



Overseas Network

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Uku Project Development Office

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Make Next.

Corporate Philosophy

1. We contribute to a society by creating comfortable environment for all.
2. We create new values with our technology and challenging spirit going for future.
3. We aim to be a company where human-oriented corporate culture is being developed.

Message from the President



Kyushu Denki Koji Corporation, the forerunner of today's Kyudenko, was founded in December 1944 with the merger of 14 electric construction companies in Kyushu. We celebrated our 75th anniversary in December 2019.

The Kyudenko Group's corporate philosophy embodies a commitment to "contribute to a society by creating comfortable environment for all," "create new values with our technology and challenging spirit going for future," and "aim to be a company where human-oriented corporate culture is being developed." In keeping with that commitment, we have adopted a managerial approach that seeks to fulfill our social mission as a general facilities contractor charged with safeguarding critical infrastructure while continuing to grow and evolve along with customers and the local communities we serve.

We're working to promote development of new technologies and improve quality in a variety of areas, including the environment, energy efficiency, and renewal construction. Our goal is to increase corporate value while responding appropriately to changes in social structure by actively pursuing businesses that target new fields and markets while earning customers' trust and living up to their expectations.

To achieve these priorities, the Group has come together to achieve the goals set forth in its current five-year Mid-term Management Plan, which ends in FY2024. The plan, whose central goal is to establish a management platform that will facilitate sustained growth by orchestrating three revolutions (in construction capability, productivity, and governance), is geared to focus all the Group's resources on building a resilient, muscular corporate constitution so that we can realize dramatic growth and development by the plan's last year and onward towards our 100th anniversary (in FY2044).

At the same time, we will work through our business activities to contribute to the realization of the United Nation's Sustainable Development Goals (SDGs), which exhibit a high degree of affinity with the Group's businesses.

May 2021

Naofumi Sato
President

Business Contents

Serving as "General Facilities Contractor" whose operations offer broad support for daily life

As a general facilities contractor that supports every aspect of daily life, we are engaged in work in various fields every day. We continuously look ahead for the next level with our technology and know-how, and create reformation and innovation. Through our various business, we continue to strive to play an essential role for society and the communities.

Company overview

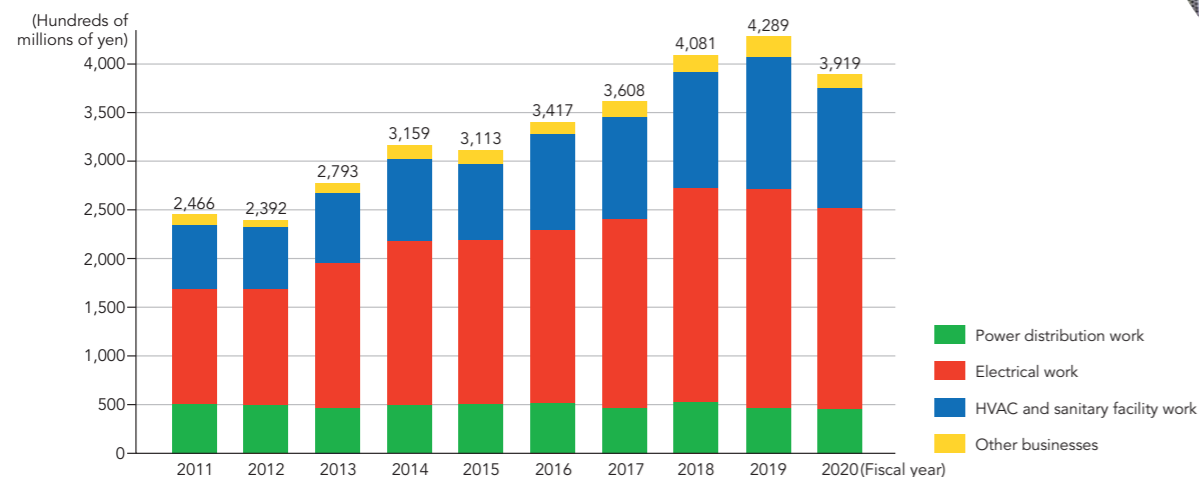
Name: Kyudenko Corporation
 Established: December 1, 1944
 Head Office: 1-23-35 Nanokawa, Minami-ku, Fukuoka City, Fukuoka Prefecture, Japan
 Phone: +81(0)92-523-1691
 Fax: +81(0)92-524-3269
 Capital: ¥12,561,560,000 (as of April 1, 2021)
 Employees: 6,959 (as of April 1, 2021)

Construction business permit: No. 1659 (Toku-29), issued by the Minister of Land, Infrastructure, Transport and Tourism

- | | |
|--|-------------------------------------|
| Electrical work | Water and sewerage facilities work |
| Telecommunications work | Sanitation facilities work |
| Fire protection facilities work | Civil engineering work |
| HVAC work | Architectural and construction work |
| Machine and equipment installation work | Paving work |
| Scaffolding, earthwork and concrete work | Interior finishing work |
| Steel structure work | |

Listed on the Tokyo Stock Exchange and the Fukuoka Stock Exchange

Performance (sales) trends *Consolidated sales



Our symbol mark is designed to evoke the first letter of our name "K." It expresses our vision of optimal harmony through three colors: red, representing people; green, the environment; and blue, technology. A three-dimensional shape advancing upper-right symbolizes our commitment to achieving dynamic growth and development.

Example of construction

Supporting people's lives with a sense of mission and fulfillment

Through electrical work, HVAC work, water and wastewater sanitary equipment work, and other infrastructure work in every building, we provide safety and security, along with a comfortable environment that ensures access to electric power, air, and water. In addition, we contribute to local communities by restoring these services 24 hours a day in the event of natural disasters like typhoons, torrential rain, and earthquakes. Our sense of mission, "which is dedicated to reliably delivering electric power to customers," and our sense of fulfillment, "which is defined by a commitment to safeguard communities' light and energy," support people's daily lives.

Legend

- Project name
- Dates | Responsible branch
- Responsible department



Disaster Recovery Work from Torrential Rain

July 2020 | Oita Branch, Kagoshima Branch, and Kumamoto Branch

Power Distribution

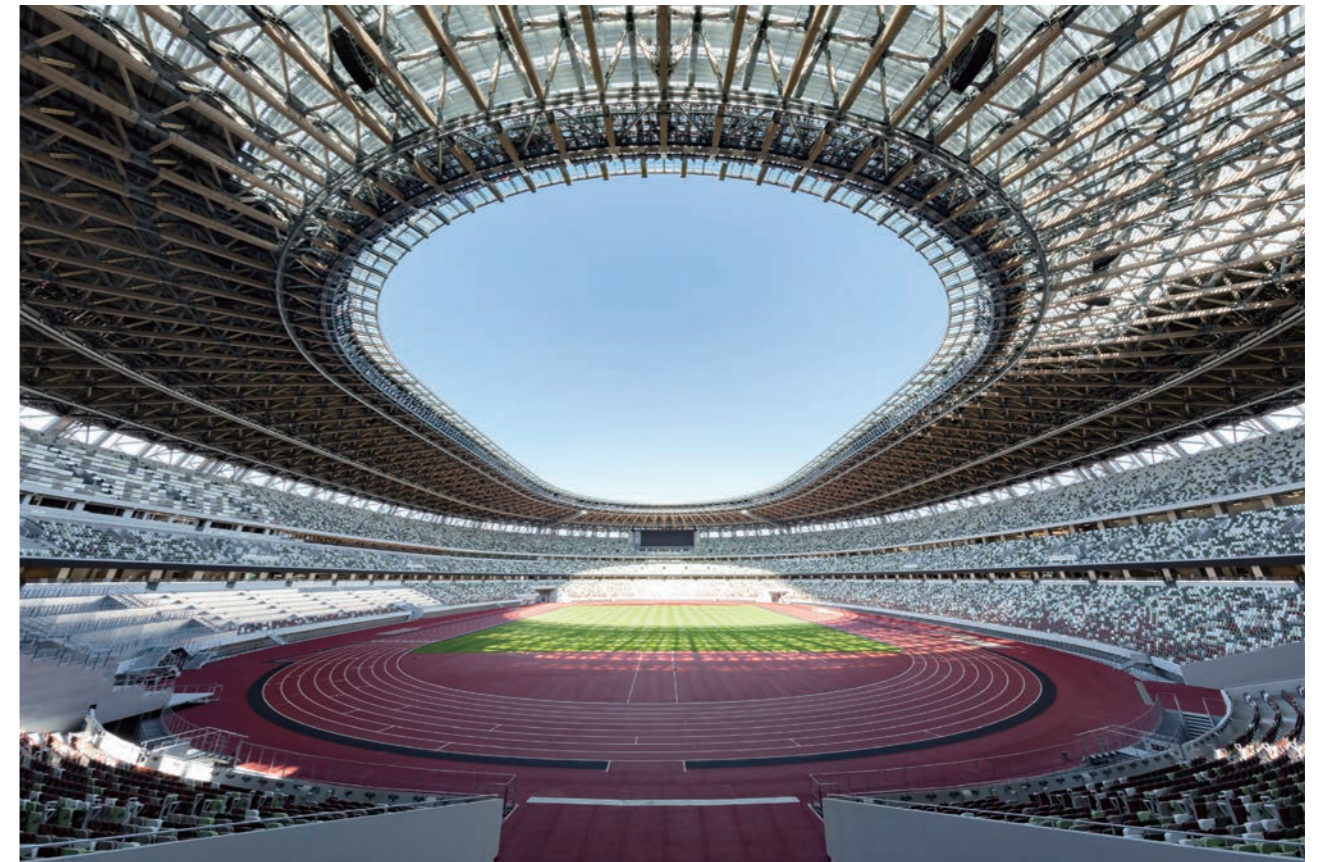
Continuous, record-setting rain struck south-central Kyushu from July 4 to 8, 2020, causing the Kuma River and other waterways to overflow and inflicting substantial damage on power distribution infrastructure due to landslides and other secondary effects. As a result, as many as approximately 12,000 households suffered power outages. A team of more than 3,300 Kyudenko workers conducted disaster recovery work, charged with the important mission of restoring electric power to each of those households as soon as possible.

