

PILLAR SEAL SOLUTIONS (THAILAND) CO., LTD.

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#### **Quality First / Cooperation and Harmony / Steady Research**



- 1 To contribute to the creation of a world that is pleasant to live in, with an affluent social climate.
- To offer original, high-quality products, and strive to be a company that is essential to customers.
- 3 To comply with legal and social norms, and engage in proper, sound business practices.





Since our founding in 1924, Nippon Pillar Packing Co., Ltd. has offered products and services based on fluid control technologies and material technologies, contributing to the advancement of global society based on promoting a clean environment, safety, and frontier innovation. The markets for our innovative, high-quality products are wide-ranging and include semiconductors, energy, chemicals, automobiles, shipbuilding, civil engineering and construction, medical care and pharmaceuticals, and batteries.

We are focused on the development of technologies, products, services, and production technologies, and will continue striving to maintain an indispensable presence in a global society that is advancing through technological innovations in the semiconductor market and initiatives such as efforts to achieve carbon neutrality.

Furthermore, we are strengthening our ESG initiatives and working to meet sustainable development goals so that we will be able to contribute to building a sustainable society throughout our corporate activities.

Taking guidance from our corporate principles-Quality First, Cooperation and Harmony, and Steady Research—we will work to enhance corporate value, contribute to a sustainable society, and further evolve as PILLAR Corporation.

Even beyond our 100th anniversary, we will continue to innovate, grow, and strive to be an indispensable presence in society.

## **Creating a Future That Supports Society Creating New Value towards a Sustainable Society**

PILLAR will create unique value based on the principles of CLEAN, SAFETY, and FRONTIER, and will strive for new possibilities.

## **CLEAN**

#### Achieving a clean global environment

Controlling fluids helps to conserve energy and resources, leading to a clean global environment.

PILLAR contributes to this endeavor by using its technology to control fluids for semiconductor and LCD manufacturing equipment and for major industrial equipment.

## **SAFETY**

#### Contributing to a safe and secure society

Safety takes precedence over everything else when it comes to improving the quality of work and keeping our workforce energized.

Controlling fluids helps to control flammable, toxic, and other harmful fluids in a consistent, regular, and precise manner.

PILLAR contributes to a safe and secure society with our fluid control technologies.

## **FRONTIER**

## Expanding into new fields that develop the leading edge of the industry

Since our founding, PILLAR has produced original, high-quality products through research and development always one step ahead of our competitors. PILLAR will continue to take up the challenge of pioneering cutting-edge fluid control technologies and new fields of business.



