

えひめが誇る  
Ehime's Amazing  
Techniques  
**スゴ技**

SUGOWAZA DATABASE GUIDE

Inquiries about "SUGOWAZA" Database Special Edition  
Guidebook of Offshore Wind Power Generation  
Related Companies in Ehime, Japan

Leading-edge Technologies & Sophisticated Techniques group,  
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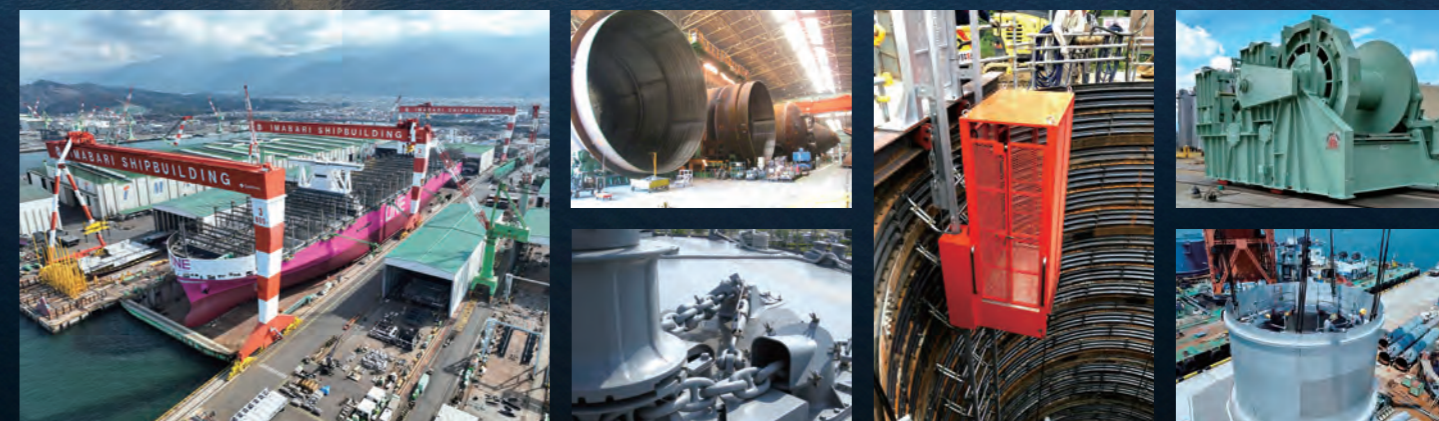
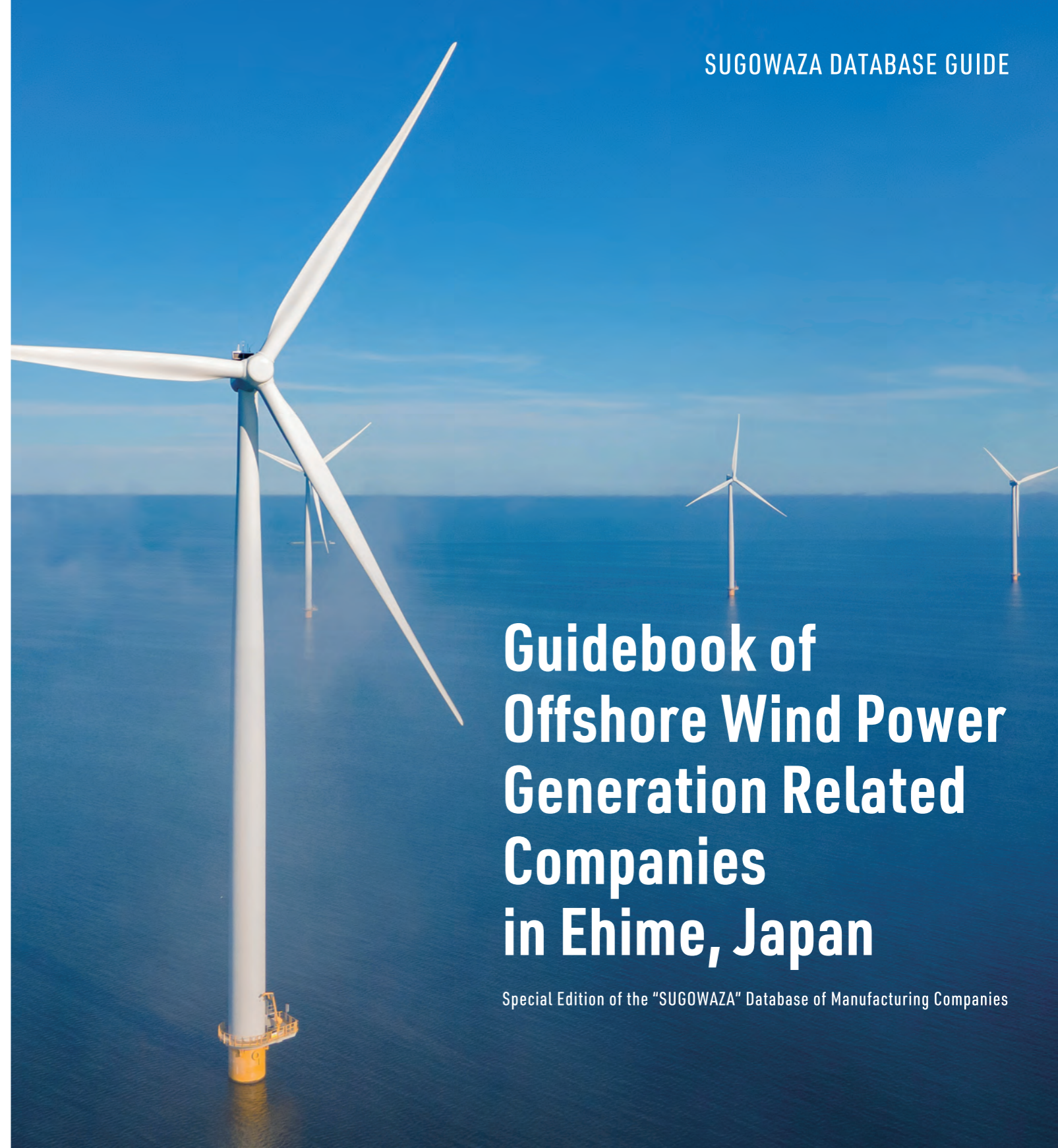


Ehime sugowaza offshore wind 🔍

<https://www.sugowaza-ehime.com/cluster/offshorewind/en/>

# Guidebook of Offshore Wind Power Generation Related Companies in Ehime, Japan

Special Edition of the "SUGOWAZA" Database of Manufacturing Companies



# The Unique Potential of Ehime

Ehime's technology cluster – fostered over the years into a thriving state along the Seto Inland Sea, the site of one of the foremost industrial zones in Japan – is a driving force in offshore wind power generation in Japan and, indeed, the world.



## Shipbuilding & Marine Equipment

### Japan's No. 1 Shipbuilder

Ehime Prefecture's Imabari City boasts Japan's largest concentration of shipbuilders with 14 manufacturing sites, including Imabari Shipbuilding Co., Ltd. – the number one shipbuilder in Japan and sixth largest in the world in terms of production volume. Accounting for approx. 20% of domestic production in terms of number of ships built, the city has established a solid position as a "shipbuilding kingdom" in terms of both number of ships built and volume of production. In addition to the plate rolling and welding technologies required for base manufacturing, such as floating structure production, the city has high potential for offshore wind power generation-related manufacturing in terms of facilities, including large-scale docks, as well as production capacity.

### Imabari: Japan's Largest Maritime City

Imabari City is home to a concentration of maritime industries (shipbuilding, maritime transport, and marine manufacturing) without parallel in the world. "Japan's largest maritime city" is home to approx. 160 companies located near the shipbuilding yards, including marine manufacturers and related companies, employing about 10,000 workers in all. From original ship-steering control technologies to marine equipment such as anchor handling winches, local offerings have received favorable assessments in Japan as well as internationally and have been employed in ships around the world.

## Large Plate Rolling & Machining

### Corporate "castle town" fostered by the Sumitomo Group

Ever since the opening of the Besshi Copper Mines in the late 17th century during the Edo period, the renowned Tōyo region has contributed to the development of domestic industries with companies, including Sumitomo Metal Mining Co., Ltd., Sumitomo Chemical Co., Ltd., and Sumitomo Heavy Industries, Ltd., as the site of a corporate "castle town" fostered by the Sumitomo Group. Among these, Sumitomo Heavy Industries in particular has taken on full-scale projects involving foundations for offshore wind power generation. Plant engineering projects have also developed in the area, featuring small and medium-sized enterprises with high technological capabilities involving non-ferrous metals, chemicals, and other fields, centered around the Sumitomo Group's manufacturing business.

### A superior technological hub providing basic support for manufacturing industries with companies involved with small and medium-sized machinery and ironworking

The Tōyo industrial zone is home to one of the leading industrial concentrations in Shikoku. A number of large corporations maintain production bases here in fields from chemicals to shipbuilding and papermaking here, including Daio Paper Corporation, Nippon Steel Corporation, Kuraray Co., Ltd., and Kao Sanitary Products Ehime. Many companies in related fields are sited here as well, offering high technological capabilities involving small and medium-sized machinery, ironworking, providing basic support for manufacturing industries with casting, welding, precision machining, machinery, and more.

### Functionality as a logistics base leveraging geographical advantages

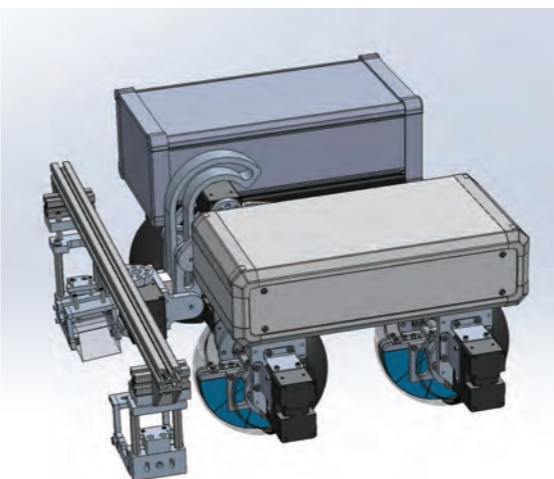
Offering good overland access via National Route 11 and the Niihama IC on the Matsuyama Expressway as well as proximity to major harbor ports with the nearby Niihama and Tōyo (Saijō) Ports, the area features well-developed transportation infrastructure. This largest industrial zone in Shikoku is sited in the coastal area facing the Seto Inland Sea, offering advantages in handling incoming and outgoing shipments, as well as dealing with large structures.



## Operation & Maintenance

### Concentrations of diverse technologies to safely support offshore wind power generation

Ehime Prefecture aims to make market contributions with its superior technological capabilities in the O&M (Operations and Maintenance) sector as well. A number of technologies are expected to facilitate safe and stable operations and maintenance in offshore wind power generation projects. These include cutting-edge non-destructive inspection technologies employing wall-climbing robots for steel structures in conjunction with Phased Array Ultrasonic Testing (PAUT) probes, container crane elevator technologies boasting the largest domestic market share, and new high-tech materials with potential as heat insulating materials for heat source equipment such as power supply panels and control boards, combining ultra-high flame resistance, light weight, and good thermal insulation properties.



## message



Governor of Ehime Prefecture  
NAKAMURA Tokihiro

Ehime Prefecture is home to a concentration of diverse, nationally preeminent manufacturing companies equipped with outstanding technological capabilities. These include a maritime cluster said to be the largest in Japan, comprising shipbuilding and marine equipment manufacturing companies, large plate rolling and machining operations that support heavy industry in Japan, and maintenance/inspection management for plants and other facilities – powerful drivers of the prefectural economy. Also, further market expansion is expected in the offshore wind power generation sector in the future, due to factors including the growing momentum to realize carbon neutrality around the world. I consider this a promising market in which local Ehime companies will be able to leverage their impressive technological capabilities. The prefectural government has joined forces with local companies, advancing a variety of initiatives to achieve full-scale entry into the market, including establishment of the Ehime Prefecture

Offshore Wind Power Industry Development Consortium in May 2024.

Amid these circumstances, we have put together an edition of our Database of "SUGOWAZA" Manufacturing Companies in EHIME, JAPAN specialized for the offshore wind power industry, which is characterized by a broad-based supply chain. Leading-edge technologies and sophisticated techniques from 23 local Ehime companies equipped to demonstrate their capabilities in their respective technology sectors, such as wind turbines, base manufacturing, and O&M.

Our hope is that this database will be of use in matching advanced technologies developed by local companies with offshore wind power industry projects by making them more widely known both within the prefecture and farther afield. If any of the companies listed in the database spark your interest, please do not hesitate to get in touch with the Ehime Prefectural Government's Industrial Policy Division. I sincerely hope you will make a point of referencing this database, so that it might encourage the growth and further development of Japan's offshore wind power industry and help create business opportunities for Ehime-based companies.

# Wind from Ehime

## Technology to driving the future from Ehime.

Ehime is home to many companies where traditional skills and cutting-edge technology coexist.

The diverse technologies created by the passion and wisdom cultivated in Ehime deliver new value to the world.

Discover its value in this guidebook.



## Index (The Japanese syllabary order)

Industry Classification	Product / Service	Category	Company	Address	Phone Number	Map	Page
Shipbuilding & Marine Equipment	Floating Structures	Floating Manufacturing	Imabari Shipbuilding Co., Ltd.	1-4-52 Koura-cho, Imabari	0898-36-5000	1	5
	Maintenance Lifts and Seawater Cooling Systems	Wind Turbine Manufacturing	Ushio Reinetsu Co., Ltd.	5-3 Creative Hills, Imabari	0898-34-1230	2	6
	Ship Control and Monitoring Systems	O&M (Vessels)	BEMAC Corporation	105 Ko, Noma, Imabari	0898-25-8282	3	7
	Anchor Handling - Towing Winches, Heavy Lift Cranes	O&M (Vessels)	MANABE ZOKI CO., LTD.	633-3 Ko, Takabe, Imabari	0898-41-9217	4	8
	Floating Structures	O&M (Vessels)	Murakami Iron Works Co., Ltd.	733-3 Onishi-cho Waki-Ko, Imabari	0898-53-4108	5	9
Large Plate Rolling & Machining	Crane-Related Equipment Manufacturing	Wind Turbine Manufacturing	Aishin Iron Works Co., Ltd.	12-50 Shimizu-cho, Niihama	0897-33-7070	6	10
	Large Plate Rolling	Wind Turbine Manufacturing	Kondokiko Co., Ltd.	1-5-54 Kuroshima, Niihama	0897-45-2256	7	11
	Chains for Floating Mooring Systems	Floating Manufacturing	Sumitomo Heavy Industries Himatex Co., Ltd.	5-2 Sobiraki-cho, Niihama	0897-32-6484	8	12
	Cylindrical Large Structure Fabrication Welding & Assembly (Foundation Manufacturing Base)	Foundation Manufacturing(Fixed & Floating)	Sumitomo Heavy Industries Process Equipment Co., Ltd.	1501 Imazaike, Saijo	0898-64-6936	9	13
	Hydrogen Storage Alloy Tanks	Electrical Systems	Dai Tec Co., Ltd.	462-4 Minato Aza Kitashinchi, Saijo	0897-66-7800	10	14
	Large Plate Rolling & Machining	Wind Turbine Manufacturing	Daihachi Kogyo Co., Ltd.	1-6-55 Kuroshima, Niihama	0897-46-2229	11	15
	Large Plate Rolling & Machining	Fixed Foundation Manufacturing	DAIRIKI Co., Ltd.	853 Kitagawa, Saijo	0897-56-5313	12	16
	Thin Plate Sheet Metal Processing	Wind Turbine Manufacturing	TASTEM. CO., LTD.	3-2-1 Masaeda-cho, Niihama	0897-37-1111	13	17
	Precision Processing of Machine Parts	Wind Turbine Manufacturing	Choso Iron Works Co., Ltd.	1-11 Minato, Saijo	0897-58-2227	14	18
	Flanges	Wind Turbine Manufacturing	Touwa Kogyo K.K.	2-7-38 Nishihara-cho, Niihama	0897-33-8306	15	19
	Steel Frame Manufacturing & Assembly	Wind Turbine Manufacturing	Noborio Tekkou Co., Ltd.	6-3-21 Takihama, Niihama	0897-45-4588	16	20
	Sealed Containers for Power Distribution Equipment	Electrical Systems	Hagio Machinery Co., Ltd.	1-17 Matsunoki-cho, Niihama	0897-32-2700	17	21
	Large Plate Rolling & Machining	Fixed Foundation Manufacturing	Miyata Tekkou Co., Ltd.	1004-1 Ikeda, Tanbara-cho, Saijo	0898-68-7024	18	22
	Precision Machine Parts	Wind Turbine Manufacturing	Yutaka Co., Ltd.	822-2 Nishihabu-machi, Matsuyama	089-971-5501	19	23
	Operation & Maintenance	Thermal Insulation Materials for Heat Source Equipment	Wind Turbine Manufacturing	Ushio Matex Co., Ltd.	5-3 Creative Hills, Imabari	0898-33-7660	20
Maintenance Drones		O&M	Ogasawara Kogyo Co., Ltd.	5-10-3 Kukodori, Matsuyama	089-972-0043	21	25
Inspection with Wall-Crawling Robots		O&M	SHI-ATEX Co., Ltd.	1501 Imazaike, Saijo	0898-65-4868	22	26
Lifting Equipment		Wind Turbine Manufacturing	Yoneyama Kogyo Co., Ltd.	1279-1 Shioya Nishi, Kitagawara, Masaki, Iyo-gun	089-984-6600	23	27

## Imabari Shipbuilding Co., Ltd.

A world-renowned shipbuilder with an outstanding track record, technological capabilities, and facilities: Attracting high expectations from various offshore wind power generation sectors

Category Floating Manufacturing > Floating Structures



### A leader in the shipbuilding world with an impressive track record Participant in Government-Industry Joint Discussions on Offshore Wind Power Generation As Well

A dedicated shipbuilder, Imabari Shipbuilding constructs over 60 ships annually, and has taken on over 2,900 new shipbuilding projects to date. With a track record placing the company first in Japan in terms of new shipbuilding volume for over 20 years (35.3% share in 2023) and sixth worldwide (5.8% share in 2023), Imabari Shipbuilding is a leader in Japan's largest maritime city, Imabari, with its superior technologies and stably maintained levels of quality and productivity. The company has also built some of the largest ships in the world, including an ultra-large container carrier with a total length of approx. 400 m and a carrying capacity of 24,000 20-foot containers.

