

**Canon Inc.**  
**2025 Corporate Strategy Conference**

# **Industrial Group**

**March 7, 2025**

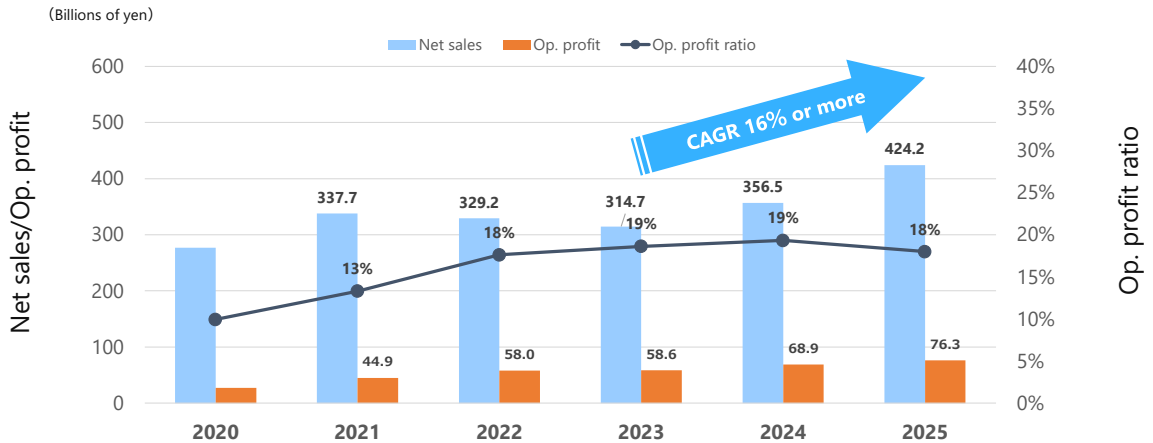
**Hiroaki Takeishi**  
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**Head of Industrial Group**



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# Performance Outlook

## Industrial Group Consolidated Performance



**Maintain high profitability while boldly investing in development and production to achieve sustainable business expansion**

The Industrial Group handles semiconductor and display manufacturing equipment.

Our semiconductor manufacturing equipment business grew steadily over the past year, riding the wave of favorable semiconductor market conditions.

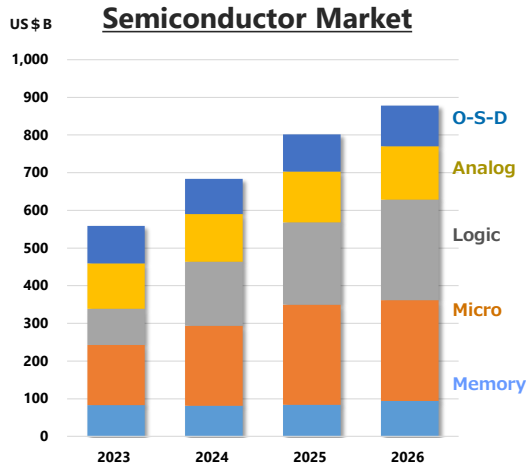
In the display market, the cautious stance toward capital investment continued as panel prices remained low.

Going forward, the semiconductor market is expected to grow further, while the display market is projected to start recovery.

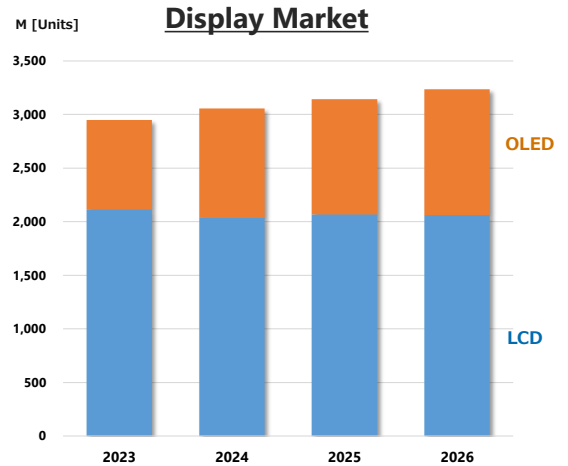
We plan to maintain high profitability while aggressively pursuing development and production investments to achieve sustainable growth.

