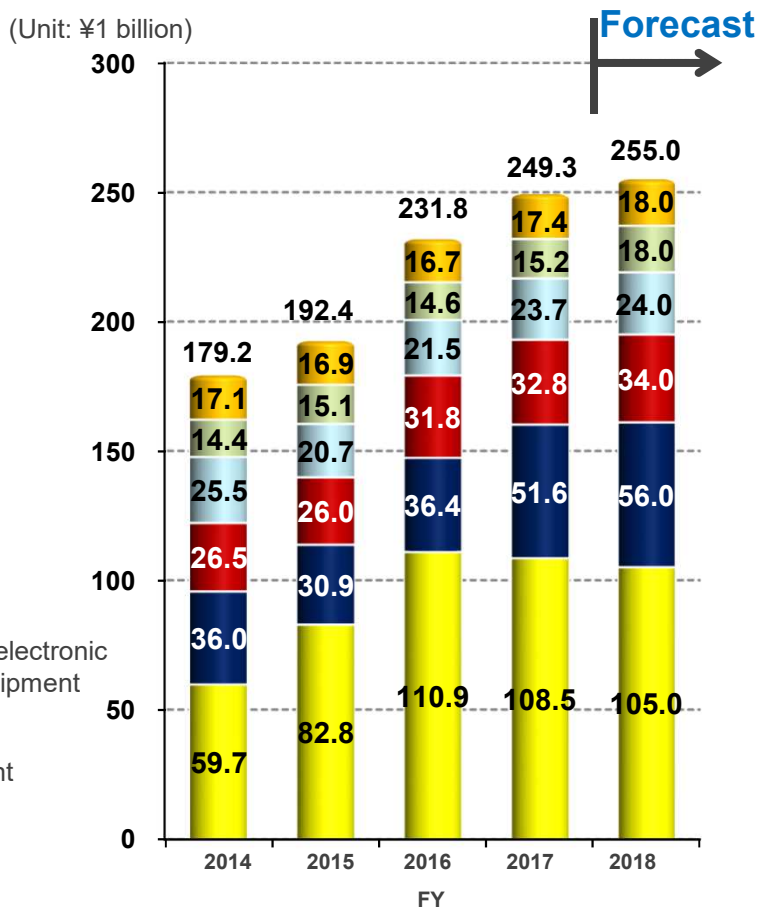
# FY2018 Consolidated Earnings Forecast (Orders Received and Net Sales by Segment)

- **FPD and PV manufacturing equipment orders received and net sales are expected to continue at the ¥100.0 billion level**
- **Almost all other product categories, including semiconductor and electronic parts production equipment and components, are expected to exceed last year's performance**

