SEKISUI CHEMICAL CO., LTD.

Electronics Field Briefing

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Executive Officer
High Performance Plastics Company
Head of Electronics Business Strategy Department

August 26, 2025

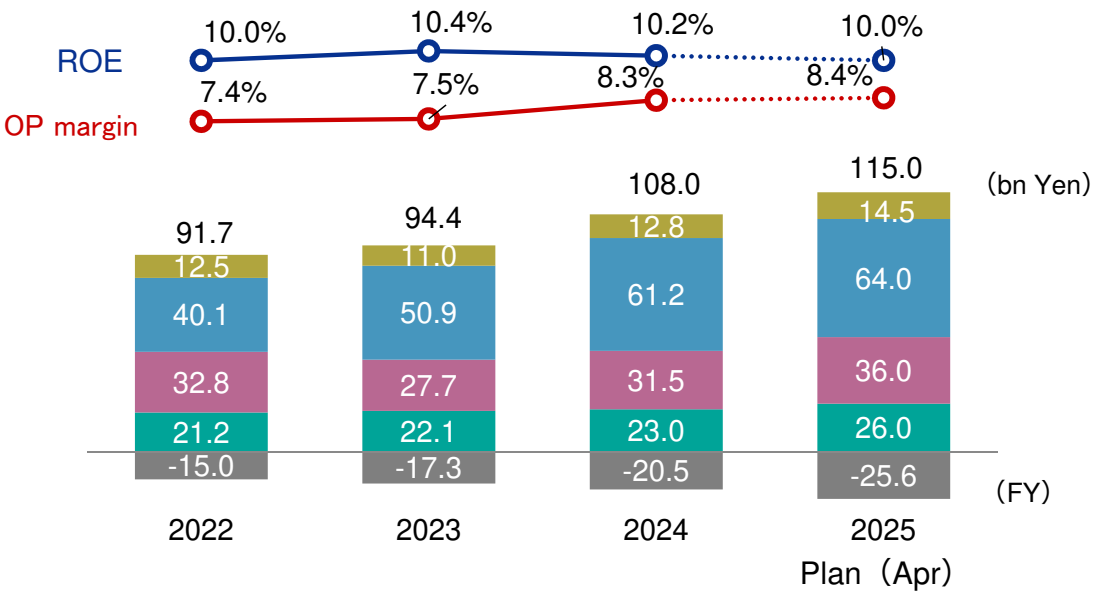
Agenda

1. SEKISUI CHEMICAL Profile
2. HPP Company Overview
3. Electronics Field Overview
4. Market Overview and Trends
5. Overview of Key Products
6. Technology Platform (TPF) Activities and Research & Development
7. Research & Development, Investment Plan
8. Our Vision

1. SEKISUI CHEMICAL Profile

As of March 31, 2025

Founded	March 3, 1947
Number of employees	26,918
Consolidated subsidiaries	145
Affiliates (Equity Method)	6
Consolidated net sales	1,297.8 bn Yen（FY24）
Consolidated operating profit	108.0 bnYen （FY24）
Number of shares outstanding	440,507,285 shares



Segment Information

High Performance Plastics Company (HPP)

Leveraging our proprietary fine particle, adhesion, precise molding, and other technologies, we provide advanced high-performance materials for application in the Electronics, Mobility and industrial fields.

Housing Company

We engage in new housing construction as a specialist in the Unit Construction Method, an advanced factory-built approach that enables short construction periods and delivers functions in accordance with design plans.

Urban Infrastructure & Environmental Products Company (UIEP)

Under the theme of an environment-solution company, we are developing our business centered on next-generation infrastructure to help realize a more affluent and safe society.

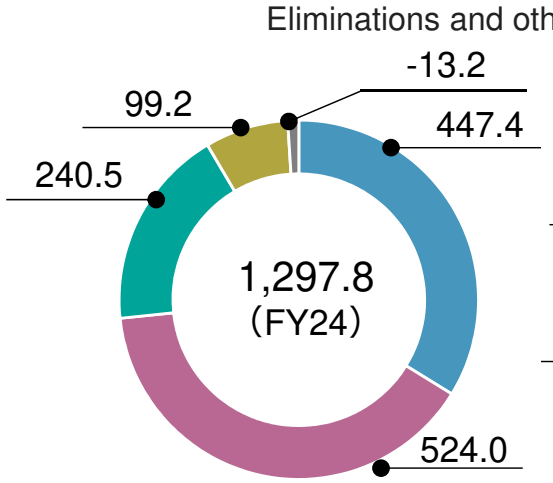
Medical Business

Our goal is to continuously help improve the quality of life and well-being of people worldwide through products, systems, and services that contribute to healthcare advancements.

Other

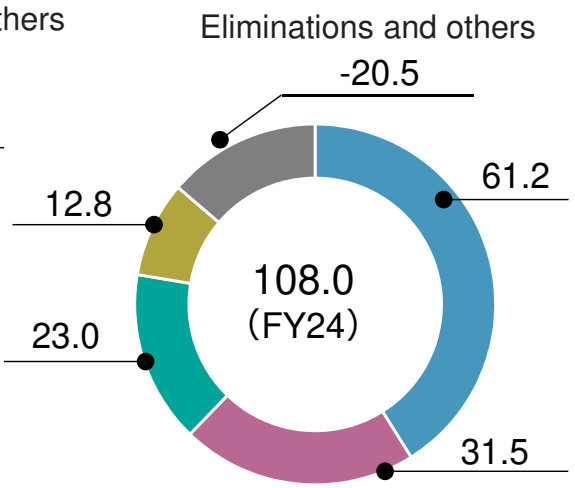
In addition to corporate expenses, Other includes expenses related to new businesses, R&D, lithium-ion batteries for stationary use, SEKISUI BIO REFINERY CO., LTD., perovskite solar cells, etc.

Breakdown of Sales



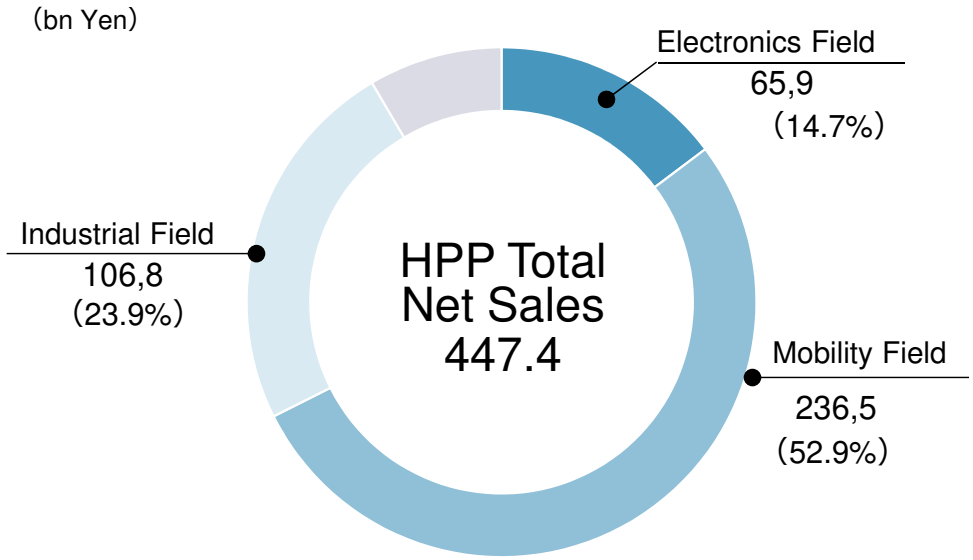
Breakdown of Operating Profit

(bn Yen)



2. High Performance Plastics (HPP) Company Overview

Composition FY2024



∗ The figures in parentheses represent the composition ratio.

Various Data FY2024

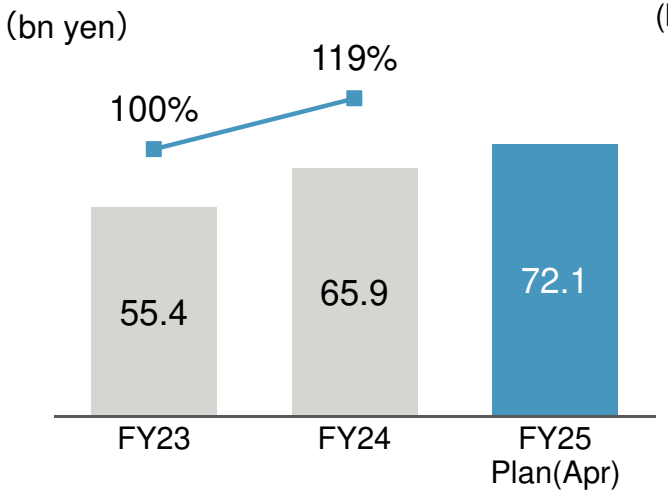
(bn Yen)

Depreciation	22.9
Capital expenditures	26.8
EBITDA	84.8
Research and development expenditure	15.3
ROIC	12.7%