In 2025, we are projecting 424.2 billion yen in sales, which reflects our aim for double-digit growth as well as our fifth consecutive year of increasing sales.

# Semiconductor and Display Market Trend



Note: O-S-D Optical Sensor Discrete Device



**Semiconductor market continues to grow, driven by strong demand for AI applications**  
**Display market is on a recovery trend, due to increase in usage and added value for OLED panels**

As for the semiconductor market, the current situation driven by leading-edge devices and advanced packaging for AI is likely to continue over the foreseeable future.

Although the overall market is uneven, we expect that all types of devices will continue to grow over the medium- to long-term, due in part to a recovery in memory market conditions.

In the display market, we are now seeing signs of recovery.

The use of OLED panels is expanding further to include IT equipment and automobiles. At the same time, the display market is expected to start growing again as technological development and capital investment progress toward higher functionality and added value.

### Results up to 2024 & Challenges

- Rolled out competitive products into robust semiconductor market and achieved significant increase in unit sales
- In addition to nanoimprint, launched products for leading-edge device market, such as 3D packaging etc.
- Challenges: Expand market share and improve profitability in recovering display market



### Strategies & Measures for future growth

- Further raise competitiveness of semiconductor manufacturing equipment and secure production capacity to meet market demand
- Expand nanoimprint sales and establish an ecosystem for semiconductor device mass production process
- Strengthen product and profitability of display manufacturing equipment and expand aftermarket business

As for our results up to 2024 and challenges, we realized significant growth in unit sales, mainly of lithography equipment, thanks to the favorable semiconductor market.

After many years of research and development in nanoimprint, we have launched our mass-production equipment. Furthermore, in lithography equipment, we have secured high market share for advanced packaging.

Conversely, for display manufacturing equipment, as market conditions weakened, this business continued to struggle.

As for our measures for growth, first, we will further raise the competitiveness of the mainstay semiconductor manufacturing equipment and expand our production capacity.

As for nanoimprint, we will accelerate collaboration with major customers and partners as we promote the introduction of this into mass production processes and expand sales.

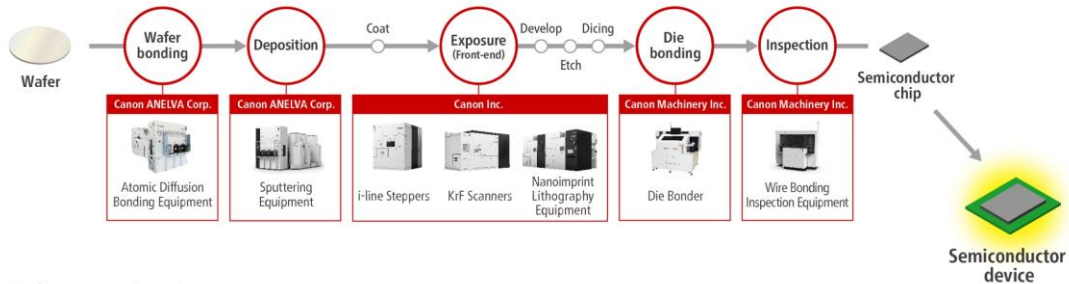
In the display manufacturing equipment business, in addition to enhancing the competitiveness of OLED products, we will raise our ability to generate profit by strengthening our aftermarket business.

- **Expand in scale, scope, and application of semiconductor manufacturing**
- **Raise competitiveness of manufacturing equipment for OLED displays**
- **Strengthen and expand data solutions business**
- **Cultivate new business domains through integration of core technologies**

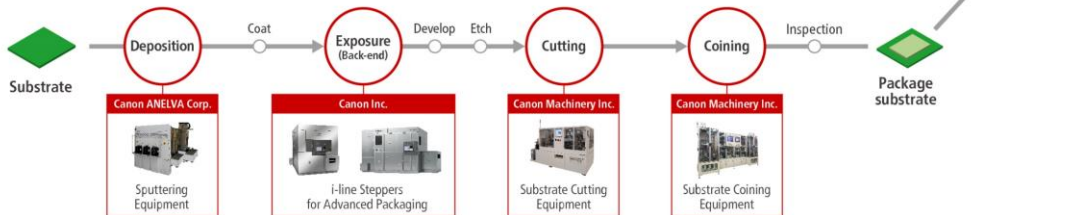
The Industrial Group is developing its business based on four strategies. Here, I would like to talk about our strategy focusing on the expansion in scale, area, and applications in semiconductor manufacturing.