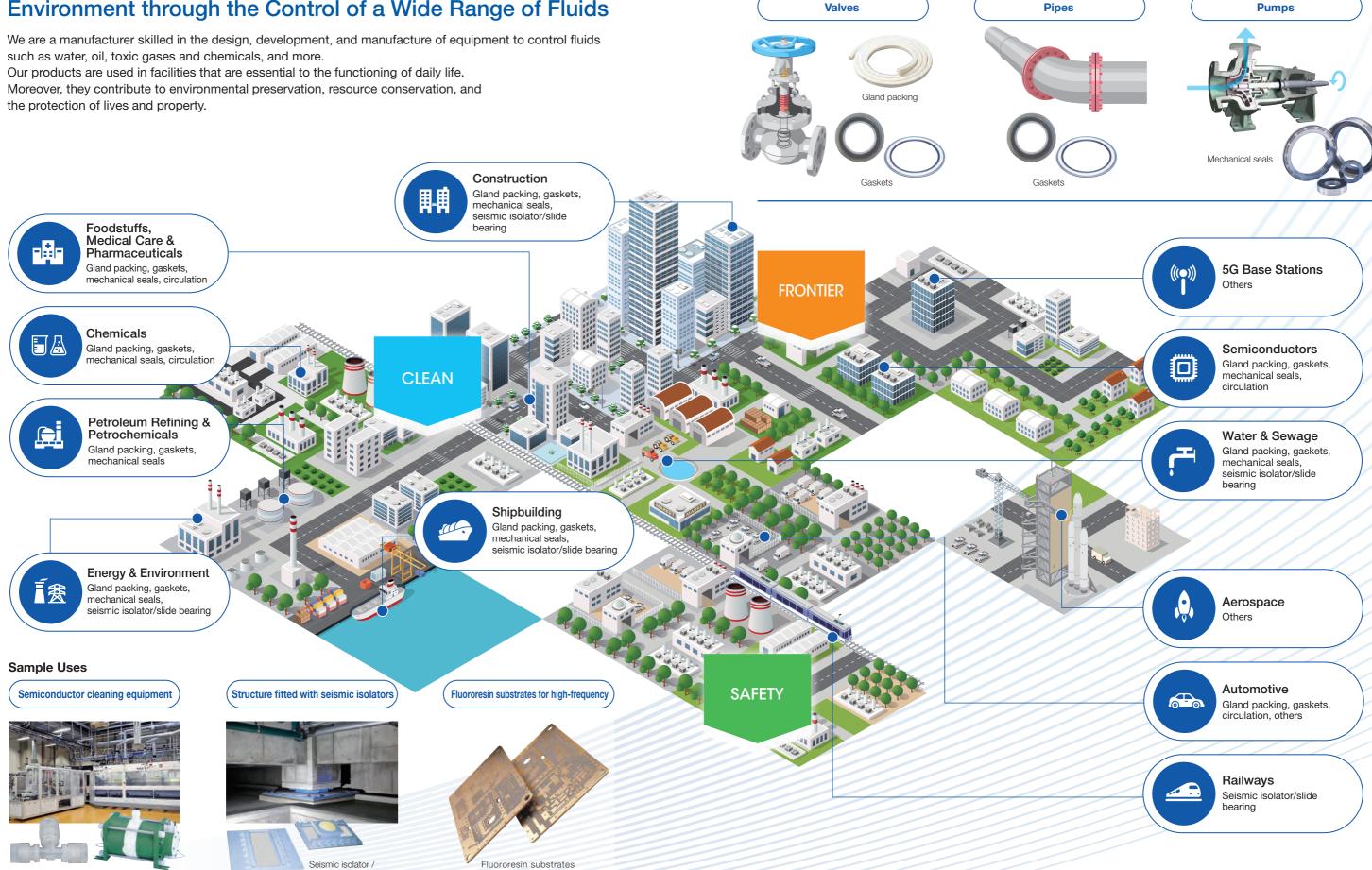
## **Electronic Equipment Business**

We are specialists in the high-tech sector, especially in the semiconductor, LCDs, and medical sectors. In particular, we offer fittings, pumps and other components made from fluororesin, which offer high chemical resistance, heat-resistance, and cleanliness. Because they are unaffected by various chemical solutions, these products are ideal for use in silicon wafer cleaning systems.

## Industrial Equipment Business

We handle mainly mechanical seal products that control fluids in rotating equipment such as centrifugal pumps that transfer fluids, gland packing products used as sealing materials for valve stem components, and gasket products used for mating pipes.

## Contributing to the Safety and Security of Society and the Environment through the Control of a Wide Range of Fluids



Sample Uses

Note: Circulation means products for the clean market

7 CORPORATE PROFILE 8

for high-frequency

#### Meeting Current Needs by Developing Products That **Create Value**

For over 100 years since its founding, PILLAR has worked to serve the needs of growing industries by quickly utilizing new materials in order to commercialize new products and thereby contribute to the realization of a prosperous, sustainable society.

Going forward, we will continue to provide original, high-quality products and services while further improving of our fluid control technologies.

#### 1920

#### From our founding to the establishment of our production system

Main needs: Shipbuilding

Company founder Kaju Iwanami, who was trained as an engineer, succeeded in developing a highly wear-resistant cylindrical packing for use in ships. The history of the Company began in 1924 when Nippon Pillar Packing Industries started as a privately held company with a factory on the site of a former stable in what is now Nada-ku, Kobe. In 1926, the Company established a new factory in Yodogawa-ku, Osaka City, to undertake full-scale production of industrial-use sealing packings. In 1930, our pillar packing was registered as the company's first utility model patent, and in 1932 the Company began producing gaskets for automobiles and marine engines.



Packing No. 1

#### 1940

#### **Technological breakthroughs**

Main needs: Energy

In 1948, Nippon Pillar Packing Co., Ltd. was established and the Tokyo Branch Office (currently the Tokyo Branch) was opened. In 1951, the Company developed and started production of the first mechanical seal in Japan. The following year, it developed vertical gaskets for hightemperature, high-pressure pipe flanges and started production of fluororesin products

The Sanda Factory, completed in 1967 in Sanda, Hyogo Prefecture, became the industry's first JIS-certified factory for spiral-wound gaskets for JIS B 2404

In 1970, the Company developed and started production of carbonized fiber

Paralympic Games are held.

1967 Establishment of ASEAN



Developed and started production of Japan's



Sanda Factory in Sanda

Hyogo, Japan

#### 1980

#### **Establishment of our brand** and global expansion

Main needs: Automotive

In 1980, the head office building was constructed. Production of ISO series mechanical seals began the following year. In 1984, the Company's shares were listed as a specially designated share issue on the Second Section of the Osaka Securities Exchange. The Company developed a series of new products to meet emerging needs and, in quick succession, started production of fluororesin fittings and expanded graphite braided packing for semiconductor manufacturing equipment. In 1989, the Fukuchiyama Factory (currently the Fukuchiyama Office) was completed in Fukuchivama, Kvoto Prefecture.

In 1995, the Company's shares were listed on the Second Section of the Osaka Securities Exchange. The Company acquired ISO certifications and is committed to establishing a brand that warrants the confidence of its customers.



Started production of ISO series mechanical seals for agitators

1973 First Oil Crisis

1979 Second Oil Crisis



Fukuchiyama Factory (currently Fukuchiyama Office) in Fukuchiyama, Kyoto Prefecture,

1989 The Fukuchiyama Factory (currently the Fukuchiyama Ofÿce) is completed.

#### 2000

#### Developing new businesses that lead to ongoing breakthroughs

Main needs: Semiconductors

In 2001, the Company's shares were listed on the First Section of the Tokyo Stock Exchange and the Osaka Securities Exchange. In 2002, the Company began production of the Super 300 Type Pillar Fitting, a groundbreaking sealing mechanism that represented an industry first. The following year saw the start of production of Pillar Techno Black No. 2603-EEE, which contributed to the early conversion to asbestos-free sealing products. In 2004, the Kyushu Factory was completed in Koshi, Kumamoto Prefecture. In 2012, production of a novel type of rotary joint for the semiconductor industry began. In 2017, the head office was relocated to Nishi-ku, Osaka.



Began production of Super 300 Type Pillar Fitting with a revolutionary sealing mechanism, the first of its kind in the world



Construction of the Kyushu Factory in Koshi, Kumamoto Prefecture, Japan (2004)

**Electronic Equipment** 

¥40,475 million

69.04%

bubble; Collapse of the Soviet Union

1993 Establishment of the European Union

1999 Creation of the Euro

#### 2020

#### Identifying market changes with the goal of sustainable growth

Main needs: Decarbonization, renewable energy

Around 2000, the Company began establishing a series of offshore bases and expanding sales channels around the world. In preparation for the development of next-generation products and the expansion of the semiconductor market, the Company completed the construction of the new Sanda Factory in 2020.