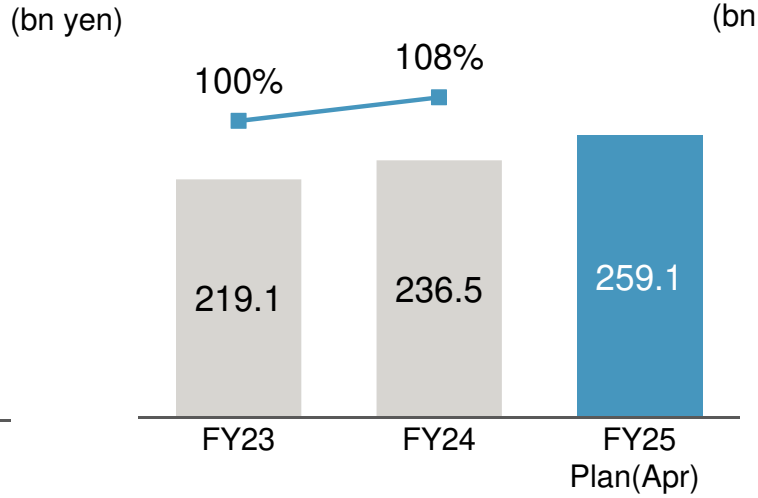
Three Strategic Fields

FY23=100

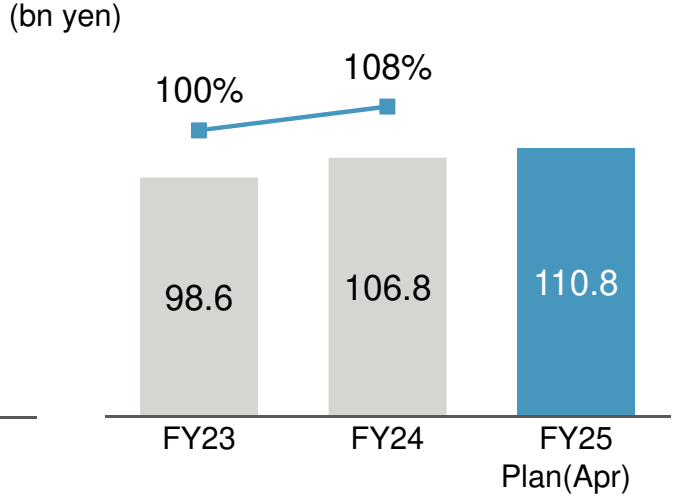
Electronics Field



Mobility Field



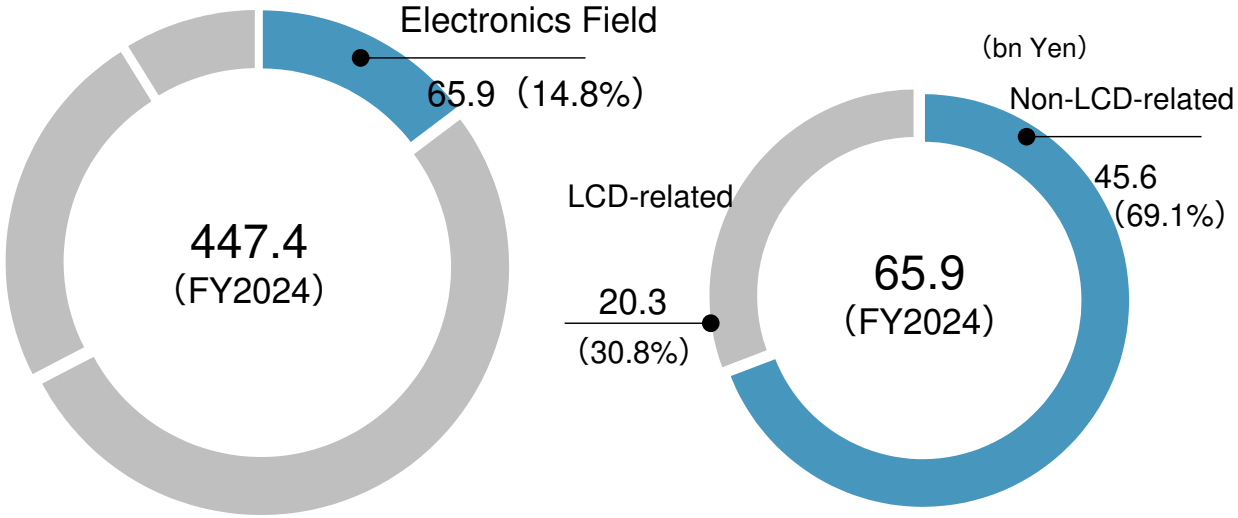
Industrial Field



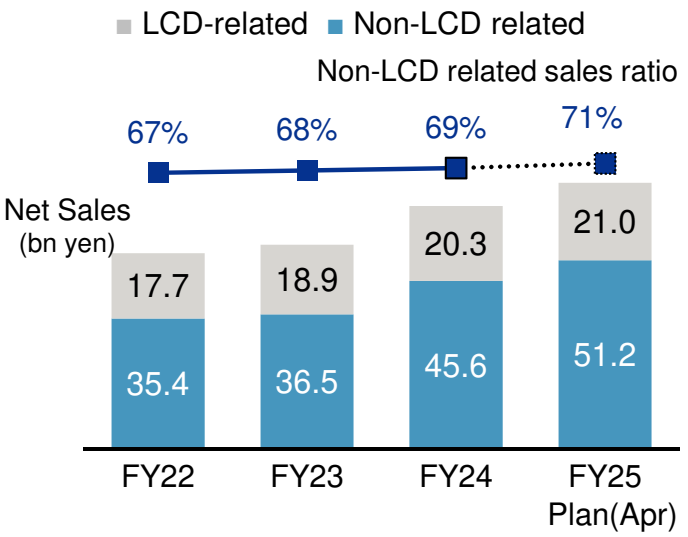
3. Electronics Field Overview

- Broadly speaking, the electronics field can be divided into two areas: non-LCD-related and LCD-related. These are further classified into four product categories: semiconductors/electronic components, exterior/mechanical components, next-generation displays, and LCD displays.

