

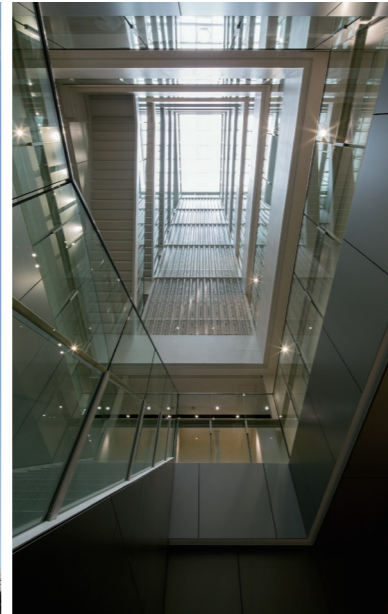
Q'd

Quality Oriented

The "Q'd Building," a simple and sturdy office design that harmoniously connects people, building, and environment



Head office building



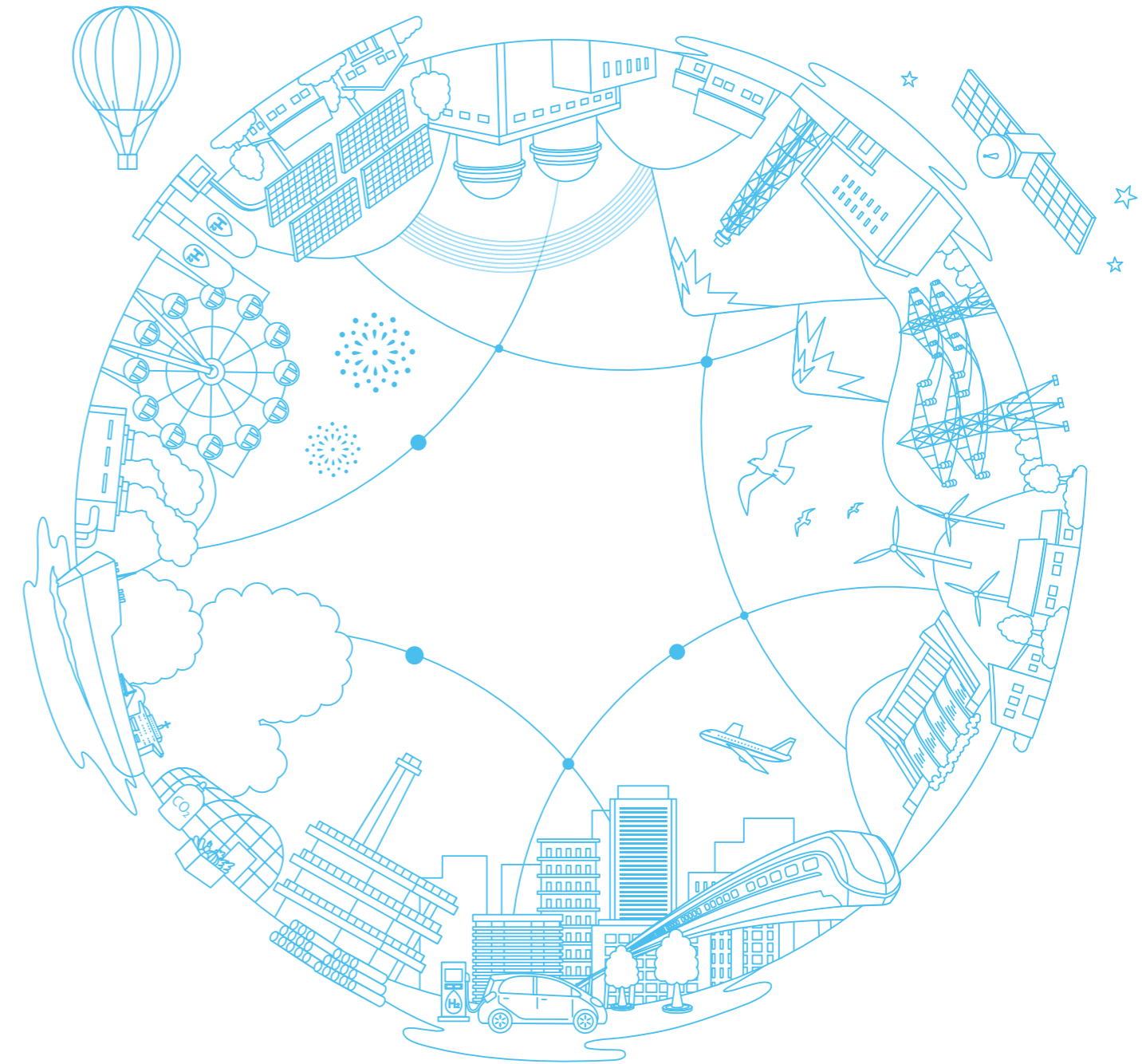
Atrium of head office building

The Tokyo Enesys head office building employs leading-edge environmental technologies to achieve 40% less CO₂ emissions than a comparable conventional building. Solar shade louvers fitted to the building exterior can prevent direct sunlight from entering throughout the year. At the same time, heat loads can be reduced by taking in natural light. There is also a natural ventilation system that circulates air from outdoor air intakes on each floor through the building's atrium. These and other design features make the building highly environment-friendly and energy-efficient.

Q'd

TOKYO ENERGY & SYSTEMS INC.

1-3-1 Nihonbashi Kayabacho, Chuo-ku, Tokyo, 103-0025 Japan
Phone +81 3-6371-1947 Fax +81 3-3669-0920
<https://www.qtes.co.jp/en/>



COMPANY PROFILE

TOKYO ENERGY & SYSTEMS INC.