In 2022, when the Company's shares were moved from the First Section of the Tokyo Stock Exchange to the Prime Market, both sales and operating income reached record highs for the second consecutive year. The Company continues to transform its business and organizational structure with the aim of further enhancing corporate value. The Company remains focused on the development of new materials and technologies that will take the lead in the next generation.



Tanken Seal Seiko Co., Ltd. is acquired as a member of the Group, (2023)

COVID-19 pandemic

Paralympic Games are held.

2021 The Tokyo Olympic and

(100 millions of ven) 600

400

2024 100th anniversary 2022 The Company's shares are moved to the Prime Market of the Tokyo Stock Exchange.

Earthquake

comes into effect

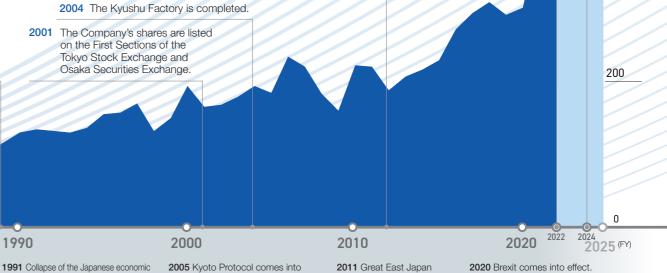
2016 Paris Agreement

¥18,093

30.87

2012 Production of a new type of rotary joint for the semiconductor market begins.

2008 Lehman Shock



FY2023 sales

¥58,605 million

1924 Nippon Pillar Packing Industries is established.

1926 Full-scale production of industrial leak prevention packings begins.



1989 Fall of the Berlin Wall

#### Manufacturing Capital Supports Growth

#### Establishing technological, development, and production systems through timely capital investments

By renovating the Sanda Factory and constructing the Fukuchiyama Second Factory and the Sanda Innovation Center, we are renewing our production system and constructing systems designed to increase production; moreover, we are strengthening our engineering and development divisions and enhancing our training facilities. In addition, as we construct new factories, we are incorporating environment-friendly solutions such as the Comprehensive Assessment System for Built Environment Efficiency (CASBEE).



#### A Mother Factory That Provides Fluid Control Technology

As our main factory, the Sanda Factory plays the role of a mother factory. It is responsible for producing sealing products for the industrial equipment market. These products include mechanical seals, gland packings, and gaskets. The factory also incorporates a research and development department.

In March 2020, the factory was reopened as a state-of-the-art factory following extensive renovation work intended to improve productivity through a rationalized layout; expanded automation and mechanization: and the introduction of IoT. As part of this renovation, efforts were made to improve the working environment and safety; to implement a business continuity plan; and to improve visitors' sense of trust and security through the addition of a technology training center, analysis center, and showroom.

Looking to research and development, the Innovation Center, which will bring together engineers from the Sanda Factory, is scheduled to be completed in October 2023. We intend to strengthen our product development capabilities by combining, fusing, and integrating technologies across our organization. Furthermore, with an eye to markets of the future, we will promote initiatives targeting advanced technologies by strengthening collaboration among industry, government, and academia while focusing on the pursuit of innovations.

Strengths

#### An Agile Global Production System That Responds Quickly to Emerging Market Trends

#### Expanding production facilities to meet shifting demand

In order to respond to the ongoing increase in demand for products in the electronic equipment market, we are building the Fukuchiyama Second Factory. The factory is intended to increase production capacity by up to 80%; strengthen cost competitiveness through the construction of a new production system; comply with customers' stringent quality requirements; and highlight our technology through its open concept design. It features an expansion zone capable of accommodating three more factories of the same size. We plan to use this space to expand our production capacity with a flexible approach.

Moreover, this factory features an environment-friendly design, as it will incorporate solar power generation and energy-efficient equipment.



Fukuchiyama Second Factory

#### Maintaining local production systems outside Japan

We are strengthening our facilities in the U.S.A. and China, where the market for products in the electronic equipment business segment is expected to expand. In the United States, we have set up a simple laboratory at our Fremont Office to accommodate the development needs of semiconductor equipment manufacturers. We also intend to expand the warehouse space to meet growing demand.

In China, Pillar Technology (Chuzhou) Co., Ltd. has adopted the model of local production for local consumption in response to the demand for products for the electronic equipment market. By increasing the number of items produced and strengthening its production system, it is expanding its product lines as well as the quantities produced.



PILLAR America Inc. Fremont Office

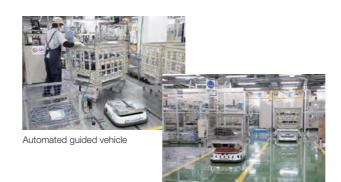
Strengths

#### Advanced Production Facilities and Equipment

#### Promoting automation and the adoption of IoT

The Sanda Factory has introduced innovations such as automated guided vehicles (AGVs), automated guided forklifts (AGFs), radio frequency identification (RFID), and management systems employing short-range wireless communication with IC tags.

By utilizing these improvements, we aim not only to reduce work loads but also to eliminate human error, reduce walking distances, and improve productivity while minimizing lead times through unmanned operation.



#### High-standard clean room

At the Fukuchiyama Factory, we have introduced a large-scale industrial clean room, which is a space intended to minimize airborne microparticles and microorganisms to a level of cleanliness that attains a specific standard in order to prevent contamination of surfaces with impurities and dust.

Even fine dust remaining on the surface of electronic components presents a risk of malfunction. It is therefore extremely important to eliminate dust and other fine particles by employing high-performance filters and by eliminating static electricity. We will continue to meet the future needs of the market by equipping our facilities with clean rooms to meet the highest standards.



#### A facility that enhances the peace of mind and security of visitors

The technology training center at the Sanda Factory has prepared training programs not only for our employees, but also for our sales partners and partner companies. We have provided samples of pumps, valves, and other machines that enable visitors to expand their knowledge of our products through hands-on training while learning how to incorporate them in their operations.