Sales Composition



Composition of Electronics Field

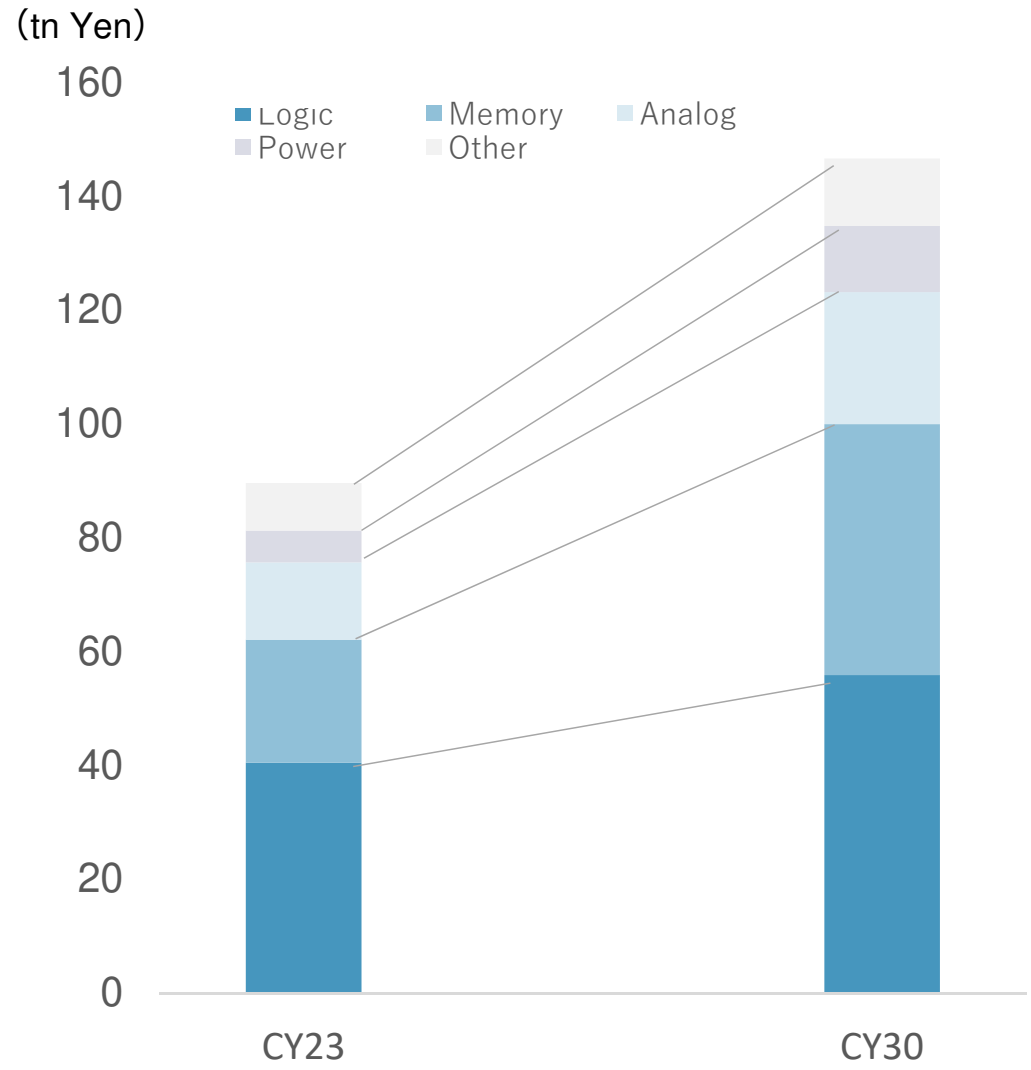


Product Configuration

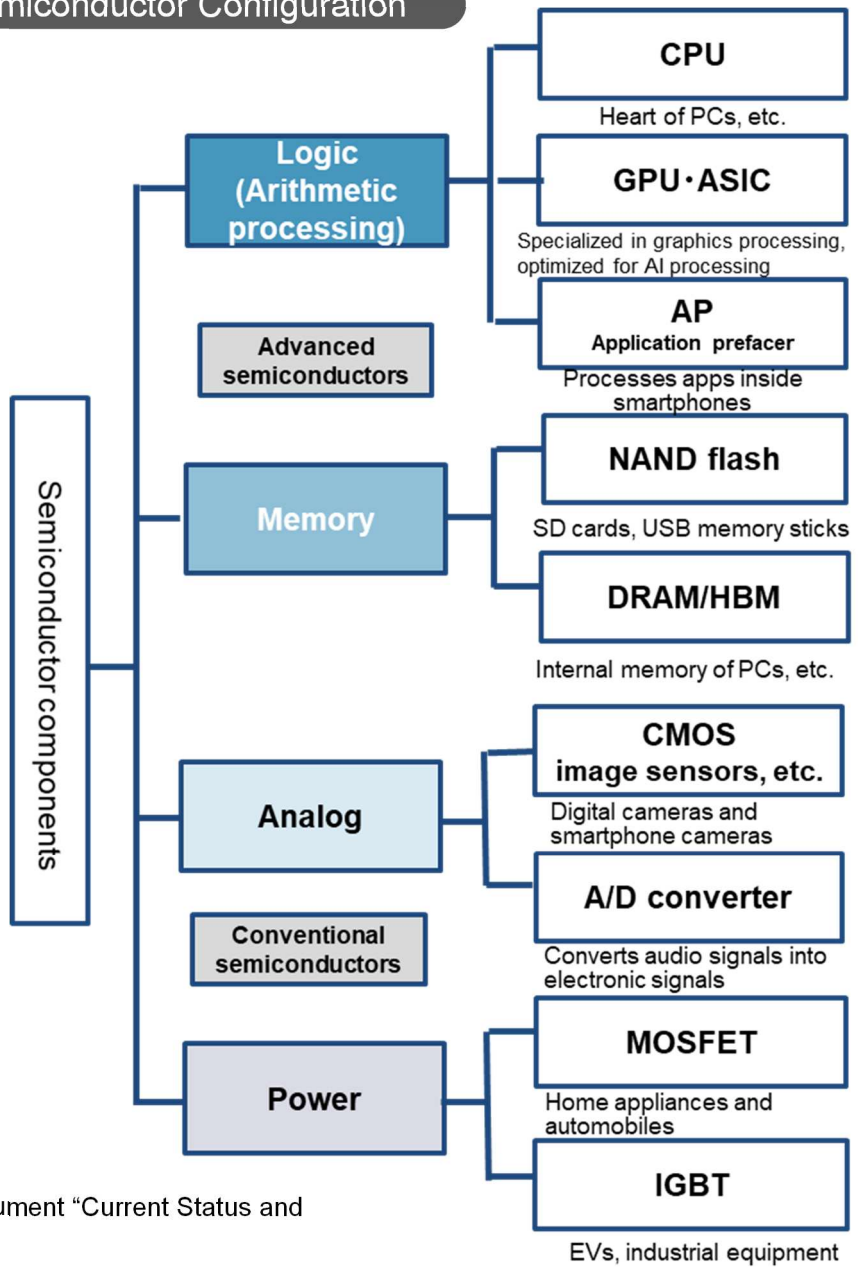
Field		Main products	Main applications
Non-LCD-related	Semiconductors/ electronic components	UV peeling off tape	Semiconductor manufacturing process
		Binder resin	MLCC manufacturing process
		Heat release materials	Servers, base stations
	Exterior/mechanical components	Functional foam tape	TVs, smartphones
	Next-generation displays	µLED sealing material	mini/µLED
LCD-related	LCD displays	Microparticles, spacers, sealants Tapes, films	LCD displays

- The global semiconductor market is expected to see high growth until 2030, driven by advanced semiconductors for generative AI, automobiles, and high-performance devices.

Global Demand for Semiconductors



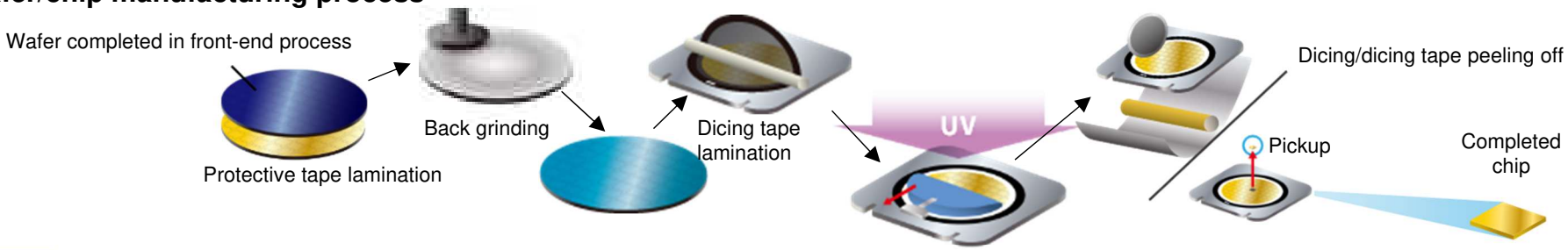
Semiconductor Configuration



Source: Prepared by our company based on the Ministry of Economy, Trade and Industry document “Current Status and Future of Semiconductor and Digital Industry Strategy,” dated May 31, 2024

Semiconductor Manufacturing Process

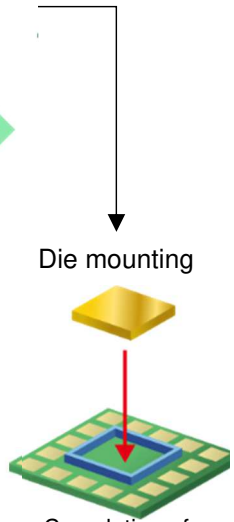
Wafer/chip manufacturing process



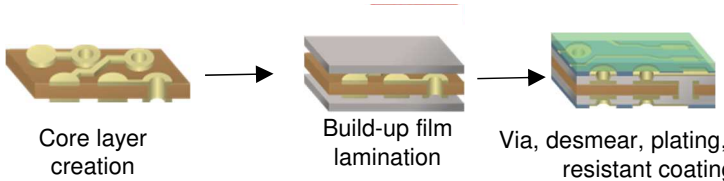
Sekisui products on the market	Front-end process flow		Middle-end process flow	Back-end process flow					Surface mounting process
Package trends	Wafer fabrication		TSV	Grinding/ cutting	Die bonding	Package substrate formation		Lamination/sealing	LCR placement
General purpose				SELFA Backgrind tape High adhesion, easy peeling off Chemical resistance	Chip adhesive	Copper-clad laminate	release film for heat press process Flexible circuit board protection Heat resistance Flexibility	SELFA Dicing tape High adhesion, easy peeling off Chemical resistance Heat resistance	Binder resin MLCC binder Toughness Dispersibility Adhesiveness
2D									
4M innovation	Abrasive cloth fixing tape High adhesion Cushioning	Clean container Low contamination							
2.5D			SELFA Temporary wafer fixing High adhesion, easy peeling off Chemical resistance Heat resistance Low residue	SELFA Dicing tape High adhesion, easy peeling off Chemical resistance Heat resistance Low residue	Optical adhesive Heat resistance	Interlayer insulation material Build-up film Low electrical loss Crack resistance	SELFA Temporary interposer fixing High adhesion, easy peeling off Chemical resistance Heat resistance	SELFA MOLD reinforcing material Easy peelability Chemical resistance Heat resistance	
3D									

Enhanced process material lineup

(3Dx temporary fixing material)



Package substrate manufacturing process



Semiconductor-related Trends

Semiconductor trends	Package trends
Spread of smartphones High speed and high capacity (thin chips/laminated substrates)	General purpose 2D
Innovation areas in 4M (materials, equipment, methods, and people) (Emergence of highly difficult technical issues)	
Spread of AI Low power consumption (low power loss design) Large glass substrates/ photoelectric fusion	2.5D
Multifunctionality Power saving (Hybrid bonding)	3D

The latest package trends in advanced semiconductors show a move toward higher speeds, larger capacities, and wider bandwidths. Consequently, the mounting process is becoming increasingly complex, progressing from 2D to 2.5D to 3D, and there is a growing need for materials, equipment, processes, and operating methods that can respond to these changes.

