

## Introduction

# Continuing to Be a World-Leading Materials Company

The Shin-Etsu Group has achieved high profitability by developing, producing, and selling a wide range of materials that serve as the foundation for industry and daily life all over the world. This is the result of pursuing world's highest level of technology and quality, constantly striving to improve productivity, and making timely and appropriate capital investments with an eye on the future. We aim to grow further as a world-leading essential supplier by providing products that contribute to solving the challenges faced by customers and industry.



## Introduction

# High market shares in many materials that serve as the foundation for industry and daily life

As an essential supplier supporting industry and daily life around the world across four business fields, the Group provides many products in which it holds top market shares globally, including PVC and semiconductor silicon.

## Infrastructure Materials

Polyvinyl chloride (PVC) resin is essential to our daily lives, from water supply and sewerage systems and other infrastructure (social infrastructure) to housing, agriculture, and everyday products. With a combined annual production capacity of 4.84 million tons at three bases in the US, Europe, and Japan, we boast the world's largest production capacity and provide a stable supply of PVC globally. In addition, we also supply caustic soda, polyvinyl alcohol (POVAL), and other products.

### Polyvinyl chloride (PVC) resins

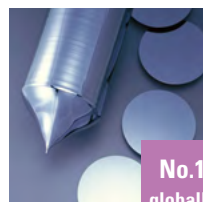


No.1 globally

## Electronics Materials

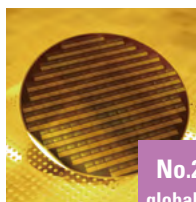
We produce silicon wafers, a key semiconductor material, as well as photoresists, photomask blanks, and encapsulant materials used in the semiconductor manufacturing process. We also supply rare earth magnets, which are essential for power-saving motors used in eco-friendly vehicles and electrical appliances, and high-purity synthetic quartz, which is used as a raw material for optical fibers and for other applications.

### Semiconductor silicon (Silicon wafers)



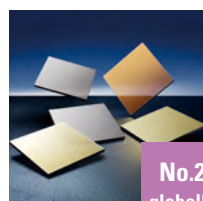
No.1 globally

### Photoresists



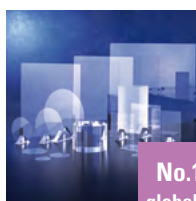
No.2 globally

### Advanced Photomask blanks



No.2 globally

### Synthetic quartz (for photomask substrates for LCD)

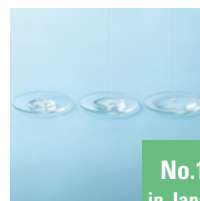


No.1 globally

## Functional Materials

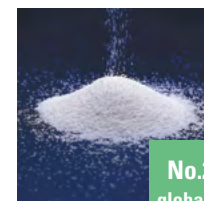
In 1953, we were the first Japanese company to commercialize silicone, which is used in a wide range of industries, and since then we have continued to develop our product lineup, which now includes more than 5,000 varieties. We also supply a wide variety of materials that deliver superior functionality, including cellulose derivatives, which are widely used in pharmaceuticals, food products and industrial applications, as well as synthetic pheromones, silicon metal, liquid fluoroelastomers, pellicles, and silicon anode material for lithium ion batteries.

### Silicones



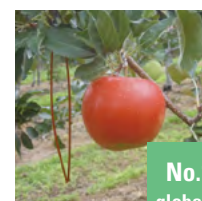
No.1 in Japan

### Cellulose derivatives (Methylcellulose)



No.2 globally

### Synthetic insect repellent Pheromones



No.1 globally

## Processing & Specialized Services

As a processing manufacturer of various resins such as PVC and silicone, Shin-Etsu Polymer Co., Ltd. meets the diverse needs of customers in a wide range of fields including the automotive, information equipment, semiconductor, packaging material, and construction material industries. Shin-Etsu Engineering Co., Ltd. is involved mainly in the design and construction of the Group's manufacturing plants, and also provides vacuum assembling equipment, micro LED chip transfer equipment, and other products.