Our showroom is also available for customers who visit our factory. Here, they can gain more detailed information about our Company. We have also designed visual presentations for greater ease of understanding. By introducing applications in which our products are actually used as well as cutaway displays that clarify the structure of our products, we are creating opportunities for greater business development.



Showroom

#### Safe and environment-friendly design

As a safety measure against earthquakes, we have adopted seismic isolators of our own design at the new Sanda Factory, Fukuchiyama Factory, and Kyushu Factory.

We are also working to obtain certification under the Comprehensive Assessment System for Built Environment Efficiency (CASBEE) for our environment-friendly designs. Both the new Sanda Factory and the Sanda Innovation Center have acquired CASBEE-A certification, while the Fukuchiyama Second Factory has applied for CASBEE certification.

In addition to acquiring these CASBEE certifications, we are adopting eco-friendly measures such as low-carbon enzymatic construction material (ECM) concrete and cubicles incorporating soybean oil.



Seismic isolator / Slide bearing

#### R&D ≡

PILLAR will create new value by upgrading our core technologies and strengthening our fundamental technologies based on the principles of CLEAN, SAFETY, and FRONTIER.



#### PILLAR's Core Technologies and R&D Concepts

Since our founding, we have utilized fluid control technology and material development to explore unknown materials and research and develop the latest technologies.

Research and development is based on our fundamental technologies such as seals, material engineering, mechanical engineering, injection molding, analysis, and mold design, which result in upgraded core technologies held by our electronic equipment business and industrial equipment business. Core technologies in the electronic equipment business include resin seals, fluorocarbon resin injection molding, microscopic analysis, and computer aided engineering (CAE), which are mainly used to develop products for the

semiconductor market, which has high cleanliness requirements. The core technologies in the industrial equipment business are tribology, material formulation, and CAE, which are mainly used to develop products for the electric power and petrochemical markets. Core technologies upgraded in each business are shared through personnel rotations across the businesses, promoting efforts to create new value through the combination of core technologies and accelerate the advancement of core technologies. We are also making efforts through industry-government-academia collaboration by dispatching engineers to universities as part of measures to train future engineers and strengthen our fundamental technologies.

#### **Analysis and Testing Equipment**

As the owner of many patented products, we conduct a number of experiments under actual operating conditions before introducing our products to society. Our research and development, supported by the latest verification technologies, continues to evolve toward even higher goals.



#### Microscopic analysis technology

In order to meet the increasingly stringent cleanliness requirements associated with the miniaturization of semiconductors, we are building a system capable of multifaceted analysis (both inorganic and organic).



#### Design with 3D CAD

We perform basic structural analysis and design seamlessly, leading to faster product design and proposals.



#### Test equipment for semiconductor and liquid crystal manufacturing devices

To evaluate performance under severe operating conditions in the semiconductor market, we have thermal cycle test equipment capable of cycling through high and low temperatures.



## Data collection and analysis test equipment for failure prediction

This test equipment is used to collect and analyze data on pressure, temperature, torque, vibration, etc. under operating conditions, including failure modes, in order to establish technology for predicting mechanical seal failures.



## Low temperature test equipment for valves This test equipment is used to co

This test equipment is used to collect data on sealing characteristics, sliding characteristics, and stress relaxation characteristics of gland packing for valves in low temperature environments (-150 to 0°C). It is utilized for the development of gland packing suitable for low-temperature environments.

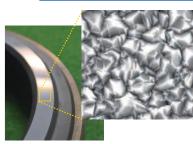


#### 1000kN universal testing equipment

The device is capable of performing sealing, compression, and tensile tests while precisely controlling the load on products and materials. With 24-hour continuous operation possible, continuous data can be obtained on changes that occur over time.

#### Innovation through Industry-Government-Academia Collaboration

We are engaged in research on diamond coating as one of the ways to improve materials technology through industry-government-academia collaboration. Diamond is a material with a variety of excellent properties, and its use as a sliding material in mechanical seals can dramatically improve sliding properties, especially in high-load applications. In the mature sealing field, one of our approaches to dramatically improve product performance is to identify the relationship between the physical properties of diamond films and sliding properties and explore deposition technologies that form ideal diamond films.



Diamond coating

#### **Efforts Aimed at the Semiconductor Market**

Accompanying the miniaturization of semiconductors, particle reduction demands are increasing year by year, and there is a need to improve the cleanliness of individual components. In order to suppress particle occurrence and improve particle emission performance, we are promoting front-loaded development to identify and solve problems in the initial development stage by combining our basic data with CAE and testing hypotheses through verification tests, such as the development of a series of sweep fittings with a smooth flow path and piping design and pump wetted part design with consideration of pressure loss and liquid displacement. In addition, for cleanliness, we are building microscopic analysis technology to assess the current conditions and to check the state of further cleanliness solutions.



Super 300 Type Pillar Fitting Sweep Elbow

#### Efforts Toward a Carbon-Neutral Market

As decarbonization of society progresses and diverse efforts are being made around the world, we are developing products based on the fundamental technologies we have cultivated in fluid control, material technologies, and resin molding. In product development for the hydrogen market, which is expected to become a next-generation energy source, we are restructuring our in-house evaluation equipment. As one of these efforts, we will install testing equipment and analytical instruments that enable evaluations in a hydrogen atmosphere to expand our knowledge of tribochemical reactions in sliding parts and create new value that meets the needs of the market. We are also developing products for the automotive industry, which is undergoing a major transformation from fossil fuels to EVs and FCVs.



Friction and wear test equipment in a hydrogen atmosphere

# Foreign objects automatically detected Foreign object heat map

#### Promoting a Digital Transformation through the Fusion of Deduction and Induction

As one example of the utilization of a digital transformation, we are working on the automation of visual inspections of injection molded products (fluorocarbon resin products).