Major awards received: Ship of the Year 2017 (MOL TRUTH), Ship of the Year 2023 (ONE INFINITY)

Imabari Shipbuilding is equipped with technical capabilities characterized by precision and flexibility, enabling it to build a diverse range of vessels, from ultra-large to small and medium-sized ships, at the multiple production bases it maintains in Japan, primarily in the Seto Inland Sea area. With regard to offshore wind power generation, the company took part in functions including a study group on industrial strategy concerning floating structures and is working in cooperation with relevant companies to consider approaches to mass production of the floating structures at low cost.

#### Adoption Record

##### Ultra-large container ship 400 m in length: Largest class in the world



ONE INFINITY, a 24,000-TEU ultra-large container carrier (399.95 m [L] × 61.4 m [B] × 33.2 m [D]; gross tonnage: 235,311 t) received a Ship of the Year award in 2023. The new type of windbreak installed on the ship's bow was highly appraised for its novelty in reducing increased wind resistance and increasing the number of containers stackable on its deck at the same time.

##### Considering approaches to mass production floating structures at low cost



Imabari Shipbuilding has taken part in a study group on industrial strategy concerning floating structures for Japan's offshore wind power generation, along with research and development initiatives for wind power generation technologies sponsored by national research institutions, and is cooperating in the study of manufacturing methods for floating structures aimed at realizing mass production at low cost using shipbuilding yards' characteristically large-scale facilities.

#### Main Equipment and Machinery

- Manufacturing Facilities: Owns 10 factories capable of constructing vessels up to 400 meters in length.
- Saijo Plant (Saijo City, Ehime Prefecture): Dock / 420m x 89m, 800-t Goliath cranes / 3 units
- Cranes: Equipped with large cranes capable of lifting from 70t to 800t.
- Press Machines: Equipped with press machines capable of pressing steel plates from approximately 500t to 3,000t.

#### Company Information

Business: Shipbuilding Industry  
Location: 1-4-52 Koura-cho, Imabari, Ehime Prefecture, 799-2195  
Established: January 1942 Capital: 30 billion yen Employees: 1,900  
Representative: President Yukito Higaki Tel: 0898-36-5000  
Offices: Imabari, Saijo, Marugame, Hiroshima, Tokyo  
Metropolitan Area Contact: Corporate Planning Office  
Phone: 03-3500-8868  
E-mail: cpo@mlimazo.com URL: <https://www.imazo.co.jp/e.ajw.hp.transer.com/>



## Ushio Reinetsu Co., Ltd.

The promise of shipboard comfort & ease:  
Offering comprehensive service accommodating the type of ship, route, environment, and more

Category Wind Turbine Manufacturing > Maintenance Lifts and Seawater Cooling Systems



### Marine elevators thoroughly suited to offshore needs

Boasting a top share of the domestic market for marine elevators, Ushio Reinetsu has a track record of delivery to over 1,000 ships of all classes and registries. Highly versatile rope-type elevators are used for both low-rise and high-rise vessels, and these come fully equipped with countermeasures against shaking, an important consideration for marine elevators. The system detects the unique shaking of offshore vessels and provides appropriate control of safety operations. While prioritizing a simple structure allowing ship crews to respond to emergency problems, the company has also established a rapid maintenance system coordinating both domestically and internationally to provide safe, highly functional, and high-quality products and services. Ushio Reinetsu is also exploring possibilities for use of the elevators in offshore wind power generation projects and on working ships, supplying detailed plans and implementing configurations tailored to specific needs.

• Classification: Rope-type elevators • Load weight: Delivery record of 350-1,500 kg onboard ships • Lift height: Delivery record of 3-50 m onboard ships • Fire door specifications: Certification and approval of fireproof material types received through the Product Safety Evaluation Center in accordance with the FTP code (Fire Test Procedures Code for use onboard ships)

### Manufacture of chillers and heat exchange units using seawater cooling and provision of related systems

Boasting a top share of the domestic market for air conditioning and refrigeration equipment, Ushio Reinetsu is a manufacturer of numerous products designed to improve the shipboard environment. Chillers (cooling water circulation units) and heat exchange units use seawater for cooling. Highly efficient and useful onboard ships, the devices also deliver energy-saving functionality. Crafted with seawater-resistant materials and manufacturing technologies, the equipment can withstand continuous use for over 15 years with proper maintenance. The systems are designed to accommodate specified temperature ranges depending on the cooling object and method of use, as well as to provide reliable cooling or temperature maintenance control. Ushio Reinetsu offers proposals and provision of units with built-in redundancy and control functions taking into consideration the operation of the entire vessel and the entire system.

• Cooling method: Seawater cooling  
• Cooling capacity: 10-200 kW  
• Service life: Track record of systems withstanding 15-20 years of continuous use with proper maintenance



#### Adoption Record

##### Marine Elevators for a Diverse Range of Ships



For general merchant ships and ferries, Ushio Reinetsu provides elevators with specs demanded for a range of vessels, including overall size. The company uses advanced technology to satisfy all manner of requests, from finding ways to lower costs while maintaining functionality to providing comfort while enhancing the ship's external appearance.

##### Wide Range of Cooling System Applications for Ships



Ushio Reinetsu has handled the construction and delivery of a variety of types of equipment and control systems for numerous ships. These include chemical cooling for ballast water treatment, MGO cooling, urea water cooling for exhaust gas reduction treatment, battery cooling for electric propulsion ships, and power converter cooling. The company provides design, manufacturing, and construction optimized to comprehensively meet individual use environments, applications, and operational requirements.

#### Main Equipment and Machinery

- Laser Hybrid Machine: 2,000W, 2,400mm x 1,200mm / 1 unit
- Press Brake: 130t, 80t / 2 units
- Machining Center: 3-axis, 1,300mm x 3,000mm, 1,300mm x 600mm / 3 units
- Pipe Coaster: 150 to 500A / 1 unit
- Powder Coating Equipment and Drying Facility: 2,000mm x 1,000mm / 1 set
- Elevator Test Tower: Tower height 20m, load capacity 450kg / 1 unit

#### Company Information

Business: Manufacture and sale of heating and cooling equipment, refrigeration units, prefabricated refrigerated/freezer units, dehumidifiers, ship elevators, spot coolers, package-type air conditioners for ships, as well as duct installation work. Location: 5-3 Creative Hills, Imabari, Ehime Prefecture, 794-0069 Established: November 1977 Capital: 100 million yen Employees: 300 Representative: President Shigeharu Oda Tel: 0898-34-1230  
Offices: Imabari, Tokyo, Fukuoka, Saijo, Nagasaki, Kagawa, Tsu  
Metropolitan Area Contact: Tokyo Branch, Kazuyuki Isaka Tel: 03-6205-7630  
E-mail: [ushio@ushioreinetsu.co.jp](mailto:ushio@ushioreinetsu.co.jp) URL: <https://ushioreinetsu.co.jp/english/>



# BEMAC Corporation

Pioneering the future of offshore wind power support vessels with marine and shipbuilding-related technology and experience honed as a leading manufacturer of marine equipment.

Category O&M (Vessels) > Ship Control and Monitoring Systems



## DPS (Dynamic Positioning System): Providing High Reliability and Full After-Sales Service

BEMAC's Dynamic Positioning System (DPS) for automatic ship position maintenance has been in operation on AHTSVs (Anchor Handling Tug Supply Vessels) overseas where it has received positive assessments from customers. Since the company's establishment, BEMAC has been rooted in the maritime industry and is well versed in the rules and operating environment of vessels.

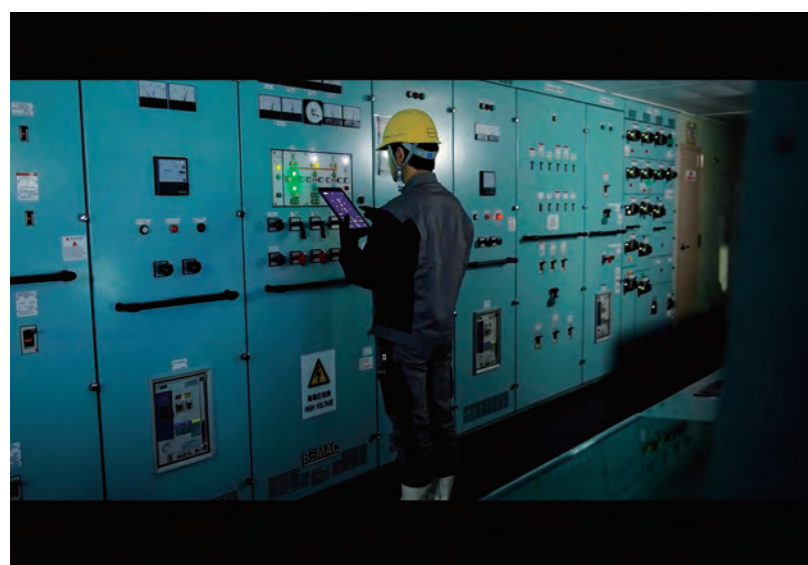
Another of BEMAC's strengths is its full provision of after-sales service, characterized by reliability and security realized with advanced technologies, as well as post-delivery commissioning. The company's DPS, developed through thoroughly detailed verification processes involving model ships and digital simulations, features the durability to withstand harsh environments. **BEMAC is equipped to attentively accommodate all types of orders with its entirely in-house manufacturing, satisfying the demands of various types of offshore vessels, which will be indispensable in developing offshore wind power generation projects.**

DPS functions: Automatic position maintenance mode, automatic heading maintenance mode, ROV tracking mode, automatic route following mode, joystick operation mode

## MaSSA-One (The Maintenance System for Soundness Sailing Ability): A Ship Support Solution Facilitating On-Land Sharing of Shipboard Data

MaSSA-One is a system that accumulates on-board data from ships on servers during operation and facilitates real-time monitoring from onshore locations. **Through data-sharing between shipboard and onshore locations, the system enables detailed monitoring and analysis of ships' statuses from onshore offices, enabling improved operational efficiency and quicker response when trouble occurs.** Furthermore, the company has formed the MaSSA Partnership, a cooperative network of ship-related companies, to actively promote DX (digital transformation) in maritime industries. The partnership aims to enhance the ability to respond to problems and prevent them from occurring in the first place, thereby supporting safer and more efficient ship operations.

Main Functions of the "MaSSA Insight" Ship Operations Support Application: Batch status display (for batch display of alarm status and location information for ships equipped with MaSSA-One), main equipment monitor (for batch confirmation of main equipment status), troubleshooting function (for troubleshooting power generation systems), and alarm function (enabling users to set their own alarm conditions)



### Adoption Record

#### Meeting User Needs with DPS



DPS ensures redundancy and prepares for problems to provide support for equipment malfunctions and realize unceasing ship operations. Complex sequence control is implemented in DPS to achieve design responsive to user needs with flexibility.

#### MaSSA Insight -WADATSUMI-



A web application enabling both shipboard and onshore real-time monitoring of operational data from ships that has been collected. The application has been installed on more than 200 large merchant vessels and is used by a wide range of users, including ship owners, operators, and management companies. It contributes to more efficient ship management and improved operational performance.

### Main Equipment and Machinery

- Provision of Electrical Equipment for Ships: Approximately 200 vessels per year
  - Wiring Installation for New Vessels at Shipyards: Approximately 120 vessels per year (handling over 7,000 km of wiring annually)
  - Manufacturing and Construction Related to Electrical Equipment: Domestic factories (Mirai Factory in Imabari, Onishi, Mihara, Marugame, Saijo, and Mihara), Overseas factory (Vietnam)
  - After-Sales Service
- Locations: Cooperation system with group companies in China (Dalian, Shanghai) and Singapore

#### Company Information

Business: Design, manufacture, sale, installation, and maintenance of control, power distribution, communication equipment, and generators (marine PM, wind turbine) for ships, buildings, factories, plant facilities, etc. Location: 105 Ko, Noma, Imabari, Ehime Prefecture, 794-8582  
 Established: July 1956 Capital: 90 million yen Employees: 977 (as of the fiscal year ending March 2024)  
 Representative: President Masato Oda Tel: 0898-25-8282  
 Offices: Imabari Headquarters, Tokyo Headquarters, Osaka Branch, Netherlands, 5 factories (Ehime, Kagawa, Hiroshima, etc.), domestic and overseas group companies (Singapore, China, Vietnam, Finland, etc.)  
 Metropolitan Area Contact: Tokyo Branch Tel: 03-6550-8211  
 E-mail: info@bemac-jp.com URL: https://www.bemac-jp.com/en/

# MANABE ZOKI CO., LTD.

Supporting marine transport and offshore wind power generation around the world as a leading manufacturer of ship deck machinery and cargo-handling equipment

Category O&M (Vessels) > Anchor Handling - Towing Winches, Heavy Lift Cranes



## Domestic manufacturer of anchor handling & towing winches for AHTSVs

MANABE ZOKI manufactures anchor handling and towing winches with 300-t hoisting capacities for use on AHTSVs (Anchor Handling Tug Supply Vessels) at oil and gas drilling sites. The company performs virtually 100% of its manufacturing domestically in Japan, including mechanical parts, with a record of delivery for over 10 projects worldwide, primarily in the Indian Ocean. **The company is equipped with the facilities and technologies to manufacture anchor handling and towing winches with 600-t hoisting capacities, as will likely be required for the mooring of floating structures used in offshore wind power generation projects.** Offering after-sales service as well, MANABE ZOKI has established a system for providing rapid responses to problems in conjunction with distributors in more than 30 countries around the world.

- Hoisting capacity: Many deliveries at 300-t capacity, with capabilities for 600-t capacities as well
- Units manufactured: Over 600 winches of various types for marine use per year



## Japan's first heavy-lift crane with 500-t cargo-handling capacity

MANABE ZOKI manufactured Japan's first heavy-lift crane with a 500-t cargo-handling capacity. This crane has been installed on heavy-lift and multi-purpose vessels, with completion of the first unit occurring in 2019. **In addition to manufacturing the first crane of this size in Japan, the company was the first in all of Asia as well and the fifth in the world, with only a few European companies manufacturing and selling such cranes worldwide.** The 500-t and 250-t capacity cranes manufactured by the company with an eye on future market needs are capable not only of handling heavy loads, but also of handling light loads at high speed. The cranes offer high performance capabilities that prove beneficial in a variety of situations.