Building a More Reliable Foundation for Living

ENERGY × SYSTEM

Shaping Communities, Society, and the Future

As a comprehensive engineering company, Tokyo Energy & Systems (Tokyo Enesys) is committed to supporting the foundations of living and industry, and creating and developing diverse business models to address the challenges facing communities and society, with the goal helping to shape a more sustainable world.

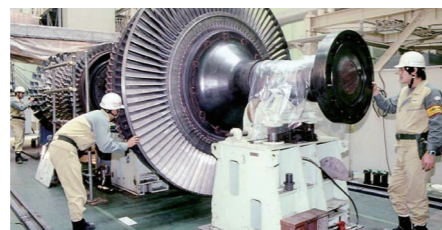
History of Tokyo Enesys

For more than 75 years since its establishment, Tokyo Enesys has worked unswervingly to meet the need for public energy infrastructure, by constructing and maintaining hydroelectric, thermal, and nuclear power plants, and power substations.



1947 to 1950s

In 1947 Tokyo Enesys began constructing hydropower and substation facilities under the name Tokyo Denki Komusho, initially as part of restoration projects in various areas.



1960s to 1970s

Adapting to changes in energy supply structure, we began constructing and maintaining thermal and nuclear power plants.



1980s to 1990s

We expanded into the construction of cogeneration plants and telecommunications facilities.



2000s to 2010s

We entered the renewable energy business, including the provision of EPC (engineering, procurement, and construction) and O&M services.



2020s

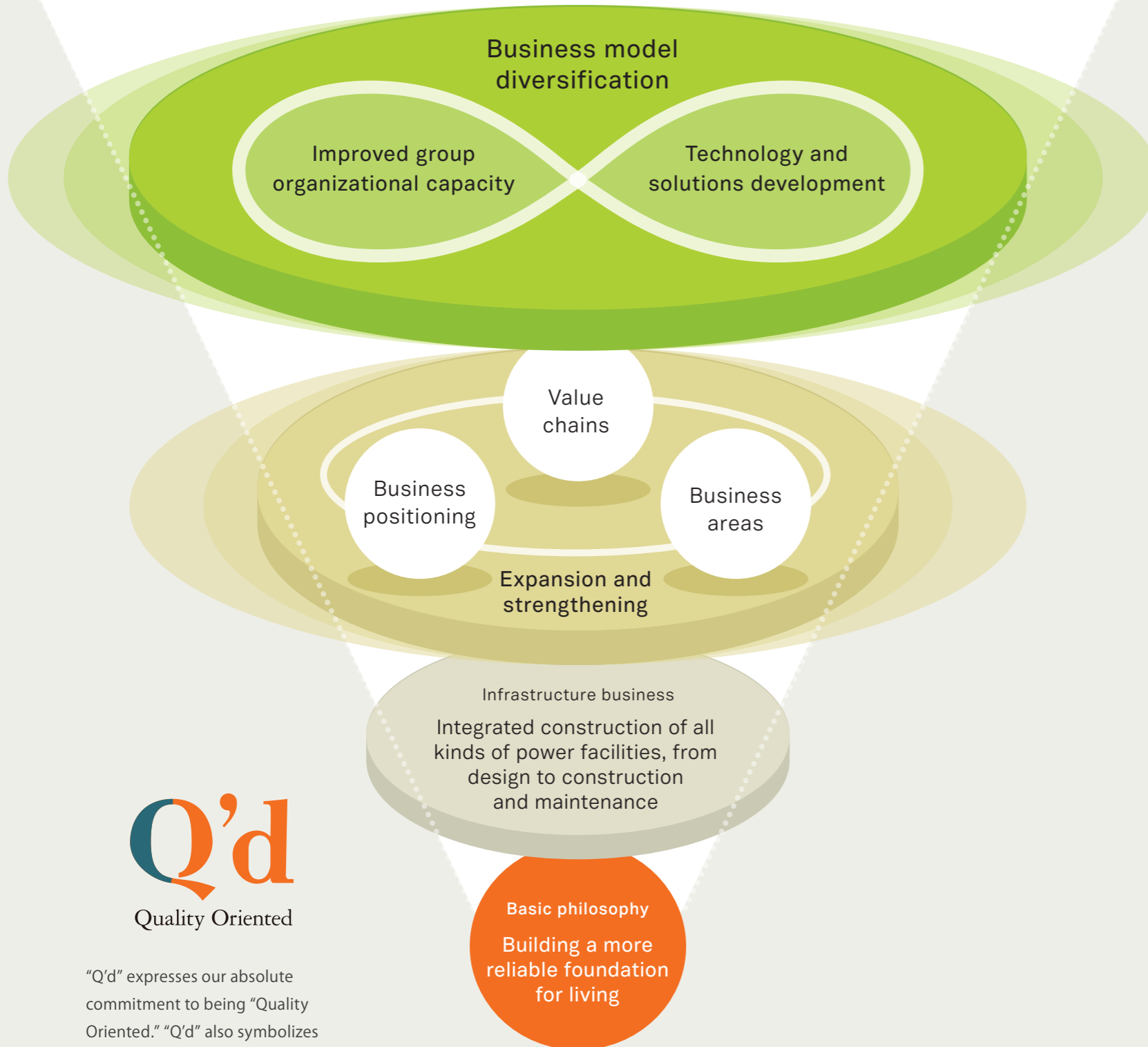
We began undertaking full-scale O&M and power generation projects, working together with local communities to uncover resources and address local challenges.

Moving forward to NEXT STAGE

As a comprehensive engineering company, we are ever ready to take on new challenges.

