



TB Global Technologies Ltd.

**COMPANY PROFILE** 

## We will contribute to the development of a new energy-oriented society in the world as a technological partner of our customers.

### - For affluence and the future of energy -

TB Global Technologies Ltd. (TBG) was established through the merger of Tokyo Boeki Machinery Ltd. that supply equipment required for loading and unloading petrochemical, liquid natural gas (LNG), chemical products materials, clean energy, etc., energy related equipment, and sales and after-sales services and Tokyo Boeki Engineering Ltd. that provides the development and manufacturing of the above-mentioned products. We have been creating new values by gathering the strengths we have accumulated for more than half a century, and putting together the value chain from marketing to development / manufacturing / sales / after-sales services.

The energy needs are greatly changing to earth-friendly clean energy as people increase awareness of environmental protection and aim to realize a decarbonized society. Amidst such changes, we will further make efforts to realize a sustainable society as a "Company of Business Imagination & Creation" in order to provide energy solutions suitable for the new era, by actively working on creating new businesses and developing new products in addition to the energy related business which is our core business.

We pledge to fully exert our cultivated manufacturing technologies and the function as a trading company, create innovation peculiar to our company, devote ourselves to serving as a mediator between energy and our customers, introducing wisdom around the world and technologies, and continue to be a company that contributes to society.

Go beyond the future of the world.

TB Global Technologies Ltd. (TBG) will keep walking with our customers. We will realize creating an affluent society and satisfaction of customers with a sense of mission and responsibility as a company that is involved in highly public businesses.



TB Global Technologies is working to achieve the SDGs.



TB Global Technologies Ltd.
President

Hideshige Tsubouchi



## Three founding spirits "TOMAS spirit"

- 1. Mindset of management among all employees
- 2. Mindset of a pioneer
- 3. Mindset to overcome any obstacle and to never reduce our efforts

## **Management Philosophy**

# Striving for employee satisfaction while making the world a better place

Working with our staff to create employee's happiness Working with communities to create a better world for all

## **Management Vision**

# Realizing "Company of Business Imagination & Creation"

Imagining and creating the future energy society for all humankind —

#### Code of conduct

- 1. Always remembering that the client comes first
- 2. A prompt response in every situation
- 3. The spirit of cooperation and collaboration
- 4. The courage to face any challenge
- 5. A sense of duty and obligations

"Company of Business Imagination & Creation" TB Global Technologies explore new forms of alternative energy for the future.

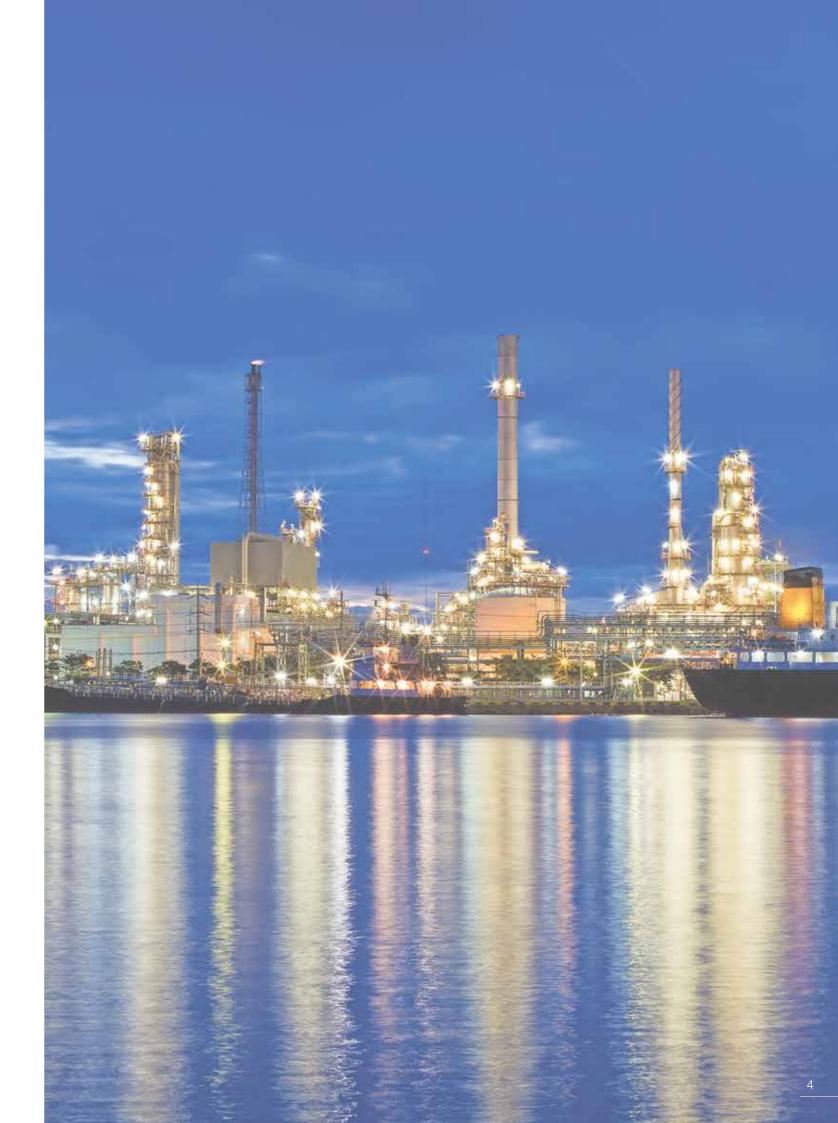
Our product portfolio consists of energy-related machinery and equipment, including loading arms and swivel joints, which are fluid handling devices indispensable for the distribution of energy resources.