# Canon Semiconductor Manufacturing Equipment Line-up

## Semiconductor chip manufacturing process



## Package manufacturing process



The Industrial Group offers a diverse product lineup to respond to complex and diverse semiconductor manufacturing processes.

As for the process of manufacturing semiconductor chips and packaging, we have a wide range of products, which also means we still have a lot of room to grow.

# Expand Scale, Scope, and Application of Semiconductor Manufacturing

## More Moore : Miniaturization

## More than Moore : Diversification



Logic



CPU



Memory



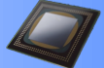
Image sensor



RF/MEMS



Power/LED



Packaging



Nanoimprint Semiconductor Manufacturing Equip.  
**FPA-1200NZ2C**



ArF Litho. Equip.  
**FPA-6300AS6**  
(under development)



High Productivity KrF Litho. Equip.  
**FPA-6300ES6a**



High Productivity i-line Litho. Equip.  
**FPA-5550IZ2**



i-line Litho. Equip. for IoT Devices  
**FPA-3030i6 / FPA-3030iWa**



Litho. Equip. for WLP  
**FPA-5520iV**



Litho. Equip. for PLP  
**FPA-8000iW**



Wafer Alignment Measurement Device  
**MS-001**



Product for manufacturing of Semiconductor  
and Electronic Devices  
**Adastra series**



Atomic Diffusion Bonding Equip.  
**BC7300**



Epoxy Die Bonder  
**BESTEM\_D610**

**Respond to growing demand for equipment by providing a lineup for fine processes to rough layers.  
Launch strategic products into leading-edge AI devices, power devices, and advanced packaging market.**

Semiconductor devices will continue to diversify in terms of devices and processes.

We will further enhance our product lineup, from fine processes to rough layers in line with the two axes of More Moore (miniaturization) and More than Moore (diversification).

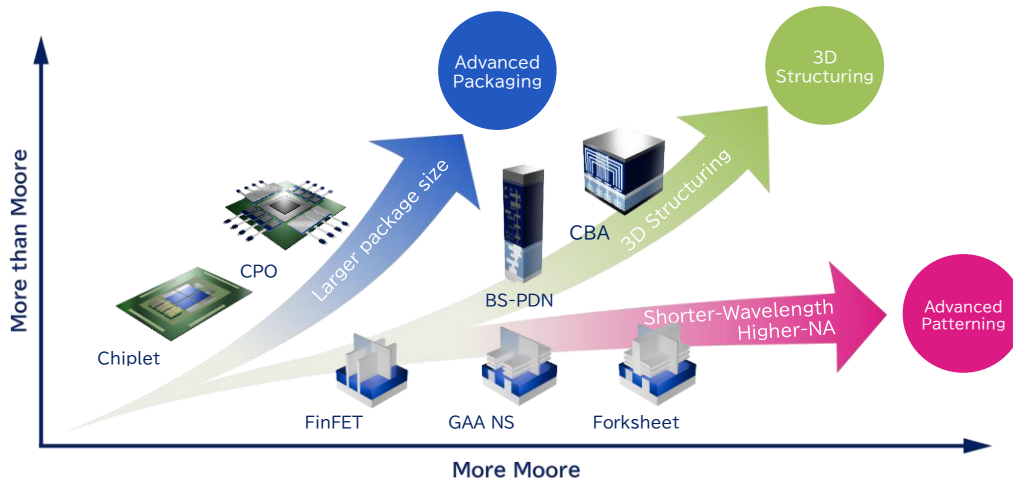
As for examples of our progress in 2024, the first is "Adastra", Canon Anelva's new series of film deposition equipment.

In addition to process modules that can be freely selected, the footprint has been reduced by 42%.

We will expand our product lineup based on this new platform.

Second is the "BESTEM-D610," a die bonder launched by Canon Machinery. This new platform was developed to improve accuracy, productivity, and uptime.

## Evolution of Semiconductor Devices (Three Trends)



**Semiconductor devices continue to evolve in both More-Moore and More-than-Moore**  
**Three major trends: Advanced Patterning, 3D Structuring, and Advanced Packaging**

Within the two dimensions of more Moore (miniaturization) and more than Moore (diversification), semiconductor devices are evolving in three trends.