VISION

Tokyo Enesys pursues its business activities to fulfill its mission to support the safe, secure supply of energy and systems, for "building a more reliable foundation for living." On top of these core businesses, in recent years we have expanded and strengthened our value chains, business positioning, and business areas. In addition, as we diversify our business model further, we are now striving to improve our group organizational capacity, and to develop innovative technologies and solutions.



Q'd
Quality Oriented

"Q'd" expresses our absolute commitment to being "Quality Oriented." "Q'd" also symbolizes our pledge to offer superior solutions, both for the benefit of our clients, and society as a whole.

Business Fields

For over 75 years, we have engaged in a wide range of business fields and operations, responding to many changes in energy supply structure and social conditions. Leveraging all the on-site technical expertise and wide-ranging capacity for adaptation that we have cultivated in these businesses, we are now making green energy a key pillar of our business portfolio. In this way, we can do our part to help shape a more sustainable society. As a comprehensive engineering company, we will go on refining our capabilities across the board, to help people live more prosperous lives.



Green energy

We propose the use of renewable energy resources that take advantage of local characteristics and contribute to addressing local challenges and promoting local development.



Thermal power

We support the reliable operation of thermal power facilities, making use of the latest technologies including high-efficiency, high-capacity combined-cycle power generation systems.



Nuclear power

We contribute to the safe, secure operation of nuclear power plants, including the application of rigorous measures to counter the risks of earthquakes and tsunamis.



Hydroelectric power

Through the design and construction of micro hydro turbines and other technologies, we are actively adapting to the changing power generation method.



Substations

As well as managing substation facility design and construction, we offer protection and control technology for substation equipment, and comprehensive testing technology.



O&M business

We offer a range of operation and maintenance services to meet the diverse needs of our clients.



Energy solutions

We propose and install all kinds of equipment and systems to meet the specific energy-related needs of clients.



Telecommunications

We support the development of telecommunications and broadcasting through the construction of CATV systems for cable TV providers.



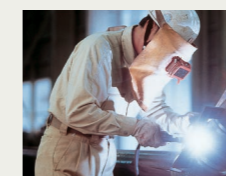
Electrical equipment

We offer a streamlined set of electrical system construction services for educational and public facilities, from design to construction.



Overseas ventures

To keep pace with growing demand, we handle the construction design and supervision of energy systems in various overseas countries.



Welding and inspection center

Our group of welding and quality control experts can reliably meet even the most exacting requirements.



Civil engineering and building

In addition to survey, design, construction, and maintenance of power plants and other facilities, we handle general civil engineering and building construction projects.

Green Energy

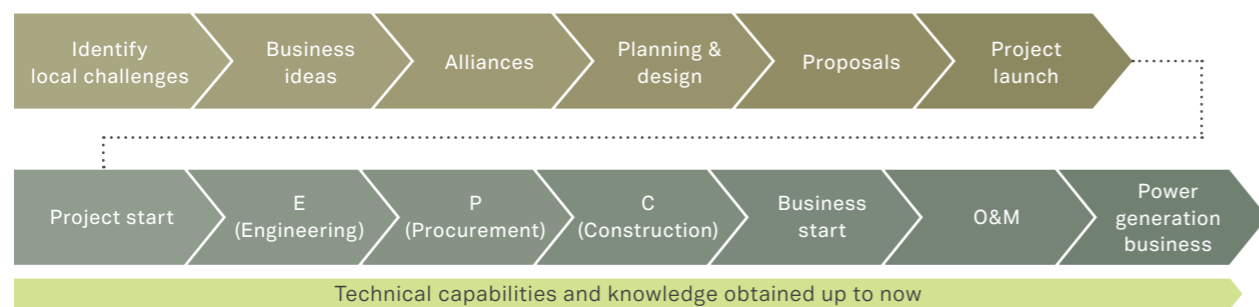
To help tackle local challenges, we work with local communities to uncover available renewable energy resources and develop new businesses.

In line with the global move to carbon neutrality, we are making green energy a key focal point of our business. We collaborate with local communities to help them tackle local challenges, always striving to ensure that we offer them viable solutions that serve their real needs.

Green energy business initiatives

In each locality, we identify renewable energy resources and examine the challenges involved in harnessing them. We then plan and develop business ideas that take advantage of the locality's special characteristics.

Business model for identifying and addressing local challenges



Concentrating the accumulated capabilities of the group for support
Fully harnessing the group's management resources for the finance, insurance, leasing, and land acquisition needed for business development

Business development diagram

Tokyo Enesys proposes solar PV, wind, micro hydro, geothermal, and biomass projects, as well as PPA (power purchase agreement) projects (both on-site and off-site), and combined local energy projects utilizing multiple kinds of renewable energy sources with "local production for local consumption" provisions for local energy security.



Biomass power

Sakaiminato Biomass Power Plant

Commercial operation of this plant in Sakaiminato City, Tottori Prefecture started in October 2022. Tokyo Enesys is engaged in every aspect of this large-scale power generation project. We are also utilizing the new technological capabilities and know-how derived from this project to enhance and expand our more traditional areas of business.



Sakaiminato Biomass Power Plant

Examples of initiatives

We are involved in a variety of biomass power plant construction and fuel supply business.



Perspective view of Aizu Komorebi Biomass Power Plant



Fuel supply for Sakaiminato Biomass Power Plant



"Prayer for safety" ceremony at Tahara Biomass Power Plant



Abashiri Biomass Power Plant No. 2

Solar PV and geothermal power generation

Tokyo Enesys is an EPC provider of all services required to develop solar (PV) power plants (including civil engineering and electrical work).

We also offer EPC services for facilities that combine solar PV generation with storage batteries, involving RE100 commitments, PPAs, in-house consumption, and microgrids, as well as geothermal (binary) power plants that utilize hot-spring water, a heat source that is stable throughout the year and unaffected by weather conditions.