Disaster Recovery Work from the Kumamoto Earthquake

April 2016 | Kumamoto Branch

Power Distribution

A series of earthquakes with seismic intensity ranging from 6 to 7 struck Kumamoto Prefecture in 2016, inflicting substantial damage on power distribution infrastructure and triggering outages that affected as many as 500,000 households. Kyudenko mounted a concerted recovery effort that involved a total of more than 6,300 workers during its initial stage. We were able to restore power to those households despite an extremely difficult work environment that was made more challenging by large-scale landslides and road damage.



Courtesy of Taisei Corporation

Japan National Stadium

December 2016 to November 2019 | Tokyo Head Office

Electrical Work

Kyudenko oversaw electrical work during the rebuilding of Japan National Stadium. The project included major components such as extra-high-voltage equipment and generating equipment as well as about half the electrical equipment in the structure. With our technical capabilities, we were able to complete the work without incident despite numerous challenges posed by the construction work, due in part to the structure's unique characteristics as a stadium. Among the many creative approaches taken during the project was the introduction of IT-based communication tools, which were used by all site and administrative personnel to issue work orders and share information in real time to facilitate more efficient construction management workflows.

Yodobashi Umeda Tower

September 2017 to October 2019 | Kansai Branch

Electrical Work

HVAC Work



Yodobashi Umeda Tower, a multipurpose building housing Yodobashi Camera and located adjacent to Osaka Station's North Exit, opened in November 2019. Kyudenko was responsible for HVAC work (in the building's commercial and hotel areas) as well as electrical work (in hotel areas). The structure's basement and first eight floors are occupied by commercial facilities, and its upper floors are occupied by Hotel Hankyu Respire Osaka, whose 1,030 guest rooms make it one of Japan's largest hotels. The project had to be fast-tracked when the schedule was shortened by about two months from initial plans, but we were able to complete the large-scale hotel work as sole contractor thanks in part to the cooperation of our partners. A deck ringing Yodobashi Camera Building connects the store directly to Osaka Station and other nearby buildings, providing significantly improved access.

Example of construction



Sakura Machi Kumamoto

January 2017 to September 2019 | Kumamoto Branch

Electrical Work HVAC Work

work. The complex is connected to Kumamoto Castle by "Hospitality Garden," creating a soothing space that integrates seamlessly with the landmark.

In September 2019, Sakura Machi Kumamoto, a shopping complex incorporating one of Japan's largest bus terminals that was designed around the concept of "Kumamoto as a modern-era castle town" that serves as a new center of exchange while inheriting the area's traditions and history, opened in downtown Kumamoto. The previous terminal was in the process of being dismantled when the Kumamoto Earthquake struck, and they worked urgently to build Sakura Machi Kumamoto even as the post-earthquake recovery was ongoing. Our work in the project centered on the shopping area (159 shops), the theater (9 screens), the hotel (205 guest rooms), residences (159 condominiums), and the bus terminal (29 loading/unloading lanes), where we oversaw electrical work and HVAC



Iias Okinawa Toyosaki

February 2019 to March 2020 | Okinawa Branch

HVAC Work

We oversaw machinery and facility work at this resort complex next to "Chura-Sun Beach," about 30 minutes by car from Naha Airport. The site includes about 150 shops that welcome swimsuit-clad customers fresh from relaxing at the beach; DMM Kariyushi Aquarium, which combines live animal exhibits with video; rooftop barbecue and sports facilities; and a theme park where guests can enjoy a Jacuzzi bath. The location is continuously whipped by wind from the ocean and often suffers damage from typhoons, so we calculated wind pressure resistance for rooftop equipment and took steps to ensure it would not be blown away. Although the schedule was delayed due to the typhoons, wind, and rain that typify Okinawa weather, we were able to complete it without incident by working closely with local partners.



Mikuni World Stadium Kitakyushu

April 2015 to January 2017 | Kitakyushu Branch

Electrical Work HVAC Work

Our PFI business unit received an order for work at this facility, which was planned to serve as the home stadium of the J League football team Giravanz Kitakyushu, from the City of Kitakyushu. A special-purpose corporation (SPC) led by Kyudenko designed and built the structure and will maintain and operate it for 15 years. The project is designed to inspire and excite guests thanks to its underlying concept, which envisions a stadium that is community-accessible, thanks to its location about 500 meters from Shinkansen Kokura Station; located close to the ocean; and dynamic thanks to frontmost stands that are only about 8 meters from the touchline.



Courtesy of Fukuoka International Airport Co., Ltd.

Fukuoka Airport Domestic Terminal

February 2016 to March 2020 | Fukuoka Branch

Electrical Work HVAC Work

When Fukuoka Airport, one of the largest hubs in Japan with more than 20 million passengers per year, carried out a planned expansion and renovation of its domestic terminal building while maintaining airport functions, we oversaw the electrical work and HVAC work. We carried out this challenging project over about five years, which was unprecedented in terms of its reliance primarily on nighttime work, to fulfill demanding customer requirements which allowed not even the slightest error in terms of security and other facilities functions, completing it without hindering the airport's operations. We received a letter of gratitude from the client as well as the Fire and Disaster Management Agency Director's Award from the Japanese government after both achieving customer satisfaction and assuring quality in a project that added a touch of color to the airport's start of post-privatization operations in 2019.



Aeon Mall Miyazaki

April 2017 to March 2018 | Miyazaki Branch

Electrical Work HVAC Work

This shopping center became Miyazaki Prefecture's first Aeon mall when it opened on a 99,200-square-meter site in the eastern part of Miyazaki City in 2005, and we oversaw the electrical work at the time. In 2017, we took on responsibility for both electrical work and HVAC work as part of an expansion project that increased floor space by 50% alongside a complete renovation of the existing structure. Getting the lighting design and air conditioning right so as to create a space that evokes Miyazaki's characteristic sun and shade was a process of trial and error, but we were able to take full advantage of our technical capabilities to complete the project in time for the facility's grand opening in March 2018 without incident.

Example of construction



DHC
Karatsu Seaside Hotel

November 2017 to September 2019 | Saga Branch

Electrical Work HVAC Work

This resort hotel on the Genkai Sea is located next to Niji-no-Matsubara, one of Japan's three great pine-forested seashores. This project, in which the historic East Building was rebuilt and the West Building was renovated, enhanced the hotel's hot-spring bathing and relaxation facilities. We oversaw electrical work and HVAC work. Although the design of equipment creating a water landscape in the hotel's entrance and of the rooftop heated hot spring-fed pool, which covered those features with water so that they seem to disappear seamlessly into the ocean, proved difficult, we were able to create a remarkable landscape in which the hotel blends in with Karatsu Bay by meticulous study and execution. In this way, we were able to help complete a resort hotel where guests can experience the soothing effects of nature while relaxing in a setting that's surrounded by ocean and pine forest.