■ **2D package**
- ➢ **FOWLP**
  - Support material applicable to various device structures
  - Heat release materials that efficiently dissipate heat from hot spots

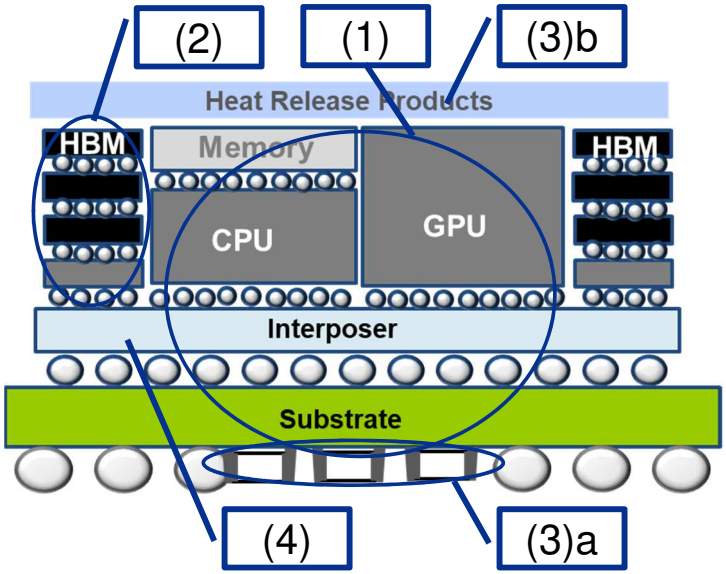
Next-generation semiconductor elements

■ **(1) 2.5D package**
- ➢ **GPU/ASIC**
  - Interposers/**Materials with easy peelability** suitable for large-size substrates
  - **Low dielectric insulation materials** required for larger sizes/higher speeds

■ **(2) 3D package**
- ➢ **HBM**
  - **Materials with thermal resistant & easy peelability** required for the evolution from HBM2→3→4

■ **(3) High performance**
- a Increased number of MLCCs installed for stable power supply
- b **High heat release** required for high-speed, large-capacity processing

■ **(4) High-density mounting**
- ➢ **Hybrid bonding**
  - **Ultra-low residue peelability materials** required for lamination and 3D modeling



5. <Semiconductor/Electronic Components> UV Peeling Off Tape SELFA™

Product Features

- UV peeling off tape that combines heat resistance, chemical resistance, high adhesion, and easy peelability

Competing Technology

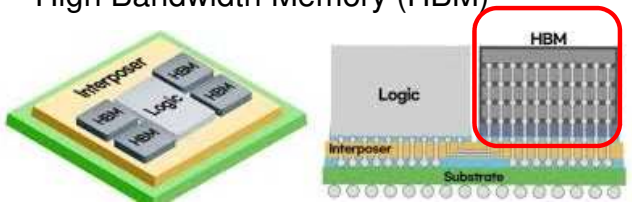
- Liquid materials

Strengths

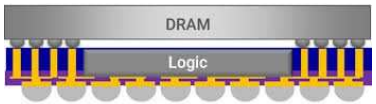
Heat resistance: up to 220°C heat resistant specification (up to 260°C CW)
Easy-to-peel: Damage-free peeling using gas generation peeling technology
Suitable for ultra-thin devices
Low residue: Residue-free thanks to Pre UV technology

Applications

- CMOS image sensors
- High Bandwidth Memory (HBM)

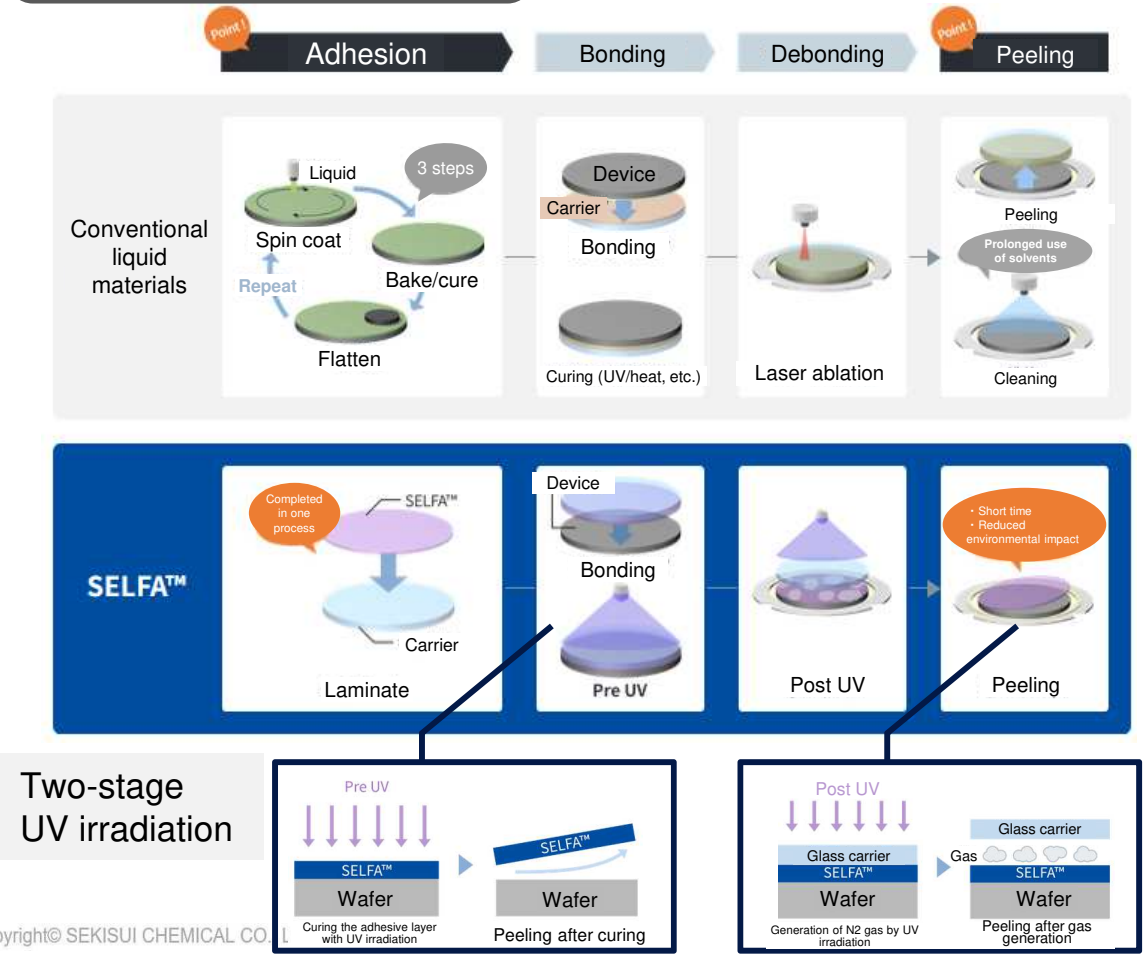


- Application processors (FOWLP)



- Communication modules (SiP), etc.

Process Comparison



Sales growth rate (FY22=100)

5. <Semiconductor/Electronic Components> Interlayer Insulation Film (Build-up Film)

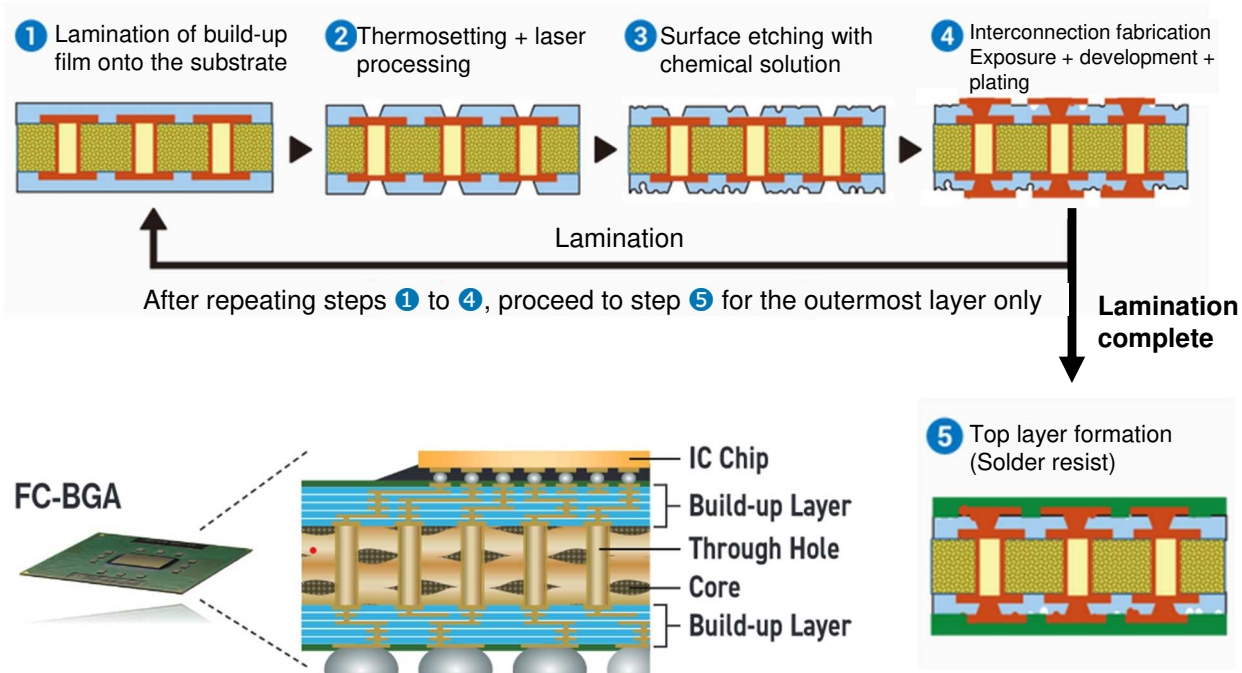
Product Features

- Insulating film used in semiconductor package substrates
- Required features:
  SAP process suitability, reliability, and functional characteristics
- One of only a handful of build-up film providers