- Cargo-handling capacity: 500 t x 20 m
- Units manufactured: 200+ deck cranes per year for bulk carriers and inshore vessels

### Adoption Record

#### Over 600 winches of various types manufactured annually



MANABE ZOKI delivers a wide variety of winches to a large number of vessels, optimized to satisfy customers' needs. Manufacturing more than 600 winches annually, the company has built up an extensive track record delivering anchor winches for work ships including general merchant vessels, winches for SEP ships, and other winches satisfying special requirements. They have also worked on products taking marine pollution into consideration from an early stage.

#### Over 200 deck cranes manufactured annually



MANABE ZOKI manufactures more than 200 deck cranes for ships annually. This level of consistent demand stands as a testament to the track record and trust the company has built up. The company responds reliably to changing market needs and specifications in accordance with customer demands, continuously maintaining stable manufacturing and provision of products with constructions and levels of quality maximally optimized to the characteristics of each product type.

### Main Equipment and Machinery

- Large Horizontal Boring Mill: X-axis 15,000mm, Y-axis 5,000mm / 1 unit
- Large Turning Machine: Capable of machining up to  $\phi$ 5,000mm / 1 unit
- 400-t Jib Crane: Rated load 400t / 1 unit
- Gear Cutting Machine: Capable of machining up to  $\phi$ 5,000mm / 1 unit

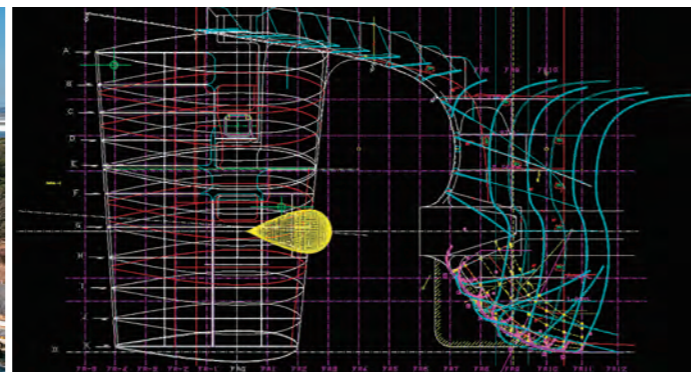
#### Company Information

Business: Manufacture and sale of deck machinery for ships and general mechanical equipment  
 Location: 633-3 Ko, Takabe, Imabari, Ehime Prefecture, 799-2113  
 Established: 1960 Capital: 60 million yen Employees: 255  
 Representative: President Masayuki Manabe Tel: 0898-41-9217  
 Offices: Tokyo, 4 factories (Ehime, Kagawa)  
 Metropolitan Area Contact: Tokyo Sales Office, Kosuke Hamada Tel: 03-6435-2966  
 E-mail: eigyou\_2@manabezoki.co.jp  
 URL: https://manabezoki.co.jp

## Murakami Iron Works Co., Ltd.

Maritime leader equipped with internationally certified equipment and advanced technologies:  
An Imabari-based rudder manufacturer steering the global maritime industry

Category O&M (Vessels) > Floating Structures



### A leader at the forefront of rudder manufacturing with an integrated system from plate rolling and machining to ship classification inspections

Murakami Iron Works plays an important part in facilitating the safe navigation of ships on the world's oceans as a manufacturer of ship rudders, with installations ranging from small vessels to ultra-large container ships, as well as Japan Coast Guard ships and destroyers. With its advanced technologies and construction of production systems, the company plays a role in the safe navigation of ships through the oceans of the world. Murakami Iron Works is equipped to carry out integrated production of materials, plate rolling, machining, finishing, and ship classification inspections. The company has obtained factory approvals from the international certification bodies/ship classification societies BV and DNV, maintaining manufacturing capabilities in line with design standards for offshore vessels, including those followed by European companies. DNV is a

global service provider primarily involved with experts in risk management in the Oil & Gas, wind power, and power transmission/distribution sectors, beyond being a ship classification society. Few companies in all of Japan have obtained factory approval from them. Additionally, Murakami Iron Works boasts a high level of technical expertise in welding, having received approvals on multiple occasions, including from the Nippon Kaiji Kyokai (NK). In the offshore wind power generation sector, the company expects to provide rudder structures, stern frames, and outfitting for work vessels, cable laying vessels, and other ships. The company's Oshima plant has a dedicated wharf enabling marine transport of large manufactured products.

• Materials used: Ordinary steel, high-tensile steel, alloy steel • Manufactured sizes: Rudders 15 m x 9 m x 2 m, 230 t max. • Factory approval: BV, DNV • Welding method approval: NK, LRS, ABS, KR, CR

#### Adoption Record

##### Manufacturing rudders for some of the world's largest container ships



In 2023, Murakami Iron Works manufactured rudders for all six of the 24,000-unit container ships. The rudders were constructed with sizes of 13,600 mm x 9,000 mm, 160-t weights, and 37-t shafts. These hybrid rudders are made with a combination of high-tensile steel and cast steel parts. They were manufactured at the company's Oshima plant and delivered to shipbuilding yards by marine transport.

##### The only rudder in Japan to be entrusted for use on a large JMSDF vessel



Murakami Iron Works is the sole company in Japan manufacturing rudders for the Maritime Self-Defense Force's large naval vessels. The company primarily handles rudder structures for destroyers and patrol ships. To date, the company has manufactured six rudders for large naval vessels, including the helicopter-carrying destroyers Izumo, Hyuga, Kaga, and Ise. The company is also slated to produce more in 2025 and beyond.

#### Main Equipment and Machinery

- CNC Horizontal Boring Mill (Floor Type): X6000 x Y3500 x Z750 x W900, X8000 x Y3500 x Z750 x W900 / 2 units
- CNC Horizontal Boring Mill (Table Type): X3000, Y2300, Z1600, W700, etc. / 3 units
- CNC Lathes: 5 units ● CNC Plasma Cutting Machine: MAX 60mm
- Hydraulic Press: 1500t, W6500mm, etc. / 5 units
- Dedicated Wharf (Oshima Factory): Length 75m, designed water depth 7m

#### Company Information

Business: Manufacturing of ship rudders and stern frames  
Location: 733-3 Onishi-cho Waki-Ko, Imabari, Ehime Prefecture, 799-2206  
Established: April 1977 Capital: 20 million yen Employees: 56 (as of November 2024)  
Representative: President Masahiro Murakami Tel: 0898-53-4108  
Offices: Imabari City, Saijo City, Ehime Prefecture  
Metropolitan Area Contact: Sales Department, Kazushi Ogaki Tel: 0898-53-4108  
E-mail: oogaki@murakami-iw.co.jp  
URL: <https://murakami-iw.com/english/index.html>

## Aishin Iron Works Co., Ltd.

Flawlessly performing everything from component manufacturing to assembly – Providing solid support for massive sites, including ports, shipyards, steel works, and chemical plants, from the ground up and down to the details

Category Wind Turbine Manufacturing > Crane-Related Equipment Manufacturing



### Traveling devices, runaway prevention devices, and suspension equipment key to the safety of large cranes

Aishin Iron Works maintains its own integrated system for all stages including plate rolling, welding, machining, painting, and assembly in its involvement in the manufacture of large cranes, machinery and equipment for chemical plants, and more. In its mainstay, the manufacture of crane-related equipment, the company supplies a large number of traveling devices, runaway prevention devices, and suspension equipment for large cranes used by ports, shipbuilders, electric power companies, blast furnace manufacturers, and other customers. The company manufactures a diverse range of products according to the type and size of crane. Rail clamps, which have attracted attention in recent years as important safety devices, are assembled to an accuracy of 0.1 mm or less through adjustment of the component

configurations on a millimeter-by-millimeter basis to increase gripping and holding force. In terms of suspension equipment, in addition to spreaders used for container loading and unloading at ports, the company has also manufactured spreaders used in the removal of radioactive waste. This equipment is all critical for the safety and reliability of cranes, meaning demands for high-precision technical capabilities and high-quality deliverables strictly adhering to relevant standards and specifications. Aishin Iron Works combines high levels of individual expertise with comprehensive capabilities covering everything from small component manufacturing to maintenance, enabling it to satisfy customer needs with speed and meticulous precision.

#### Adoption Record

##### Introduction of solar power generation equipment



Aishin Iron Works has installed solar power generation equipment for self-consumption to reduce CO<sub>2</sub> emissions in manufacturing processes. The company aims to procure all of the large amounts of electricity it requires from renewable energy sources, while advancing labor-saving measures such as building automated production lines as well.

##### Introduction of coordinate measuring machines



Manufacturing more reliable machinery and equipment necessitates increasing the accuracy of the components that make up the equipment. The company has introduced coordinate measuring machines in its facilities to level out variations in inspection techniques due to differences in operator experience, as well as to improve work efficiency.

#### Main Equipment and Machinery

- 5-Face Machining Gantry Center: MCR-A5C (25x40), Gantry Width 2550mm, Axis Travel 4200mm / 1 unit
- 5-Face Machining Gantry Center: X1500, Y2500, Z700 / 1 unit
- CNC Horizontal Boring Mill: X1800, Y1500, 100 & X1000, Y1000, 80 / 1 unit each
- CNC Vertical Machining Center: X2500, Y1000, Z700 / 1 unit
- Vertical Machining Center: X1000, Y560, Z520 / 1 unit
- NC Lathe: 400 x 1200 & 650 x 2000 / 1 unit each

#### Company Information

Business: Manufacturing of crane-related equipment, valve maintenance for plants, design and manufacturing of machinery for chemical plants  
Location: 12-50 Shimizu-cho, Niihama, Ehime Prefecture, 792-0861  
Established: December 1961 Capital: 10 million yen Employees: 35  
Representative: President Seiichiro Kataza  
Tel: 0897-33-7070 Office: Niihama City  
Metropolitan Area Contact: Niihama Headquarters Tel: 0897-33-7070  
E-mail: aishin@aishin-web.jp URL: <https://aishin-web.jp>

## Kondokiko Co., Ltd.

Aiming to perform base manufacturing for offshore wind power generation projects, leveraging its superior design and processing technologies in producing high-rise towers over 100 m in height

Category Wind Turbine Manufacturing > Large Plate Rolling



## A master of large plate rolling that enables bending work at 100-mm thicknesses

Kondokiko specializes in large plate rolling, producing chimneys and steel towers for power plants, storage tank equipment for chemical plants, tanks, silos, ducts, and more. The company has extensive experience with high-rise towers, including manufacturing 150- to 200-m chimneys. With its introduction of CAD/CAM systems, Kondokiko has established an integrated production system from design and production to delivery of a range of plant equipment. In its manufacturing, the company has established NC processing for processes up through large-scale cutting, scribing, groove-cutting, bending, and welding.

The company maintains facilities and equipment specialized for large plate rolling, and with the

combined use of a 600-t bending roller and a 1,000-t press is capable of performing bending work at 100-mm thicknesses. Additionally, its overhead cranes have lifting capacities of 20 to 30 t, with support for up to 40-60 t, plus impressive lifting heights of 12-15 meters, allowing them to move large objects freely. **The main factory and second and third factories are all located adjacent to a public wharf, just 100 m away. With the ability to assemble and stock products at the port, Kondokiko also boasts the advantage of good handling support with direct connections to marine transport.**

- Production size/weight: Capable of delivering large-diameter products (middle thicknesses up to 100 mm) weighing up to 60 t/block (either round or angular)
- Certifications: ISO 9001, ISO 14001, ISO 27001

## Adoption Record

## Manufacturing environmental equipment for thermal power plants: Desulfurization ducts



Kondokiko manufactures desulfurization ducts for flue gas desulfurization equipment used to remove sulfur oxides (SOx) and purifying the flue gas of boilers at facilities such as coal-fired thermal power plants. As a new business, Kondokiko is also focusing on the manufacture of large scrubbers and other equipment using special steel materials, including Hastelloy.

## Achieving large-scale plate rolling with maximum block weights of 95 t



Kondokiko has manufactured two chimneys for use in high-efficiency coal-fired power generation plants. Before delivery, a structural outer cylinder and an inner duct (inner cylinder) to let combustion exhaust gases through are produced separately, with the inner duct then inserted into the outer cylinder. The outer casing and inner casing measure  $\phi 7,400$  and  $\phi 10,000$  respectively; the inner casing,  $\phi 6,800$ . The chimney's height is 150 m. The inner tube is made of NSSC270 material enabling long-term, maintenance-free operation.

## Main Equipment and Machinery

- 600t Bending Roller: (3,500mm width) Plate thickness 52-55mm / 1 unit
- 270t Bending Roller: (3,500mm width) Plate thickness 36mm / 1 unit
- 1,000t Press Machine: (2,500-3,000mm width) Plate thickness 75mm, (1,000mm width) Plate thickness 145mm / 1 unit each
- NC Plasma & Gas Cutting Machine: Effective cutting area 3,500mm x 16,000mm / 1 unit
- NC Laser Cutting Machine: Effective cutting area 4,600mm x 16,000mm / 1 unit
- CNC Large Band Saw: Maximum 900mm / 1 unit

## Company Information

Business: Design and manufacturing of large towers, tanks, and ducts for various plant facilities; fabrication of high-rise chimneys (over 80m)  
 Location: 1-5-54 Kuroshima Niihama, Ehime Prefecture, 792-0892  
 Established: November 1974 Capital: 58.2 million yen Employees: 30 (as of November 2024)  
 Representative: President Masahito Kondo Tel: 0897-45-2256 Office: Niihama City  
 Metropolitan Area Contact: President Masahito Kondo Tel: 0897-45-2256  
 E-mail: kondo@kondokiko.jp URL: <https://www.kondokiko.jp>



## Sumitomo Heavy Industries Himatex Co., Ltd.

The only professional chain manufacturing company in Japan leveraging all manufacturing methods to produce marine chains: Responding to diverse needs with outstanding technologies and expertise

Category Floating Manufacturing > Chains for Floating Mooring Systems



## Refining diverse chain manufacturing techniques, including welding, forging, and casting, a company uniquely positioned in the industry

SHI Himatex is the sole company in Japan equipped to manufacture chains using a full range of manufacturing methods, producing flash-butt welded chains, forged chains, and more. The company chiefly manufactures Solid Stud Type Anchor Chains, thickened long open-type chains, and stud-fitted chains. Solid Stud Type Anchor Chains consist of forged punched links with studs in the center alternated with forged half links. Offering excellent impact resistance, long service lives, and low rates of strength loss, they are widely used for mooring ships such as vessels that frequently cast anchor and for anchoring buoys in strong tidal currents. Thickened long open-type chains

feature an alternating combination of circular punched links and forged half links. They are typically used for anchoring buoy moorings because of their high abrasion resistance and resistance to breakage achieved with their thickening. Stud-fitted chains are manufactured by bending round steel bars into C shapes, welding them, and pressing studs into place. This type is suitable for general merchant ships and harbor mooring. SHI Himatex's current manufacturing system is capable of producing chains with diameters of up to  $\phi 90$ .

- Materials used: SBC690 and SBC490 round steel bars for chains
- Production sizes: Solid Stud Type Anchor Chains,  $\phi 20.5$ - $\phi 68$ ; thickened long open type,  $\phi 30$ - $\phi 46$ ; stud-fitted type, up to  $\phi 90$
- Certification: NK (Nippon Kaiji Kyokai)

## Adoption Record

## Chains for Maritime Self-Defense Force vessels



SHI Himatex is the sole company in Japan contracted to manufacture chains for the Maritime Self-Defense Force's naval vessels. The company's Solid Stud Type Anchor Chains, manufactured fully leveraging forging and welding technologies, are used as anchor chains for destroyers and other vessels, as their studs do not loosen even if twisted and retain their strength for long periods of time.

## Mooring chains for Japan Coast Guard navigation beacons



Navigation beacons are indispensable for safe ship navigation, acting as guideposts in the sea. SHI Himatex's chains have been used at over 1,500 sites throughout Japan for mooring such beacons. Thickened long open chains are used in ordinary marine areas, while Solid Stud Type Anchor Chains are used in areas with rapid tides such as the Akashi Strait.