Nagasaki Prefectural Office
(Government Building)

October 2014 to November 2017 | Nagasaki Branch

Electrical Work

The Nagasaki Prefectural Office, located adjacent to JR Nagasaki Station, consists of a Government Building, Assembly Building, Police Building, and Parking Garage, and we oversaw electrical (power) work in the Government Building. The complex is designed to play the role of a control tower as emergency center for disaster. As part of the project, we installed Kyushu's first dual-fuel gas turbine generating system, which posed a variety of challenges and issues since we had no prior experience installing that type of equipment, but we were able to complete the project without incident by making maximum use of our technical capabilities.



Kumamoto Kenmin Television

April 2015 to November 2016 | Kumamoto Branch

Electrical Work HVAC Work

Since the 34-year-old former home of Kumamoto Kenmin Television, Nippon TV's affiliate in Kumamoto Prefecture, was fast becoming outdated, the company chose to build a new, earthquake-resistant building in the Oe district of Chuo Ward, Kumamoto City. We adopted a "pair order of M&E work" approach, which is one of our strengths, to address labor shortages and other issues posed by recovery from the Kumamoto Earthquake, which occurred during the building's construction, allowing our electrical and HVAC departments to collaborate so that the project could be completed without incident and without impeding use of equipment that was under construction. Sound- and vibration-damping protective measures were necessary in the building's studios, news center, and editing room, which were unique due to the structure's use as broadcasting facility. We're proud to have been able to draw on our technical capabilities in terms of electrical and HVAC facilities and have played a role in constructing the building, which also incorporates environmentally friendly technologies.



Construction of Government-run Disaster-prevention
Digital Radio Equipment for the City of Minamisatsuma

June 2014 to February 2017 | Kagoshima Branch

Telecommunications

We received an order for integrating and computerizing disaster-prevention radio equipment from the City of Minamisatsuma, which was formed by the merger of the City of Kaseda and the towns of Kasasa, Oura, Bonotsu, and Kinpo in Kagoshima Prefecture. Construction of the system, which incorporates one primary station, two remote control stations, two relay stations, two simplified relay stations, six rebroadcast secondary stations, 173 outdoor secondary stations, and 249 receivers in individual buildings, took three years to complete. The system helps safeguard the lives and property of residents by communicating information quickly and precisely in the event of a disaster or emergency, and it enables the city to orchestrate smooth activities in the areas of disaster prevention, emergency response, rescue, and disaster recovery.



Installation of the Oita Bay Coast Minato
Camera System and Related Works

December 2018 to March 2020 | Fukuoka Branch, Oita Branch, Other

Telecommunications

We performed installation work on the Minato Camera System, which is being built in ports and coastal areas nationwide by the Ministry of Land, Infrastructure and Transport to facilitate management of construction projects under the ministry's jurisdiction and of sea lanes that are being developed and maintained. The system, whose uses extend beyond construction and sea lane management to assessment of damage in the event of disasters, the status of recovery work, and the status of support from oceangoing assets, is being installed primarily in major ports. We oversaw construction work mostly in Kyushu but also in the Kanto region and in Aomori Prefecture in Japan's north.



Buzen Biomass Power Plant

December 2018 to December 2019 | Oita Branch

Electrical Work

We were responsible for most of the electrical work at this wood biomass power plant, whose generating output of 74,950 kilowatts makes it one of the largest facilities in Japan, from extra-high-voltage substation facilities to secondary-side electrical equipment, instrumentation, and lighting equipment. We accommodated design changes from the client with a high level of flexibility despite the overseas origin of much of the equipment, and we offered proposals concerning cable routing and lighting layout for easy maintenance. Today, we're drawing on the expertise gained from this project in other projects involving power plant equipment. The plant has become popular for its factory-like appearance at night.



District Heating and Cooling
System in Seaside Momochi

July 1991 to Present | Fukuoka Branch

Energy

This project is Kyushu Electric Power's first district heating and cooling facility and the largest system of its kind in Kyushu. We installed three 3000Rt turbo heat pumps that use seawater as a heat source—the first of their type in Japan—at the No. 1 Energy Center, and we also installed an STL latent thermal storage tank, which was the largest such system of its kind in the world at the time, to the No. 2 Heat Source Center. District heating and cooling systems, which enable use of energy that would be difficult for individual consumers to utilize, offer advantages in environmental protection, convenience, and safety along with energy savings. In recent years, we've put the expertise we gained from installing these systems to work in renovation projects at the same facilities.

Power distribution work

■ Distribution line work

As a subcontractor of Kyushu Electric Power, we provide services including construction and maintenance of overhead distribution lines, installation of drop wires and instruments, and installation of communications cables and related equipment as part of the construction of systems that automate control of distribution lines.

Particularly important is the significant contribution we make to the communities we serve by working day and night to restore power in the event of outages due to typhoons and other accidents.

We also maintain convenience while ensuring worker safety and improving the work environment by using two techniques that make us a nationwide leader: **outage-less electrical work** (a technique for using bypass cables, generators, and other means to avoid outages while work is being performed) and **indirect live-wire work** (a technique for performing work without directly touching high-voltage lines).