Strengths

- Package substrates are becoming larger and multi-layered.
  Responds to increased communication loss, crack problem, and low yield rates
  - ➢ Low dielectric design: Contributes to low communication loss
  - ➢ Low internal stress design: Contributes to high reliability
  - ➢ High processability design: Excellent SAP processability

Processing Process (SAP process)

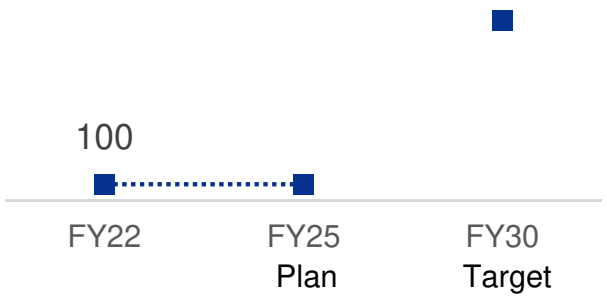


Applications

Semiconductor package substrates requiring low latency and low power consumption

- Conventional FCBGA (Flip Chip-Ball Grid Array)
- Next-generation package (2.xD)
  - ➢ High-performance CPU (PC, server)
  - ➢ GPU
  - ➢ AI and network equipment processors, etc.

Sales growth rate (FY22=100)



5. <Semiconductor/Electronic Components> Heat Release Products

Heat Release Grease

Product Features

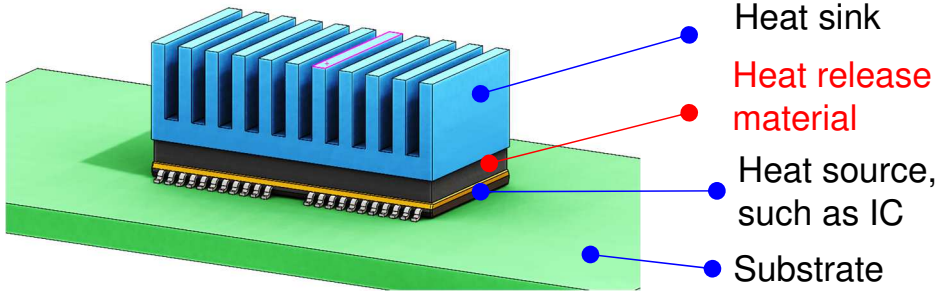
- Two-component room temperature solidifying heat release grease
- Excellent stability of physical and electrical properties over a wide temperature range
- Highly flexible, reducing stress caused by differences in thermal expansion
- A range of grades with different thermal conductivity and hardness

Strengths

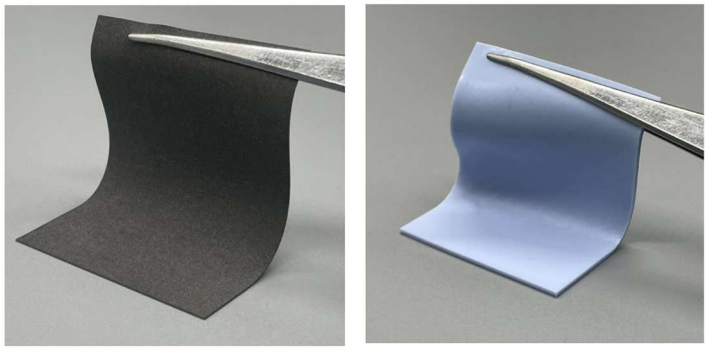
- Achieves flexibility and high thermal conductivity through unique resin design and filler dispersion
- Outstanding handleability and automatic coating properties

Applications

Heat countermeasures for high-load equipment, such as batteries, power devices, and semiconductor-related equipment



Heat Release Sheet



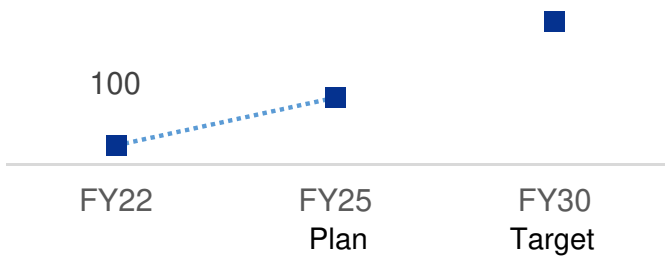
Product Features

- High heat resistance and flexibility
- Contains low levels (≤70 ppm) of low-molecular-weight cyclic siloxanes, known to cause contact failure
- Wide lineup (insulated type, high heat conduction type, radio wave absorption type, etc.)

Strengths

- Utilizes unique filler orientation technique to achieve high thermal conductivity while maintaining flexibility
- Achieves ultra-low thermal resistance through thin film technology

Sales growth rate (FY22=100)



5. <Semiconductor/Electronic Components> High-viscosity Inkjet Ink

Product Features

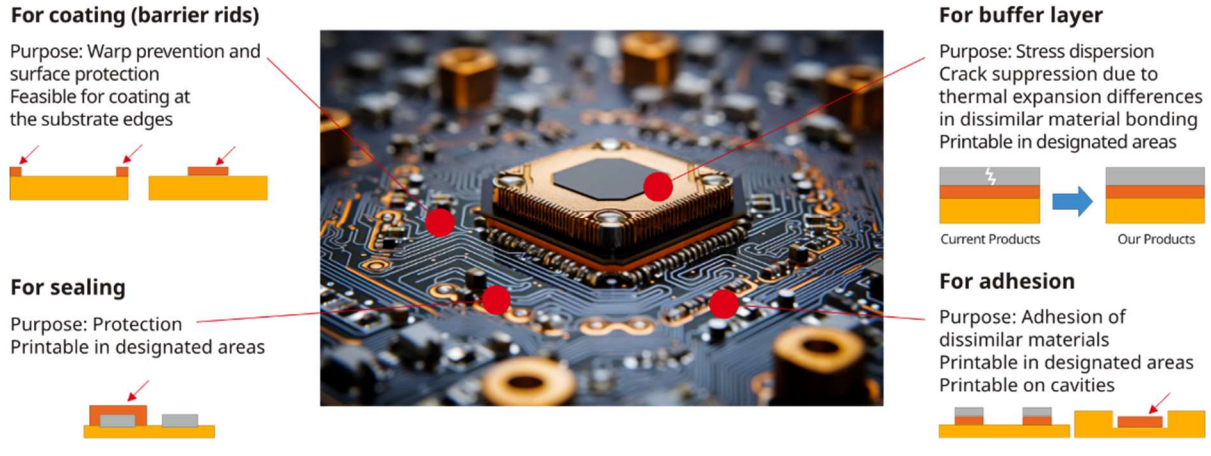
- No mask required, optional shape printing possible
- Printing on uneven substrates possible
- Reduces processes and material usage

Strengths

Stable coating of high-viscosity materials and proprietary printing process enabling:

- ➢ Shape flexibility (3D)
- ➢ High functionality (high heat resistance and strength)

Applications

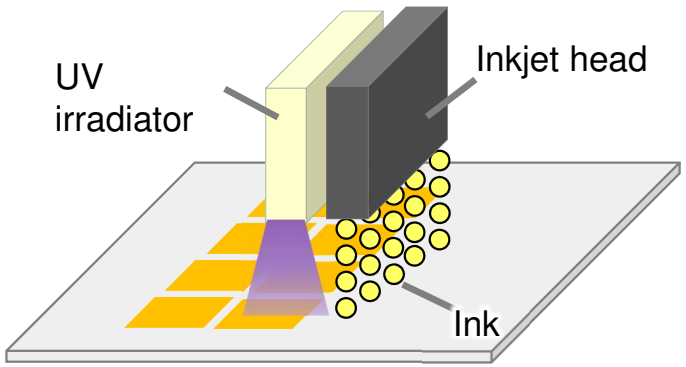


Comparison with other printing methods

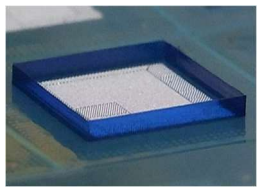
Printing method	Resolution	Height	Process time
Sekisui inkjet	○	○	○
Regular inkjet	×	×	○
Dispenser	×	○	×

Expected to be adopted in the second half of 2025 for mobile device mechanical parts, camera modules, semiconductor packages, AI servers, etc. Expected to expand from FY2026.