### Wafer Cases



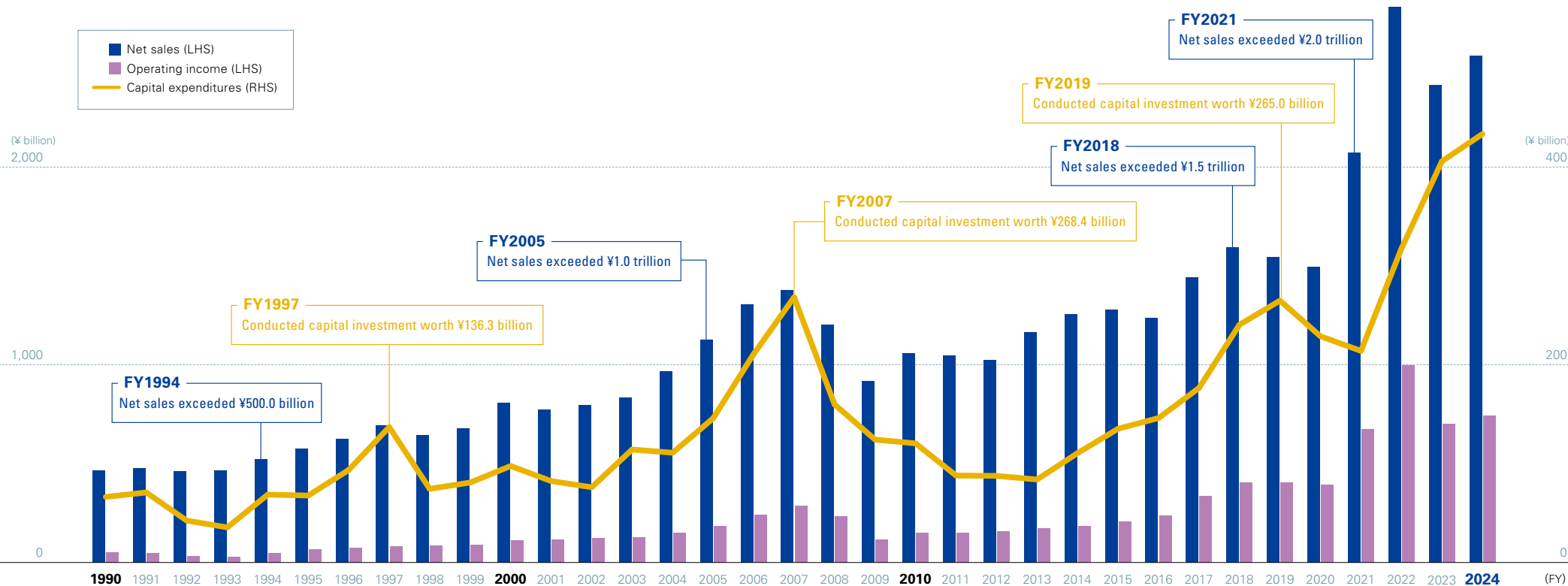
No.1 globally

## Introduction

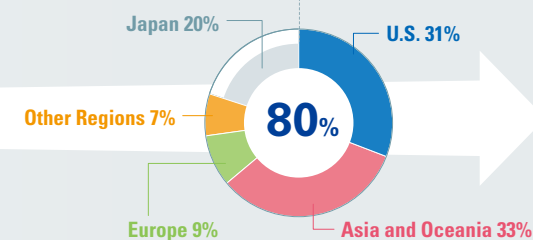
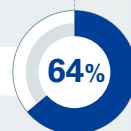
# Growth trajectory

## —Sustained growth through proactive capital investment and overseas business expansion

Since its establishment in 1926 as Shin-Etsu Nitrogen Fertilizer Co., Ltd., the Shin-Etsu Group has continually transformed its business with an eye to the future. We have achieved growth through proactive capital investment with an eye on future market expansion and by expanding our sales channels to overseas markets.



### Composition ratio of overseas sales





## Introduction

# History of enhancing profitability

—Improving profitability by constantly striving to improve productivity and achieve full production and sales of all products made



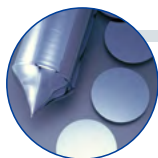
## PVC resins



Shintech Freeport Plant (Texas, USA)