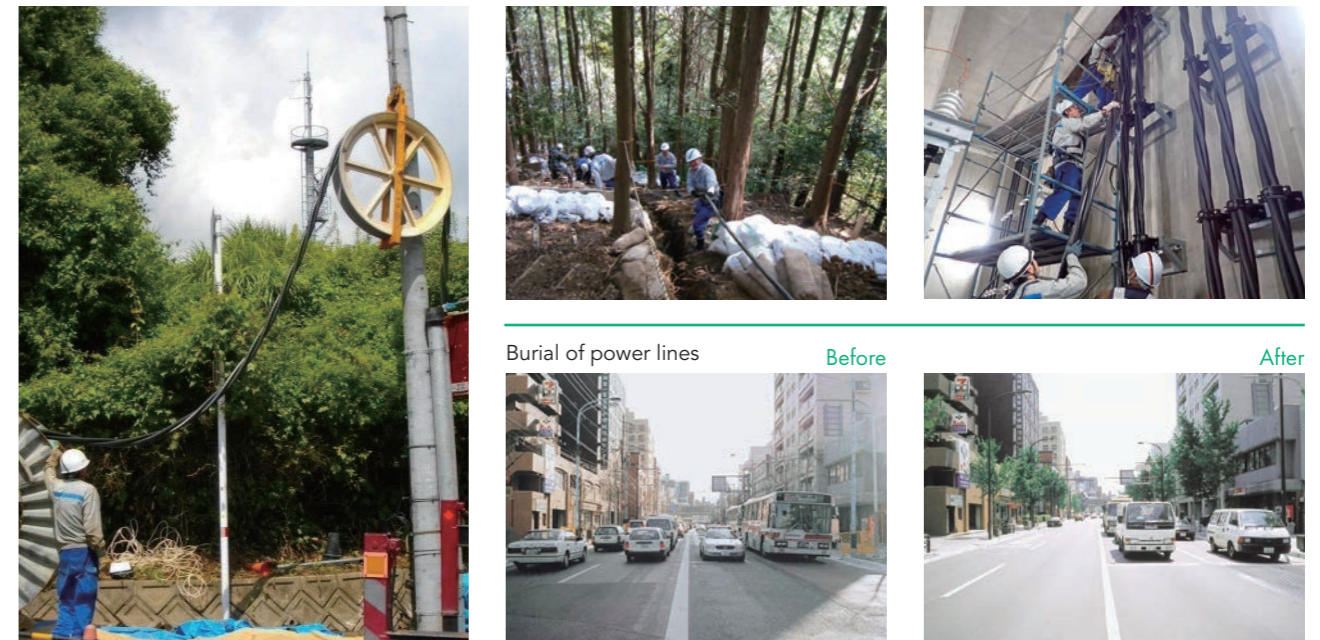


■ Underground line work

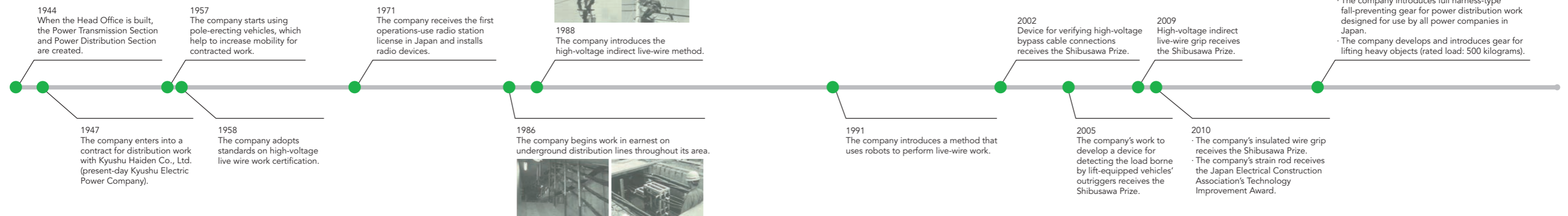
Work to bury power lines has been moving forward in downtown and sightseeing areas from the standpoint of ensuring safe, pleasant spaces for pedestrians, preventing urban accidents, and improving the urban landscape as well as from social request. And in recent years, growing awareness of disaster prevention has focused attention on underground facilities from the perspective of maintaining infrastructure. The work we perform includes removing utility poles, installing conduit for a range of underground equipment, and installing and connecting cables. In this way, we put our extensive technical capabilities in underground lines to work in an effort to create an environment in which residents can enjoy safety and security.

In addition to power line burial, we perform the following services:

- Overhead cable work
- Installation of long-span overhead lines
- Terminal work on extra-high-voltage cables
- Installation of cables laid along bridge



History



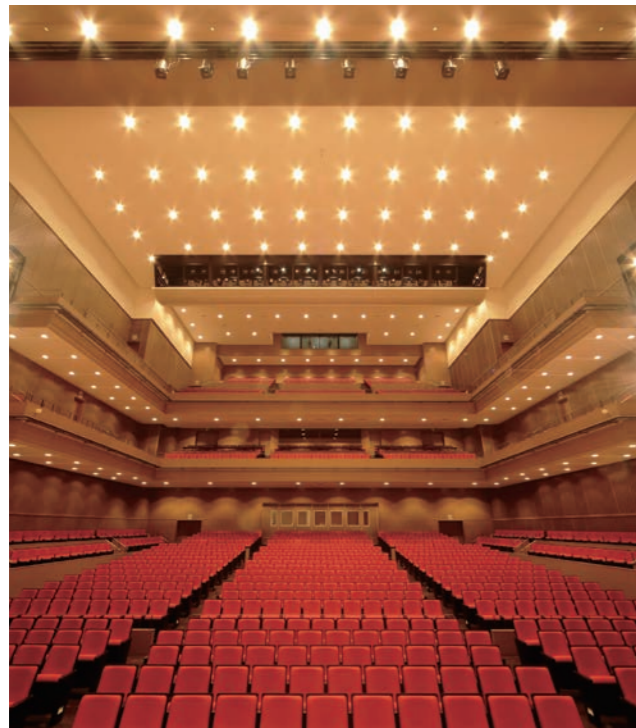
Electrical work

Electrical work

We draw on extensive experience and a high level of technical skill with an array of electrical equipment to serve customers, including commercial buildings, increasingly complex and multifunctional office buildings, factories, educational and cultural facilities, resort facilities, and renewable energy power plants.

We also help resolve customers' issues, from creating proposals that meet their needs through equipment diagnostics and other services to equipment installation in new construction, expansion projects, and renovations.

After the completion of each job, we work with customers to offer preventive maintenance for electrical equipment while accommodating requests quickly by providing reliable service that inspires peace of mind through follow-up maintenance service.



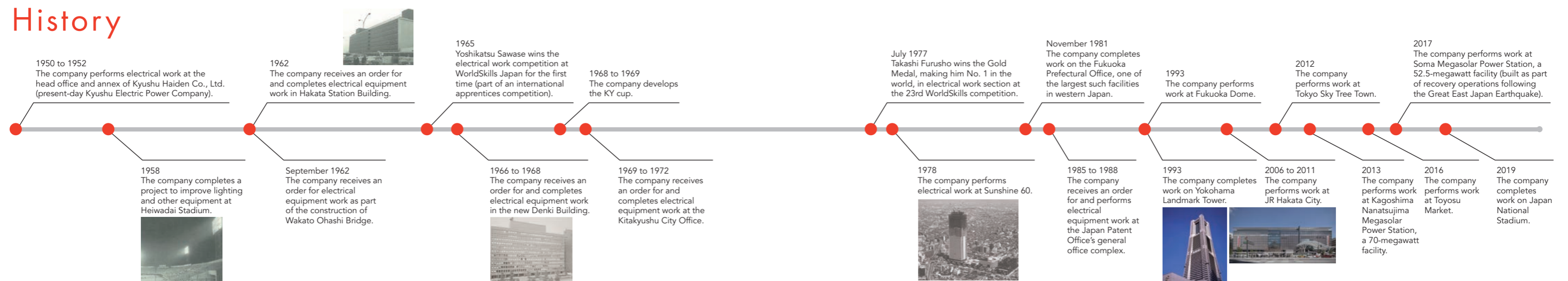
Plant Construction

We draw on a high level of technical skill and accumulated expertise in electrical and instrumentation equipment, which are main part of plant facilities, to support customers' manufacturing and operations.

The field encompasses a broad range of facilities, from chemical, environmental, food, and feed plants to power plants and aerospace facilities. In addition to taking advantage of our extensive experience to supply safe and secure electrical equipment, we help create comfortable environments that satisfy customers through preventive and other maintenance after the start of each facilities' operations.



History



HVAC and sanitary work

HVAC work

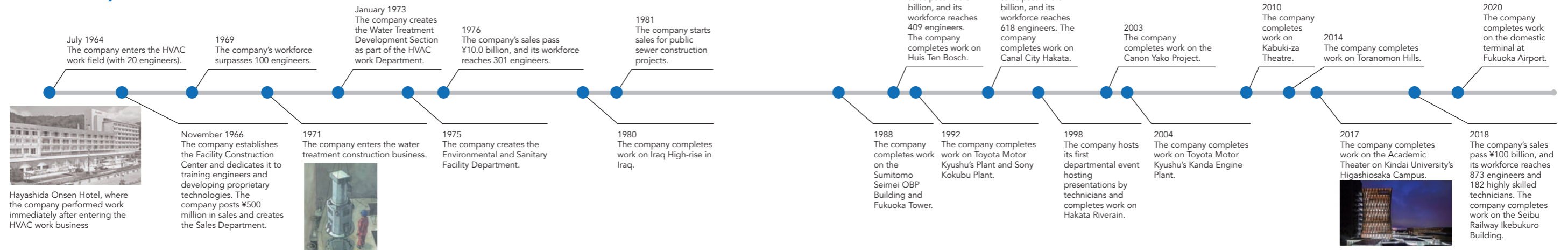
We led competitors in the industry in launching machinery and equipment services. The machinery work usually can be divided into HVAC equipment and sanitary facilities, but our approach is unique in that we train technicians to perform both types of work from the time they join the company.

We contribute to society by providing comfortable air and water environments along with safety and security as related to those environments through work on facilities including HVAC equipment, water and wastewater sanitary equipment, and disaster prevention equipment in the full range of buildings in which people live and work, including office buildings, hospitals, hotels, and factories.

Although our services center on general HVAC equipment and sanitary facilities, we can also accommodate large heat source systems with environmentally friendly designs and the increasingly sophisticated technical requirements of facilities such as factories and hospitals, and we strive continually to pursue businesses that can live up to customers' trust. Additionally, we support safe and comfortable lifestyles by staying involved throughout the life cycle of buildings' HVAC equipment with follow-up maintenance and other services. From the design through installation, we're committed to thorough site safety, quality, and schedule management so that we can build and supply high-quality equipment.