## Orders Received



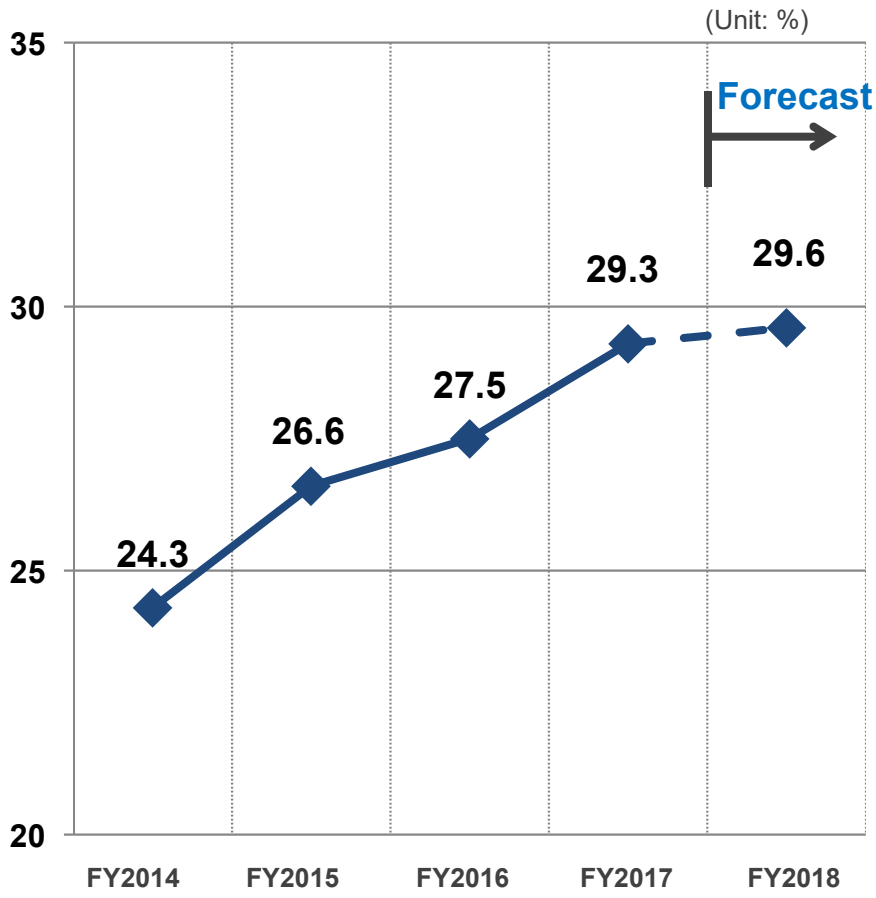

## Net Sales



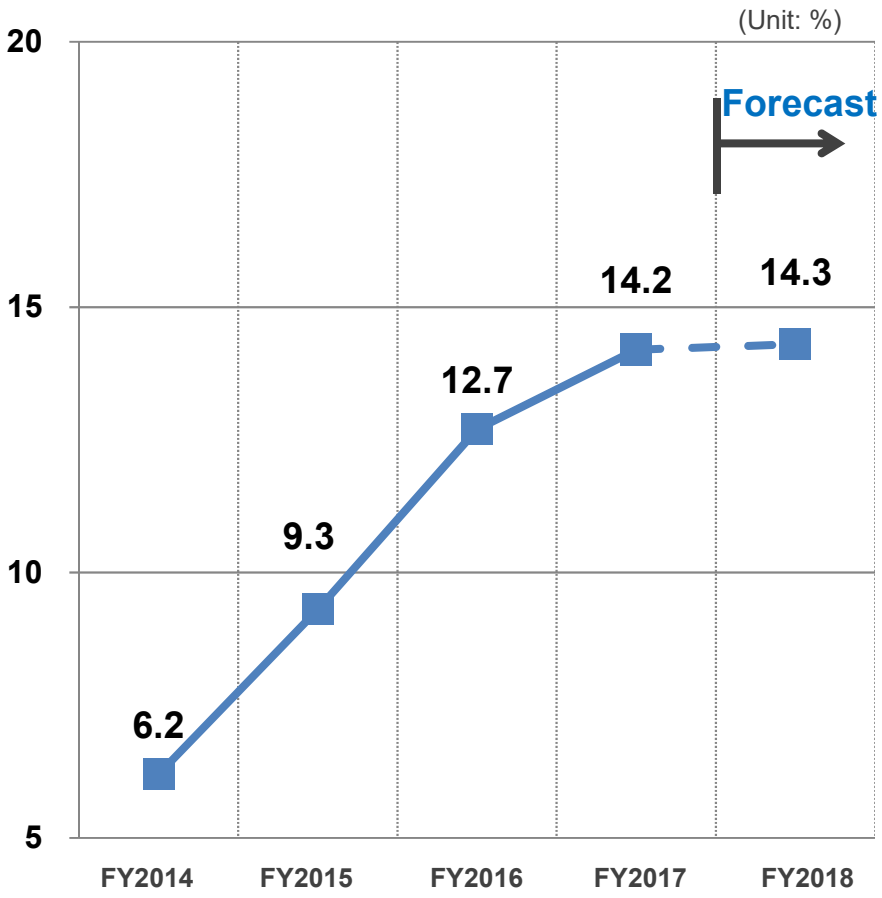
# FY2018 Consolidated Earnings Forecast (Profit Margins)

- **Gross profit margins and operating profit margins are expected to remain at high levels**