### Trajectory of business expansion and profitability improvement

- 1957 Start of PVC production** ▶ We introduce electrolysis and polymerization technologies at our Naoetsu plant and begin in-house production of PVC.
- 1970 Expansion into Kashima Industrial Complex** ▶ We are the first in the world to perfect non-scale technology to prevent the formation of scale (polymerization residue), enabling the enlargement of our polymerization reactors.
- 1974 Shintech begins operations in the U.S.** ▶ In anticipation of stable demand for infrastructure and housing construction worldwide, Shintech focuses not only on the U.S. market but also on exports, based on the goal of full production and sales of all products made.
- 1990 No. 1 in the U.S.** ▶ Shintech's annual production capacity reaches 900,000 tons, and thanks to its advantages of high quality and stable supply, its market share in the U.S. market approaches 20%.
- 2001 No. 1 in the world** ▶ Shintech's annual production capacity exceeds 2 million tons. Meanwhile, although eager to invest in quality and cost competitiveness, we remain thoroughly dedicated to process rationalization and a workforce that is small in number but highly skilled team. The result is a highly profitable business structure with no waste.
- 2008 Start of integrated production from raw materials** ▶ Shintech establishes an integrated production system in Louisiana that covers all production processes from salt electrolysis to Vinyl chloride monomers, enabling it to provide a more stable and flexible supply of products to customers.
- 2020 Start of ethylene production** ▶ Integrated production is strengthened by taking advantage of the geographical advantages of the US, which is rich in rock salt (the raw material for chlorine) and natural gas (the raw material for ethylene).
- 2021 Start of expansion of Shintech's integrated plant** ▶ Shintech's PVC production capacity reaches 3.64 million tons, enabling it to leverage its scale advantages to further strengthen its high-profit structure.



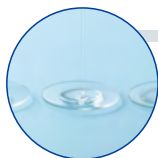
## Silicon wafers



300mm wafer building (Shin-Etsu Handotai's Shirakawa Plant)

### Trajectory of business expansion and profitability improvement

- 1967 Founding of Shin-Etsu Handotai** ▶ After Dow Corning proposes to dissolve our joint venture, Shin-Etsu Handotai becomes a wholly owned subsidiary in 1979 and decides to pursue the international market on its own.
- 1979 Founding of Shin-Etsu Handotai America, Inc.**
- 1984 Completion of Shirakawa Plant** ▶ To meet the rapidly increasing demand for semiconductors driven by the demand for electronic devices, including PCs, video games, and VCRs in the early 1980s, the Shirakawa Plant, which carries out integrated production of semiconductor silicon wafers from crystallization to processing, begins operation.
- 2001 Start of mass production of 300mm wafers** ▶ In the 2000s, our Shirakawa Plant became the first in the world to begin mass production of 12-inch (300mm) wafers. Bucking the trend of trying to expand market share by lowering prices, we continue to invest in facilities around the world to create a system for stable supply of high-quality products based on advanced technological capabilities. Entering into long-term agreements with customers based on trust relationships enables us to conduct stable business operations that are less susceptible to economic fluctuations.



## Silicones



Silicone products when production first started

### Trajectory of business expansion and profitability improvement

- 1953 Start of production of silicones** ▶ Commercialized silicone products with the Silicon Resin Department as the parent organization.
- 1980 Start of accelerated overseas expansion (US, Korea, Taiwan, Netherlands)** ▶ In the early 1980s, having established a leading position in Japan by developing products meticulously tailored to customer needs, we continued to expand the business and accelerate overseas expansion.
- 2001 Establishment of manufacturing company in Thailand** ▶ Since then, we have expanded our business in the Asian market through timely capacity expansion and efficient integrated operations up to the final product.
- 2022 Increased production capacity for highly functional products**, including those that help our customers reduce CO<sub>2</sub> emissions.

## Introduction

# Source of earning power

The Shin-Etsu Group has achieved high productivity through human resource development centered on personnel with T-shaped skills, a tripartite teamwork manufacturing of sales, development, and production that promptly addresses customer needs, and the pursuit of thorough automation and labor savings.



## Productivity of People

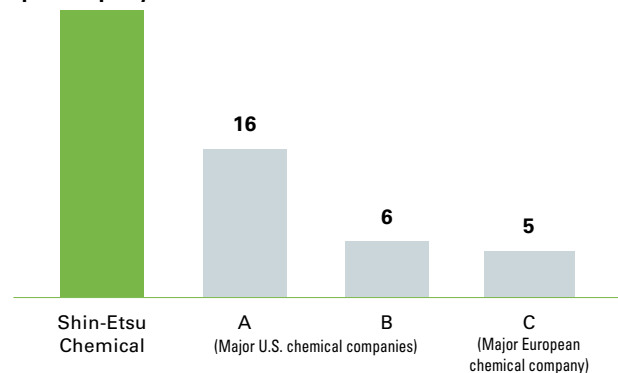
### Developing Personnel with T-shaped Skills and Pursuing a Lean Work Style

We do not carry out one-size-fits-all personnel transfers, but instead develop T-shaped human resources who have deep expertise in one field while also being able to perform a wide range of other duties. These personnel pursue a lean work style and maximize their capabilities, leading to higher productivity per employee.