## Main Equipment and Machinery

- Cutting Machines: Billet Shear / 1 unit
- Sawing Machine / 3 units
- Forging Heating Furnaces: Heavy Oil Furnace / 3 units
- Hammer: Air / 1 unit
- Presses: Hydraulic, Others / 5 units
- Flash Butt Welding Machines: 2 units
- Tensile Testing Machines: Hydraulic / 2 units
- Heat Treatment Furnace: LPG / 1 unit
- Shot Blasting Machines: Drum, Others / 2 units

## Company Information

Business: Development, manufacturing, and sales of rolling rolls, anchor chains, iron chains, various chains, and surface processing products  
 Location: 5-2 Sobiraki-cho, Niihama, Ehime Prefecture 792-0001  
 Established: April 1980 Capital: 3.1 billion yen  
 Employees: 132 (as of April 1, 2024)  
 Representative: President Takaaki Kido Tel: 0897-32-6484  
 Offices: Tokyo Sales Group, West Japan Sales Group, Nagoya Sales Group  
 Metropolitan Area Contact: Sales Department, Hiroyuki Yamada Tel: 06-7635-3652  
 URL: [https://www.shi.co.jp/hmx/e\\_index.html](https://www.shi.co.jp/hmx/e_index.html)



## Sumitomo Heavy Industries Process Equipment Co., Ltd.



Promoting activities for manufacturing base structures for offshore wind turbines:  
Introducing large bending rollers to increase processing capacities for ultra-thick steel plates

Category Foundation Manufacturing(Fixed & Floating) > Cylindrical Large Structure Fabrication Welding & Assembly (Foundation Manufacturing Base)



### SHI Process Equipment maintains technologies, facilities, and equipment enabling it to manufacture both fixed-bottom and floating type base structures

With its abundant accumulation of manufacturing experience with harbor structures such as jackets and caissons, as well as pressure vessels, the company will leverage the plate rolling and welding technologies it has developed through the manufacture of such steel structures to manufacture the transition pieces and floating structures that serve as base structures for offshore wind generation projects. **Its Saijō Factory has introduced a new large bending roller to increase manufacturing capacity.** In addition to the ability to bend ultra-thick steel

plates, the new roller is equipped with an integrated bending function to bend cylindrical tubes efficiently. Now equipped with two bending rollers, SHI Process Equipment has the ability to manufacture cylindrical tubes of all sizes and thicknesses. In its welding processes, the company has equipment specialized for welding cylindrical structures, enabling it to handle a wide range of steel grades and plate thicknesses with the full range of welding processes at its disposal, as well as to perform advanced nondestructive inspection of welds.

- Materials used: Ordinary steel, high-tensile steel, low-alloy steel, stainless steel
- Size of production: Utilizing in-plant facilities, large steel structures can be produced and shipped out from the company's own wharf

#### Adoption Record

##### Production of various massive pieces of infrastructure



SHI Process Equipment maintains huge facilities, including large cranes, an extensive assembly yard, and a wharf equipped to perform batch shipping using offshore cranes, and has built many important pieces of massive domestic infrastructure, including port and harbor flood control structures such as jacketed breakwaters, hybrid caissons, and submerged tunnels.

##### Pressure vessel manufacturing in accordance with domestic and overseas codes and regulations



SHI Process Equipment manufactures high-quality pressure vessels capable of operating in harsh environments setting material specifications, performing structural design and stress analysis, and integrating advanced production technologies with quality assurance systems.

#### Main Equipment and Machinery

- Processing Machinery: NC Cutting Machine, Bending Roller, Hydraulic Press
- Welding Machines: Submerged Arc Welder, Semi-Automatic Welder, TIG Welder
- Welding-Related Equipment: Large Positioner, Turning Roller, Manipulator
- Factory Cranes (indoor and outdoor), Multi-Axis Dollies

#### Company Information

Business: Manufacturing of large steel structures and pressure vessels, design, manufacturing, installation, and repair of chemical/general machinery  
Location: 462-4 Minato Aza Kitashinchi, Saijo, Ehime Prefecture 799-1393  
Established: February 1987 Capital: 480 million yen Employees: 270  
Representative: President Shigeru Tajima  
Tel: 0898-64-6936  
Offices: Tokyo Branch, Osaka Branch, Iizuka Plant, Kashima Plant  
Tel: 03-6737-2680  
Inquiries: Please use the inquiry form on our website  
URL: <https://www.shi-pe.shi.co.jp/english/>

## Dai Tec Co., Ltd.



Track record of achievements in the semiconductor and pharmaceutical sectors with welding technologies for special materials including titanium and Hastelloy: A focus on clean energy projects

Category Electrical Systems > Hydrogen Storage Alloy Tanks



### Providing special materials welding, manufacture of sanitary piping, welding, and unit assembly

Dai Tec is involved in a diverse array of businesses, including the manufacture of sanitary piping for pharmaceutical, food, and cosmetics plants with stringent safety and hygiene requirements, the assembly and installation works of related plants, and the manufacture of gas piping for semiconductors, vacuum piping, high-pressure piping, titanium components, hydrogen-related items, stainless steel, iron, aluminum, and general piping. Leveraging the artisanal craftsmanship, knowledge, experience, and state-of-the-art equipment the company has cultivated over the years, Dai Tec continues to take on advanced manufacturing challenges out of reach for other companies through its integrated approach to business, from sales, releasing diagrams, machining, welding, and inspection to delivery, installation, and maintenance.

- Track record showing abundant experience with prefabricated piping (patent no. 7130253), from sanitary piping to double pipes
- Industry-academia collaboration: Shielding gas with added air, developed in collaboration with Ehime University (joint patent no. 7301296)
- Blasting machines: Max. work size 1,200mm x 1,200mm x 600mm in height
- Buffing: Flexible support for stainless steel products from #100 to #600 finishes on interior and exterior surfaces



### Hydrogen-Absorbing Alloy Tanks

With the spread and expansion of the movement to realize a carbon neutral society, output controls have occurred due to the instability of the electrical system for renewable energy, resulting in large amounts of surplus power. To take advantage of this surplus power, Nasu Denki-Tekko Co., Ltd. has developed a nano iron titanium hydrogen-absorbing alloy and has developed and commercialized a tank (MH tank) made with the alloy. Dai Tec is responsible for manufacturing the cylindrical body of the MH tank. **The hydrogen-absorbing alloy tank can safely and compactly store 8 m<sup>3</sup> of hydrogen gas, which is more than the storage capacity of commercially available hydrogen cylinders (7m<sup>3</sup>), at a low pressure of 10 atm or less.** The tank is envisioned for use in the production and storage of hydrogen, using surplus electricity from renewable energy sources such as wind and solar power.

- Product name: Hydrogen-absorbing alloy tank (MH tank) and air-temperature hydrogen-absorbing alloy system (MH-QUON), incorporating multiple tanks depending on the hydrogen storage volume
- \*QUON and MH TANK are products of Nasu Denki-Tekko Co., Ltd.
- Basic performance: Diameter 165 mm, height 1,500 mm, weight 125 kg, pressure 10 atm, internal volume 27.5 L, hydrogen flow rate: 8 L/min for absorption, 8 L/min for release

#### Adoption Record

##### Exhibiting hydrogen delivery systems at events



Together with Nasu Denki-Tekko Co., Ltd., Mitsubishi Kakoki Kaisha, Ltd., and Nippon Filcon Co., Ltd., the company has been jointly presenting proof-of-concept demonstrations of hydrogen-absorbing alloy delivery systems in various locations, leveraging hydrogen-absorbing alloy tank technologies. In order to more widely familiarize the public with the systems, the companies actively participate in events such as craft beer fairs, where they exhibit hydrogen-absorbing alloy systems and supply electricity.

##### Welding and assembly of piping for semiconductor manufacturing plants



The supply of high-purity gases, which are indispensable for equipment used in semiconductor manufacturing processes, represent a lifeline for the manufacture of semiconductors and other IT equipment. Dai Tec is equipped with a dust-proof clean room (shown in photo at left) to maintain thorough control of particle generation in manufacturing processes. The company provides high-purity gas piping that offers high degrees of safety and reliability.

#### Main Equipment and Machinery

- Various factories (cutting, welding, processing, welding, cleaning, overhead cranes): 4 locations in Saijo City, 1 location in Tochigi Prefecture
- Cleanroom-equipped factories: 3 locations in Saijo City
- Various warehouses and work areas: 5 locations in Saijo City
- Tig welding machines, CS welding machines, PolySood automatic welding machines, positioners
- Automatic welding machines for tubes, tube cutters, He leak detectors
- Band saws, metal saws
- NC benders, blast machines
- Drilling machines, general lathes, stone benchmarks
- Ultrasonic cleaning machines, burn removal machines, turning rollers

#### Company Information

Business: Metal processing industry  
Location: 462-4 Minato Aza Kitashinchi, Saijo, Ehime Prefecture 793-0046  
Established: April 2007 Capital: 25 million yen Employees: 64  
Representative: Daigo Shimizu Tel: 0897-66-7800 Offices: Saijo City Metropolitan Area Contact: Teruhisa Hino  
E-mail: [t-hino@daitec-mail.com](mailto:t-hino@daitec-mail.com) URL: <https://www.daitec-co.com>



## Daihachi Kogyo Co., Ltd.



Large-scale tower manufacturing with large roll bending technologies:  
Experience manufacturing towers for onshore wind power generation as well

Category Wind Turbine Manufacturing > Large Plate Rolling & Machining



### Integrated production from large roll bending to machining

Daihachi Kogyo specializes in processing large components such as large towers and tanks for paper mills, thermal blast furnaces for steelworks, cranes, and wind turbine props. In the field of wind power generation, Daihachi Kogyo has experience manufacturing onshore wind turbine props. The company has a proven track record in roll bending for a diverse range of products. The technological capabilities and level of experience the company has accumulated have earned it high appraisals from major domestic companies and others. Daihachi Kogyo achieves efficient and cost-effective manufacturing by completing all processes of material cutting, welding, machining, painting, and inspection in its own facilities.

Its main factory building area measures 30 m wide and 215 m deep. Equipped with some of the best processing equipment in the prefecture, including large bending rollers and five-face milling machines, the company performs bending of large parts and high-precision flange processing. It is capable of manufacturing large structures with maximum sizes of 9 m in width and 5 m in height and 40-t maximum weights. In addition to Daihachi Kogyo's integrated system involving everything from the arrangement and procurement of materials to manufacturing, shipping, and installation, its use of the nearby Kuroshima Public Wharf enables expedient shipping by marine transport.

- Production sizes and weights: For plate rolling items, bending processes support 36-mm thicknesses at 4-m widths and 50-mm thicknesses at 2-m widths, with maximum diameters 9 m and maximum heights of 5 m
- Materials: SS, SN, SD, and SUS materials, etc.

#### Adoption Record

##### Production of approx. a 70-m onshore wind power generation tower



Daihachi Kogyo fabricated a 70-m-long onshore wind power generation tower in three sections and bolted them together on-site. All processes were performed in the company's own facilities, including machining forged flanges with a vertical lathe, automatically cutting V-shaped bevels with an NC steel plate cutting machine, conical bending, welding, and painting. The level of precision attained with the flatness and perpendicularity of the flanges was highly appraised.

##### Manufacture of Rotary Kiln Cylinders



The requirements for manufacturing cylindrical components for rotary kilns used in cement production and other processes are extremely demanding, with an outer circumference length tolerance of +9 mm, an inner radius tolerance of +1.5 mm, and an inner diameter tolerance of +3 mm. In order to achieve such precision, dimensional control such as checking and inspection during fabrication is of great importance, as well as extensive expertise.

#### Main Equipment and Machinery

- Bending Roll: 32t x 4000mm / 1 unit
- 5-Axis Machining Center: 4000mm x 10000mm x 3500mm / 1 unit
- 4kW Laser Cutting Machine: 4m x 15m / 1 unit
- Plasma 500A & Gas Cutting Machine: 4m x 20m / 1 unit
- Vertical Lathe: φ7000 x H2880 / 1 unit; φ2200 x H1500 / 1 unit
- Pipe Coaster: 600A x 6m / 1 unit    • Overhead Crane: 5-20t / 4 units
- Single-leg Bridge Crane: 4.8t / 12 units    • Iron Worker: IW45III / 1 unit

#### Company Information

Business: Large Plate Rolling & Machining  
Location: 1-6-55 Kuroshima, Niihama, Ehime Prefecture, 792-0892  
Established: April 1972    Capital: 12 million yen    Employees: 26  
Representative: President Masami Yano    Tel: 0897-46-2229    Offices: Niihama City Metropolitan Area Contact: Production Management Department, Takehiko Tanizawa  
Tel: 080-2858-9959  
Email: tanizawa@daihachi-kogyo.co.jp    URL: http://www.daihachi-kogyo.co.jp/

## DAIRIKI Co., Ltd.



Extensive experience with environmental equipment for thermal and biomass power generation:  
Processing large products for diverse sectors, including manufacturing large recreational facilities

Category Fixed Foundation Manufacturing > Large Plate Rolling & Machining



### Maintains facilities capable of large plate rolling at up to 10 m x 10 m and extensive expertise in welding techniques

Four production facilities in Saijō City, including the head factory, DAIRIKI facilities and equipment including hydraulic presses with 2,000-t maximum capacities, NC laser cutting machines, and plasma fusion cutting machines (300A), enable the company to process large products with up to 80-t standalone weights and both 10-m widths and heights. It has established an integrated production system from material cutting to forming, assembly, and shipping out. Leveraging its strengths in advanced technologies such as plate rolling and welding, assessing changes in the properties of materials due to factors including metals' characteristics and methods of processing to calculate finishing methods for processing, DAIRIKI has an extensive track record involving environmental equipment for thermal

power and biomass power generation plants, including items such as dust collectors and bag filters. The company is also involved in processing large products in a diverse range of fields, including the manufacture of large recreational facilities and composite slabs for bridges. Leveraging the plate rolling technologies and production capabilities it has cultivated over many years, DAIRIKI has also turned a focus in recent years to the manufacture of overhead cranes. Additionally, the company has a track record involving the welding of foundations for fixed-bottom offshore wind power generation projects. Its head factory is directly connected to a public wharf, enabling the delivery of large products by marine transport.

Materials used: Iron, stainless steel / Production sizes: Up to 10-m diameters and 80-t weights

#### Adoption Record

##### Large dust collectors used in thermal and biomass power plants



DAIRIKI manufactures large dust collectors that discharge clean air after removing dioxins contained in flue gas from power generation plants. Dust collectors delivering efficiency and high precision are produced by the company's main plant and two affiliated plants equipped with large-scale processing facilities. The company is also slated to offer contributions in the environmental equipment sector in conjunction with the Osaka Expo to be held in 2025.

##### Manufacture of rails for recreational facilities



DAIRIKI, which also specializes in metal processing, has produced rails for numerous recreational facilities including roller coasters and Ferris wheels. The company's integrated production system equips it to flexibly handle the curves and ring shapes often employed in equipment for recreational attractions. In addition to domestic Japanese projects, the company has delivered products to China, South Korea, and other countries as well.