Achievements

Since 2013, throughout Japan, we have constructed projects with a combined renewable power generation capacity of around 200 MW.



34MW in Ibaraki



30MW in Fukushima



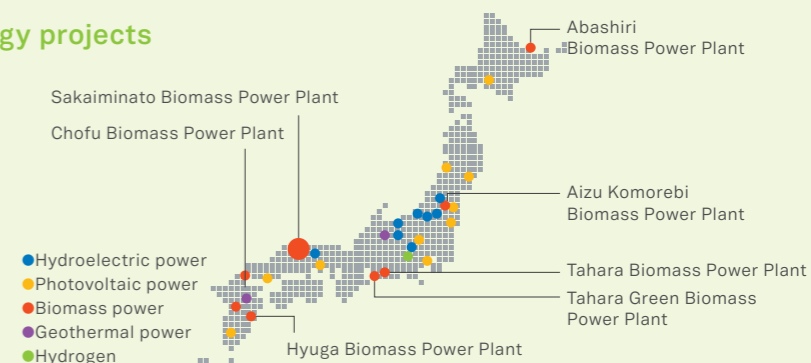
99kW in Kumamoto Geothermal (Provided by BASELOAD POWER JAPAN)



50kW in Gifu Geothermal

Development of renewable energy projects

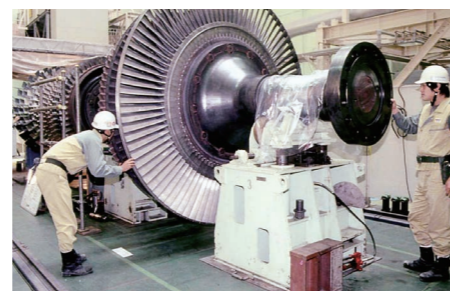
Aside from the Sakaiminato Biomass Power Plant, we have a strong track record of involvement in a wide variety of renewable energy facilities around Japan, e.g., as an investor and EPC provider for the Aizu Komorebi Biomass Power Plant, and as an investor, O&M provider, and technical adviser for the Chofu Biomass Power Plant.



Thermal Power

Comprehensive support for stable operation of thermal power generation facilities. Support for the latest technologies.

In the field of thermal power generation, Tokyo Enesys mainly engages in the construction of new plants, as well as plant modification and maintenance. We leverage our long experience and wealth of know-how to help ensure the stable operation of numerous thermal power plants. At the same time, we make use of high-efficiency, high-capacity combined cycle power generation, and other advanced technologies. Our great strength is our ability to deliver a complete package of construction services, centered on design, procurement, construction, and inspection.



Our Business

In addition to ensuring high levels of safety, we also address demands to cut costs, which have grown more urgent in recent years.

01 Planning and design

Our expert professionals conduct site surveys, study construction methods, and explore a variety of design possibilities.



02 Procurement

We procure all the products, equipment, and construction materials needed for the project.



03 Construction

We promise reliable construction work, based on our firm belief in "safety, quality, and low cost."



04 Inspection, testing, and diagnosis

Our qualified and expert professionals conduct inspection and testing to ensure safe operation.



Achievements

We offer a wide array of services from the installation of large-scale power generation plants featuring gas turbines and boiler facilities to small-scale private power generation systems. By developing high-capacity hoisting systems that enable modular construction, as well as special tools and new in-furnace scaffolding equipment, we are constantly striving to both shorten construction times and improve safety. In addition to repairing malfunctions discovered through inspections, we provide high-quality construction work for all kinds of power plant facilities.



Construction of a thermal power plant



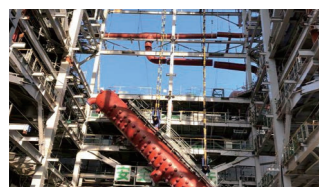
Installing a gas turbine power plant



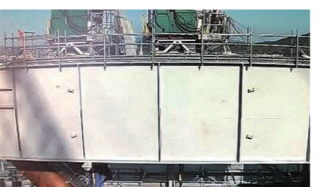
Installing a boiler in a chemical plant



Installing a diesel generator



Use of a jack-up system



Multi-point support for ST diaphragm



Boiler furnace internal scaffolding



Overhauling a heat exchanger



Meter calibration



Repairing a boiler



Inspecting a generator

Nuclear Power

Pursuing optimal technology and high quality to ensure the safe, reliable operation of nuclear facilities.

Tokyo Enesys has been involved in the construction, maintenance, and inspection of nuclear power plants and spent nuclear fuel reprocessing plants for many years. Combining all the technology and knowledge we have acquired in this time with our original construction methods and technological innovations allows us to offer a wide range of unique services for nuclear power facilities, from the construction of equipment piping to the planning, design, and construction of electrical and instrumentation systems.

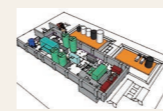


Our Business

We are involved in every step of the construction process, from planning, design, procurement, and construction, to maintenance, including nondestructive testing and equipment diagnosis.

01 Planning and design

Comprehensive planning and design tailored to specific needs



Construction plan (3D drawing)

02 Construction

Installation of heavy machinery, electrical equipment, and piping for plants



Nuclear power plant construction

03 Maintenance

Maintenance and inspection based on technology and know-how cultivated over many years



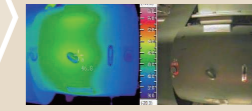
Inspection of turbine rotors



Inspection of circulating water pump motors

04 Equipment diagnosis and inspection

Equipment diagnosis and inspection by experts



Thermographic diagnosis of electric motors

Achievements

Tokyo Enesys has contributed to the revival of the Fukushima region, through construction work that complies with new regulatory standards for nuclear power plants and decontamination of local areas. We are also addressing the diverse needs of clients. For example, we are using special technology to conduct inspection and maintenance inside containment vessels, and working to reduce waste by means of decontamination and waste reduction technology.