We have supplied our "loading arm" which boasts top share in the Japanese market and have an extensive track record in global sales, along with other energy related products to our valuable customers by integrating their needs with our vast technological experiences.

In recent years where global environmental awareness has increased, the energy demands have also changed drastically, and there is an increasing need for greener energy. In order to adapt to these changes and meet new demands, we have launched "Marine ORC Power Generating System business development Project" and "Differential Pressure Power Generation System Development Project" with a goal of "Growing with partners to develop greener businesses through renewable energy use, for a brighter tomorrow".

Through these two projects, TB Global Technologies is working to promote the utilization of "unused energy" which has been wasted despite its potential for effective utilization.

TB Global Technologies, "Company of Business Imagination & Creation", will continue to contribute to the stable supply of energy in Japan and abroad by creating products and services worthy of the new energy era by connecting various needs around the world with technologies Tokyo Boeki Group has cultivated over the years.



## Loading arms support the safe distribution of energy resources around the world.

Our main product, loading arm, is a rigid pipe fluid handling equipment used for cargo transfer from/to ships and trucks tanker. For more than half a century, our products have been used by customers in Japan and worldwide under the brand name of "NIIGATA".

Our products are not only for marine transportation, which can be used for barges of several hundred tons to large tankers of 500,000 tons, but also for land transportation, where they are used to load and unload tank containers for tank lorries and rail tankers. We can also handle oil, gas, petrochemicals, and all kinds of fluids from high to cryogenic temperature.

With "Safety," "Reliability," and "Promptness" as our keywords, we will contribute to improving the business value of our customers.



LNG facility at Naoetsu (Inpex Corporation)



LNG importing facility (Sakaide LNG Company)



Okinawa Electric Power





## Emergency Release System (ERS unit)

The Emergency Release System is a safeguard system that separates the loading arm from a vessel in very short period of time (a few seconds) without spillage of the fluid in the loading arm in the event of a sudden drifting of the tanker due to wind gusts or currents, or in the event of an unforeseen event such as a tsunami due to an earthquake or fire.



#### Quick Coupler (QCDC)

The QCDC is attached to the end of the marine loading arm and is hydraulically driven for quick, safe, and reliable connection and disconnection to the tanker flange. The QCDC provides in conjunction with a radio control system enabling single operator control, which will greatly contribute to labor savings.





#### **Related Products**

#### **Swivel Joint**

The swivel joint is a 360-degree rotating joint that enables flexible rotation and oscillation of piping.

Our swivel joints are used in various industries such as construction and food industries. We also have a wide range of joints that can be used under severe operating conditions with high temperature and high pressure fluids, such as joints for boiler burners built into heavy oil-fired boilers in thermal power plants and joints for hydraulic drive units in steel companies.





#### **Sanitary Joint**

Unlike other swivel joints, sanitary joints do not use lubricants and are designed specifically for sanitary piping used in food, beverage, and pharmaceutical plants.

Sanitary swivel joint is designed to prevent foreign substances and liquid accumulation which possibly cause bacterial growth, and is easy to disassemble. clean, and assemble.