History



Environmental Technology

We launched a water treatment business in 1971 and marked the 50th anniversary of those operations in 2021. Thanks to the high level of technical capability and the extensive track record of experience we've amassed over that time, we're contributing to the formation of a low-carbon, resource recycling-based society as envisioned by the Japanese government through initiatives related to "water safety and security," "reductions in CO₂ emissions," and "resource recycling." For our goal of helping build a rich and comfortable living environment, we design, build, and manage the maintenance of a variety of environmental infrastructure, including wastewater treatment facilities that protect the water environment (sewage treatment facilities, industrial waste treatment facilities, and leachate treatment facilities), resource recycling facilities that recycle water and biomass (gray water treatment facilities and sludge compost systems), and water facilities that supply safe and secure water (purification plants, service reservoirs, and purification systems). We will continue to contribute to the realization of a sustainable society by carefully assessing social needs and issues, which change on a daily basis, and consistently creating and supplying new value.

- Publication of Technical Manual Anaerobic-Anoxic-Oxic Process Using NADH Air Flow Control and Recycled Nitrification/Denitrification Process Using NADH Air Flow Control (December 2015, Japan Institute of Wastewater Engineering and Technology)
- Excellence Award in recognition of a poster presentation at the 52nd Japan Annual Technical Conference on Sewerage (July 2015)
- FY2016 Outstanding Project Award in recognition of water treatment equipment installation and construction at the Ogi Futamata Relay Pumping Plant (November 2016, Japan Sewage Works Agency)



Past awards
We received our first Promotion Award (Technical Promotion Prize) from the Society of Heating, Air-conditioning and Sanitary Engineers of Japan in 1997 in recognition of our development of a plumbing fabrication CAD/CAM system. Subsequently, we've received numerous honors and awards, including Technology Awards and Academic Paper Awards from that organization as well as Carbon Neutral Awards from the Japanese Association of Building Mechanical and Electrical Engineers.

- Society of Heating, Air-conditioning and Sanitary Engineers of Japan
 - Promotion Award (Technical Promotion Prize) (total of 15, including one run of six successive years)
- FY2020 awards
 - Society Award (Technology Awards)
 - Society Award (Academic Paper Awards) (technical paper category)

Telecommunications

Telecommunications

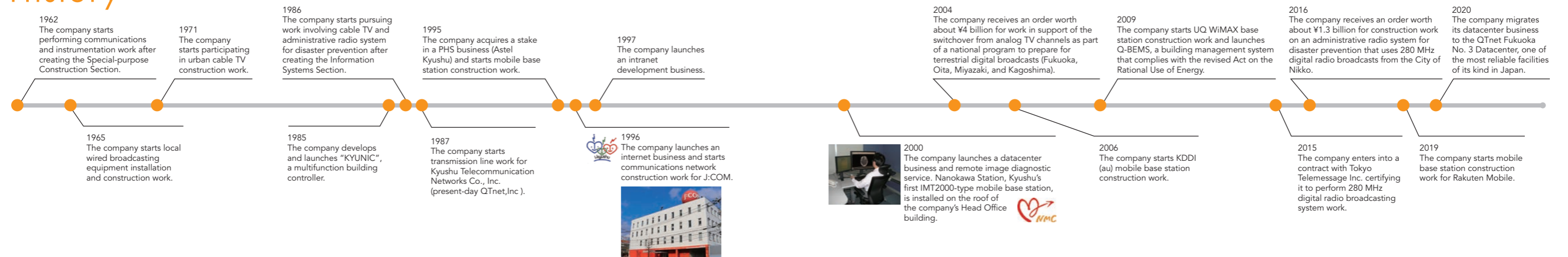
As information and communications technologies (ICT) continue to develop at a rapid pace, the importance of the telecommunications infrastructure that supports them is growing. We build a variety of telecommunications infrastructure by planning, proposing, designing, constructing, and maintaining telecommunications equipment that meets the needs of today's advanced telecommunications-driven society.

Services include building out FTTH networks that supply super-high-speed broadband connectivity to residences, updating cable TV equipment, and building base stations for mobile phone carriers.

We also provide support for safe and secure lifestyles by building administrative radio system for disaster prevention to address the possibility of disasters throughout Japan, including administrative digital radio system for disaster prevention that safeguard human life, firefighting and first-aid digital radio systems, and 280 MHz digital radio broadcasting systems. Going forward, we will continue to create new value in the telecommunications field by providing services ranging from the design and construction of wired and wireless networks to system development and datacenter operation.



History



Services

We provide a range of services in response to a variety of lifestyle and business needs and contribute to society by improving the telecommunications environment.

For local government

- We improve services for residents by building FTTH networks, cable TV facilities, and intranets.
- We provide means for communicating during normal times and times of emergency by installing administrative radio system for disaster prevention, firefighting and first-aid digital radio systems, and 280 MHz digital radio broadcasting systems.
- We provide peace of mind with central monitoring systems and network security.

For schools and universities

- We connect sites and campuses with wired and wireless high-speed networks and support areas such as computerize forms and reports, investigative research applications and remote exchange.



For communications and broadcasting companies

- We improve telecommunications services by building optical fiber networks, cable TV networks, and mobile phone communications equipment.
- We build Internet datacenter equipment.
- We operate our own datacenter business and provide support for content creation.

For hotels and condominiums

- We help enrich guest services by building Internet equipment for use by hotel guests and condominium residents.



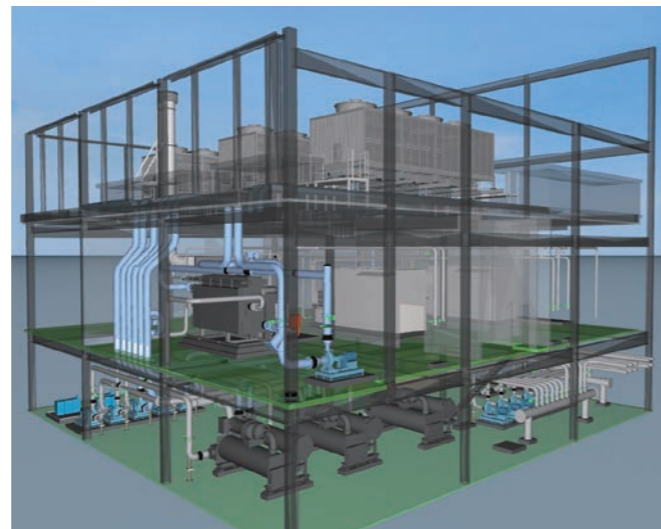
For hospitals

- We build networks that excel in reliability and information security to serve as the base for IT medicine and for use in applications like medical accounting, image diagnostics, and electronic record-keeping.
- We help enrich patient services by installing wait time displays and reception systems for use by returning patients.

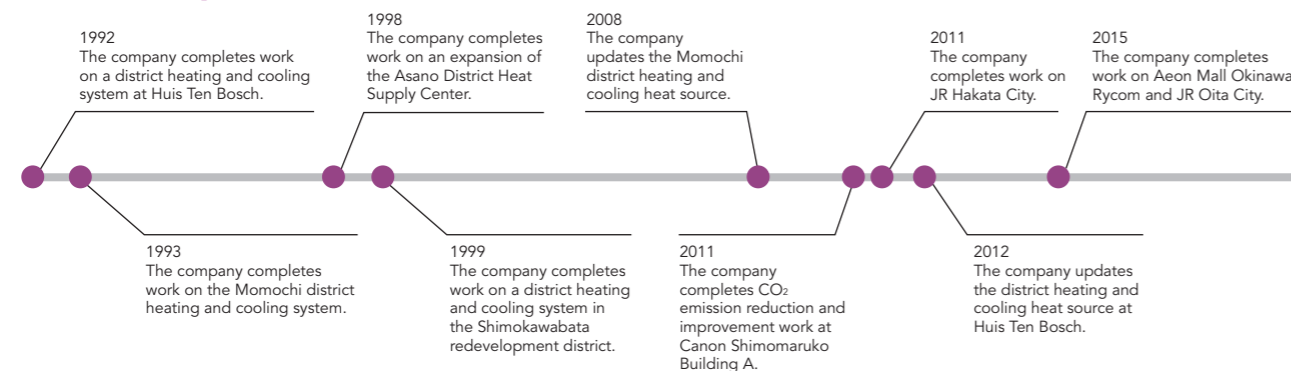
Energy business: Energy management

■ Solution proposals

Our goal is to make a broad contribution to local communities by drawing on our advanced technologies and general capabilities to propose technologies for saving energy and reducing CO₂ emissions in buildings. These initiatives focus primarily on maximizing investment effectiveness, for example by converting installations to optimized systems that use energy-saving equipment; building cogeneration and large, high-efficiency heat source equipment; and using "Building Energy Management Systems (BEMS)" to manage energy and support energy savings. We also have extensive experience in thermal and electrical storage technologies, which contribute to power loads leveling, and we're pursuing initiatives to tap unused sources of energy and recycle resources, and in recent years we've been participating in binary-cycle power generation system construction work. An integrated approach that extends from planning to post-completion follow-up maintenance ensures reliable energy savings, while fine-grained service earns high praise from customers. Going forward, we will strive to safeguard the Earth's environment and realize a rich future by proposing energy-saving solutions both in Japan and overseas.