Monitoring a decontamination area (radiation dosimetry)



Disassembly, removal, and volume reduction of feed water heaters



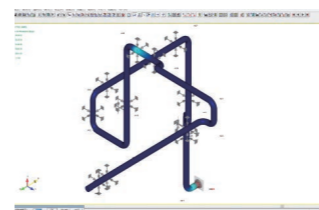
Underwater work in reactor containment vessels



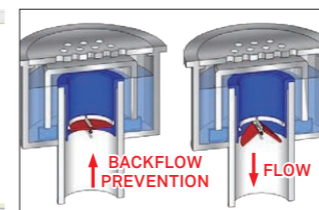
Fire protection measures based on new regulatory standards for nuclear power plants

Recent initiatives

Currently, we are conducting construction and seismic evaluation of nuclear facilities for compliance with new regulatory standards, as well as developing robots for use in plant decommissioning. We are also developing tools that can be deployed for general industrial applications.



Model diagram for piping system natural vibration analysis



Drain funnel backflow prevention fittings (technical development)



Remote-controlled robot (technical development)



Waterproofing of cable penetration

Hydroelectric Power

Tokyo Enesys is designing and constructing micro hydro turbines as an appropriate solution to today's changing energy needs.

We adapt to the technological innovations that arise from changes in power generation methods.

Tokyo Enesys is equipped to handle all kinds of hydroelectric power plant construction projects, from installation and overhaul-inspection of vertical turbine pump generators, to construction of micro hydro power plants.

We also handle new construction and renewal of general small and medium-sized hydropower plants, including civil engineering requirements.



Our Business

We offer a comprehensive set of services, from installation and maintenance to inspection, for everything from conventional hydropower systems to state-of-the-art micro hydropower facilities.

New construction, modification, maintenance, and testing of hydropower facilities in Japan

01 New construction and modification

- Lifting pump turbines
- Electric generator motors
- New installation and modification of small and medium-sized hydropower plants

Installing generator rotors



02 Maintenance and inspection

- Precision inspection
- Routine inspection
- Daily maintenance

Precision inspection of inlet valves



03 Various tests

- Acceptance and combination testing of equipment, protective devices, and control panels



Installation, maintenance, and testing of micro hydropower facilities

01 Planning and design



Micro hydro turbine (double type)

02 Construction, installation, and maintenance



Conduit-type single turbine

03 Various tests

- For electric power companies, government bodies, and other relevant organizations



Substations

Using our outstanding technical capabilities, we handle a wide range of substation facilities. We are also expanding into new fields.

Tokyo Enesys engages in the design and construction of substation facilities, as well as offering protection and control technology for substation equipment and comprehensive testing technology.

Making best use of our technical capabilities, which are the best in the industry, we construct ultra-high voltage substations that require high levels of technological reliability and expertise. We also aggressively adopt new technologies, for example upgrading facilities with new battery systems that store large quantities of electrical energy.



Our Business

We work on substation facilities, which are essential for electric power infrastructure. Using our advanced technological capabilities, we construct ultra-high voltage substations and NAS battery systems.

Comprehensive technology for substation facilities

01 Foundation work

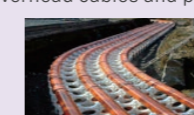
- Land development
- Piling work
- Foundation work
- Outer fence construction



Substation (500 kV) transformer & GIS Piles (Φ1.5×L25 m, 48 piles)

02 Installation of substation equipment

- Transformers
- Circuit breakers
- Outdoor steel structures
- Overhead cables and power cables



Power cables in conduits

03 Inspection and maintenance

- Precision and routine inspection
- Daily maintenance



500 kV transformer

04 Single device and system testing

- Equipment
- Protection devices
- Control panels



VT & CT circuit tests

Achievements

We are actively working to expand into new fields, to address the changing needs of today's world.



Installation of NAS battery system



High-voltage substation



Extra-high voltage substation



Construction of high-power testing facility

Other business activities

Tokyo Enesys also provides various technologies for protection, control, and comprehensive testing. We offer total support for substation needs.

- Oil-spill containment technologies
- Aluminum covers with blow-prevention brackets
- Measurement of buried pipe wall thickness
- Weed control in substation premises
- Thermal insulation coating (CoolTherm)
- Attachments for erecting ground rods (Assist)



Repair of oil leaks from transformer bushing by chemical sealing

Achievements

Kawai Waterworks Micro Hydro Plant (Yokohama Waterworks Bureau)

Inflow type
Output: 135 kW×2 units (penstock diameter 900 A)

Egasaki Micro Hydro Plant (Kawasaki City Waterworks Bureau)

Inflow type
Output 170 kW (penstock diameter 500 A)

Morigasaki Water Reclamation Center Micro Hydro Plant (Tokyo Bureau of Sewerage)

Inflow type
1. Output 110 kW (penstock diameter 1,350 A)
2. Output 110 kW (penstock diameter 1,200 A)
3. Output 9.9 kW (penstock diameter 500 A)

O&M Business

We provide operation and maintenance services for thermal and photovoltaic power plants.

To cater to the diverse needs of our clients, we utilize the wealth of technological expertise we have accumulated in many different fields since the company was established.

Fully leveraging our key strength of delivering EPC services in a wide range of energy-related fields, we offer a streamlined set of services that includes O&M, in addition to design, procurement, and construction.