### **Weco Wing Union**

Weco Wing Union is a pipe joint that can be used at ultra-high pressure of 400K class. By using swivel joints and pipes in alternate combinations, it solves the problems of complicated movement and twisting that occur in long high-pressure piping. It is mainly used for drilling pipes and geothermal pipes.

#### Swivel Joint Applications (Willow, Drainage Systems, etc.)

Swivel joint applications, which combine multiple swivel joints and pipes, are used to solve problems around pipes in various fields, including the energy industry.

Willow" is a seismic isolation piping system incorporating swivel joints, which protects important fire extinguishing gas and water supply piping systems in buildings and other structures by following the shaking of an earthquake.

The Drain System is a device used for rainwater drainage lines for floating roof tanks that store petroleum products. It incorporates a swivel joint, which follows the floating roof as it moves up and down in accordance with the liquid level, and safely and reliably drains rainwater accumulated on the floating roof over a long period of time.





Willow

Drainage Systems

#### LNG feed pump for on-shore use

Tokyo Boeki Group and Shinko Ind. Ltd. Jointly developed cryogenic submerged pump for LNG service and succeeded in producing it for the first time in 1979 in Japanese market.

The pump functions completely shut off from the atmosphere in cryogenic liquefied gas, making it safe in terms of explosion protection and eliminating the risk of gas leakage.

There are two types of pumps: the SMB type (pit barrel type), which is used as a pressurizing and circulating pump at LNG terminals, and the SMR type (in-tank type), which is used in LNG storage tanks, and is widely used at LNG and LPG storage terminals and cryogenic power plants in Japan and overseas.



## Quick-Release Hook



This is a device used to moor large tankers to the pier, enabling quick and safe handling of mooring lines when the tanker arrives at or leaves the pier. Some types can be retrofitted to existing bollards (mooring posts).

Various types of Quick Release Hooks are available, including those integrated with capstans and free-standing types with tension meters. We also offer the mooring load monitoring systems which can achieve higher operability and economy.



#### Gangway

The gangway is a movable bridge for transferring from the pier structure to the various vessel. It is able to cope with the movement of ships swinging up and down, left and right, ensuring a high level of safety.

Various types of gangways are available, from regular types to auto-release function types, depending on the pier layout.

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## Integrated structure from design, manufacturing, sales through After-sales service.

Our company provides offering solutions, design, manufacturing, factory testing, field installation, and after-sales service for system and equipment essential to the stable supply of energy, including our mainstay loading arms, swivel joints, and butterfly valves. We are committed to meeting customer demands through our integrated manufacturing and customer support system, which consists of a factory with technical capabilities cultivated over a long history and a sales and after-sales service network.



## Sales promotion

We provide total support to our customers, from proposing the best solutions to meet their demand, supply, install the product as well as after-sales support.

#### **Engineering**

We provide comprehensive design and selection of materials and parts to achieve the best functions and performance requested by our customers.

#### Production Control

In order to deliver and install products that meet the customer's requirements on schedule, we formulate well established production control system and plans manage the manufacturing process.

#### Manufacturing

Our skilled experienced shop staffs manufacture excellent quality products in safe, fast and efficient manner.

#### **Quality Control**

We carry out thorough quality assurance to ensure that our products are fully comply with the quality standard meeting with the customer's requirements, and they can be used with full confidence.

#### Installation

We provide technical support by our qualified expert for site installation and commissioning.

#### After-sales Services

We provide aftersales support to the customer worldwide to ensure safe and reliable operation our product for long term covering technical inquiry, routine maintenance, emergency repair as well as consultation for preventive maintenance or major maintenance planning.

#### **Quality Assurance**

In order to enhance our quality control system, we have acquired and maintain the international standard "ISO9001" applicable for Marine loading arms and other major products. We continue to manufacture products of excellent quality and reliability in compliance the established quality management system to assure and improve the customer satisfaction.



#### After-sales service

We provide a full range of after-sales services to ensure that our loading arms, which are important and critical equipment, can be used in safe and reliable manner with confidence. We will support the customer to identify any issues and problems in operation and maintenance.



# Support for preventive maintenance inspections and maintenance service

We offer technical advice and recommendation for preventive maintenance inspection and maintenance planning to ensure safe and reliable operation of loading arm.