Progression of gross profit margin



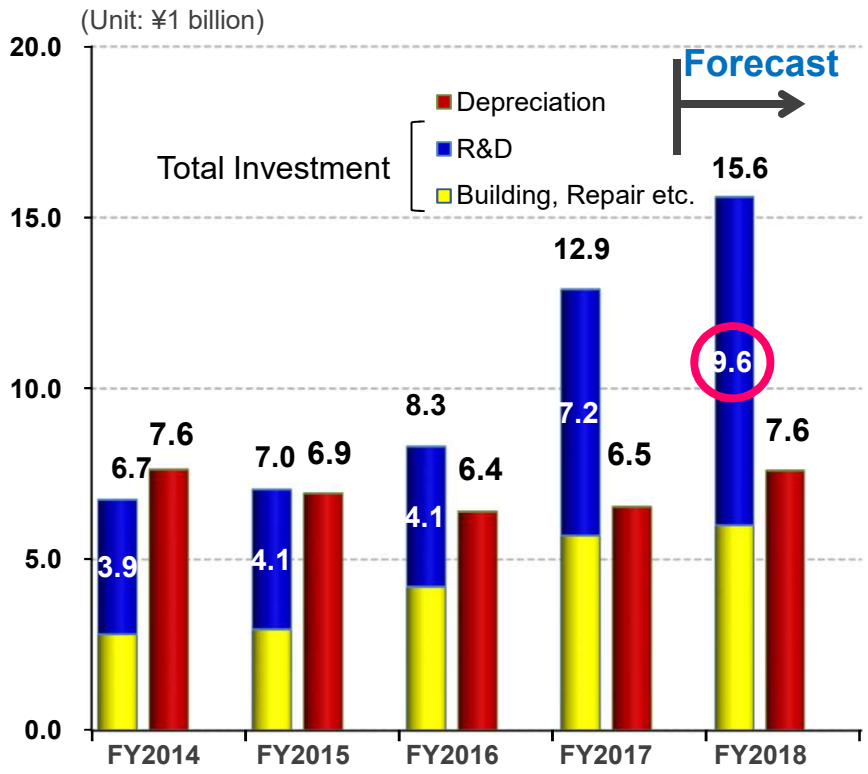

Progression of operating profit margin



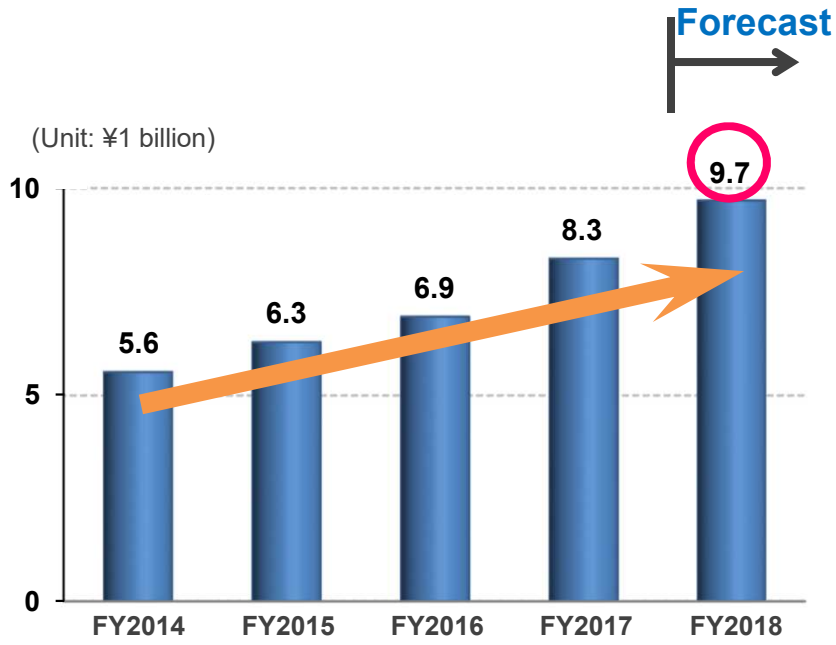
# FY2018 Consolidated Earnings Forecast (Progression of Capital Expenditures and R&D Expenses)

- **R&D investments (capital expenditures for R&D + R&D expenses) are expected to continue increasing**
- **Active development is expected to lead to future growth, along with efforts in next generation displays/logic, next generation non-volatile memory**

(Actual and forecast capital expenditures)