#### Main Equipment and Machinery

- Laser Cutting Machine: Effective cutting length 50m, width 3.5m, cutting capacity SS 22mm, SUS 12mm / 1 unit
- 2000t Press: Gate width 6.1m / 1 unit
- Plasma Cutting Machine: Effective cutting length 28m, width 5.5m, cutting capacity 36mm / 1 unit
- NC Drill Machine: 1 unit    • Band Saw Machine for Section Steel: 2 units
- Iron Worker: 2 units    • NC Beam Worker: 1 unit
- Autoborer: 1 unit    • Chamfering Machine: 2 units

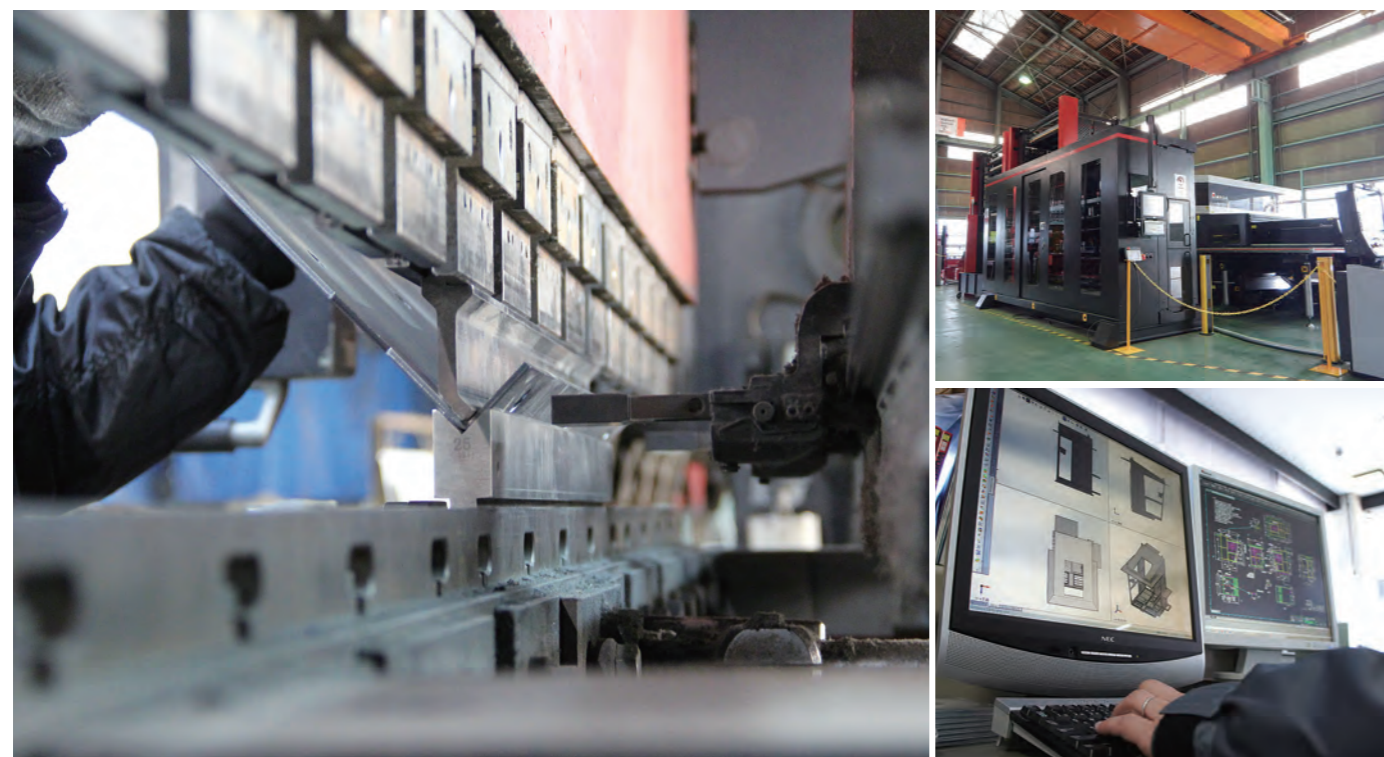
#### Company Information

Business: Crane Manufacturing, Plant Equipment (Dust Collectors), Amusement Facilities (Roller Coasters, Ferris Wheels, etc.), 3D Ship Hangars  
Location: 853 Kitagawa, Saijo, Ehime Prefecture, 793-0042  
Established: April 1967    Capital: 30 million yen    Employees: 50 (as of November 2024)  
Representative: President Tatsuya Tanaka    Tel: 0897-56-5313    Offices: Saijo City Metropolitan Area Contact: Tatsuya Tanaka    Tel: 0897-56-5313  
Email: dairiki@e-dairiki.co.jp    URL: http://e-dairiki.co.jp/

## TASTEM. CO., LTD.

Top-class domestic market share as a comprehensive manufacturer of operators' cabs: Skills refined to the absolute highest level through pride developed as a craftsman

Category Wind Turbine Manufacturing > Thin Plate Sheet Metal Processing



### Crane operators' cabs: A culmination of TASTEM.'s technical expertise with thin metal sheet processing and more

With thin metal sheet processing as its core focus, TASTEM. handles a wide range of products, from small cut sheets to medium and large sheet rolling products, providing total metal processing support. The company's integrated system covering everything from design to cutting, welding, painting, and equipment installation enables it to satisfy diverse high-mix, low-volume production demands with short delivery times. The company has developed high technological capabilities in all processes, including design, development, and programming. In thin metal sheet processing, in particular, it is equipped to cut, bend, and weld sheets with 1.6-6.0-mm thicknesses to minimize distortion and facilitate curved surfaces and complex bending shapes.

- Crane cab manufacturing sizes: (Conditionally) 10 m x 3 m x 3 m, with maximum 10-t weights
- Materials used: Stainless steel (SS, SUS) / Number of units delivered: 200+ annually

The main product bringing these technologies together, the crane cab, is widely employed in shipbuilding, ironmaking/steelmaking, and construction sites, including those of leading heavy industry manufacturers, building a delivery record of over 200 units per year for TASTEM. that places it in the top class industry-wide. The walls of the cabs the company crafts feature smooth surfaces with virtually no distortion despite the extensive flat welding involved, achieving impressively high levels of quality. The company is equipped to install all types of relevant equipment, from controllers to electrical wiring, as well as landings and stairs attached to operators' cabs.

#### Adoption Record

#### The one and only crane operator's cab designed with millimeter-level precision



TASTEM. handles all processes from construction to delivery of the operators' cabs, including workmanship involving the glass, cloth, air conditioner/controller installation, and electrical wiring. With operators invited to check out the conditions of the actual cabs for themselves, the company flexibly responds to requests for adjustments down to the millimeter, providing tailor-made cabs individually optimized and produced to provide comfortable experiences.

#### History-backed steel fittings (waterproof doors) of high quality



TASTEM. delivers waterproof doors that do not allow even the slightest water infiltration levels, eliminating welding distortion and ensuring perfect joints between hinges and doors/frames. Established in 1958 as a steel fixture manufacturer, the company's construction division continues to manufacture and install sashes and fire doors for commercial facilities and other buildings. The quality of its watertight doors are backed by the track record and technologies the company has built up.

#### Main Equipment and Machinery

- Fiber Laser Combined Machine Akies AJ: 6mm x 1,524mm x 3,048mm / 1 unit
- Laser Machine FO-3015NT AF-4000E Model: 19mm x 1,524mm x 3,048mm / 1 unit
- HDS-2204NT Bender: 220t, 6mm x 4,000mm / 1 unit
- NC Fine Alpha Bender: 250t, 6mm x 4,100mm / 1 unit
- FBD3 NC Bender: 125t, 2.3mm x 3,050mm / 1 unit
- Iron Worker: 9mm x 6,000mm / 1 unit

#### Company Information

Business: Design and manufacturing of operator cabins, machinery rooms, and electrical rooms for handling and transport equipment, pipe racks, semiconductor equipment frames, equipment covers, walkways, handrails, laser processing, bending processing, steel, stainless, and aluminum building materials, curtain walls, and general sashes.  
 Location: 3-2-1 Masaeda-cho, Niihama, Ehime Prefecture, 792-0032  
 Established: July 1958 Capital: 40 million yen Employees: 76  
 Representative: President Takuya Takahashi Tel: 0897-37-1111 Offices: Niihama City Metropolitan Area Contact: Takuya Takahashi, President & CEO Tel: 0897-37-1111  
 Email: takuya@tastem.co.jp URL: http://www.tastem.co.jp



## Choso Iron Works Co., Ltd.

Manufacturing precision components for hydraulic pumps and valves used in construction machinery: A forte in leveraging extensive expertise to produce high-precision, high-quality products

Category Wind Turbine Manufacturing > Precision Processing of Machine Parts



### Applying advanced technological capabilities and unique strengths to produce machinery components nearing single-micron precision

Manufacturing precision parts for hydraulic equipment is Choso Iron Works's core business, including the provision of hydraulic pump and valve components, compressor parts for pneumatic equipment, etc. The company also has experience manufacturing hydraulic parts for heavy machinery accelerators/decelerators. Realizing degrees of circularity of 1 μm and cylindricity of 1.5 μm, the company's products are characterized by extremely high precision. With a specialty in complex and delicate internal machining (inner diameter processing) as well, the company is capable of machining tiny holes with 1.6-mm diameters in hardened steel. Out of a passion to improve quality even further, Choso Iron Works even manufactures its own jigs and other tools. Maintaining high precision in inspections as well, the company uses its own inspection equipment

- Materials used: Iron, copper, aluminum, stainless steel, brass, Duracon, gun metal, etc.
- Manufacturing sizes: Primarily palm-sized products (φ5-φ80, with total lengths of 300 mm or less)
- Machining precision: Circularity of 1 μm, cylindricity of 1.5 μm • Number of machining tools: Approx. 160 • Annual production: Approx. 2,000 item types (7 million pieces total)

and quality control system reinforced by careful human inspection to keep even the smallest defects from being overlooked. Thorough performance tests are conducted for factors including operation, flow rate, pressure, and leakage to ensure high quality and good performance. Cleanliness is always maintained in production environments, as well as thorough temperature control, in the interest of preventing even the slightest environmental changes from affecting the micron-level precision processing. Choso Iron Works has established an automated mass production system to realize high quality and short delivery times while keeping costs down, showing an ongoing commitment to maintaining advanced technological capabilities to satisfy customers' specification demands, along with an earnest approach of strictly ensuring high quality and meeting delivery deadlines.

#### Adoption Record

#### Hydraulic and pneumatic components not permitting even the slightest leakage



High precision is required for hydraulic and pneumatic valve parts, as they must be completely free of oil and air leaks. Never compromising on quality, Choso Iron Works always strives to satisfy customers' demands, producing highly reliable products. Offering proposals and technological innovations aimed at realizing even greater results as well, the company has earned the trust of many customers, including major corporations.

#### Self-developed management system facilitating strict adherence of deadlines



A proprietary delivery date management system is employed to realize batch management of the entire process from receipt of orders through delivery, helping to ensure high quality and strict adherence to deadlines. Using barcodes to realize aggregation and visualization of data concerning production status and inventory control, the system enables all company members to grasp the situations accurately and in real time.

#### Main Equipment and Machinery

- High Precision and High Efficiency 4-Axis Composite Processing Machines: NZX2000, etc. / 3 units
- CNC Automatic Lathes (with bar feeders): BNE-51, BNJ-51, Cincom M-32, etc. / 87 units
- CNC Lathes (without bar feeders): GN-4200, etc. / 32 units
- Machining Centers: NVX5080/40, etc. / 14 units
- Centerless Grinding Machines: MPC-600C-CNC, etc. / 5 units
- Cylindrical Grinders: GE4Ai-50, etc. / 7 units
- Surface Grinders: PSG-64CA-iQ, etc. / 3 units

#### Company Information

Business: Manufacture of precision parts for hydraulic equipment and industrial machinery components  
 Location: 1-11 Minato, Saijo, Ehime Prefecture, 793-0046  
 Established: 1973 Capital: 30 million yen Employees: 107  
 Representative: President Hiroyuki Kato Tel: 0897-58-2227  
 Offices: Including the Saijo headquarters factory, 6 factories  
 Metropolitan Area Contact: Takuya Kato, Production Control Department Tel: 070-2626-3317  
 Email: takuya@choso-ir.com URL: https://www.choso-ir.net

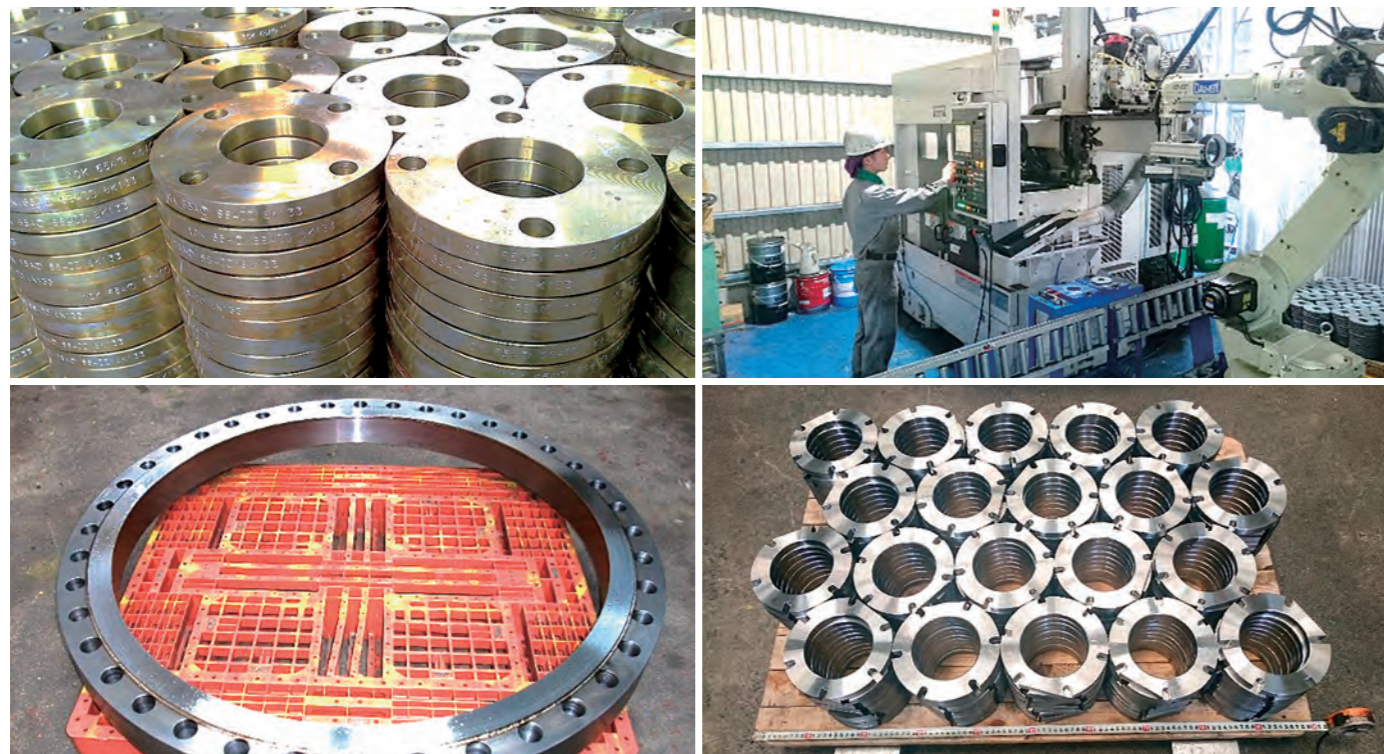


## Touwa Kogyo K.K.

Achieving mass production with short delivery times through advanced technological capabilities and mobility: Shikoku's sole master of flange manufacturing technologies, equipped with multiple strengths, including creatively original development capabilities



Category Wind Turbine Manufacturing > Flanges



### Integrated in-house manufacturing of flanges, from standardized items to specialty products

The only company in Shikoku manufacturing a range of flanges through integrated in-house production. Chiefly manufacturing steel flanges, Touwa Kogyo handles the production of the majority of standardized items produced in Japan. The quality of the company's flanges, carefully produced with rigorous inspections at each stage, clearly distinguishes them from products made overseas. Applying advanced technologies to create products with high precision, while at the same time aiming to achieve greater efficiency and lower costs, the company realizes mass production and short delivery times as well. Touwa Kogyo ensures high productivity with the use of a large 1,000-t press, one of the largest in the industry, to punch flanges from steel plates.

In addition, in 2024, the company introduced robots to its factory facilities, creating a fully automated system with 24-hour operations. The company has strengthened its mass production capabilities by automating a series of processes, from material procurement to product completion, including inspections. Meanwhile, the company is also equipped to manufacture one-of-a-kind products meeting individual specifications requested by customers. Touwa Kogyo has accumulated extensive technologies and expertise concerning cutting, forging, melting, bending, and more, offering proposals optimized to meet all manner of customer demands involving everything from product specifications to delivery dates while ensuring the provision of highly reliable products.

Flanges the company can manufacture: Steel flanges, NOS flanges, cut flanges, vacuum flanges, high-pressure flanges, lining flanges, jacket flanges, and expandable/contractible pipe couplers

#### Adoption Record

##### Integrated NOS flange preventing welding distortion



The NOS flange developed by Touwa Kogyo is a forged structure with an integrated flange and a single pipe. Requiring no welding enables the avoidance of problems caused by thermal distortion. Used by many paper companies in Japan, it prevents the leakage and buildup of solvents in piping, offering the advantages of realizing production line stability and reducing componentry costs at the same time.

##### Conveyor rollers offering reduced costs and long service lives



Touwa Kogyo applied its flange manufacturing technologies to develop a new belt conveyor roller in collaboration with an LP gas cylinder manufacturer (Hagio Koatsu Yoki Co., Ltd.) The roller's shaft bearing section features an integrated structure with a press-formed metal cover creating an airtight seal to achieve a cost reduction of approximately 30% and doubled product service life. The company obtained a design registration for the product, as well as both domestic and international patents.