#### Technical advisory service

We dispatch our qualified and experienced expert staff to provide technical advisory service for installation, periodic inspection, and maintenance work done by customers. We also provide training course on loading arm operation and maintenance either at the site or our factory.



### Spare parts sales & supply

We provide a stable and speedy supply of genuine parts from our parts center, which is directly connected to our factory under thorough quality control. We are able to respond quickly when parts are urgently needed due to problems during loading or unloading. We will determine and select the necessary parts based on the event and make appropriate advice on the countermeasure.

### Russia and CIS Business

#### **Russia and CIS Business**

We supply electron microscopes, which are indispensable for the development of scientific research, and various types of scientific analysis equipment to universities, research institutions, and companies in Russia and the CIS for many years.

#### **Resources and Energy**



We supply high-end large engine welding machines for the construction and maintenance of oil and gas pipelines in harsh environments such as the interior of Siberia and the desert regions of Central Asia through our local sales network throughout Russia and the CIS.

#### **Transport**

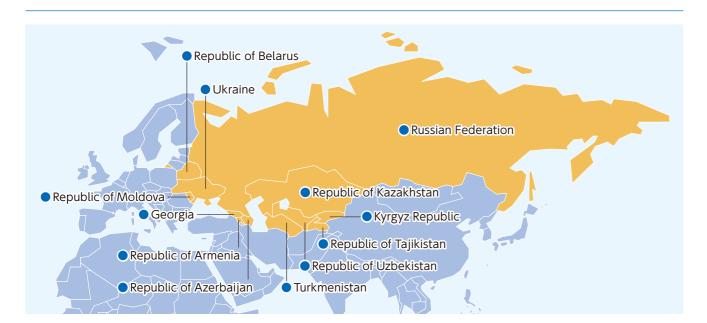
We expand our sales of crawler carriers that enable transport of equipment and supplies in natural environments such as the Siberian wastelands, heavy snow areas, wetlands and mountains, where ordinary trucks and dump trucks cannot survive.