The first is advanced patterning, which will remain a mainstay. However, we assume that the second, which is 3D structuring, and the third, which is advanced packaging, will play an ever greater role.

The Industrial Group will develop its strategic products in line with these three trends.



# 1) Advanced Patterning: Nanoimprint Lithography Technology


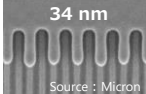

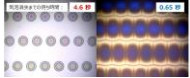
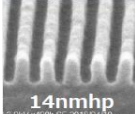
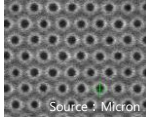
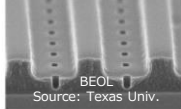

■ Form fine and clear circuit pattern of around 10nm using a simple stamp principle



**Nanoimprint Semiconductor Manufacturing Equipment**  
**FPA-1200N2C**

Achieved miniaturization in 10nm range and 3D single patterning. 1/10 of power consumption compared to EUV for advanced device manufacturing.

- Launched in October 2023, sold to TIE in 4<sup>th</sup> quarter of 2024
- Received the Sankei Shimbun's 33rd Global Environment Award

Logic	DRAM	Next-generation AI chip	3D-NAND
Move to development phase for use in 2nm node and beyond	CoO and TAT reduction in complex processes by single-step formation	Verifies manufacturing of next-generation devices such as AI chips	Introduced Canon photo resist to shorten imprint time
			
			
	Contact hole process		

**Accelerate partnership with several major customers, combined with industry-government-academia collaboration to promote the value of nanoimprint.**  
**Promote installation and process verification at customer sites to realize mass-production for advanced devices.**

First for advanced patterning, we will continue our focus on nanoimprint.

With advancement in mask manufacturing technology, nanoimprint can be applied to further miniaturization in the future.

Since the product announcement in 2023, we sold a system to a consortium in the United States in 2024.

Also, in March of this year, it received the "Global Environment Award," the highest award among the 33rd Global Environment Awards, for its features such as power consumption of 1/10 or less compared to EUV.

A number of major customers have high expectations, and we are committed to collaborating with them through demonstrations technical meetings, and other means.

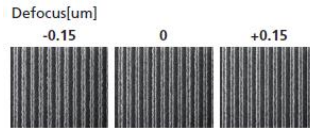
Together with the technology development at NEDO (New Energy and Industrial Technology Development Organization), and TIE (Texas Institute for Electronics) we will promote the unique value of nanoimprint, by installing the system into customer sites and conducting process verification and realizing mass-production for advanced devices.

# 1) Advanced Patterning: Development of ArF Lithography Equipment

## ArF Lithography Equipment FPA-6300AS6 (under development)



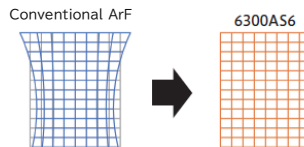
### 65nm L/S pattern results



65nm resolution was achieved using newly developed projection lens

※ Lighting mode NA0.93, 4/5Annular

### Shot shape correction capability



New correction system enables high-order shot correction shapes and improves overlay accuracy

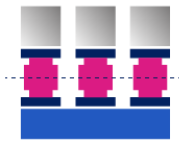
**Newly developed projection lens enhances process response and supports a wide range of device manufacturing.**  
**Use the proven KrF main platform for stable performance and low Cost of Ownership.**

Advanced patterning is not just for the leading-edge technology but is also steadily progressing even in the so-called legacy nodes. We are also developing ArF lithography equipment to expand the range covered by our mainstay KrF lithography equipment.

We will use the main platform proven in the market by our KrF lithography equipment. The system will be equipped with the newly developed 0.93 NA (Numerical Aperture) projection lens, which has a resolution of 65nm and a feature to improve overlay accuracy.

We will continue to promote commercialization.