#### Main Equipment and Machinery

- 1000t Lever Press: MANYO brand / 2 units
- Shearing Machine: Kansai Tekko Co. 4000W x 28t / 1 unit
- CNC Lathe with Robot: TAKISAWA TT-2100G, DAIHEN FD-V20 / 1 unit each
- NC Lathes: 6 units ● NC Machining Centers: 2 units
- Radial Drilling Machine: 2 units ● Multi-Axis Drilling Machines: 4 units
- Single-Purpose Lathes: 12 units
- Universal Lathes: Chuck diameter φ200-φ2000 / 10 units

#### Company Information

Business: Manufacture of various types of flanges  
 Location: 2-7-38 Nishihara-cho, Niihama, Ehime Prefecture, 792-0011  
 Established: June 1969 Capital: 10 million yen Employees: 38  
 Representative: President Keisuke Jinno Tel: 0897-33-8306  
 Offices: Niihama City Metropolitan Area Contact: Keisuke Jinno Tel: 0897-33-8306  
 Email: maruto-f@towakj.jp  
 URL: https://towakogyo.com

## Noborio Tekkou Co., Ltd.

An extensive, proven track record with large structures as a leading Shikoku-based steel frame manufacturer and fabricator: Potential for building machine-housing structures for use in offshore wind power generation projects



Category Wind Turbine Manufacturing > Steel Frame Manufacturing & Assembly



### Manufacturing architectural steel frames with increased added value, offering high earthquake resistance and rust resistance

Since its establishment in 1962, Noborio Tekkou has engaged in fabricating steel frames for large structures. The company's core business is the production and on-site assembly of structural steel frames (steel H-beams). Known as a leading Shikoku-based steel frame manufacturer and fabricator, the company's accomplishments include becoming the first company in Ehime Prefecture to receive H-grade certification from the Minister of Land, Infrastructure, Transport and Tourism (MLIT) for its production facilities. Noborio Tekkou has a proven track record involving a diverse range of large-scale buildings and structures inside and outside the prefecture, including Matsuyama Airport, Botchan Stadium, high-rise condominiums, government buildings, hospitals, and commercial facilities. With the expertise and fabrication capabilities it has developed over many years,

the company continues to respond to the demands of major general contractors. In conjunction with the Japanese government's nationwide promotion of national resilience in the wake of the Great East Japan Earthquake of 2011, the company has actively pursued earthquake-resistant construction and taken on projects involving seismic isolation structures, which entail demands for advanced technologies, as well. It boasts an annual production capacity of 10,000 t of structural steel frames, placing it in the top class of producers in the prefecture. With its good access to a public wharf, Noborio Tekkou also offers support for marine transport of its large steel frames. Drawing on its experience of manufacturing steel frames for coastal logistics warehouses and shipyard buildings, the company has potential for building machine-housing structures for offshore wind power generation projects' pier operations.

• Production sizes: For steel H-beams, 1-m beam back and 12-m length, with maximum weights of 20 t per piece • Production capacity: 800 t/month

#### Adoption Record

##### Hospitals and government buildings with steel-framed reinforced concrete (SRC) constructions



Noborio Tekkou has supplied steel frames for hospitals built with SRC constructions, a hybrid method of construction featuring the combined use of steel frames and reinforced concrete. This high-performance construction method offers the seismic resistance of steel frames with the fire resistance of reinforced concrete. Few steel frame manufacturers and fabricators offer support for SRC construction, which has helped gain the solid trust of major general contractors for the company.

##### Structural steel frames for shipyards' machine-housing buildings, offering enhanced rust resistance



Noborio Tekkou's technologies have also been utilized in Ehime Prefecture's world-class shipbuilding industry. Leveraging its finely honed construction techniques, the company has created large spaces realized with strong, solid frameworks and facilitating enhanced work efficiency. The company also offers support for the hot-dip galvanizing method to prevent rusting. Additionally, it is equipped with a triple-axis drill machine and other equipment enabling it to perform hole-punching and other steel frame processing techniques.

#### Main Equipment and Machinery

- NC Auto Drill Machine (H-shaped Steel Hole Drilling Machine): 2 units
- Large Assembly Welding Robot: 2 units ● Shot Blasting Machine: 2 units
- Band Saw for Steel Cutting: Maximum cutting width 1000mm, other specifications / 4 units
- Beam Worker: 1 unit ● Plasma Cutting Machine: 1 unit
- Overhead Cranes: 10t (5 units), 5t (1 unit), 2.8t (11 units)

#### Company Information

Business: Steel frame construction and processing/assembly of various steel structures  
 Location: 6-3-21 Takihama, Niihama, Ehime Prefecture, 792-0893  
 Established: 1962 Capital: 20 million yen Employees: 40 (as of November 2024)  
 Representative: President Masahiro Noborio Tel: 0897-45-4588  
 Offices: Niihama City Metropolitan Area Contact: Taihei Noborio Tel: 0897-45-4588  
 Email: info@noborio.co.jp  
 URL: https://www.noborio.co.jp

## Hagio Machinery Co., Ltd.

Leveraging high-precision welding and machining technologies to manufacture over 200 hermetic containers annually to house power distribution equipment

Category Electrical Systems > Sealed Containers for Power Distribution Equipment



### Hagio Machinery's strength: Manufacturing hermetic containers to house power distribution equipment used for railways and electric power companies

Hagio Machinery maintains facilities enabling integrated in-house production of everything from plate rolling, welding, and machining, to assembly and trial run operations, as well as outstanding craftsmanship backed by its many years of experience. **Chiefly manufacturing airtight containers for power distribution equipment used by railway and electric power companies, Hagio Machinery maintains a track record of annual delivery exceeding 200 such containers annually. The containers are key components of power distribution systems, requiring airtightness due to being filled with insulating gases.**

Along with applying high-precision welding and machining technologies to improve airtightness,

the company also offers lower-cost options that do not require machining of sealing surfaces. In addition, the company has its own inspection plant, conducting its own helium gas leak tests to ensure the safety of the products it delivers. Hagio Machinery has an integrated plate rolling and machining plant in Niihama City, equipped with four five-face milling machines and other machining tools capable of producing everything from ultra-large to small precision parts. Leveraging its made-to-order and micron-level processing technologies, the company is equipped to offer comprehensive solutions involving accessory mechanical parts for airtight containers as well.

- Materials: SUS (stainless steel), SS400 (rolled steel for general construction) • Production capacity: Approx. 200 units per year
- Production sizes and weights: 1,000 mm x 2,000 m (approx. 600 mm x 1000 mm assumed for offshore wind power generation projects), 100 kg-1.5-t weights • Sheet thicknesses: 6-12 mm

#### Adoption Record

##### Development of airtight containers requiring no processing



Achieving success at developing airtight containers with thin welded metal structures that require no processing, Hagio Machinery has established a technique that eliminates the need for machining, allowing craftsmen to apply smooth finishes to gas sealing surfaces manually. Reduced need for machining processes equates to cost savings. Depending on sizes and specifications, options with combinations of machined and unmachined sections can also be supplied.

##### Track record of annual delivery exceeding 200 containers annually railway and electric power companies



Hagio Machinery's customers are largely railway-related companies, but also include a range of others from electric power companies to factories, commercial facilities, and more. The company delivers over 200 airtight containers per year to house these customers' power distribution systems. Hagio Machinery's advanced machining equipment and craftsmanship have earned it a solid reputation for its made-to-order airtight containers.

#### Main Equipment and Machinery

- Five-Axis Machining Center (Gantry Type): 5200 x 2500 x 1500 to 2000 / 3 units
- Five-Axis Machining Center (Gantry Type): 4200 x 2150 x 1500 / 1 unit
- φ130 NC Horizontal Boring Mill: 3000 x 2150 x 1500 / 1 unit
- φ110 NC Horizontal Boring Mill: 2000 x 1500 x 1450 / 2 units
- Vertical CNC Lathe: Maximum processing diameter φ920 / 1 unit
- Horizontal Machining Center: Maximum 1100 x 850 x 750 / 2 units

#### Company Information

Business: Manufacturing of sealed containers for power distribution and transmission equipment, industrial machinery parts (for steel manufacturing, heavy machinery, and ships)  
 Location: 1-17 Matsunoki-cho, Niihama, Ehime Prefecture, 792-0868  
 Established: November 1934 Capital: 25.45 million yen Employees: 47  
 Representative: President Tatsuhiko Hagio Tel: 0897-32-2700 Offices: Niihama City  
 Metropolitan Area Contact: Production Management Department  
 Email: info@hagiokikai.jp URL: https://www.hagiokikai.jp/



## Miyata Tekkou Co., Ltd.

Achieving low-cost, quick-delivery manufacturing with advanced technological capabilities in plate rolling and machining to manufacture large machinery and equipment, along with nationally leading facilities

Category Fixed Foundation Manufacturing > Large Plate Rolling & Machining



### Large-scale plate rolling and machining to support ironmaking and papermaking production lines

**Equipped with technical expertise and facilities specialized for large machinery manufacturing, Miyata Tekkou is able to accept and produce custom orders for large industrial machinery, including papermaking and ironmaking production machinery, transport machines, and more.** The company has established an integrated production system in its 5,500-m<sup>2</sup> plant covering stages from plate rolling, welding, and machining to painting, assembly, and test operations, enabling it to offer low-cost, quick-delivery service. In machining, the company has two of the largest five-face milling machines in Japan, as well as a full line of machine tools capable of producing components of all sizes, from large to small.

- Possible production sizes: 10-m heights, 13-m widths, approx. 60-m lengths
- Crane lifting capacity: 40-t x 3 (one each for plate rolling, welding, and assembly) • Materials: Iron, stainless steel, aluminum

The capacity of Miyata Tekkou's equipment and facilities coupled with the technical skills of its operators enable it to produce high-quality products regardless of their size. Also, in lining processes, which involve bonding iron with thin 1.5-mm sheets of stainless steel, the company's practice of using stainless steel only for surface layers enables cost reduction. Miyata Tekkou's machining, in which welding is carried out by skilled, experienced craftsmen, is highly appraised for the beautiful, high-precision finishes achieved in it. This is expected to be of use in offshore wind power generation projects, where rust resistance is required.

#### Adoption Record

##### Mechanical equipment for ironmaking companies' steel production lines



Miyata Tekkou manufactures mechanical equipment required for ironmaking companies' steel production lines, including upenders/downenders for reorienting hot coils, deformed steel bar rolling machines used to produce rebar for use in civil engineering and construction, and electrogalvanizing (EGL) lines that perform continuous electroplating. The company's advanced technologies specialized for manufacturing large machinery, along with its extensive related experience, have earned it great trust from major heavy industries and ironmaking companies as well.

##### Mechanical equipment indispensable for papermaking companies' production lines



Miyata Tekkou supplies papermaking companies with mechanical equipment used in operating their production lines for household paper products, sheets of paper, and corrugated cardboard. These include press parts used for removing moisture from freshly made paper, winders/unwinders used to cut and unwind paper rolls in the direction of their unwinding width, and the X-10: the world's widest unit used to enhance paper strength.

#### Main Equipment and Machinery

- Plano miller (Maximum Size): Table 3500 x 8000, Processing Size H2300 x W4100 x L8000 (N/C type five-axis machining center) / 5 units
- Horizontal Boring Mill (Floor Type): Quill diameter φ170, Horizontal travel 12000, Vertical travel 3500, Vertical clearance 1700 (N/C type five-axis machining center) / 1 unit
- Turning Machine: Table diameter 2500, Side vertical travel 1800, Cutting diameter 3500, Height 2400 / 1 unit
- Cranes: 40t / 3 units, 30t / 3 units, 20t / 2 units, 10t / 4 units, 2.8t / 2 units

#### Company Information

Business: Design, manufacturing, assembly, and installation of general industrial machinery (for steel manufacturing, papermaking, transportation, textiles, etc.), processing of metal parts (including manufacturing, welding, surface treatment, etc.)  
 Location: 1004-1 Ikeda, Tanbara-cho, Saijo, Ehime Prefecture, 791-0508  
 Established: December 1954 Capital: 45 million yen Employees: 30 (as of November 2024) Representative: President Koki Miyata Tel: 0898-68-7024  
 Offices: Saijo City Metropolitan Area Contact: Kenji Miyata  
 Email: t-miyata@soleil.ocn.ne.jp URL: https://miyatatekkou.com/



## Yutaka Co., Ltd.

Serving diverse sectors, from the aerospace and semiconductor to medical equipment fields:  
Realizing manufacturing with ultra-high precision at the sub-micron level



Category Wind Turbine Manufacturing > Precision Machine Parts



### Nationally leading facilities and human resources offering support for diverse fields

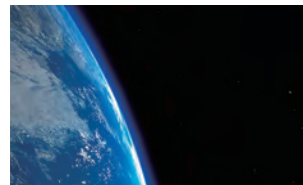
Leveraging its cutting-edge manufacturing, Yutaka responds to the needs of a diverse range of fields, including those involved with semiconductor manufacturing equipment, liquid crystal devices, food-processing, medical equipment, automation lines, and aerospace-related products. Yutaka's integrated system, handling everything from sales, design, and manufacturing to quality control and delivery enables the achievement of total build-to-order production. The company has established a production system capable of handling everything from one-off products with complex forms to mass production offering cost savings. All nine buildings of the company's production facilities maintain constant temperatures of 22°C, 24 hours a day, 365 days a year. These facilities are equipped with more than 160 units, ranging from general-purpose machines to state-

of-the-art equipment. In terms of processing involving cutting, Yutaka's main strength involves its 3D machining capabilities achieved with 5-axis machining centers, CNC compound lathes, and more. Also, for grinding, the company is equipped with surface grinders, cylindrical grinders, rotary grinders, and more to provide support for ultra-high-precision products in the submicron range (1/10,000 mm). Additionally, Yutaka has established its own original quality control system ensuring proper inspection and quality assurance for all products. Making full use of some of the best inspection equipment in Japan, including 12 coordinate measuring machines, as well as 17 nationally certified inspectors who can be counted on to not overlook even the slightest error, the company stands as a bastion of ultra-high-precision product manufacturing.

- Materials: Support for stainless steel, aluminum, and iron, as well as difficult-to-cut materials including titanium, Inconel, and Hastelloy.
- Manufacturing sizes: Equipment maintained for up to  $\phi$ 1,000, along with a full range of equipment handling sizes  $\phi$ 350 and smaller • Certifications: ISO 9001, ISO 14001, JIS Q 9100:2015

#### Adoption Record

##### Asteroid-exploring space probes: *Hayabusa* and *Hayabusa2*



Yutaka participated in a project to develop equipment components for collecting samples from asteroids' surfaces to be used in the *Hayabusa* and *Hayabusa2* asteroid probes. Ehime manufacturing companies, including Yutaka, contributed to the design and development of the probes' sample-collecting mechanisms.

##### The H3 Launch Vehicle, the next-generation large-core launch vehicle



The H3 was developed as a direct successor to the H-IIA Launch Vehicle currently in operation. Successful launches were made in February and July 2024. Yutaka manufactured engine and satellite components for the probe, leveraging its technological capabilities for ultra-high-precision products in the sub-micron range as well.

#### Main Equipment and Machinery

- 5-axis NC Lathe: Mori Seiki NT4250 DCG
- CNC Vertical Composite Lathe: Okuma VTM-100
- 5-axis Vertical Machining Center: Yasuda Industries PX30i, Matsuura Machinery MAM72-35V
- Ultra-Precision Gantry Type Surface Grinding Machine: Nagase SGD-2010SLS2B-Zero4
- Rotary Grinding Machine: Nagase RG-700SA-N2
- CNC Composite Cylindrical Grinding Machine: STUDER S31
- Electrical Discharge Machine: Mitsubishi Electric EA28V
- Wire Processing Machine: Mitsubishi Electric MV120R

#### Company Information

Business: Precision parts processing for semiconductor manufacturing equipment, aerospace and defense equipment parts, food machinery parts, etc.  
Location: 822-2 Nishihabu-machi, Matsuyama, Ehime Prefecture, 791-8044  
Established: 1977 Capital: 10 million yen Employees: 208 (as of November 1, 2024)  
Representative: President Hisamitsu Futagami Tel: 089-971-5501  
Offices: Matsuyama City, Ehime Prefecture Metropolitan Area Contact: Sales Department, Shigemune Kawano  
Tel: 089-971-5501 Email: soumu@kk-yutaka.co.jp URL: http://www.kk-yutaka.co.jp

## Ushio Matex Co., Ltd.

Noncombustibility certification from MLIT: Ultra-lightweight, water-resistant insulating material demonstrating unique performance potential for offshore wind power generation project maintenance and management



Category Wind Turbine Manufacturing > Thermal Insulation Materials for Heat Source Equipment



### BARI-SHIELD: A styrene foam board offering a combination of high flame resistance and good thermal insulation

**BARI-SHIELD is a new material adding noncombustibility to styrene foam while maintaining its original properties of good thermal insulation, water resistance, and light weight.** The raw material is expanded polystyrene (EPS), a bead-type form of styrene foam, which has been used for heat insulation at the Shōwa Station in Antarctica, attesting to its ability to maintain its insulation performance for over 40 years. Coating the material with a flame retardant led to its acquisition of noncombustibility certification from the Ministry of Land, Infrastructure, Transport and Tourism (MLIT). Even in the event of a fire, the material could impede and delay the spread of the fire. Another advantage of the material is its ability to be formed into a diverse range of products by

processing it into boards involving processes such as shaping it into variant forms using dedicated molds, cutting it, slicing it, and polishing it.