History



■ Energy-savings proposals for buildings

We offer energy-saving diagnostics, a service that includes reviews of the target building's energy consumption data and construction drawings and interviews of facility managers. Based on the results, we draw on our strengths as a general facilities contractor with electrical, HVAC, and telecommunications capabilities to propose energy savings with the goals of reducing future energy costs, improving security, and facilitating the possible implementation of intelligent systems, including BEMS, in the future. We also study the introduction of energy service businesses and use of various subsidies as tools for limiting investment. Once a proposal has been adopted and equipment is renovated, we move forward with proposal-based sales through solutions that have been custom-crafted to suit customers' needs, for example by offering advice concerning the operational management of updated equipment and verifying energy-saving results.



■ District heating and cooling system

Systems that effectively use energy by consolidating and sharing it in a larger area offer numerous advantages, for example in energy savings, economy, environmental protection, and stable supply of energy. State-of-the-art technologies, which allow use of unutilized energy resources and thermal storage methods, further increases the value of such systems. We've been involved in the construction of numerous district heating and cooling systems, including in the Seaside Momochi district, the Huis Ten Bosch district, and the Fukuoka Tenjin district. In recent years, we've put the expertise we obtained from these projects to effective use in renovations of those facilities and in building of high-efficiency heat source centers as part of other projects.



■ Initiatives to power loads leveling

Leveling of power loads helps protect the environment, for example by saving energy and reducing CO₂ emissions. Examples of our initiatives in this area include proposals that use NAS batteries and generators to reduce peak power levels.

Development of new energy-saving technologies

We've received numerous Promotion Awards (Technical Promotion Prizes) from the Society of Heating, Air-conditioning and Sanitary Engineers of Japan.

- R&D for hybrid storage, a vertical hot water/ice thermal storage tank (FY2001)
- Seawater-use heat source equipment at a commercial facility (FY2003)
- Development of a high-efficiency heat source system and heat source controller (FY2007)
- Energy-saving cold energy heat source system at a downstream process semiconductor plant in Oita (FY2009)
- Development of the Cocktail air conditioner to create a comfortable environment (FY2013)



Energy business: renewable energy

■ Solar power systems

Megasolar projects as the future of renewable energy

Since starting the renewable energy business, which includes facilities such as solar power systems, in 1992, we've worked to protect the Earth's environment and to increase energy self-sufficiency rate. After launching the Kagoshima Nanatsujima Megasolar Power Plant, the first large-scale solar power plant in Japan, we've continued to be involved in the construction of similar facilities throughout the country. As of March 31, 2021, we had participated in more than 1,150 projects, and we continue to offer fine-grained and comprehensive support for solar power generation system based on that extensive track record, from planning and proposal to construction, operation, and maintenance.



Large-scale megasolar project
Kagoshima Nanatsujima Megasolar Power Plant

Solar power generation O&M

O&M, meaning operation and maintenance, refers to an arrangement in which a contractor carries out operation and maintenance management on behalf of a facility owner.

We've participated in O&M arrangements over the last 20 years to ensure stable power generation. As of March 31, 2021, we were a party to O&M contracts covering about 240 solar power system sites with a combined panel capacity of about 1,100 megawatts. Due in part to the fact that the state of electricity and electrical equipment is invisible to the eye, failure to carry out maintenance inspections can lead to failures and equipment defects that reduce generating capacity. We take advantage of the technical capabilities we've accumulated to date with regard to solar power plants to provide support along with equipment repair and replacement to stop potential problems before they manifest themselves.

- **Qualified electrical engineer operations**
Monthly and annual inspections
- **Regular maintenance**
PCS regular inspections, remote monitoring system/camera regular inspections and replacement
- **Maintenance**
Supervisory management, daily inspections
- **Environmental management**
Removal of vegetation in areas shaded by panels and around equipment
- **Emergency response**
Response in the event of typhoons and other natural disasters as well as equipment failures and other contingencies

■ Wind power systems

Combating global warming with wind power business initiatives

Recognizing the potential of wind power as a key renewable energy early on, we've been involved in construction and operation of associated projects since 2003. As an energy source that's the subject of high expectations in the fight against global warming, wind power both supplies clean energy and makes a significant contribution to protecting the Earth's environment. Our track record, which we expect will expand in the future to encompass facilities throughout Japan, includes the construction of Tamanoura Wind Farm in Nagasaki Prefecture, Nagashima Wind Farm in Kagoshima Prefecture, both in Kyushu, as well as Atsumi Wind Farm in Aichi Prefecture and other facilities in the Chubu region. Our largest wind power facility to date is Kushima Wind Farm (with a capacity of 64.8 megawatts) in Miyazaki Prefecture, which started operation in 2020 after four years of construction. As of March 31, 2021, we anticipated operating 12 wind farms (including planned facilities). Going forward, we will also actively pursue offshore wind power, which takes advantage of strong, stable ocean wind.



One of Japan's largest wind farms
Kushima Wind Farm

■ Biomass power generation systems

Initiatives in the biomass power generation business to ensure a stable supply of energy

Biomass, a general term for organic energy sources that are created from organisms such as plants and animals, typically refers to energy from non-fossil sources. Biomass power generation provides methods for generating power through the use of such energy resources as fuels (raw materials).

Although biomass power generation only requires a stable supply of raw material in renewable energy, it can generate power in a stable manner without regard to weather, season, or time of day. It has inspired high expectations, and the government considers it a key source of power on par with solar.

Biomass power generation takes many forms, for example using wood biomass, methane fermentation, and waste, but those variations can be broadly classified into two groups based on fuel (raw material) and combustion method. The first is the direct combustion method, which burns wood or other biomass fuel directly or after gasification to power a turbine. The second is the biogas method, which uses a biochemical process such as fuel fermentation to generate a gas, which is then burned inside a gas engine to generate power.

We've been involved with both direct combustion and biogas systems, and as of March 31, 2021, our power generation business was operating nine biomass plants, including facilities still under construction.



Nanatsujima Biomass Power Plant

Other Businesses

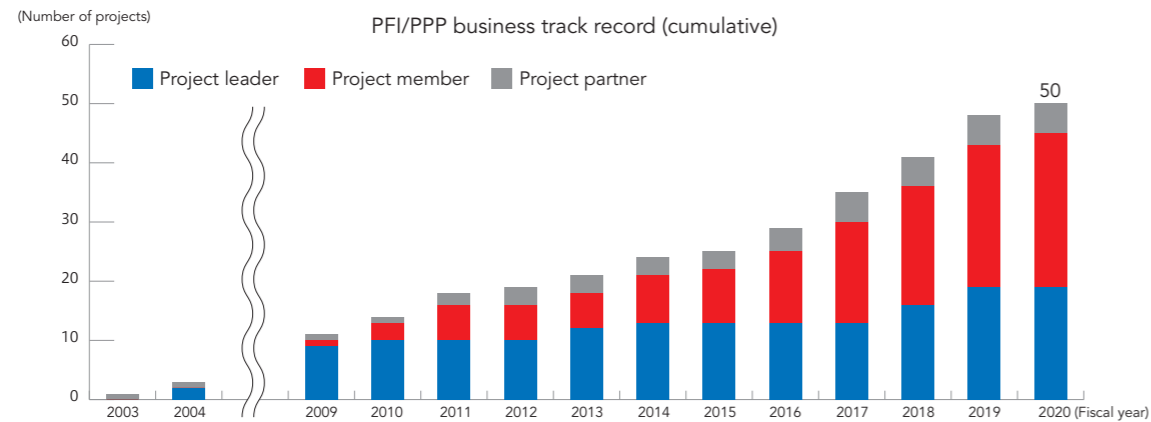
PFI/PPP business
Marine Messe Fukuoka Hall B

Tapping our expertise as a general facilities contractor, and bringing our accumulated capabilities to new fields



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PFI/PPP businesses have become popular in Japan as a means of facilitating public-/private-sector partnership since the enactment of the PFI Act in 1999. We've taken advantage of the management expertise and technical capabilities we've built as a general facilities contractor with deep local roots to amass an extensive track record of involvement in PFI/PPP structures as a new technique for making infrastructure improvements through public works. We entered the PFI/PPP business in 2003, and we've been involved with 50 leading projects throughout Japan, including Mikuni World Stadium Kitakyushu, J:COM HorutoHall Oita, Dejima Messe Nagasaki, and Marine Messe Fukuoka Hall B.