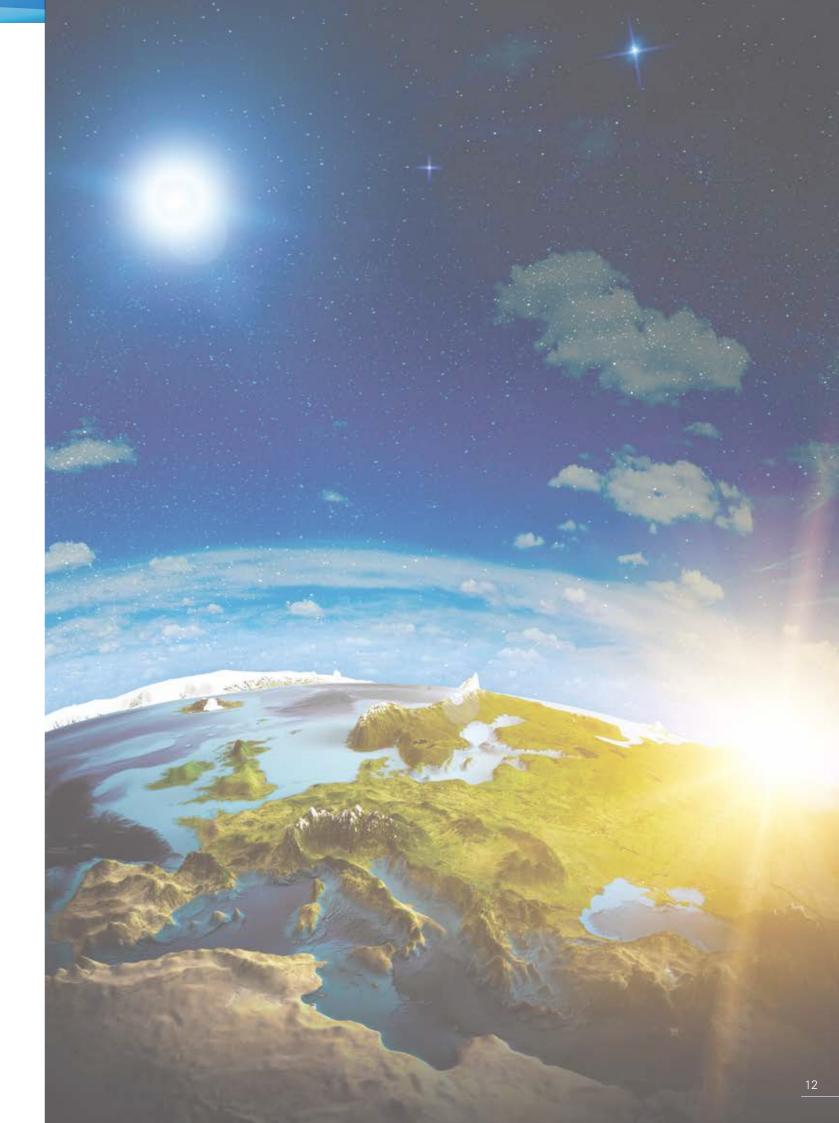


#### **Engineering**

We supply large industrial equipment such as high-purity oxygen generators, which are essential for the refining processes of iron and non-ferrous metals, mainly to the material resources industry, contributing to improved production efficiency.

#### **Business Areas**





## Growing with partners to develop greener businesses through renewable energy use, for a brighter tomorrow.

To promote new businesses in addition to existing businesses, we adopted a new business development project system in April 2019.

Our Pressure Letdown Expander System project and Marine ORC Power Generating System business development project groups will contribute to environmental solutions and to further growth in our customer's businesses by providing products and services with excellent energy efficiency.



#### Marine ORC Power Generating System

The Marine ORC Power Generating System was jointly developed by Calnetix Technologies, LLC and Mitsubishi Heavy Industries Marine Machinery, Ltd. and is being promoted under a system in which we will procure the main equipment and manufacture the system, and Mitsubishi Heavy Industries Marine Machinery, Ltd. will handle sales

Organic Rankine Cycle (ORC) technology can generate electric power efficiently by heat sources of the middle low temperature. This product generates 125KW of electricity at all times using the exhaust heat from the engines in medium and large ships, reducing fuel consumption and CO2 emissions for onboard electricity, and contributing to compliance with environmental regulations for ships.



### SEEDs Robotics Group

SEEDs Robotics Group has set this mission: to enable people and robots to live together in everyday life, and to pursue true prosperity alongside local people and communities. The group handles development, manufacturing, sales, and after-sales services through the network it has built with companies all across Japan, offering solutions to the problems its customers face.

#### **Transportation Support Business**

SEEDs Robotics Group's transportation support business has developed CoRoCo transportation support robot with the business mission of "A little help carrying things makes everyday life a bit more relaxed, a bit more dynamic, and a bit more fun." The features of CoRoCo are as follows.

CoRoCo is characterized by its unique sensors, which were jointly developed with partner companies, and its high degree of customizability. Utilizing these features, CoRoCo can be used in a variety of industries to help solve labor shortages and improve workplaces.

We aim to use these features to solve the problems of today's society, such as labor shortage and improvement of work environment in various industries.



https://seeds-robotics.jp/ (Japanese text only)



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## Tokyo Boeki Group speedily responds to the diverse values sought by the customers and provide higher valued functions and services.

The management system of Tokyo Boeki group is similar to that of the solar system. Each group company within the Tokyo Boeki group develops independently while sharing the same management philosophy, values, and aspirations. They cooperate with each other to enhance the competitiveness and presence of the group as a whole, and to meet a wide range of customer needs with the group's collective strength.



Supporting the foundation of a highly fulfilling life

**Energy Machinery Industry Group** 

**Domestic Group Companies** 

TB Global Technologies Ltd.
TOKYO BOEKI MECHANICS LTD.

Contributing to healthy lifestyles and safe living conditions

Medical, Life and Science Industry Group

**Domestic Group Companies** 

TB-eye Ltd.
TOKYO BOEKI MEDISYS INC.

**Overseas Group Companies** 

Tokyo Boeki (RUS) Ltd.

SCIENSE

ENERGY

**Tokyo Boeki Holdings Corporation** 

**RESOURCE** 

Supporting industries with advanced technologies

Technology, Automobiles and Information Industry Group

**Domestic Group Companies** 

TOKYO BOEKI TECHNO-SYSTEM LTD. T.B. TECH CO., LTD.

Overseas Group Companies

TTS (GUANGZHOU) CO., LTD.
TBTS (THAILAND) CO., LTD.
TOKYO BOEKI NORTH AMERICA, INC.