We are focused on building an imaging environment suitable for our products and update the accumulated data of good and defective products through Al learning, thereby eliminating the need for human resources in the inspection process and saving manpower.

By combining the technical elements of a digital transformation (the inductive method) with existing engineering simulations (the deductive method), such as structural analysis and thermal/fluid analysis, it is possible to perform coupled analysis of complex physical phenomena with high accuracy and speed, previously considered to be difficult. This enables us to clearly set specifications that can be compatible with multiple target specifications in the early stages of development, and we are also working to achieve a design and development process (front-loading) with no backtracking.

#### Serving as a Bridge of Technology in the Global Field

In 1980, the Group established PILLAR Korea Co., Ltd. (Formerly: Korea Pillar Packing Co., Ltd.) as its first overseas base of operations, and has since been making strides toward globalization. Currently, we are operating in 11 countries and regions around the world.

Going forward, we will continue to strengthen and expand our overseas network and provide high-performance products that benefit the lives of people around the world.



2007

2010

2015

#### Fukuchiyama Factory Fukuchiyama Factory Head Office Factory, business location, branch office Group companies Kyoto Branch Kobe Branch Office Hiroshima Branch Office Tokyo Branch Office Kyushu Factory Kyushu Branch Office Yokohama Branch Nagoya Branch Office Osaka Branch Office Sanda Factory North and Latin America Sales hubs Sanda Factory locations **Production facilities** locations PILLAR Mexico S.A. de C.V. Kyushu Factory

#### List of overseas sites

PILLAR Seal Solutions Singapore Pte Ltd. (Formerly: Nippon Pillar Singapore Pte Ltd.) PT.PILLAR Seal Solutions Indonesia (Formerly: PT. Nippon Pillar Manufacturing Indonesia) PT.PILLAR Manufacturing Indonesia (Formerly: PT. Nippon Pillar Indonesia) PILLAR Seal Solutions (Thailand) Co., Ltd. (Formerly: Nippon Pillar (Thailand) Co., Ltd.) PILLAR Taiwan Co., Ltd., Taipei Office (Formerly: Taiwan Pillar Industry Co., Ltd.) PILLAR Taiwan Co., Ltd., Takao Factory (Formerly: Taiwan Pillar Industry Co., Ltd.) Pillar Technology (Chuzhou) Co., Ltd.

History of our expansion into markets outside Japan 1980 Korea Pillar Packing Co., Ltd. is established. 1993

Nippon Pillar Singapore Pte Ltd. as a sales hub for Southeast Asia is established 1999 Nippon Pillar Corporation of America in the U.S.A. is 2001 Taiwan Pillar Industry Co., Ltd. in Taiwan is established. 2003 Suzhou Pillar Industry Co., Ltd. in China is established.

PILLAR Shanghai Co., Ltd. (Formerly: Shanghai Pillar Trading Co., Ltd.) PILLAR Korea Co., Ltd. (Formerly: Korea Pillar Packing Co., Ltd.) PILLAR Middle East FZCO (Formerly: Nippon Pillar Middle East FZCO) PILLAR America Inc., Houston Office (Formerly: Nippon Pillar Corporation of America) PILLAR Seal Solutions Mexico S.A. de C.V. (Formerly: NPK Fluid Control Systems

PILLAR Shanghai Co., Ltd., Beijing Office (Formerly: Shanghai Pillar Trading Co., Ltd.) PILLAR America Inc., Fremont Office (Formerly: Nippon Pillar Corporation of America) Mexico S.A. de C.V.) PILLAR Europe GmbH (Formerly: Nippon Pillar Europe GmbH)

Shanghai Pillar Trading Co., Ltd. in China is established.

Nippon Pillar Middle East FZCO in the UAE is established.

Nippon Pillar (Thailand) Co., Ltd. in Thailand is established.

Nippon Pillar Packing Co., Ltd. Alger Liaison Office in Algeria is

#### (Factories and business locations)

Sanda Factory (Sanda City,

List of domestic sites

PILLAR America Inc.

(Houston)

Hyogo Prefecture) Fukuchiyama Factory (Fukuchiyama City, Kyoto Prefecture) Kyushu Factory (Koshi City, Kumamoto

#### (Branch offices)

Tokyo Branch Office Yokohama Branch Office Nagoya Branch Office Kyoto Branch Office Osaka Branch Office Kobe Branch Office Hiroshima Branch Office Kyushu Branch Office

PILLAR Seal Solutions Corporation (Formerly: Pillar Seal Solutions Co., Ltd.) NP Real Estate Corporation (Formerly: NP Real Estate Co., Ltd.) PILLAR Precision Corporation (Formerly: NIPPON PILLAR PRECISION MFG. CO., LTD.) NP Kogyo Corporation (Formerly: NP Kogyo Co., Ltd.) PILLAR Kyushu Corporation (Formerly: Nippon Pillar Kyushu Co., Ltd.) Masuko Manufacturing Corporation (Formerly: Masuko Manufacturing Co., Ltd.) TANKEN SEAL SEIKO CO., LTD.

2016 NPK Fluid Control Systems Mexico S.A. de C.V. in Mexico is 2020 Pillar Technology (Chuzhou) Co., Ltd. in China is

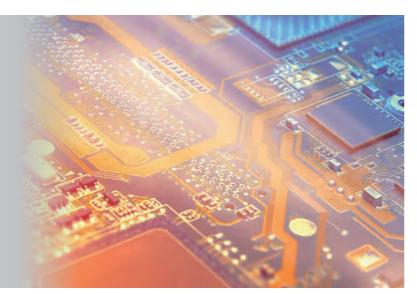
Operation of Pillar Technology (Chuzhou) Co., Ltd.