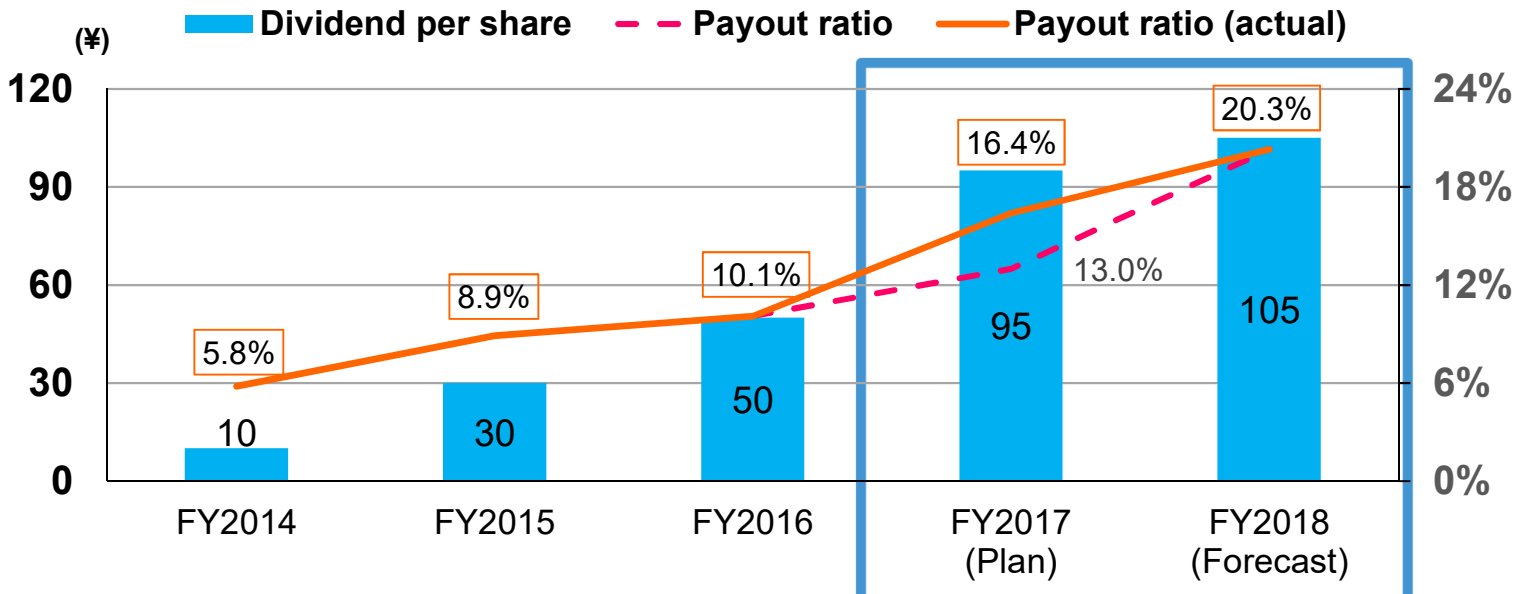

(Actual and forecast R&D expenses)



# FY2018 Consolidated Earnings Forecast (Year-end Dividend)

**Dividends are implemented giving full consideration to factors such as expansion of the financial base for further investment in growth, consolidated performance each year, and dividend payout ratio.**

- **The FY2017 dividend is ¥95 per share, in line with the forecast**
- **The dividend is forecast to increase by ¥10 to ¥105 in FY2018**
- **Since the recovery in FY2014, the dividend has continued to increase**




| | FY2016 | FY2017 (Plan) | FY2018 (Forecast) |
|---|---|---|---|
| Dividend per share (vs. last year) | ¥50 (+¥20) | ¥95 (+¥45) | ¥105 (+¥10) |

* The dividend payout ratio (actual) is calculated based on profit after deducting additional deferred tax assets and gains from sales of stocks

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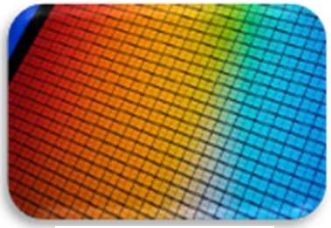
Automobiles


Semiconductors


Flat Panel TVs

Solar Cells


Food Products

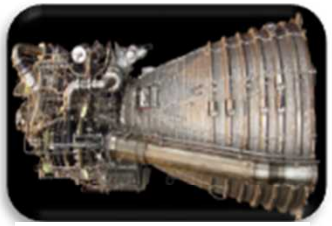
Aircraft


Biotechnology


Smart Phones

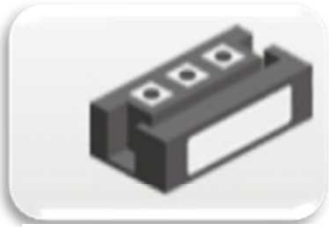

Electromagnetic Devices

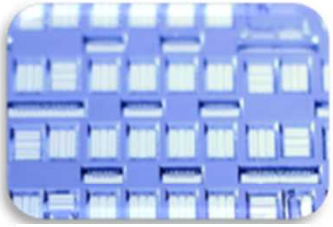

Consumer Electronics


Space Industry

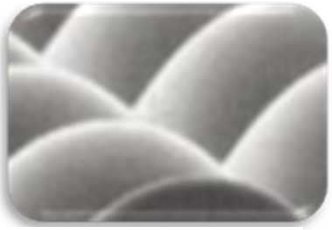

Healthcare & Pharmaceutical


Wearable/VR Devices


Power Devices

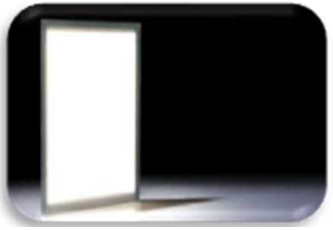

MEMS Devices


Building Materials/ Smart Glass


Fiber-optics


Flexible Devices


Packaging


Next-Generation Lighting

The photos used here are for reference purposes only.

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