## 2) 3D Structuring : Wafer Bonding Equipment



CIS



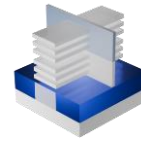
Compound Semiconductor



BS-PDN

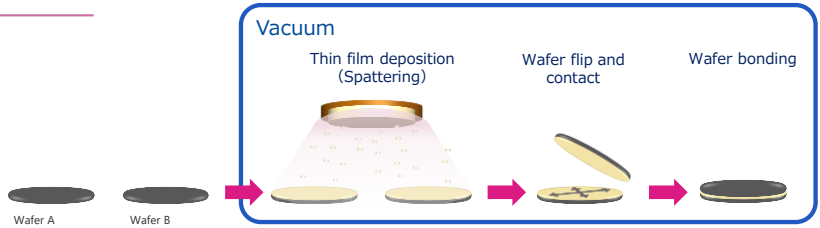


CBA



CFET

### Atomic Diffusion Bonding Equipment BC7300



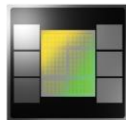
**Provides 3D integrated solutions for various devices with technology for bonding wafers at room temperature and without pressure.**

The second is 3D structuring. We have developed a bonding system for 12-inch wafers.

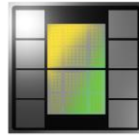
This technology is a sputtering technology application to bond wafers at room temperature and without pressure. We believe that by widening the range of substrates that can be bonded, the system can be applied to various device layers.

We will continue to strengthen our product capabilities by further improving performance such as bonding accuracy.

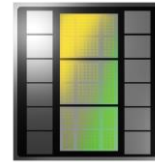
### 3) Advanced Packaging: Addressing Larger Package Sizes



Current: x2



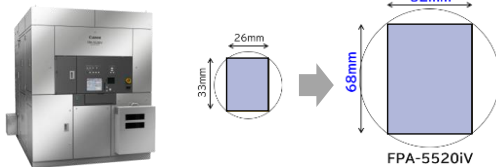
Soon: x3.3



Future: x4

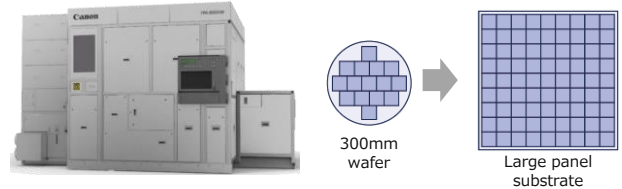
#### Lithography Equipment for WLP FPA-5520iV LF2

0.8  $\mu\text{m}$  resolution across a 52mm  $\times$  68mm single-exposure field (Current x4)



#### Lithography Equipment for PLP FPA-8000iW

i-line stepper for packaging of large square substrates up to 515 mm  $\times$  510mm



**Further strengthen Canon's position established in the rapidly evolving and expanding advanced packaging field**

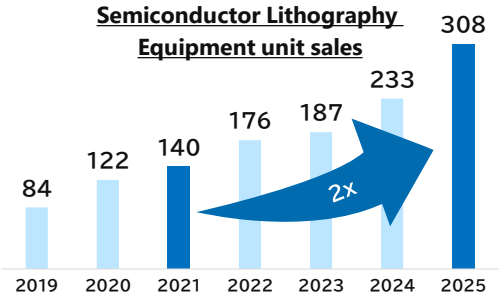
Third is advanced packaging. Canon's lithography equipment has acquired a strong position in this field.

In line with the trend toward larger package sizes we have been offering a system which has a large single exposure field of 52mm x 68mm with 0.8 $\mu\text{m}$  resolution.

We also have a system for large panel substrates, which is expected to improve chip yield.

To further strengthen our position in the rapidly growing field of advanced packaging, we will enhance our product portfolio based on customer needs.

## Enhance Production Capacity with New Facility at Utsunomiya site



### Concept of new factory

Automation	On-site logistics, skilled work
Optimization	Centralized management of production information
Environment	Energy conservation, waste reduction

**Steady progress in construction**  
**Establish a production system to meet growing demand in the semiconductor market**

In respect to enhancing our production capacity, with the aim to realize a "smart factory for semiconductor manufacturing equipment," we are constructing a state-of-the-art facility next to our current plant in Utsunomiya.

The construction is progressing well. The exterior has been completed, and the interior and utility work are currently undergoing.

The new facility will begin operations in the second half of 2025. We also plan to use the facility for the forthcoming mass-production of nanoimprint lithography equipment.

To meet robust demand, we will increase our production capacity and initially build a production system that will support sales of more than 300 units per year.