Olive business
Operation of Amakusa Olive Orchard

Embracing the challenge of a new business by producing olives and selling processed olive products

In an effort to fuel the further development of primary industry in Kyushu, we're contributing to society by embracing the challenges posed by sixth-order industries that we've identified throughout Japan and even overseas and building new business models. At the olive orchard we developed in the City of Amakusa in Kumamoto Prefecture, we've brought in an Italian-made olive press to enable production of olive oil. Products are marketed under the Amakusa Olive Orchard AVILO brand and can currently be purchased in shops operated by the orchard as well as online.



Harvested olives are pressed within 24 hours at the orchard.

Shopping center operation business
Bayside Place Hakata

A business that makes a broad contribution to the community's growth

We've been operating Bayside Place Hakata since 2010 in the Waterfront district, which has come to make a major contribution to the growth of the Fukuoka City. We embraced a commitment at the very beginning to bring appealing tenants to the facility and host unique, seasonal events like Bayside Countdown at New Year's, and as a result the complex has grown into a popular destination that attracts more than 2.2 million visitors a year.

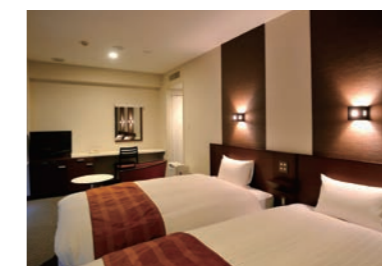


Medical support business
Net Medical Center
Contributing to regional medicine by providing state-of-the-art technologies

We've built support structures that have been enhanced through partnerships with universities and major hospitals around Kyushu with a system that accepts imaging data from CT and MRI tests via transmission lines so that radiologists at Kyushu University's School of Medicine and other institutions can diagnose them and send the reports to contract hospitals. We provide robust support for system operation with the latest image processing technologies and centralized data management. In this way, we're helping improve regional medicine.

Business hotel
Hotel Urbic Kagoshima
Realizing a philosophy of hospitality and service

We entered the hotel business from the perspective of expanding the domain in which our businesses operate. Hotel Urbic Kagoshima, a business hotel whose motto is to provide a relaxing environment with interior furnishings that evoke the ocean and surrounding landmass, operates in a convenient location adjacent to Kagoshima-Chuo Station (West Exit), which offers Kyushu Shinkansen and JR service. The hotel has earned extensive praise since opening in 2007.



Human Resources Development Initiatives

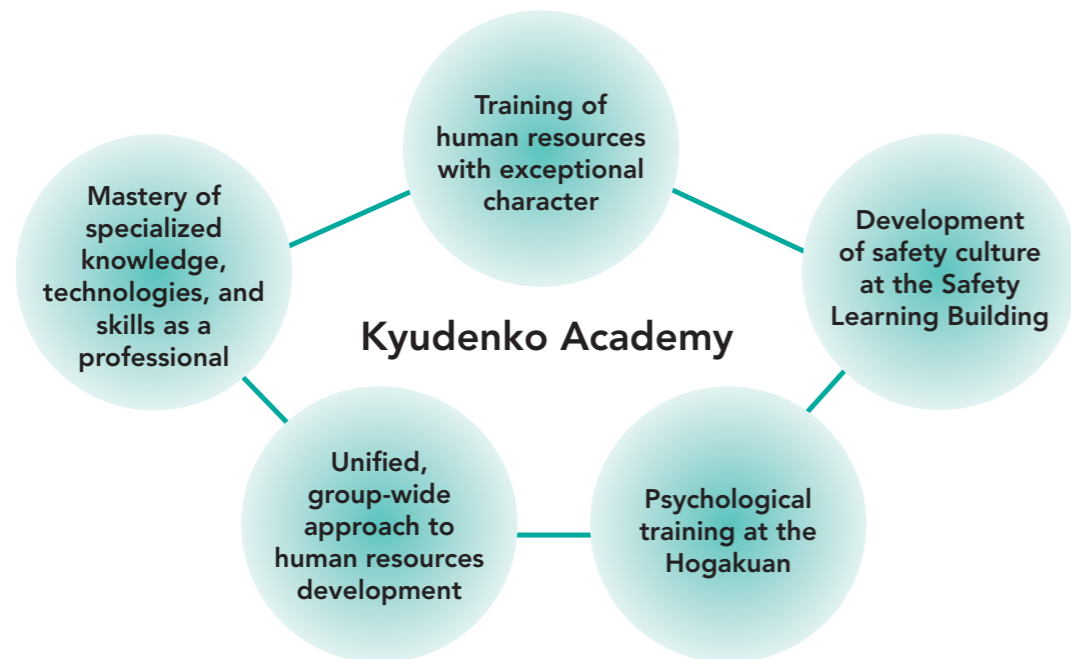


Kyudenko Academy

A sanctuary of learning dedicated to training future professionals by refining their knowledge, technical skills, and commitment

Kyudenko Academy is situated in a lush natural setting in the town of Kiyama in Saga Prefecture. Since we believe that people are an asset and that human resources development is the principal means by which the group can increase its corporate value, this academy serves as a symbol of human resources education. In addition to ensuring trainees master advanced, specialized knowledge along with various technologies and skills, the facility takes an educational approach that integrates mind, skills, and body by utilizing "the Hogakuan," a site that provides psychological training, and "the Safety Learning Building," which is dedicated to building safety culture.

Situated on a site of about 11,000 square meters, Kyudenko Academy features training, practice, and accommodations buildings and can accommodate up to 350 trainees. It can also play a recovery role in the event of a typhoon or other disaster, and it plays a key role in the maintenance of infrastructure in the surrounding community.



Safety Learning Building

Involving all employees in the drive to eliminate accidents

We established the Safety Learning building to specialize in safety education so that workers could understand, learn from, and think about accidents while exercising resolve (motivation) as a way to help them reaffirm their pride as professionals in creating safety while ensuring that the lessons of tragic past occupational accidents will remain fresh in their minds. We're striving to build a safety culture as we work tirelessly to pursue our goal of eliminating accidents through what trainees learn at this facility.



Hogakuan

The Hogakuan is dedicated to character-building and purpose-driven education. Programs incorporate Zen meditation training to foster the ability to concentrate as a way to cultivate the mind as well as training in the tea ceremony, calligraphy, and other traditional disciplines as a way to teach trainees how to approach their work through Japanese culture. The building is also used for fellowship among trainees.



The handwritten character meaning "path" or "way" can be seen at the front of the 64-mat lecture hall, where it reminds occupants that the building is dedicated to carving out the path of their lives as well as the "Kyudenko way." The building's other rooms, which include a 15-mat tea room with an open hearth, collectively comprise an important space where trainees study culture.

WorldSkills national and international competitions

We began participating in WorldSkills national competitions in 1964 in order to improve young technicians' technical skills and ensure they are passed on to a new generation of workers. Kyudenko has won 10 Gold Medals for electrical and HVAC work.

At the 51st WorldSkills Japan competition in 2013, Kyudenko won Gold and Silver Medals as well as a Spirit Award for electrical work. We sent five competitors to the 52nd WorldSkills national competition the following year, where they all earned honors, including Gold (for the second year running), Silver, and Bronze Medals as well as two Spirit Awards, an unprecedented achievement with no parallel, even among competing companies. Kazuki Seto, who won the Gold Medal, represented Japan at the 43rd WorldSkills competition and won the Bronze Medal in Brazil in 2015. (The international competition is held every two years.)