Process

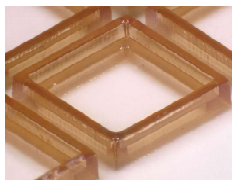


Wall materials



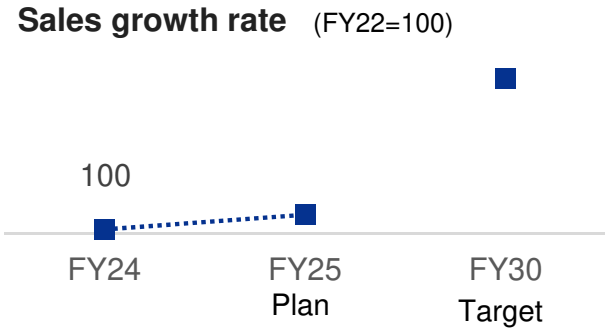
Inclined shape

Step shape



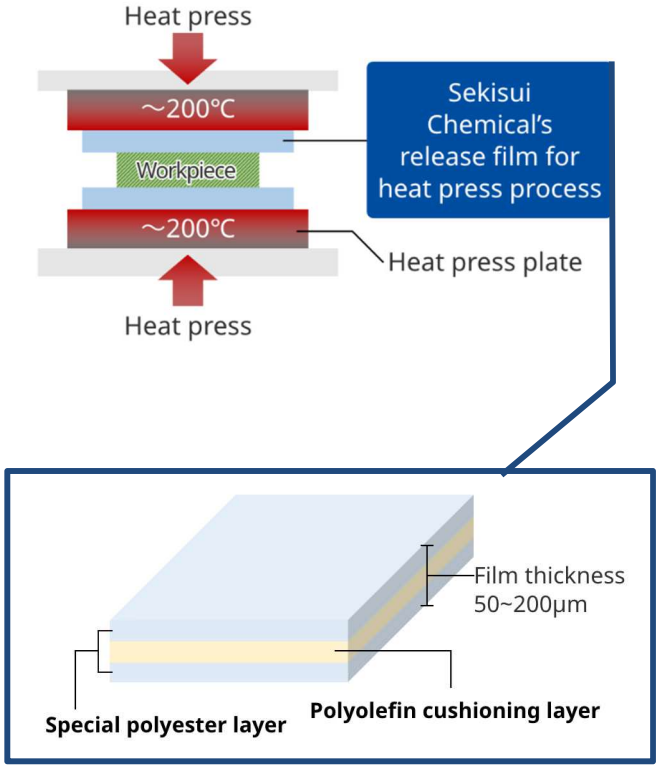
Cylindrical shape

Sales growth rate (FY22=100)



5. <Semiconductor/Electronic Components> Release Film for Heat Press Process

Multi-layer Structure of the Release Film



Product Features

Special polyester layer

- Multi-layer structure consisting of a special polyester layer and polyolefin cushioning layer, widely used for surface protection and cushioning in heat press process

Polyolefin cushioning layer

- Withstands heat press at a wide range of temperatures and can be easily removed from the workpiece after pressing
  (Polyolefin cushioning layer)
- Easy to deform and conform to the shape of the workpiece

Applications

Surface protection during heat press in substrate ma3nufacturing

- Surface protection for flexible printed circuit (FPC) manufacturing
- Surface protection during rigid-flex board manufacturing

Heat resistance/cushioning

- Semiconductor mold forming
- CFRP manufacturing
- Chips: Heat and pressure cushioning during ACF bonding
- Other: Protection and cushioning during heat press process

Strengths

- Heat resistance: Resistant to heat and can be used at high temperatures (approx. 50 to 200°C)
- Flexibility (shape conformability): Deforms softly without wrinkling
- Surface protection/cleanness
- Protects surfaces without contaminating the workpiece with low outgassing and low transfer
- Free from silicone and PFAS

Sales growth rate (FY22=100)

5. <Semiconductor/Electronic Components> Binder Resin for Passive Components

Product Features

- Polyvinyl Acetal Resin is composed of three units: acetal group, acetyl group and hydroxyl group.
- Polyvinyl acetal resin (PVB) with excellent physical properties: Toughness, Adhesiveness and Dispersibility

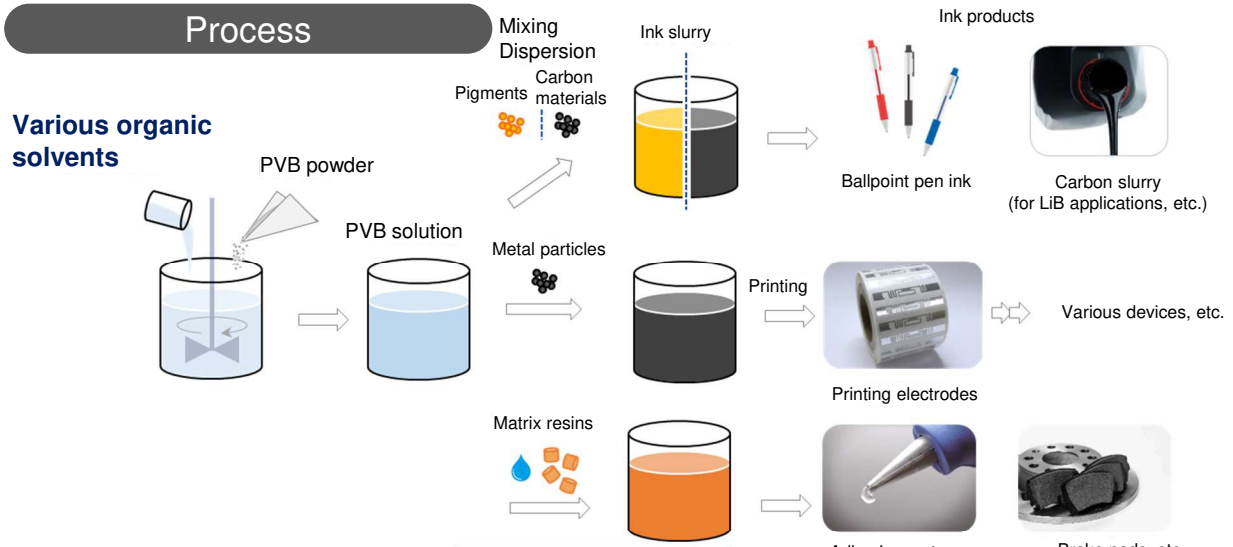
Strengths

Toughness: Is flexible with moderate strength
Dispersibility: Maintains fine and uniform dispersion as a dispersing agent
Adhesiveness: Bonds sheets together firmly as a binder

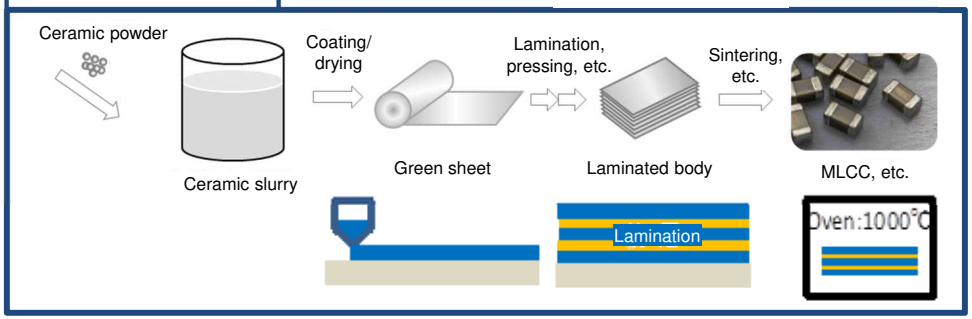
Applications

- Various ceramic binders centered on MLCC
- Binders for conductive pastes
- Dispersants for pigments, carbon materials, etc.
- Modifiers (high-performance agents) for epoxy and phenolic resins
- Inkjet receptive layers, adhesives etc.