Nippon Pillar Europe GmbH in Germany is established. 2021 PT. Nippon Pillar Manufacturing Indonesia and PT. Nippon Pillar Beijing Office of Shanghai Pillar Trading Co., Ltd. opens. Indonesia in Indonesia are established. A production facility in Nippon Pillar Corporation of America Houston Office is added.

#### **Electronic Equipment Business**

Expanding our production bases to meet growing demand for semiconductors while focusing on recycling in response to resin shortages

We aim to respond to the ever-growing semiconductor market by ensuring stability of supply, a challenge we are addressing by expanding our production bases in Japan and in other markets. Furthermore, we are promoting the use of substitute and recycled materials in response to the shortage of fluororesin. We also intend to improve the cleanliness of recycled resins.



#### **Business Overview and Market Environment**

As part of our business, we manufacture fluororesin fittings and pumps for semiconductors and LCDs. Amid dizzying changes in the market environment, such as the spread of the COVID-19 pandemic, the war in Ukraine, and friction between the U.S.A. and China, the semiconductor market continues to face a shortage of semiconductors due to increased global demand. Consequently, our performance in fiscal 2022 exceeded that of fiscal 2021, which was a successful year. On the other hand, fiscal 2022 was also a year in which we faced the major challenge presented by the shortage of fluororesin as a raw material. As countermeasures, we considered recycling resins that had previously been discarded as scrap and using alternative materials suited to specific applications. In addition, since these products must meet semiconductor specifications that require a high level of

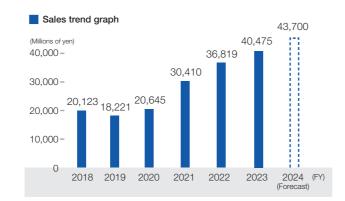
cleanliness, we worked with our customers to confirm suitability for the application at hand during the switch to recycled and alternate materials. At the same time, we worked hard to secure the required supply volume through tenacious negotiations with resin manufacturers.



#### Review of "BTvision22," Our Previous Medium-Term Management Plan

Fiscal 2022 marked the final year of "BTvision22," our previous medium-term management plan. The fiscal year concluded with net sales increasing by 6.4 billion yen, representing an increase of 21.1% compared to the preceding fiscal year, thus setting a record high for the second consecutive year. While strong demand for semiconductors in the IT and automotive sectors provided a significant tailwind, I feel that the various measures we implemented to ensure adequate supply greatly underpinned these results. For example, in terms of capital investment, we have implemented equipment investment plans that look ahead several years, considering the fact that manufacturing equipment often entails lengthy delivery times. In the area of injection molds, our Group acquired Masuko Manufacturing Co., Ltd., a manufacturer specializing in molds, in fiscal 2022. As a result, we were able to introduce many molds by sharing and collaborating with the company in a detailed and timely manner. In addition,

we have been able to pass on price increases attributable to soaring raw material prices, but we recognize that this required gaining the understanding of our customers, an accomplishment that reflected their deep trust in our products.



#### Outlook for "One2025," Our New Medium-Term Management Plan

Under our new medium-term management plan titled "One 2025," scheduled for introduction in fiscal 2023, we aim to establish a solid business foundation by continuously introducing high-value-added and differentiated products to the growing and continuously evolving semiconductor market.

We will continue to strengthen our foundation by increasing our product supply volumes and improving productivity with the start of operations at the Fukuchiyama Second Factory. At the same time, we will increase our competitiveness in terms of cost and delivery schedule.

In addition, in the Chinese market, Pillar Technology

(Chuzhou) Co., Ltd., will seek to increase its market share by expanding its production capabilities. Meanwhile, in the European and American markets, we aim to further increase adoption of our products among semiconductor equipment

As for the challenges we intend to take on, we will strive to realize the vision of "One2025" by building a resilient supply chain and promoting resin recycling. We will also introduce two-color moldings that combine two types of resins as well as large-scale moldings, two challenges that we have not previously attempted.

#### **Future Tasks and Goals**

The semiconductor market is expected to plateau in fiscal 2023, but expectations are high that the next wave of market demand will arrive in the second half of 2023 and in 2024. As for overall market trends, we expect the semiconductor market to continue growing, driven by demand in the IT and ICT sectors and in the automotive industry. In addition, the evolution of communications technologies such as 5G and 6G in the information and communication market will drive demand not only for

semiconductors but also for our fluororesin substrates (highfrequency substrates). We will also promote the development of non-semiconductors that take advantage of the characteristics of

As we approach our 100th anniversary in 2024, we will continue to promote the forward leap embodied in "One 2025" as we embark on our next 100 years while valuing our founding spirit as a company that excels at handling fluid control components.

#### **TOPICS**

#### **Utilizing Recycled Resins**

As a measure to address the shortage of fluororesin, we are reusing scrap resin generated after molding as recycled resin. Due to the risk of contamination, we are currently in consultation with customers and limiting the scope of application of this material. In the future, we will focus on improving its cleanliness in order to contribute to the efficient use of limited resources as well as waste



Nuts made of recycled materials (left)

#### Pillar Technology (Chuzhou) Co., Ltd., has begun manufacturing products for use in semiconductor manufacturing equipment.

In response to efforts to strengthen our semiconductor business in China, Pillar Technology (Chuzhou) Co., Ltd. has undertaken full-scale manufacturing of products for use in semiconductor manufacturing equipment. We also opened a new office in Beijing, where many semiconductor-related companies have congregated. In order to respond to the future needs of the Chinese semiconductor market, which is expected to continue expanding, we will promote the practice of local production for local consumption.





Clean room at Pillar Technology (Chuzhou) Co., Ltd.