Using our abundant experience to expand the areas in which natural resources are utilized

Resource, Metal and Materials Industry Group

**Domestic Group Companies** 

TOKYO BOEKI MATERIALS LTD.

Overseas Group Companies

TOKYO BOEKI (CHINA) LTD.

### Compliance Declaration

In order to realize our management philosophy and contribute to society through sincere corporate activities, each and every employee shall understand the Compliance Action Guidelines and practice the following.

- (1) We will comply with laws and regulations, corporate ethics, social norms, and internal rules and regulations.
- (2) We will act decently, correctly, and with integrity.
- (3) When in doubt about a decision, we will not hold back, but will correctly disclose the facts and consult with others.
- (4) If we become aware of a compliance violation, we will have the courage to report it, whether to ourselves or others.



#### About Us

Corporate name TB Global Technologies Ltd.

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Established October 1, 2006

Representative President Hideshige Tsubouchi

JPY400 million Capital

Main banks MUFG Bank, Ltd., Head Office

Mizuho Bank, Ltd., Kabutocho Branch

Shareholder Tokyo Boeki Holdings Corporation (100% equity holding)

#### **Business Network**

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#### Corporate History

1947年	Tokyo Boeki Shokai, the predecessor of Tokyo Boeki was established by late Mr. Yasuo Matsumiya
1955年	Acquired an exclusive distributorship of Chiksan joint and loading arms of Chiksan Corp. of USA and
	started sales to petroleum, electric power and gas industries
1959年	Successfully led negotiations between Chiksan Corp of USA and Niigata Engineering Co. to a technical tie-up
	and started production of Chiksan swivel joints and loading arms in Japan
1968年	Delivered the first LNG loading arm for marine use in Japan
1973年	Delivered a cumulative total of 1,000 loading arms in Japan and overseas
1987年	Supplied the world's largest Loading Arm for LNG service to Woodside Energy (Australia)
1988年	Completing the 16"LNG loading arm ERS retrofit
1989年	NIIGATA original NT-DBV ERS with double ball valves was developed and supplied to Tokyo Gas Co., Ltd.
1995年	Delivered the world's largest (at that time) LNG loading arm to Korea GAS
1998年	Delivered a cumulative total of 5,000 loading arms in Japan and overseas
	Acquired ISO9001 certification (Lloyd's Register QA)
2003年	Acquired loading system business from Niigata Engineering and established Niigata Loading Systems Ltd.
	to develop, manufacture, sell and provide after-sale service in-house for fluid loading and unloading machines
	for the energy industry
2004年	Sale of Shinko LNG terminal pumps exceeded 300 pumps, firmly maintaining the top market share in Japan
2005年	Delivered 4sets of DCMA type marine loading arm with NIIGATA original ERS (emergency release system)
	and H-QCDC (quick coupler with hydraulic operation)
2006年	Tokyo Boeki Ltd. became a holding company and the business of Tokyo Boeki was split into
	Tokyo Boeki Machinery Ltd. and Tokyo Boeki Steel & Materials Ltd.
2007年	Sale of LNG loading arms is increasing, installed at LNG bases in 64 places throughout the world (total 260 units),
	continuing to further solidify its position as a leading company of loading arms in the world market
2008年	Opening of a resident office in Beijing, China
	First company in Japan to deliver marine loading arms with an Emergency Release System to national oil
	storage terminals
	Developed 16" ERS (emergency release system) with single cylinder for LNG service
2012年	Opened a resident office of Energy Machineries Business in Malaysia
2015年	Tokyo Boeki Machinery (Tokyo Boeki KIKAI) Ltd. changed its name to Tokyo Boeki Machinery Ltd.
	Niigata Loading Systems Ltd. changed its name to Tokyo Boeki Engineering Ltd.
	Delivered a cumulative total of 6,000 loading arms in Japan and overseas
2018年	Closed the Malaysia office and opened the Singapore branch
2019年	Developed World's First Loading Arm for Ship-to-Shore Transfer of Liquefied Hydrogen
0000-	Commercialization and sales launch of "CoRoCo" series of transport support robots
2020年	Appointed as a "Companies Taking on the Zero-Emission Challenge" by the Ministry of Economy, Trade and
0001-	Industry in Japan
2021年	Tokyo Boeki Machinery Ltd. and Tokyo Boeki Engineering Ltd. merged to form TB Global Technologies Ltd.