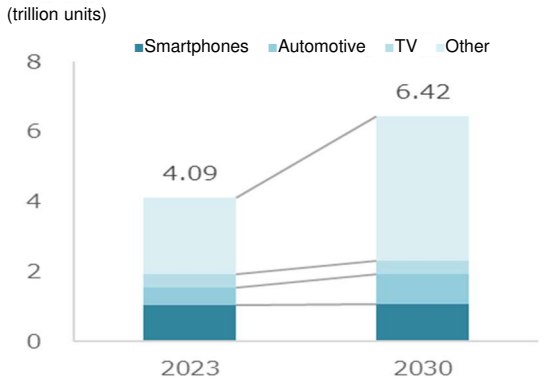
Process



Processes for MLCC

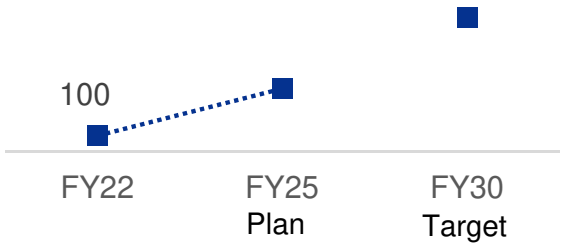


MLCC Global Demand

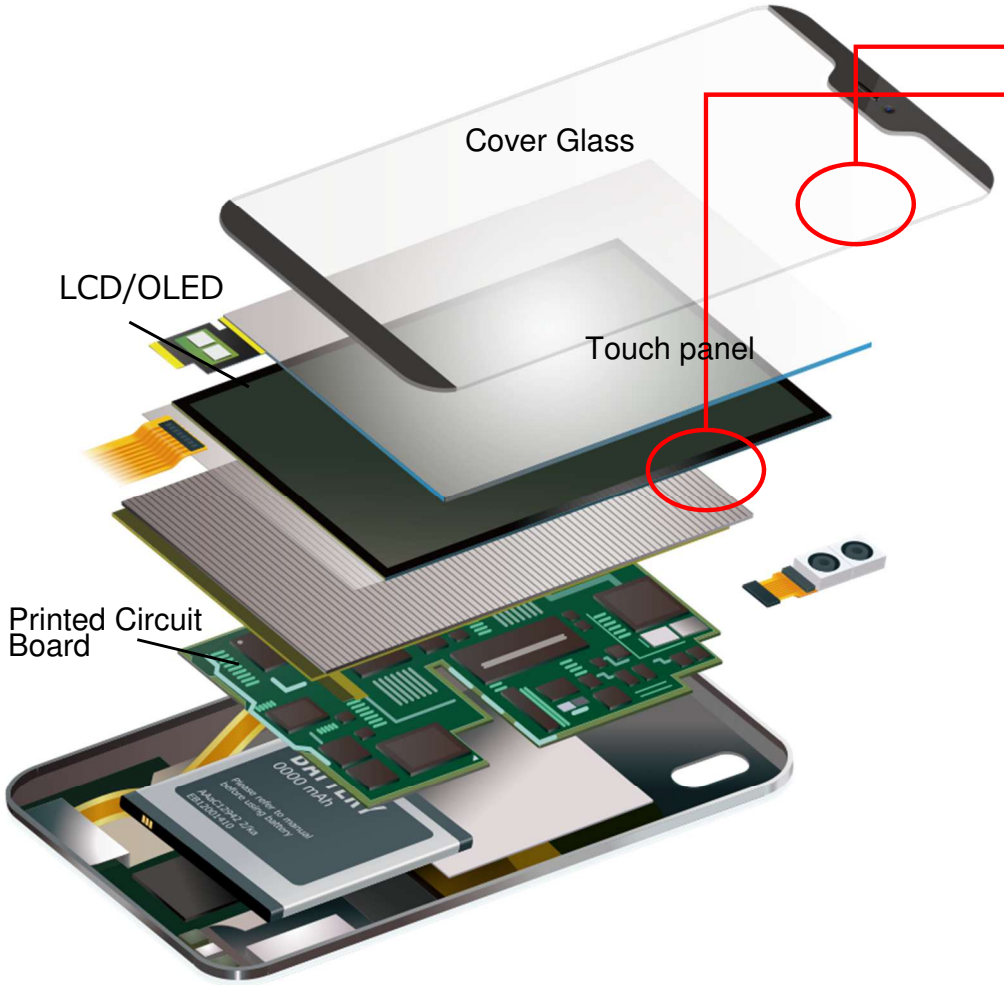


Source: Fuji Chimera Research Institute, Inc., 2024: Current Status and Future Prospects of Advanced Materials for Electronics

Sales growth rate (FY22=100)

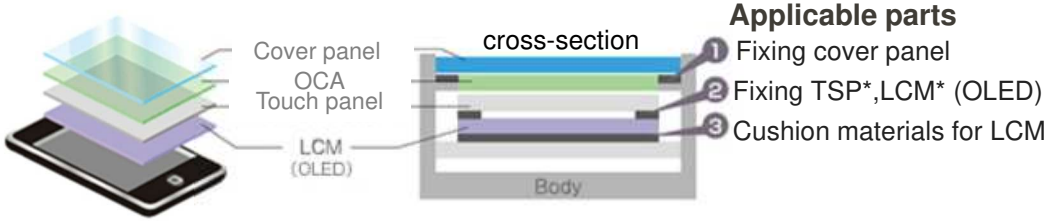


5. <Exterior Parts/Mechanism Components>



Exterior Parts/Mechanism Components

- **Functional foam tape**
  - ➢ Fixing cover glass and flame / Absorbing drop impact



*TSP: Touch Sensor Panel *LCM: Liquid Crystal Module

- **Elastic resin Photolec B**
  - ➢ Contributing to the production automation of component fixing through UV – temporary curing + moisture curing
- Conductive fine particles Micropearl™
- High-viscosity Inkjet Ink
- Thin foam XLIM
  - ➢ Cushioning material for impact protection of display panels and various components

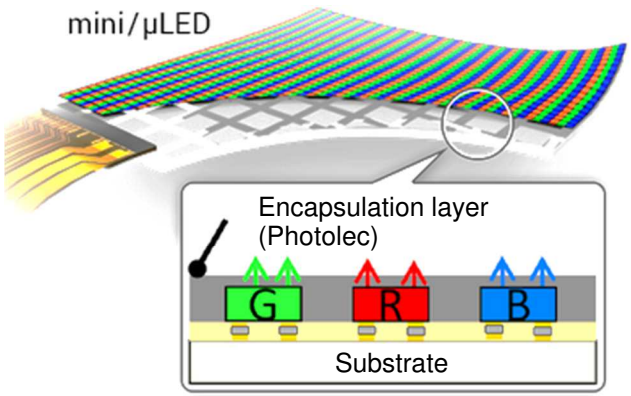
5. <Display Components> LCD/Next Generation Display

Product Lineup for FPD

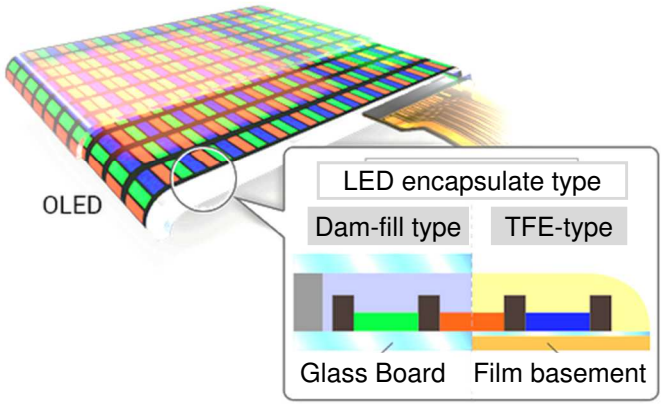
	Product Features	Our strengths	Share
UV Adhesive（Adhesive for LCD Panels）	• UV adhesives made of high-performance, high-purity resins with exceptional ultraviolet-curing properties.	• Less likely to contaminate LCDs • Capable of applying fine lines	Top Global Market Share
LCD Spacer	• Pearl-like plastic spheres of several-micron diameter maintain a constant liquid crystal layer thickness	• Uniform particle size distribution • Heat, voltage, and chemical resistance	Top Global Market Share *Shares are calculated based on our estimate
Conductive Fine Particles	• Fine particles with electrical conductivity on gold-plated plastic spheres. Display images are produced by electric voltage flowing through the fine particles.	• Uniform particle size distribution • Uniform metal layers • Can form various metal layers • More flexible than metal particles	Top Global Market Share

Next Generation Display

- µLED sealing material:
  - Solvent-free sealing material that hardens with UV light alone
  - High hardness (glass substitute)
  - Flexible (flexible substrates compatible)
- UTG protective resin Photolec™ New

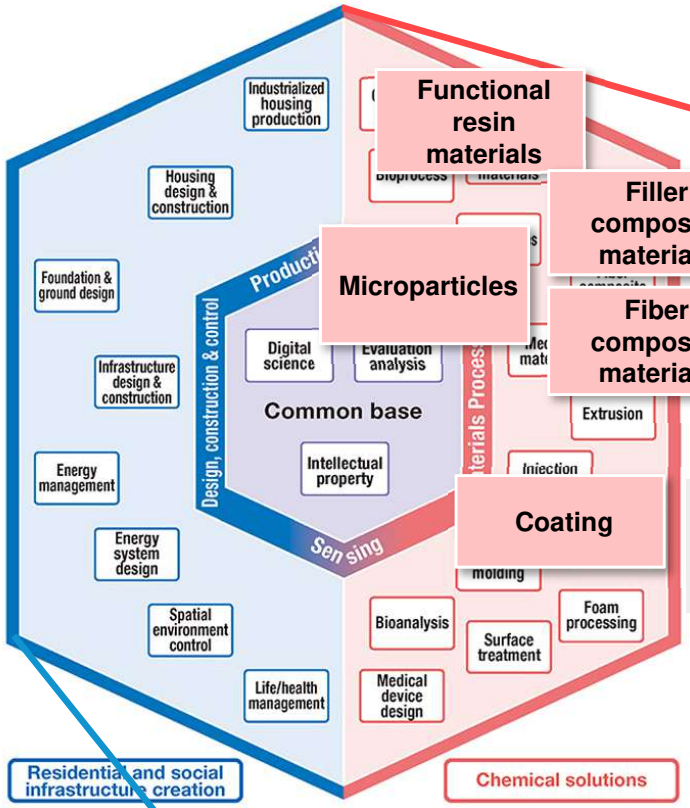


- OLED sealant



6. Technology Platform (TPF) Activities and Research & Development

- Strengthen, explore, and expand core and fundamental technologies in the fields of microparticles, coating, functional resin materials, filler composite materials, and fiber composite materials, which serve as the basis for R&D in the electronics field.