#### Industrial Equipment Business ≡

## Establishing a new business foundation during the major shift toward carbon neutrality

In order to contribute to the emergence of a decarbonized society, we will consolidate the Group's technologies and expand our business through R&D initiatives utilizing our Innovation Center and synergies with Tanken Seal Seiko.



#### **Business Overview and Market Environment**

Our business deals mainly with the key industries that drive the Japanese economy, including electric power, petrochemicals, and shipbuilding. These industries are implementing carbon-neutrality initiatives and are thus immersed in a period of major transition. They are now promoting non-fossil-fuel energy sources, a structural transformation of their respective industries, and significant energy-efficiency initiatives. We are therefore focusing on creating business opportunities as well. The Japanese government's carbon-neutrality policy has been a major driving force, and as each company undergoes various verifications and demonstrations, we are encountering opportunities for our products to be evaluated. Looking to the market for next-generation batteries, hydrogen as a fuel, and electric vehicles (EVs), we are expecting commercial operation and mass production to come to the fore in the next three to five years. I am confident that fiscal 2022 has marked a step toward establishing our business in new growth markets.

On the other hand, the semiconductor shortage and the emergence of global economic disruptions have had an impact; parts procurement has been affected by longer delivery times and higher prices. In order to maintain a sustainable supply system, we have been negotiating and coordinating with our customers to an unprecedented extent. This has involved proposing substitutions, suggesting design changes, and solving problems in close collaboration with our customers.



#### Review of "BTvision22," Our Previous Medium-Term Management Plan

Since we launched our previous medium-term management plan, "BTvision22," in fiscal 2020 during the emergence of the COVID-19 pandemic, our plans were impacted by changes in the economic environment in which we operate. Due to the decline in new plant projects and the extension or contraction of scheduled repairs at existing plants, both new demand and maintenance demand in the electric power and petrochemical industries have declined. On the other hand, products for precision equipment for the semiconductor market performed well, contributing to the improvement in sales and profits for the business as a whole. Until recently, most of the demand for these products had arisen from within Japan but, as our customer base has grown, demand from outside Japan has increased. As a result, net sales in

fiscal 2022, the final year of "BTvision22," grew by 1.7 billion yen, representing a year-on-year increase of 16.7% and a new record high.

## Sales trend graph (Millions of yen) 16,000 12,000 - 10,757 10,915 8,000 4,000 0 2018 2019 2020 2021 2022 2023 2024 (FY) (Forecast)

#### Outlook for "One2025," Our New Medium-Term Management Plan

Under "One2025," our new medium-term management plan scheduled for implementation in fiscal 2023, we will adopt a range of measures with the goal of acquiring an overwhelming share of new global markets created by the response to social issues arising from decarbonization.

For example, in fiscal 2022, we established a new team of specialists to address digital transformation within the engineering division as a response to the increasing digitization taking place across society. In April 2023, our Group acquired Tanken Seal Seiko Co., Ltd., thereby adding a new product group and material technology. This fall, construction of the Innovation Center in our Sanda Factory will be completed, which will consolidate the Group's technologies and promote development of technologies and products through collaboration among industry, government, academia, and our Group's own companies. As the industrial structure shifts toward the emergence of a decarbonized society,

we will take advantage of these new initiatives to establish innovative businesses that contribute solutions to social issues. We will do so by making full use of our technological expertise, ability to devise solutions, and capabilities as a comprehensive manufacturer of fluid control equipment.

In addition, as the oil refining and electric power industries experience generational turnover among skilled employees, and as younger maintenance personnel enter the workplace, demand has been growing for maintenance-related consulting services such as advice on how to install seals. We intend to expand the functions of our repair bases and utilize both internal and external resources to increase customer contact by holding workshops and providing on-site guidance. We will expand our maintenance business and expand our stand-alone sales business to encompass services with the goal of expanding sales and improving our profitability.

#### **Future Tasks and Goals**

Look to our existing markets and product lines, we plan to develop seals for precision equipment used in the market for next-generation semiconductors, which must meet even more stringent requirements. Through this endeavor, we intend to expand our global market share with gland packings that comply with international standards.

For the emerging carbon-neutral market, we aim to establish a strong business foundation as we move to the next stage of commercialization and mass production.

In terms of our supply system, we feel that providing

customers with peace of mind is essential. We intend to achieve this by supplying products in a stable and sustainable manner while providing solutions for the risks that exist.

Our core competency, fluid control technology, is directly linked to the need to address environmental and social issues related to the decarbonization of society. As we approach our Company's centennial celebration, we are seeking to return to the origins of our founding and continue to be an entity the world relies on.

#### **TOPICS**

Sample syster

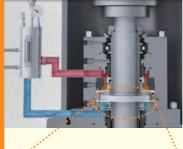




Illustration of pump section

## Market Launch of the Pillar Sealant Circulating & Cooling System (PSCC)

The Pillar Sealant Circulating & Cooling System (PSCC) represents a new concept for a sealant circulation system equipped with a pumping function in the mechanical seal unit.

Until recently, mechanical seals for agitators have required an auxiliary device, called a pressure unit, in the high-temperature range where the internal temperature can exceed 200°C when water or solvents are used as the sealing liquid (or lubricating liquid). Pressure units are associated with several issues, such as the high cost of installing equipment for customers and the need for careful consideration of the installation location. The PSCC, however, can be operated by the seal unit alone by incorporating a pump function into the mechanical seal, eliminating the need to install a separate pressure unit. In addition to forming an appropriate sealing environment, this innovation contributes to reduced running costs and space requirements. What's more, the pump can be repaired, contributing to energy efficiency and resource conservation. In addition, a simplified system configuration is possible, eliminating the need for complicated operations. We will continue to develop products that contribute solutions to environmental and social issues while addressing customer issues.

#### ISO Certification and IATF Certification

Under its quality-first approach, the Group has obtained both ISO9001 and IATF certification.