Based on these unique features, **Ushio Matex expects to use the material as insulation for heat source equipment used in offshore wind power generation, including power supply panels and control panels, as well as device bodies.** With its abilities to extend the service life of the heat source equipment, reduce heat loads, help prevent damaging fires and reduce penetrative heat loads due to the radiant heat reflection effects of the aluminum applied to the surface, the material is also expected to help prevent condensation from forming.

- Standard molded block size: 960 (W) x 1,870 (D) x plate thickness of 600; (width and depth are modifiable) • Thermal conductivity: 0.038 W/mK (initial)
- Ambient temperature range: -30°C to +80°C • Noncombustibility certification: (BARI-SHIELD as core material) 5-500-mm board thickness, with 30- $\mu$  aluminum foil on front and back surfaces (\*Consultation required for thicknesses above 100 mm), MLIT cert. no. NM-5370; (BARI-SHIELD for ceilings) 9-40-mm board thickness, with 50- $\mu$  aluminum foil laminated with decorative paper on surface, MLIT cert. no. NM-4712

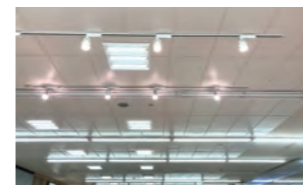
#### Adoption Record

##### Insulating control panels with BARI-SHIELD to reduce air conditioning loads



Air conditioning is increasingly being used in control panels located outdoors or in sites with poor ambient conditions, requiring the use of insulating materials to reduce air conditioning loads. Installing 10-mm BARI-SHIELD insulation inside a control panel could cut the air conditioning load roughly in half, for instance. In the event of a fire due to sparking or excessive heat generated inside the panel, the material could hinder and delay the spread of the fire.

##### Installing BARI-SHIELD on supermarket ceilings to prevent condensation from forming



The light weight, flame resistance, and excellent heat insulation of BARI-SHIELD also makes it suitable as a ceiling material. The material is seeing expanded uses, including installation on supermarket ceilings to prevent condensation or mold from forming, in addition to humid indoor swimming pools, bathing facilities, and food processing plants, its use is expanding to prevent condensation and mold on supermarket ceilings. It is expected to maintain long-term performance as it exhibits little deterioration due to water or moisture absorption.

#### Main Equipment and Machinery

- Cutting Process: Capable of cutting from standard molded blocks (W960 x D1870 x thickness 600mm). Suitable for cases with a low number of produced items, such as molds.
- Custom Molding: Custom molds are manufactured to meet client needs, ideal for high-volume production of identical items.
- Board Processing: Standard molded blocks are sliced, polished, and processed into boards. Thickness can be adjusted in 1mm increments, with a polishing thickness accuracy of  $\pm$ 0.5mm. Can laminate with single-sided decorative paper or aluminum foil for enhanced aesthetics and thermal efficiency. Non-combustible materials certified by the Ministry of Land, Infrastructure, Transport, and Tourism.

#### Company Information

Business: Development, manufacturing, sales, and installation of non-combustible expanded polystyrene "Varishield". Location: 5-3 Creative Hills, Imabari, Ehime Prefecture, 794-0069  
Established: July 2019 Capital: 10 million yen Employees: 11 (as of November 2024)  
Representative: President Makoto Takeuchi Tel: 0898-33-7660  
Offices: Ehime, Tokyo, Osaka Metropolitan Area Contact: Kaori Ohara  
Tel: 03-3500-5060 Email: k.ohara@ushiomtx.co.jp URL: http://ushiomtx.co.jp

# Ogasawara Kogyo Co., Ltd.



Patented drone with unique annular blade structure enables remote inspection of offshore wind power generation sites

Category O&M > Maintenance Drones



## Industrial drone capable of long-duration flight created through original development

Drawing on its many years of expertise in metalworking, Ogasawara Kogyo has developed a drone designed for surveying and inspection services, logistics, and more. With its combination of magnesium alloy used for 70% of the fuselage and carbon fiber-reinforced plastic (CFRP) for 20%, the drone achieves high rigidity and durability despite its light weight. While conventional general-purpose drones have limited flight times of only about 20 minutes, hindering their potential for use in business operations, **the company has developed an aerodynamic structure specially designed to enable long flight times, successfully completing flight tests of up to 75 minutes.** (Testing conditions: 40 m elevation, average wind speed of 3 m/s,

**flying at 2 m/s with a 2-kg load**) The drone features a patented annular wing structure, which gains buoyancy from wind to achieve extended flight times. Ogasawara Kogyo aims to utilize this technology to respond to needs including maintenance for offshore wind power generation in distant marine locations. To put this technology to practical use, **the company is currently working to develop a maintenance drone equipped with a 61-megapixel camera capable of detecting damage to towers, blades, and nacelles.** The drone has already been tested at a wind power generation plant in the town of Ikata-chō, Ehime Prefecture, where it successfully photographed propellers, which frequently incur damage.

- Materials used: Pure, domestically produced magnesium alloy and carbon fiber
- Manufacturing size/weight: Distance between motors, 1,680 mm; weight, approx. 12 kg; max. takeoff weight, 33 kg
- Power source: Battery-powered
- Max. flight speed: 54 km/h
- Patents: Nos. 6932316, 7012227, 7048867, 7340141, and 7391289
- Security: Uses a flight controller that does not maintain data, with data management on designated servers

### Adoption Record

#### Proof-of-concept demonstration of drone-facilitated logistics



A demonstration of the drone aimed at showing potential solutions to issues facing depopulated island areas. The drone successfully made a flight with a one-way, straight-line distance of 8 km on a route from Imabari City's Namikata Port to the island of Ōmishima, carrying up to 5 kg of cargo. Operated remotely from Namikata Port, the drone completed automated processes for all operations, from takeoff to cargo drop-off and landing. The craft never needed to be recharged during its 16-km round-trip flight.

#### Selected to take part in the SBIR Demonstration Project



In recognition of its experience successfully developing a drone capable of long-duration flight, Ogasawara Kogyo was selected to take part in the SBIR Demonstration Project. In response to an order received from MLIT, the company is working to develop a craft capable of making long-duration flights amid rainfall, even in mountainous areas. The eventual goal is to design a drone equipped to carry 2-kg payloads on flights of over 80 minutes amid rainfall in mountainous areas.

### Main Equipment and Machinery

- Hydraulic Press Brake: 110t, 2400mm / 2 units
- Argon Welding Machine: 300A / 5 units
- Desktop Drill Press: Drilling capacity 13mm / 3 units
- Shearing Machine: 6mm x 3m / 1 unit, 4.5mm x 2.4m / 1 unit, 16mm x 4m / 1 unit
- Soldering Iron: 110W / 1 unit

### Company Information

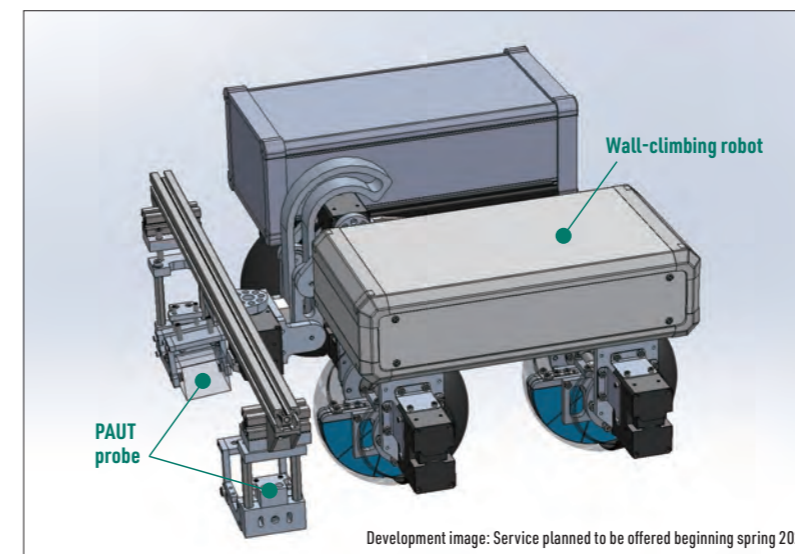
Business: Manufacturing and sales of drones, stainless steel tanks, and steel tanks; sales of LP gas and high-pressure gas  
 Location: 5-10-3 Kukodori, Matsuyama, Ehime Prefecture, 791-0054  
 Established: September 1966 (Founded August 1920)  
 Capital: 30 million yen Employees: 20  
 Representative: President Hideyuki Ogasawara  
 Tel: 089-972-0043 Office: Risen Corporation (Related company)  
 Metropolitan Area Contact: Hideyuki Ogasawara Tel: 089-994-6680  
 Email: info@ogasawara-k.com URL: http://www.ogasawara-k.com

# SHI-ATEX Co., Ltd.



An expert in radiation application and inspection/diagnosis technologies. Contributing to offshore wind power facilities with a proven record of inspection/diagnosis at onshore wind power facilities

Category O&M > Inspection with Wall-Crawling Robots



## Non-destructive inspections performed by wall-climbing robots for steel structures in combination with PAUT probes

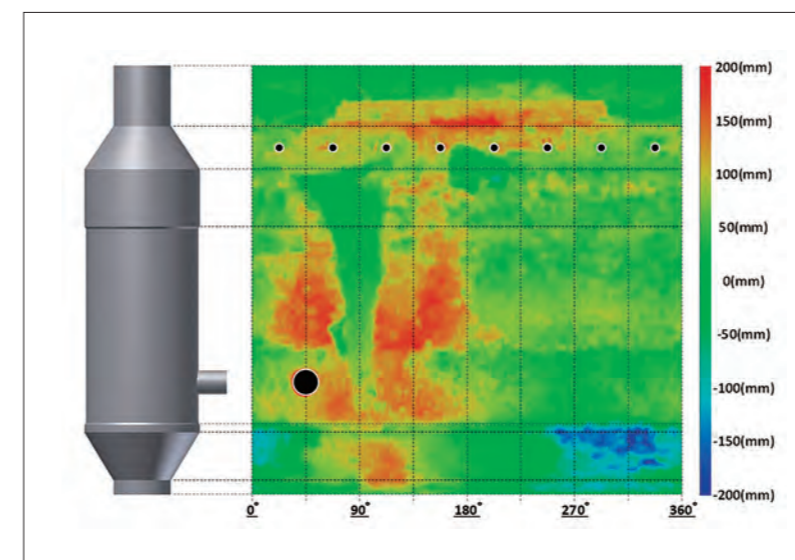
SHI-ATEX is planning to assist maintenance inspections of offshore wind power generation sites through the provision of weld line inspections using wall-climbing robots for steel structures that are currently under development at the Sumitomo Heavy Industries headquarters, incorporating the company's Phased Array Ultrasonic Testing (PAUT) technology. In the future, SHI-ATEX aims to develop further variations, including a wireless type and a self-driving function to facilitate robots' autonomous movement along weld lines. Providing cross-sectional images revealing the internal conditions of objects being inspected, PAUT can be used in inspections of flaw-objects with a variety of shapes and in various locations. In addition to its long track record performing inspections and diagnoses at critical facilities in ironmaking and petrochemical plants, the company also maintains a robust workforce of highly skilled engineers and a record of achievements including experience providing support for onshore wind power generation facilities and the acquisition of PAUT-related patents.

- No. of members with relevant technical qualifications (as of Oct. 2024): PAUT (internal certification), 20 total; JSNDI (The Japanese Society for Non-Destructive Inspection, level 2 or higher), 139 total; ASME Level II or higher (in-house certification), 21 total
- Patents (PAUT-related): Flaw-detection method for shaft components (no. 5325394), flaw-detection method for testing cylindrical test objects (no. 6014525)

## Measurements performed by 3D laser scanners and high-level analysis

The 3D laser scanner measures objects' shapes, evaluating discrepancies from diagrammed dimensions and amounts of change over time. SHI-ATEX uses various types of 3D laser scanners to perform evaluations suited to different demands, including long-range types for environments preventing easy human access, such as hazardous areas and locations high off the ground, and short-range types to satisfy requirements for higher precision. **With its advanced data analysis capabilities and analysis skills based on extensive experience, SHI-ATEX is equipped to perform inspections and analyses of cylindrical structures.** The company is actively working to develop new methods to improve inspection quality and has acquired patents related to 3D measurement technologies.

- No. of members with relevant technical qualifications (as of Oct. 2024): 3D (internal certification), 32 total; drone use (in-house certification), 15 total
- 3D laser scanners: Possess multiple long-range and short-range types
- Patents (3D inspection-related): In-vessel (circular tower) inspection (no. 6482435), measurement of object thicknesses, etc. (no. 7129243)



### Adoption Record

#### Extensive track record performing inspections with PAUT



PAUT-based survey and diagnostic services are chiefly carried out in critical facilities in ironmaking and petrochemical plants, including crack inspections and wall-thinning inspections of weld lines, components, shaft products, etc. In terms of onshore wind power generation sites, PAUT has been applied in inspections of yaw gears, cracking inspections of turbine rotor main shafts, tower fastening bolts, and more.

#### Advanced 3D analysis technologies earning the confidence of an extensive customer base



With highly skilled employees at multiple locations in Japan, SHI-ATEX provides 3D measurement services throughout Japan. The company has earned the trust of clients in a range of industries and receives requests to perform repeated 3D measurements over the long term. Using accumulated measurement data, the company provides useful information on changes over time, significantly contributing to preventive maintenance.

### Main Equipment and Machinery

- PAUT Devices (excluding budget models): Manufactured by TPAC, ZETEC, Olympus, Evident / 17 units
- 3D Laser Scanners: Long-range (manufactured by Leica and Trimble), short-range (manufactured by Creaform and SHINING3D) / 10 units
- Drones: Indoor (manufactured by Liberaware and FLYABILITY), outdoor (manufactured by ACSL) / 8 units
- Radiation Utilization Services: Ion beam services, electron beam services, microbiological testing, etc. / Saijo headquarters and 3 other centers
- Inspection and Diagnosis Services: Non-destructive testing (radiographic testing, ultrasonic testing, etc.), inspection and measurement services (3D laser scanning and analysis, drone inspection, etc.) / Saijo headquarters and 7 other offices

### Company Information

Business: Radiation utilization services, inspection and diagnosis services  
 Location: 1501 Imazaike, Saijo, Ehime Prefecture, 799-1393 Established: October 1979  
 Capital: 200 million yen Employees: 186 Representative: President Isao Gonda  
 Tel: 0898-65-4868 Offices: Tokyo, Osaka, Ibaraki, Kanagawa, Chiba, Aichi, Okayama  
 Metropolitan Area Contact: Keihin Sales Office, Yasuaki Miura  
 Tel: 044-230-2377 / 090-3186-0335  
 E-mail: yasuaki.miura@shi-g.com URL: https://www.shi-atex.com

# Yoneyama Kogyo Co., Ltd.

Providing improved efficiency and labor saving in offshore wind power generation projects' O&M operations with design and manufacturing technologies for high-safety lifts and elevators

Category Wind Turbine Manufacturing > Lifting Equipment



## Manufacturing industrial elevators reaching 60 m above ground and 100 m underground

Yoneyama Kogyo is committed to developing business involving lifts and rack scaffolds for transporting people and goods. The company manufactures "Monoracks" that run through orchards as well as luggage elevators and industrial elevators used in diverse fields at sites including ports, ships, aircraft, and construction sites. The company is committed to solving clients' problems and proposing optimal specifications utilizing its integrated in-house system from design to manufacturing and installation, as well as its full range of custom production capabilities. The company demonstrates a highly valued presence in niche fields.