Functional resin materials

Filler composite materials

Microparticles

Fiber composite materials

Coating

Technological Platforms

Technology to explore/expand

Epoxy
Highly reliable resin
Low dielectric tangent material
High heat resistance material

Liquid crystal polymer
High heat dissipation material

Material composites
Thermal control
Silicone design
Filler interface control
Closest packing
Evaluation/Analysis

Difficult-to-disperse filler interface control
Lightweight, high-strength materials

Fundamental technologies

Evaluation and analysis
Pre-treatment technology
Composition analysis
Surface analysis
Morphological observation

Meso structure analysis
Nano surface analysis

Forming
Multi-layer co-extrusion
Bubble control
Coating and drying

Distributed control
Surface shaping

Core technologies

Acrylic
Adhesive control
Polymerization method/Precision polymerization
Monomer design
Interface/Interface structure control
Acrylic composite

Printable
Trigger-response design

PVA/B
Rheological control
Heterogeneous composite design
Rheological simulation

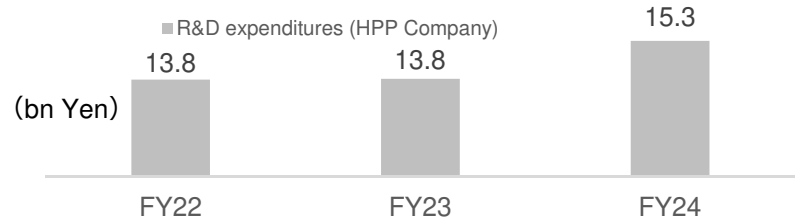
Copolymerization/Introduction of denatured group

Microparticles
Fine structure control
Particle size control
Surface functionalization
Composition control
Process design

Distributed control
(distributed reduction)
Foaming/light control

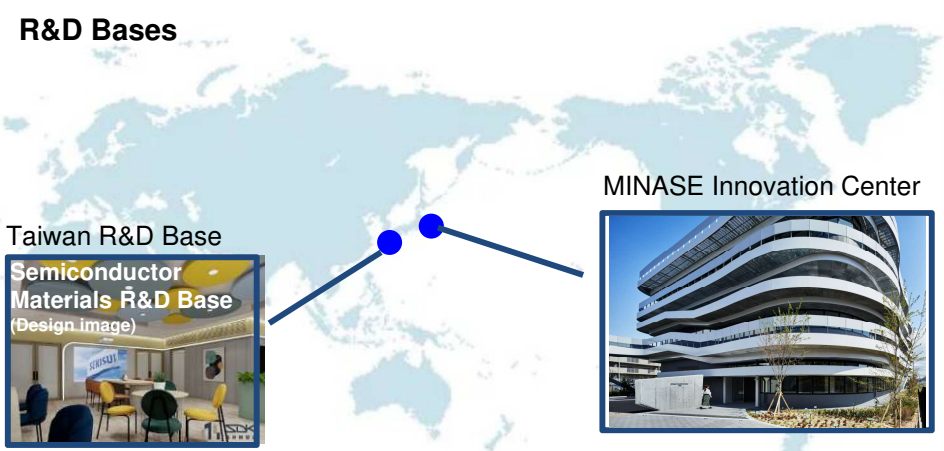
7. Research & Development, Investment Plan

R&D Expenditures



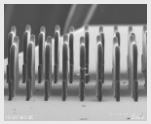
		Investment Amount	FY23	FY24	FY25	FY26
R&D Bases	Taiwan	Included in SELFA Investment			Apr	
	Japan	—				

R&D Bases

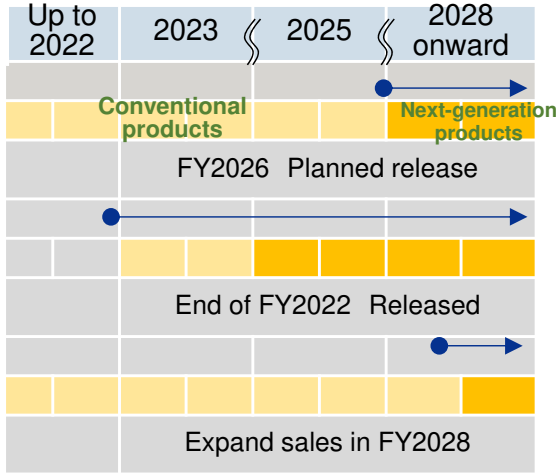


: Onset of effects : Onset of full effects

Key theme

Business expected to grow		Key theme	Core technology
■ Semiconductor components		Expansion of super-heat-resistant SELFA business	Acrylic/adhesive control
■ Semiconductor components		Introduction of inkjet printing materials to the market	Ink design x device development
■ Build-up film		Introduction of high-speed transmission low-loss products to the market	Formulation technology × coating technology

Timing of effects



Investment Plan for the Electronics Field

(bn Yen)

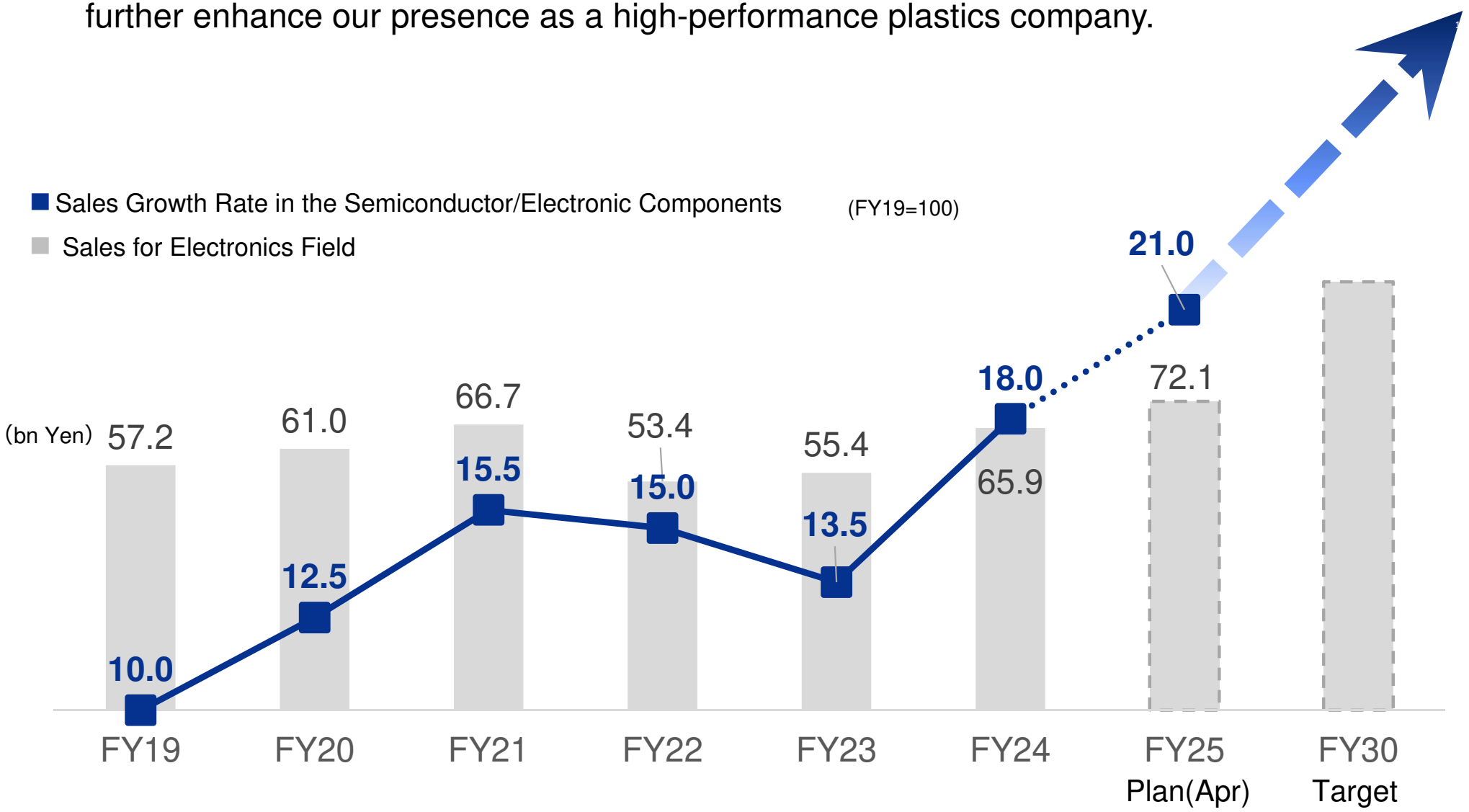
: Decision making to start of investment : Start of manufacturing

Products		Investment Amount	FY23	FY24	FY25	FY26	FY27	FY28
SELFA	Japan	5.0 Including Taiwan R&D Base expenses					1H	
PVB	Japan	2.0				1Q		
Conductive fine particles	Japan	2.0						1H

- Decided to increase production capacity of Micropearl AU®, conductive fine particles used in circuit connections for displays and mechanical components
- Plan to start operations in the first half of FY2028
- Also expand to next-generation displays such as μ LED and automotive applications

8: What We Aim to Achieve

- We aim to double our business volume compared to 2019, with the semiconductor/electronic components segment as the growth driver. We will seek to further enhance our presence as a high-performance plastics company.



SHIFT 2019 –Fusion- | Drive 2022 | Drive 2.0

This slide presentation contains forward-looking statements.
These statements are based on current expectations and beliefs. However, actual results may differ from those expressed or implied due to a number of factors and uncertainties such as changes in the global economy and our business, competition in the market, and regulatory issues.

Note: Figures denominated in units of 100 million JPY are rounded off to the nearest hundred million.