#### ISO Certification

In 1995, the Group became the first domestic seal manufacturer to obtain ISO9001 certification for its quality management system. The current certifying body is the Japan Quality



JQA-QMA16224

Assurance Organization, while accreditation is provided by JAB (in Japan) and UKAS (the UK). (The head office and the Sanda and Fukuchiyama Factories have obtained ISO 9001 certification.)

#### Non-Use of Asbestos

Our products do not use asbestos.

#### **ESG-Related External Assessments**

We have been assessed by an externally based ESG evaluation organization and have been selected as a member of the ESG Index.





**FTSE Blossom** Japan Sector Relative Index

#### IATF Certification

In 2019, products for automotive use produced at the following factory have obtained IATF16949 certification, an international quality management system standard for the automobile industry. IATF16949 was developed by Western automobile manufacturers and automobile industry-related organizations to prevent defects,



IATF Certificate No.0363056

reduce inconsistency and waste in the supply chain, and bring about continuous improvement by standardizing requirements for parts manufacturers. Based on ISO9001, this quality management system incorporates a large number of unique requirements

Registered site: Nippon Pillar Packing Co., Ltd. Sanda Factory Scope of certification: Design and manufacturing of gaskets, packing, exhaust system molded products, and fluorocarbon resin substrate

#### **ESG/SDGs Assessment Loan**

In the ESG/SDG Assessment Loan by Sumitomo Mitsui Banking Corporation, the Company was judged as having implemented excellent ESG initiatives and information disclosure in its corporate management, including response to climate change, initiatives in environmentally friendly products and services, and consideration for suppliers, and as being highly motivated to contribute



Valve World Expo

We exhibit our products

at the Valve World Expo. a global trade fair for

valve products and

echnologies

to the achievement of the SDGs through our business operations.

#### Won the Plunkett Award

Our Pilaflon™ products, Super type fitting gained global recognition and the Company has won the DuPont Plunkett Award three times.



#### **Participated in International Exhibitions**





#### **SEMICON Japan** SEMICON Japan is a general exhibition for worldwide semiconductor-related industries. We publicize our products and also take the opportunity to gather the latest



#### Company Profile (Japan)

PILLAR Corporation (Formerly: Nippon Pillar Packing Co., Ltd.) Company name 7-1, Shinmachi 1-chome, Nishi-ku, Osaka 550-0013, Japan Head Office address

Establishment

Representative President Yoshinobu Iwanami ¥4,966 million (As of March 31, 2024) Capital

Listed stock exchange Tokyo Stock Exchange Prime Market Number of employees 1,132 (As of March 31, 2024)

Pilaflon™ products (fluorocarbon polymers products), mechanical seal products, Main products

gland packings and gasket products

URL https://www.pillar.co.jp/en/

#### **PILLAR** by the Numbers



Overseas sales ratio (FY2022)

Pillar fittings: Global market share in the world (For semiconductor

CO<sub>2</sub> emissions (scope 1 + scope 2)

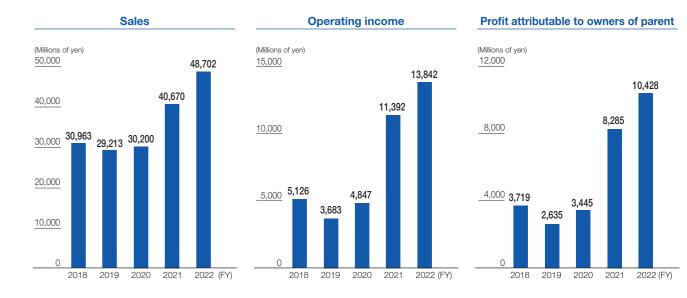




**Recycling rate** 

Male-to-female ratio (consolidated) (As of the end of March 2023).

#### **Business Performance**



#### Company Profile (Thailand)



Company name

Establishment

Telephone

Line ID

Activities

URL

Head Office address

PILLAR SEAL SOLUTIONS (THAILAND) CO., LTD.

(Formerly: Nippon Pillar (Thailand) Co., Ltd.)

23/33 Sorachai Building 15th Floor, Sukhumvit Soi 63,

Sukhumvit Road, Klongton Nua, Wattana, Bangkok 10110

2015

info@pillar.co.th

02-726-9700~1

pillarthailand

https://www.pillar.co.th

- Provide pre & post sales service to petrochemical, refinery, power plant, food industries, etc.
- Provide the latest technology information and review of product performance with end-user.
- Providing training to end-user.

#### **PILLAR Authorized Service Center**

#### **Rayong Province**

Address 8/9 Sukhumvit 7, Khiri Alley, Sukhumvit Road, Huay Pong, Mueang Rayong District, Rayong 21150

Lapping, Lather & Cleaning Machine for reconditioning & testing of mechanical seal are available.



Mechanical seals lapping & polishing



#### Samut Prakarn Province

Address 89/415 Moo 2, Bangna-Trad, KM 13, Racha Thewa, Bangphli District, Samut Prakarn 10540



Lapping & polishing





orkshop for mechanical eals recondition

#### **Training in Japan**

Routine PTT-GSP with Japan training at Sanda factory, Japan



Mechanical seals advanced technical training in Sanda factory,



#### Seminar in Thailand



On March 8th 2016. PILLAR Thailand has seminar for our customer at Rayong City Hotel



Provide updates on the changes in API 682-4th Edition





5<sup>th</sup> Tribology Social **Event For Oversea Corporate Members** 

November 28, 2019, Technology Promotion Association (Thai-Japan)

#### I-REC Certificates in Thailand

PILLAR Thailand received an International Renewable Energy Certification (I-REC) to support Green



House Reduction towards the Global Carbon Neutrality Goal from 2021-2023.



#### Overhaul Services in Thailand