Our Business

Operation services that prioritize safety and aim at maximizing capacity utilization



Operation work in main control room

- High-precision operation with only a small number of people
- Operation in accordance with carefully documented procedure manuals

Accurate and efficient facility maintenance



On-site patrols using IoT

- Maintenance using ICT and IoT
- Precise operation using AR (augmented reality)

Recent initiatives

For solar (PV) power generation facilities, we offer a process that enables integrated management of EPC and O&M services as a set. Along with EPC, for cogeneration facilities we offer monitoring services that enable timely information sharing with clients and rapid responsiveness. At the Fukushima Natural Gas Power Plant, we are deploying a full-scale O&M service. Furthermore, we are now planning to extend our O&M services to biomass power plants throughout Japan.

Expand into EPC and O&M businesses

	E (Engineering)	P (Procurement)	C (Construction)	O (Operation)	M (Maintenance)	Power generation
① New business	Biomass power plants (Sakaimito Energy Power) → Toward full-scale power generation business					
② Area of expansion	OE (Owner's Engineering)		OE (Owner's Engineering)	Biomass power plants		
		Supply materials and equipment	Solar (PV) power equipment (in-house power generation system)			Power generation
			Geothermal power plants	Cogeneration plants (remote monitoring for some customers)		
③ Existing businesses		Manufacturing at plants in Thailand	Large-scale thermal power plants for new power companies → Toward full-scale operation business			
			Thermal power, nuclear power, hydro power, substations, telecommunications, civil engineering			

*①New business field, Power generation business ②Areas in which we can utilize our experience and knowledge as a power plant construction business ③Businesses pursued since the company's beginning, areas that serve as a continuing foundation

Energy Solutions

We offer optimal solutions for all kinds of energy-related needs.

The complete liberalization of the electricity and gas markets has stimulated strong demand for the full utilization of cogeneration facilities (that use the heat generated by electric power generation). To address this demand, Tokyo Enesys is offering integrated EPC services for cogeneration plants. We also support distributed energy infrastructure solutions, such as gas engine (with *BCP support) and gas turbine power generation systems.



* A BCP (Business Continuity Plan) is a strategic plan for enabling power consumers to secure electric power in the event of an emergency.

Our Business

Using our professional expertise in the field of energy, we offer solutions optimized for minimizing energy costs or capital investment, according to the client's needs.

Streamlined solution flow, from diagnosis, design, and construction, to maintenance

- 1 Proposal of energy-efficient solutions
- 2 Construction of system to satisfy the plan



- 3 Rigorous verification of improvements
- 4 Maintenance and support after improvements

Saving energy by renewing heat source equipment



Replacement of aging absorption chillers with high-efficiency heat pump chillers

Achievements



A variety of energy-related services

- Cogeneration plants (plan, procurement, construction, maintenance)
- Construction and renewal of substations
- Inspection and maintenance of general power generation equipment



Energy-saving upgrades of heat source equipment

- Air conditioning equipment in office buildings
- Exhaust heat recovery facilities for factories
- Support in applying for subsidies for the above kinds of projects

Telecommunications

We contribute to the development of the telecommunications and broadcasting business, by constantly adapting our technology to the times in pursuit of cost savings.

Tokyo Enesys offers a complete range of construction services to cable TV providers, covering in-home installations, transmission lines, and TV station buildings. We can respond flexibly to different needs, including construction of new 4K and 8K systems and modification of existing facilities to adapt to the removal of roadside utility poles.



Our Business

Through our support for the telecommunications and broadcasting businesses, we support society by "building a more reliable foundation for living."

Cable TV construction



Tokyo Enesys serves as a comprehensive coordinator for the planning and construction of the receiving points, headends, and transmission line systems needed for the current convergence of broadcasting and telecommunications infrastructure. We also work on upgrading existing facilities and offer a 24-hour maintenance service for the facilities of clients.

FTTH construction



We provide technology for building communication networks through the installation of fiber-to-the-home (FTTH) optical fiber lines.

Achievements

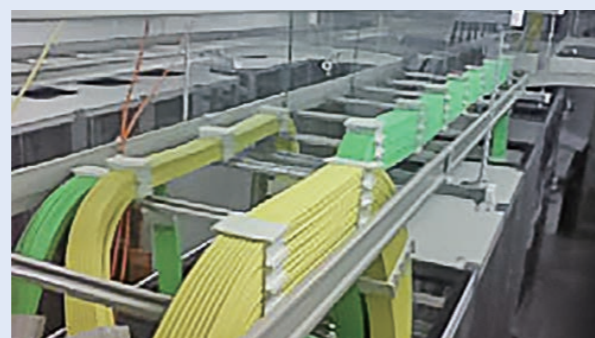
We have constructed a variety of telecommunications infrastructures to meet the demands of our clients.



CATV clients include:
JCOM Co., Ltd.
TOKAI Cable Network Corporation

Other business activities

We sell a convenient cable bundling device, Keburu Matomeru-kun.



Cable bundling device, Keburu Matomeru-kun (Patent No. 5291394)
Seller: BYCOM Co., Ltd.
Distributor: Sankyo Denki Co., Ltd.
<https://www.sankyo-dnk.co.jp/>

Electrical Equipment

We offer a complete range of services for the construction of electrical facilities, making use of our wealth of experience and know-how.

We undertake a comprehensive range of electrical facility construction projects, both for everyday familiar facilities and industrial facilities, always striving to make them more convenient and comfortable. We accommodate a wide range of contemporary needs, including community facilities, educational facilities, apartment complexes, and Japanese-style buildings that preserve the traditional beauty of Japanese culture.



Our Business

We offer comprehensive coordination of familiar facilities, proposing optimal quality based on more reliable technology.

Construction of electrical facilities for educational facilities



Solar and wind power equipment at an educational facility

We handle everything from the design to construction of electrical systems for new and renovated educational facilities.