In addition to offering cargo lifts with support from 50 kg to 3 t, Yoneyama Kogyo offers a

choice of drive type options as well – rack and pinion meshing type and roller chain type systems – providing flexible support for different applications' demands. With Tokyo-headquartered Watabe Sangyo Co., Ltd. (Related company) in charge of sales, marketing, and maintenance, a nationwide network has been developed, realizing the delivery of over 18,000 lifts to date, earning favorable assessments both in Japan and overseas. Also, Yoneyama Kogyo boasts the top share of the Japanese market for elevators for port container cranes and has a track record that includes supplying Mitsui Engineering & Shipbuilding, JFE Engineering, and Sumitomo Heavy Industries.

• Actual production size (above ground): Heights up to 60 m • Actual production size (underground): Depths down to 100 m • Max. no. of passengers: 3, (load capacity 250 kg)  
 • Rate of ascent: 30 m/min • Materials used: Stainless steel for cages, galvanized iron for masts • Production capacity: Approx. 3 months per unit for 50-m elevators

### Adoption Record

#### Elevators for container cranes with 60-m heights



Exposure to typhoons and weather conditions including heavy rain and wind means higher safety requirements for elevators installed at ports' crane facilities. Container crane elevators employing rack and pinion systems and lightweight rack rails provide robust durability. Yoneyama Kogyo has experience constructing elevators at 60-m aboveground heights.

#### Mograck elevators used in subway and sewer construction



Mograck elevators for construction work feature compact, space-saving designs offering the advantage of enabling installation in very narrow sites. With experience supplying elevators reaching depths of 100 m underground, Mograck elevators have been used for sewage system construction in mountainous sites, subway construction, and more. The system helps to ensure site safety and improve work efficiency. It can significantly reduce workers' workloads as well.

### Main Equipment and Machinery

- Machining Centers: 3 units ● CNC Lathes: 3 units ● NC Rack Hobbing Machines: 3 units
- Plating Equipment (Custom-designed and manufactured): Length 6m, liquid capacity 8,400 liters, 2 tanks, production capacity 6t per day
- Automatic Rolling Line (for Monorack and Tree Rack racks): 2 units
- Automatic Pipe Manufacturing Line: T-bar 3.2t, production capacity 40t per day

### Company Information

Business: Manufacture and sale of Monoracks, Rack Lifters, Mograck, Rack Scaffolding, and container crane elevators  
 Location: 1279-1 Shioya Nishi, Kitagawara, Masaki, Iyo-gun, Ehime 791-3131  
 Established: July 1961 Capital: 10 million yen Employees: 48  
 Representative: President Tetsuta Yoneyama Tel: 089-984-6600  
 Offices: Sendai, Tokyo, Nagoya, Osaka, Fukuoka  
 Metropolitan Area Contact: Watabe Sangyo Co., Ltd. (Related company) Managing Director Takayuki Kawano Tel: 03-3626-5851  
 E-mail: honsya@yonekou.jp URL: https://www.yonekou.jp/

# INDEX [The Japanese syllabary order] Offshore Wind Power Field

## Wind Turbine Manufacturing

Product / Service	Company	Category	Page
Crane-Related Equipment Manufacturing	Aishin Iron Works Co., Ltd.	Large Plate Rolling & Machining	10
Thermal Insulation Materials for Heat Source Equipment	Ushio Matex Co., Ltd.	Operation & Maintenance	24
Maintenance Lifts and Seawater Cooling Systems	Ushio Reinetsu Co., Ltd.	Shipbuilding & Marine Equipment	6
Large Plate Rolling	Kondokiko Co., Ltd.	Large Plate Rolling & Machining	11
Large Plate Rolling & Machining	Daihachi Kogyo Co., Ltd.	Large Plate Rolling & Machining	15
Thin Plate Sheet Metal Processing	TASTEM. CO., LTD.	Large Plate Rolling & Machining	17
Precision Processing of Machine Parts	Choso Iron Works Co., Ltd.	Large Plate Rolling & Machining	18
Flanges	Touwa Kogyo K.K.	Large Plate Rolling & Machining	19
Steel Frame Manufacturing & Assembly	Noborio Tekkou Co., Ltd.	Large Plate Rolling & Machining	20
Precision Machine Parts	Yutaka Co., Ltd.	Large Plate Rolling & Machining	23
Lifting Equipment	Yoneyama Kogyo Co., Ltd.	Operation & Maintenance	27

## Foundation Manufacturing (Fixed & Floating)

Product / Service	Company	Category	Page
Cylindrical Large Structure Fabrication Welding & Assembly (Foundation Manufacturing Base)	Sumitomo Heavy Industries Process Equipment Co., Ltd.	Large Plate Rolling & Machining	13

## Fixed Foundation Manufacturing

Product / Service	Company	Category	Page
Large Plate Rolling & Machining	DAIRIKI Co., Ltd.	Large Plate Rolling & Machining	16
Large Plate Rolling & Machining	Miyata Tekkou Co., Ltd.	Large Plate Rolling & Machining	22

## Floating Manufacturing

Product / Service	Company	Category	Page
Floating Structures	Imabari Shipbuilding Co., Ltd.	Shipbuilding & Marine Equipment	5
Chains for Floating Mooring Systems	Sumitomo Heavy Industries Himatex Co., Ltd.	Large Plate Rolling & Machining	12

## Electrical Systems

Product / Service	Company	Category	Page
Hydrogen Storage Alloy Tanks	Dai Tec Co., Ltd.	Large Plate Rolling & Machining	14
Sealed Containers for Power Distribution Equipment	Hagio Machinery Co., Ltd.	Large Plate Rolling & Machining	21

## O&M (Vessels)

Product / Service	Company	Category	Page
Ship Control and Monitoring Systems	BEMAC Corporation	Shipbuilding & Marine Equipment	7
Anchor Handling • Towing Winches, Heavy Lift Cranes	MANABE ZOKI CO., LTD.	Shipbuilding & Marine Equipment	8
Floating Structures	Murakami Iron Works Co., Ltd.	Shipbuilding & Marine Equipment	9

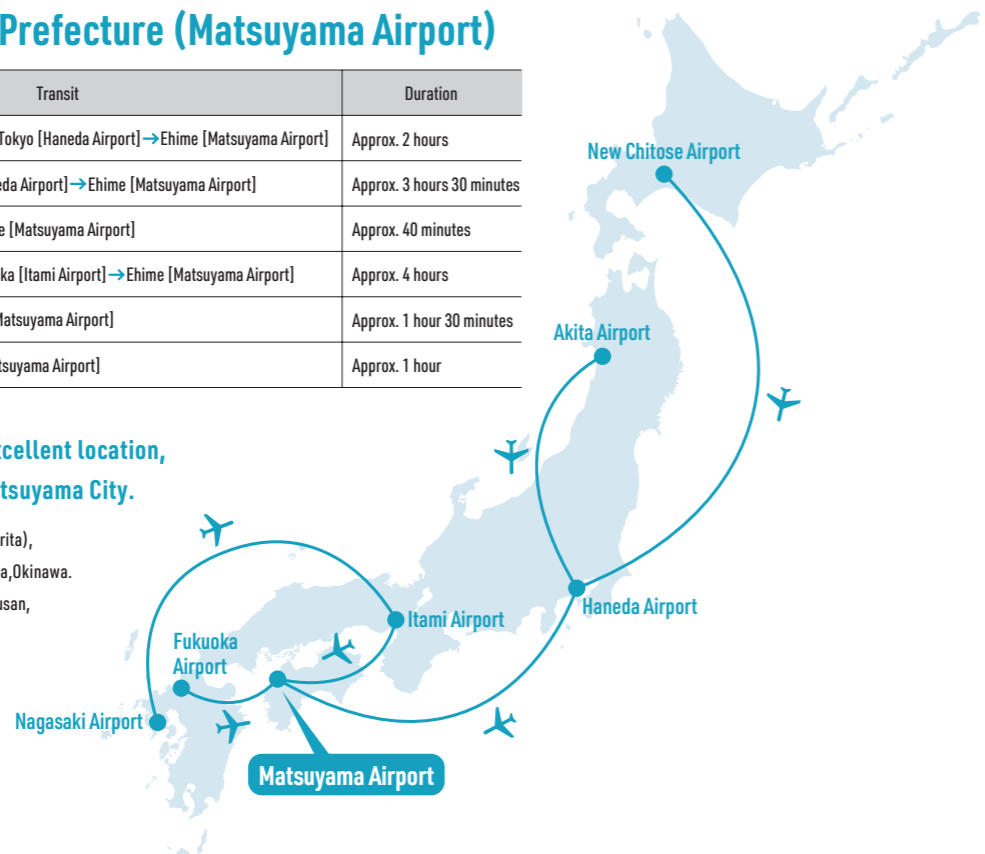
## O&M

Product / Service	Company	Category	Page
Maintenance Drones	Ogasawara Kogyo Co., Ltd.	Operation & Maintenance	25
Inspection with Wall-Crawling Robots	SHI-ATEX Co., Ltd.	Operation & Maintenance	26

# ACCESS MAP

## Access to Ehime Prefecture (Matsuyama Airport)

Departure	Transit	Duration
<b>Hokkaido</b>	Hokkaido [New Chitose Airport] → Tokyo [Haneda Airport] → Ehime [Matsuyama Airport]	Approx. 2 hours
<b>Akita</b>	Akita [Akita Airport] → Tokyo [Haneda Airport] → Ehime [Matsuyama Airport]	Approx. 3 hours 30 minutes
<b>Fukuoka</b>	Fukuoka [Fukuoka Airport] → Ehime [Matsuyama Airport]	Approx. 40 minutes
<b>Nagasaki</b>	Nagasaki [Nagasaki Airport] → Osaka [Itami Airport] → Ehime [Matsuyama Airport]	Approx. 4 hours
<b>Tokyo</b>	Tokyo [Haneda Airport] → Ehime [Matsuyama Airport]	Approx. 1 hour 30 minutes
<b>Osaka</b>	Osaka [Itami Airport] → Ehime [Matsuyama Airport]	Approx. 1 hour



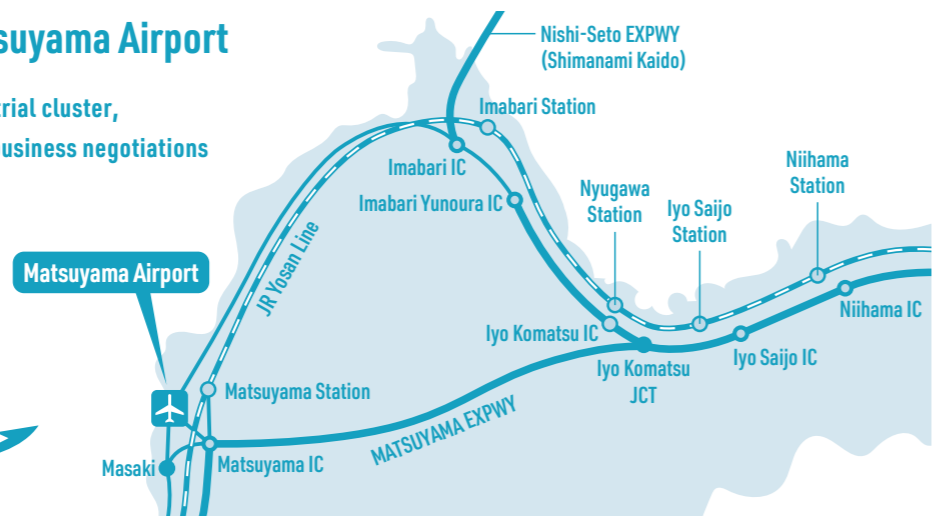
Matsuyama Airport boasts an excellent location, just 15 minutes from central Matsuyama City.

Domestic Flights (7 airports): Tokyo (Haneda, Narita), Aichi (Chubu), Osaka (Itami), Fukuoka, Kagoshima, Okinawa.  
International Flights: Regular flights to Seoul, Busan, Taipei, and Shanghai.

## Access from Matsuyama Airport

Each city and town has its own industrial cluster, allowing for efficient site visits and business negotiations

Ehime Prefecture, with its well-established technology cluster, features distinct industrial groups in each area, and the proximity of related companies is a notable characteristic.  
Efficient site visits can be made using public transportation or rental cars.



Destination	Transportation and Time Required		
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<b>Nyugawa</b>	<table border="0"> <tr> <td>🚗 Matsuyama IC → Iyo Komatsu IC : Approx. 45 minutes</td> <td>🚆 JR Matsuyama Sta. → JR Nyugawa Sta. : Approx. 1 hour 10 minutes</td> </tr> </table>	🚗 Matsuyama IC → Iyo Komatsu IC : Approx. 45 minutes	🚆 JR Matsuyama Sta. → JR Nyugawa Sta. : Approx. 1 hour 10 minutes
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<b>Imabari</b>	<table border="0"> <tr> <td>🚗 via local roads : Approx. 1 hour</td> <td>🚆 JR Matsuyama Sta. → JR Imabari Sta. : Approx. 1 hour</td> </tr> </table>	🚗 via local roads : Approx. 1 hour	🚆 JR Matsuyama Sta. → JR Imabari Sta. : Approx. 1 hour
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<b>Masaki</b>	<table border="0"> <tr> <td>🚗 via local roads : Approx. 30 minutes</td> <td></td> </tr> </table>	🚗 via local roads : Approx. 30 minutes	
🚗 via local roads : Approx. 30 minutes			

[Complete Map of Ehime Prefecture]

## Databases of Ehime's four SUGOI categories Excellent Goods Ehime Takes Pride In (Sugomono), Ehime's Amazing Tastes (Sugoaji), Ehime's Amazing Techniques (SUGOWAZA) and Ehime's Amazing Venture Capital Firms (SugoVen.)



Ehime Prefecture is home to a wide range of manufacturing and production activities rooted in their local history and culture. In addition to the SUGOWAZA included in this booklet, we have created databases for Sugoaji, which include various Ehime food products and ingredients from both land and sea; Sugomono, products that convey the unique appeal of Ehime; and SugoVen., a selection of promising, local venture capital firms. These databases are packed with unique and SUGOI (amazing) products, technologies and more. We hope you will make use of all that Ehime has to offer in these four SUGOI categories to help your company achieve technological innovations and expand sales both domestically and globally.



### Outstanding, Amazing Products from Ehime Sugomono Database

This database contains 280 amazing products (excluding food products) from outstanding Ehime companies, all certified as "Sugomono" that convey qualities and appeal unique to Ehime Prefecture. They include products from craftspeople preferentially designated as traditional specialty products makers, items made by young artisans carrying on the traditions and practices of past generations, and more. Sugomono products can enrich your personal life, and also be used/sold as personal or commemorative gifts.



### Ehime Prefecture Producers Sugoaji Database

Introducing 830 top-quality, local-brand food products and ingredients packed with Ehime love. These include a wide array of citrus fruits, other fruits and vegetables, livestock products, marine products, daily foods, grocery items, sweets and candies, alcohol, and more, all listed by category in the database. Each product is shown along with a photograph, recommended retail price, ingredients, minimum purchasable case number/size, and other such details. We have also made it easy for buyers to contact individual producers.



### Venture Capital Firms from Ehime SugoVen. Database

A database including 20 promising Ehime Prefecture companies that have been founded within the last decade or so and exhibit creative and novel products, technologies, services and/or business models, as well as 2 pioneering venture capital firms operating in the prefecture. These companies operate in a diverse array of fields and industries, including manufacturing, telecommunications, wholesale, retail, agriculture, forestry, general construction, lifestyle-related services, recreation/amusement, academic research and specialized/technical services, and others.



## Database of "SUGOWAZA" Manufacturing Companies in EHIME

### Leading-edge Technologies & Sophisticated Techniques

# EHIME

A Selection of  
**215**  
Companies!



#### 1 Publicizing Ehime's "Sugowaza" at once

Due to the public advertisement of the superior technology and products of those manufacturing companies that are the pride of Ehime, 215 companies and 280 technologies officially recognized by the prefecture have been used to build the "Ehime Manufacturing Companies 'Sugowaza' Database." The database will assuredly facilitate "business matching" between different industries.

#### 2 Introduction of the characteristics of Ehime's industry and the industrial clusters in each region

It gives a presentation of Ehime prefecture's industrial structure and regional industrial clusters as well as the characteristics of Ehime's industry that utilize the unique resources of each region. Please employ it as a helpful tool to expand business opportunities.

#### 3 Easily search corporate information

Searching the database is extremely easy and convenient. Not only can you use the free word search function or search by company name (arranged by Japanese syllables), but you can also search by specific technology, industry, or location. Information on "No.1 in Japan" is displayed in an understandable way.



※The website supports only Japanese