Six employees competed in the 54th WorldSkills Japan competition in 2016, where five of them won a Gold Medal, a Silver Medal, two Bronze Medals, and a Spirit Award. Daiki Inoue, who won the Gold Medal, went on to represent Japan at the 44th WorldSkills international competition in Abu Dhabi, United Arab Emirates, in 2017, where he won a Spirit Award (ranking fifth). Going forward, we will continue to train numerous talented skilled technicians who can compete effectively in WorldSkills competition.



Awards ceremony at the 43rd WorldSkills international competition (Kazuki Seto on right)



Completing a task at the 44th WorldSkills international competition (Daiki Inoue)

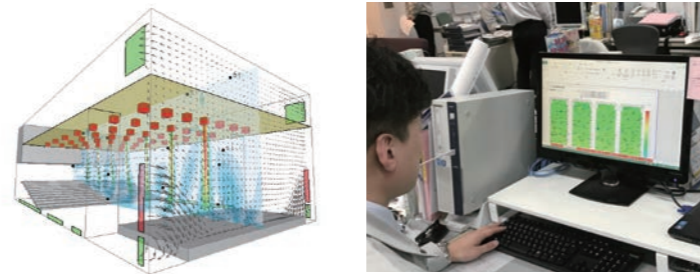
Technology Development Initiatives

Research into advanced technologies in the electrical and HVAC work and equipment business

We use advanced technologies in the electrical and HVAC work fields as we work to improve quality, safety, and efficiency in equipment installation and construction work through new techniques and materials.

Airflow simulations using computer software

Airflow simulations can calculate airflow, airspeed, heat transfers, and other characteristics, allowing us to check data such as indoor temperature distribution by air conditioners using images and propose optimal equipment.



Using 3D measurement technologies to improve workflows

We verify 3D laser scanners and other technologies for making high-speed, high-precision 3D measurements and propose methods for using them in equipment installation and construction.

These technologies can be applied in a variety of situations, including creation of highly precise 3D CAD models and advanced construction plans.



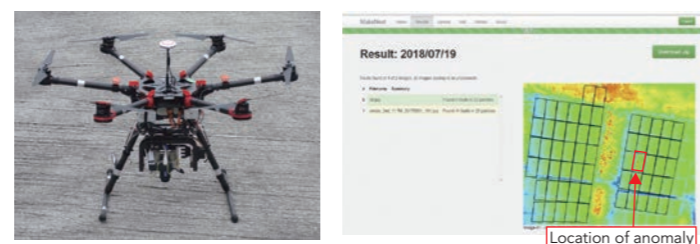
Applying BIM technology to equipment installation and construction

Building information modeling (BIM) can be used to share information about complex installations and images of completed work, accelerating decision-making and eliminating the need to go back and repeat work.



Using AI deep learning to detect failure locations in solar panels

Panels at solar power plant are photographed by an infrared camera carried by a drone. The resulting video undergoes AI-based image analysis to detect locations where failures have occurred.



Overseas Businesses

Bringing the Kyudenko brand to the world

The area in which we do business is expanding from Japan to the world. In young-but-growing Southeast Asia and increasingly mature Taiwan, we're working day in and day out so that we can provide comfortable living environments to residents through Kyudenko's technical capabilities.



Overseas facilities

- Singapore (company with overall responsibility for managing our businesses in Southeast Asia)
Kyudenko South East Asia Pte. Ltd. (established in 2014)
- Singapore
Asia Projects Engineering Pte. Ltd. (APECO) (established in 1969)
- Malaysia
Kyudenko Malaysia SDN. BHD. (established in 2012)
- Vietnam
Kyudenko Vietnam Co., Ltd. (established in 2012)
- Thailand
Kyudenko (Thailand) Co., Ltd. (established in 2013)
- Taiwan
Kyulien Environment Improving Co., Ltd. (established in 1985)
- Indonesia
Kyudenko Indonesia Representative Office (established in 2018)
- Myanmar
Kyudenko Myanmar Branch Office (established in 2020)



APECO (Singapore)



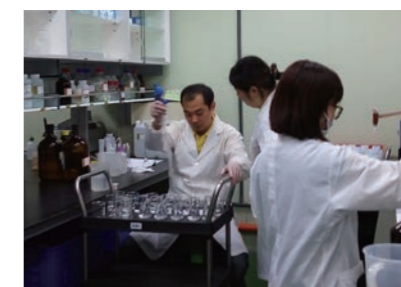
Kyudenko Malaysia



Kyudenko Vietnam



Kyudenko (Thailand)



Kyulien Environment Improving (Taiwan)



EMS demonstration facility (Sumba, Indonesia)

CSR Initiatives

As a company with deep local roots, we're working to create a society that's conducive to sustained growth and development.

Contributing to the local community

We believe that participating in community projects and social contribution activities is one of our social obligations as a member of the communities in which we operate. We designate every October as "Refreshing Community Month," a time for each of our sites to undertake social contribution activities, for example by using our expertise in working at height to clean up the environment or by inspecting equipment at social welfare facilities. This year marks the initiative's 53rd year, and it has become a core part of our program of social contribution activities.



Children's Sports Class

This local event, part of the Refreshing Community Month program, is led by athletes from our Track and Field Club. It's held in partnership with the Fukuoka Elementary Student Track and Field Class (Heiwadai Junior Club) and attracts about 300 children each year.



International contributions

We're involved in a variety of programs, including operating the Honorary Consulate of the Republic of Indonesia in Fukuoka, running the Japan-Indonesia Friendship Association of Kyushu, and implementing international student support programs, and orchestrating volunteer activities in partnership with NGOs.



Supporting academic researchers

In FY2000, we launched a program to support researchers who pursue research activities primarily in Kyushu. Most awards aid research that is related to Kyudenko's businesses.



Pursuing workstyle reforms

We established the Workstyle Reform Promotion Committee in FY2017 as an entity that reports to the president, and we're working to implement a variety of measures, including introducing new vacation structures, establishing days for promoting use of annual paid leave and no-overtime days, and promoting diverse workstyles. The DX Promotion Department was created in October 2020 and is working to introduce and utilize digital technologies to streamline operations.



Fostering female involvement

We've formulated an action plan to put in place an employment environment in which female employees can thrive, and we're working to create a female-friendly workplace environment in which women can make the most of their abilities, for example by promoting work-life balance, assigning human resources in an appropriate manner, and expanding support programs for employees who care for infants and children.



Promoting health management

Recognizing that employee health is an important management resource, we formulated a Health Management Declaration in FY2018. To improve awareness of the fact that employees' health is our No. 1 priority, we're actively providing support for autonomous activities by employees to increase their health and promoting organizational health activities in order to realize an environment in which employees can work with peace of mind and to create bright, pleasant workplaces.



Social contributions by the Track and Field Club

Our Track and Field Club has a long history, and its members—male and female alike—have proven their ability at competitions in Japan and overseas. Members bring the same work ethic to practice as they do to their work, and they promote their activities to a nationwide audience. They also participate in regional track events, and they're involved in locally rooted social contribution activities, for example offering technical instruction.



Future

Future vision

Anticipating the 100th anniversary of our founding

Corporate philosophy

Our vision for the Kyudenko Group as it looks towards the 100th anniversary of its founding (2044) in terms of megatrends

Mid-term Management Plan 2024

Basic concepts and core corporate strategies in the group's management

Advent of a society based on decentralized energy	Growing environmental awareness	Changes in population structure and diversification of workstyles	Progress in digital technologies
Utility 3.0 Regional energy	Decarbonized society RE100	Shrinking population and aging society Freelancing	AI and robotics AR/VR

1. We contribute to a society by creating comfortable environment for all.
2. We create new values with our technology and challenging spirit going for future.
3. We aim to be a company where human-oriented corporate culture is being developed.

Targets to be achieved by FY2024, priority issues, and specific initiatives in order to realize our vision

Relationship of our chosen direction and the SDGs

Basic stance
 Creating an appealing company with a diverse workforce
 Expanding our broad technical domain to meet customers' expectations
 Using digital technologies to foster more advanced operations
 Creating innovation through alliances

I. Maintaining regional public infrastructure

Contributing to the maintenance and development of regional infrastructure through equipment installation, construction work and urban development



II. Realization of a decarbonized society

Contributing to the realization of a decarbonized society through clean energy



III. Resolving social issues

Contributing to the realization of rich and satisfying lifestyles through agricultural redevelopment that takes advantage of our technical capabilities, measures to address the aging of society, and other activities