Electrical facilities



Electrical facilities

Construction of electrical systems for community facilities



LED lighting at a driving range

We undertake the construction of complete electrical facilities for sports complexes, civic centers, and other facilities.



Electrical facilities



Electrical facilities

Construction of electrical equipment for special buildings



Electrical equipment for a special building

Traditional Japanese-style architecture. We handle complete electrical systems, including substations, wiring, lighting, and security systems.

Construction of electrical systems for public facilities

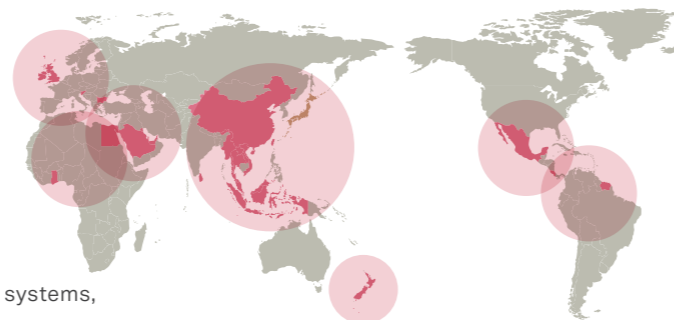


Electrical equipment at a public facility

At the request of government and municipal bodies, we have installed LEDs for numerous public facilities, security lights, and roadway lights.

Overseas Ventures

Building on the strengths we developed through half a century of experience, we are now contributing to the construction of energy systems in other countries.



On the back of our long track record of successful construction in Japan, Tokyo Enesys ventured into the construction of energy systems, industrial systems, and transportation systems overseas.

Now, we are set to take a further leap forward, by combining our half-century of construction experience with the advantages of the manufacturing plant we have set up in Thailand.

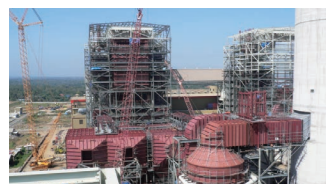
Our Business

On top of our usual dedication to safety, we are strongly focused on addressing the increasingly critical need to reduce costs.

Countries we have worked in over the past 20 years

Asia ● Indonesia ● China ● Singapore ● East Timor ● Sri Lanka ● Vietnam ● Thailand ● Malaysia ● Taiwan ● Laos	Europe ● U.K. ● Slovenia ● Bulgaria	Middle East ● UAE ● Kuwait ● Saudi Arabia	Africa ● Egypt ● Ghana	North America ● Mexico ● Costa Rica	South America ● Suriname
Oceania ● New Zealand					

Achievements



Tanjung Jati (Coal-fired) Thermal Power Plant (Indonesia)
 ■ On-site construction management
 ■ Output: 660MW x 2 Unit



KAWERAU (Geothermal) Power Station (New Zealand)
 ■ Electrical and instrumentation construction design, material procurement, and on-site construction management
 ■ Output: 100MW x 1 Unit



LTA Subway Northeast Line (Singapore)
 ■ Construction of new electrical facilities (semi-turnkey)



Umm Al Nar Power and Desalination Plant (UAE)
 ■ On-site construction management
 ■ Output: 1,550MW (5GT, 2ST Unit)

Recent Initiatives

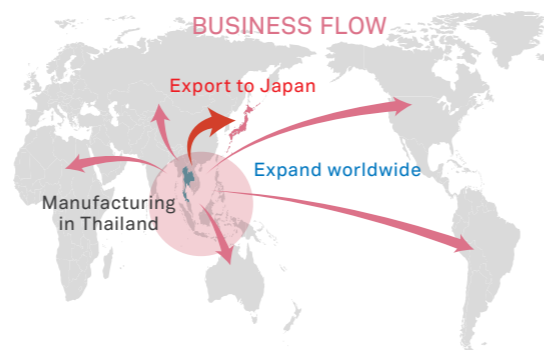
In April 2020, we established Tokyo Enesys (Thailand) Co., Ltd. Since 2018, we also started accepting foreign technical intern trainees. We are currently taking trainees from Thailand and providing them with practical training at our construction sites. In addition to Tokyo Enesys (Thailand), a mechanical equipment manufacturing company, we also established an electrical equipment sales company (SCI Enesys Co., Ltd.) in Thailand. This too will help us to participate in more plant projects in Asian countries and other parts of the world.

Tokyo Enesys (Thailand) Co., Ltd.

- Main products
- Ducts, piping, vessels
 - GTCC power generation parts, electric furnace parts

SCI Enesys Co., Ltd.

- Main products
- Cable trays, control panels
 - Distribution boards, control centers



Welding and Inspection Center

Our group of welding and quality control experts can reliably meet even the most exacting requirements.

With its vast experience and advanced technical capabilities, our Welding and Inspection Center meets the diverse needs of our clients, particularly in the construction and maintenance of thermal, nuclear, and other power generation facilities, and other kinds of plants.



Our Business

In addition to our advanced welding technology, we offer dependable quality control to satisfy the requirements of our customers.



Production building

- Manufacture of prefabricated piping in compliance with Electricity Business Act
- On-site welding procedures and welding support for pressure-resistant parts in compliance with the Electricity Business Act
- Training and guidance of welders, welding inspectors, and quality managers

Site area:	20,623 m ²
Office building:	1,626 m ²
Production building workshop:	1,776 m ²
Production building inspection:	325 m ²
Equipment building:	3,821 m ²
Storehouse for small quantity hazardous materials:	50 m ²

Qualifications	Welding
	Electricity Business Act (68 welding methods) / Nuclear Reactor Regulation Law (19 welding methods) / Japan Welding Engineering Society (welding coordinators: WES)
	Private product certification standards for welds in electrical equipment

Welding and welding inspection



Welding training jig (for welding boiler tube covers)



Pipe welding



Pipe coaster

Welding training room



Welding training operation

Facility Overview

- Automated equipment NC vertical milling machine, NC sawing machine, NC lathe, pipe coaster
- Machinery and equipment Lathe, vertical drilling machine, shaping machine, beveling machine, band saw, turning roll, universal testing machine
- Welding equipment (portable) Plasma cutter, semi-automatic MAG welder, arc welder, TIG welder



NC lathe work



NC vertical milling machine

Civil Engineering and Building

We cater to a wide variety of needs in the general construction industry.