#### Operating income per employee

(average of the last three fiscal years)

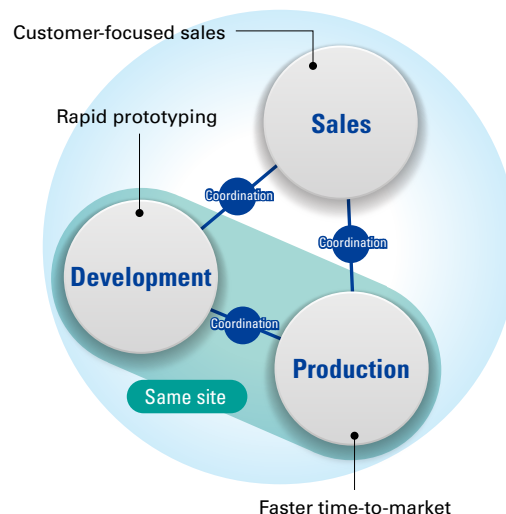
31 million yen / person per year



## Highly Productive Organization

### Tripartite Teamwork Manufacturing that Promptly Captures the Demands of the Times

Our main R&D facilities are located on the same premises as our plants, allowing for constant and prompt coordination between development and production in response to customer needs obtained from sales. In addition to rapidly developing products that meet customer needs, we coordinate with production departments to carry out prototyping and practical development toward quality stabilization and mass production at our production plants.



## Productivity of Facilities

### Achieved High Productivity through Automation

We aim to achieve stable operation with minimal personnel at our production sites, promoting automation and labor savings to the extreme, and thoroughly pursuing more efficient methods when updating and improving existing facilities and building new facilities. In addition, experienced engineers in each process perform meticulous maintenance to minimize equipment stoppages and problems, which results in high productivity.





## Introduction

# Aiming for sustainable growth by capitalizing on market expansion for PVC and semiconductors

We aim to achieve sustainable growth by supplying competitive products to the PVC market, in which a steady increase in demand linked to the global economy is expected, and the semiconductor market, which is rapidly growing due to an increase in installed capacity and new applications such as AI.

### Preparing for market expansion

#### New facility expansion at Shintech

The new Shintech facility in Plaquemine, Louisiana that had been under construction since 2021 was completed in 2024. This will increase Shintech's annual production capacity of PVC resin from 3.24 million tons to 3.64 million tons.



### Preparing for market expansion

#### New base for semiconductor materials

To expand the semiconductor lithography materials business, we have decided to build a plant in Iseaki City, Gunma Prefecture, which will serve as the fourth site for this business. The first phase of the investment (approximately ¥83.0 billion) is scheduled to be completed in 2026.



**2022**  
Approx.  
**46**  
million tons

**2014**  
Approx.  
**40**  
million tons

**2004**  
Approx.  
**30**  
million tons

**2020**  
Approx.  
**\$450<sub>bn</sub>**

**2025**  
Approx.  
**\$680<sub>bn</sub>**

**2030**  
Approx.  
**\$910<sub>bn</sub>**

### Worldwide

#### PVC Demand\*

In addition to its durability, corrosion resistance, and processability, PVC has excellent fire retardant and fire safety properties. Demand for PVC is strongly related to infrastructure and residential investment, and has a certain degree of correlation with global economic growth. The average annual growth rate of PVC over the past 20 years has been around 2%. Going forward, the market is likely to continue growing steadily, especially in Asia and Africa, as well as in the US.

\*Based on Shin-Etsu Chemical research

### Worldwide

#### Semiconductor Market Size Outlook\*

The global semiconductor market is expected to reach approximately \$910 billion by 2030, as generative AI gains attention as a new tool for improving productivity and demand for automotive, smart city, and smart factory applications expands.

\*Prepared by Shin-Etsu Chemical based on First Semiconductor and Digital Industry Strategy Review Conference, Document 5: "The Global Semiconductor Market and Key Players" (Ministry of Economy, Trade and Industry; [https://www.meti.go.jp/policy/mono\\_info\\_service/joho-conference/semicon\\_digital/0001/05.pdf](https://www.meti.go.jp/policy/mono_info_service/joho-conference/semicon_digital/0001/05.pdf)) Semiconductor market size is converted to US dollars at the exchange rate applied in the document (¥110 to \$1.00).