Tokyo Enesys also applies its deep knowledge of energized parts and power generation and substation facilities to satisfy a wide range of needs in survey, design, construction, and maintenance of power plants, substations, and other kinds of plants, as well as the general civil engineering and construction sector.



Our Business

Two divisions, the Civil Engineering Division and Building Division, handle a variety of plant projects, as well as general civil engineering and construction projects.

Civil Engineering Division



Construction of substation at thermal power plant

Main business activities

- Construction, modification, and repair of structures at power plants and substation facilities (site preparation, piling, foundations, conduits, paving, greening, etc.)
- Construction of general civil engineering structures, ancillary facilities, and exterior
- Diagnosis of degradation and modification/repair of civil engineering facilities and structures
- Investigation and design of underground structures

Building Division



Civil engineering and construction of a gas engine cogeneration facility for a corporate client

Main business activities

- Design, construction, repair, and modification of general buildings
- Construction, repair, and modification of power plants and substations
- Diagnosis of degradation, seismic diagnosis, and repair/reinforcement of buildings
- Improvement and repair of plumbing systems, air conditioning systems, and other facilities

Achievements



Construction of mega solar power plant and regulating dam H14 m x L51 m x W2 m (dam top), 2,700m³ of concrete



Solar power plant (2,500 kW) (site preparation, foundations, mounting structure, panel installation, drainage, outer fence)



Construction of new spare parts warehouse



Installation of elevator for boiler building in thermal power plant



Removal of oil tank foundations and other items
Breaking foundations and removing piles



Construction of new substation



Paving road within substation premises



Construction of soundproof walls (H=7 m to 3.5 m, L=157.4 m)

Technology

Solar panel mounting device

[Utility model No. 3192967]



This device is used for mounting solar panels safely and efficiently at high elevations. Due to the accumulation of snow at mega solar power plants in areas of heavy snowfall, mounting structures need to be high and steeply angled, thereby imposing a heavy burden on workers. This device reduces the need for workers to carry panels to high places, making the job of mounting panels safer and more efficient.

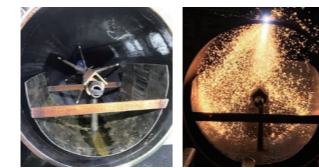
On-site remote patrol PLC system



We developed a Wi-Fi system using a portable PLC (Power Line Communication) to enable real-time bidirectional communication in underground substation facilities and cable tunnels, where communication is typically difficult.

"Slag catcher" fitting for pipe coasters

[Patent pending.]



Installation of a "slag catcher" fitting

During pipe cutting

When cutting pipes with a pipe coaster (automatic cutting machine), this "slag catcher" fitting is installed inside the pipes to collect the slag generated during cutting, thereby preventing slag from sticking to the inside of pipes. For pipe diameters: 150-600 A

Remote work vehicle controlled over a Wi-Fi network

[Patent pending.]



Repeater (left) and survey robot (right)

Video cameras mounted on a survey robot can be used to visually inspect the surroundings in areas where it is difficult for a person to enter. In areas subject to radio interference, an autonomously moving repeater robot can be directed toward the inspection area to ensure uninterrupted radio wave connectivity. Up to 10 repeaters can be linked together.

Insulator casing mat

[Patent No. 5798462]



A footrest has been added to the insulator casing mat used when inspecting large transformers, to assist in lifting and lowering. This greatly improves safety when working around insulators.

Cable bundling device, "Keburu Matomeru-kun"

[Patent No. 5291394]



This cable bundling device is used when installing and aligning many coaxial cables. The device makes it possible to bundle together a greater number of cables.

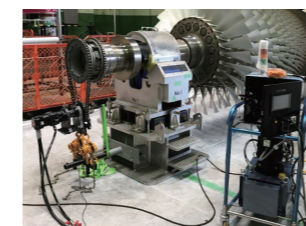
Bolt polishing device

[Utility model No. 3182329]



This is a simple-to-use device for cleaning bolt threads. Bolt threads are polished by the rotation of a dual-axis brush. The device is powered by 100 VAC and is fitted with casters for easy mobility.

Rotating jig for inspection of large rotors or fans



This rotor rotation device serves to facilitate the inspection and replacement of the rotor blades of large GT rotors and large fans (IDF). It prevents "catching" and increases the efficiency of inspection work.

Water immersion-type pipe wall thinning measurement device (inner UT)

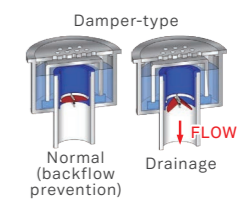
[Patent No. 5574861]



This device is used to inspect external corrosion by inserting it into a pipe filled with water and ultrasonically measuring the remaining wall thickness of the pipe from the inside. It makes it possible to inspect the corrosion of pipes that are difficult to visually inspect externally, such as buried piping.

Drain funnel backflow prevention device

[Patent No. 3484572 / Patent No. 5596463]



When installed at a drain outlet, this device prevents backflow of air from a system. It is useful for managing negative pressure in buildings at nuclear power plants. It is available in three variations: damper-type, float-type, and improved float-type (for overflow prevention).