

PACIFIC CONSULTANTS CO., LTD. 3-22 Kanda-Nishikicho, Chiyoda-ku, Tokyo, Japan +81.3.6777.3716 www.pacific.co.jp/e/



**Pacific
Consultants**

COMPANY PROFILE

THE HISTORY OF PACIFIC CONSULTANTS

The history of PACIFIC CONSULTANTS is the history of Japanese construction consulting itself.

PACIFIC CONSULTANTS is a leading construction consulting company founded in 1951 with a goal to "contribute to the reconstruction of postwar Japan through engineering."

Following the war, experts from various fields had been discussing repeatedly about the reconstruction of Japan, including Fukujiro Hirayama, and brothers Tashiro and Muneki Shiraishi. American architect Antonin Raymond, who had the same aspiration, contacted Shiraishi and visited Japan together with hydropower consultant Eric Floor. Muneki Shiraishi, architect Antonin Raymond, and Eric Floor then jointly founded PACIFIC CONSULTANTS, Inc. as an American corporation.

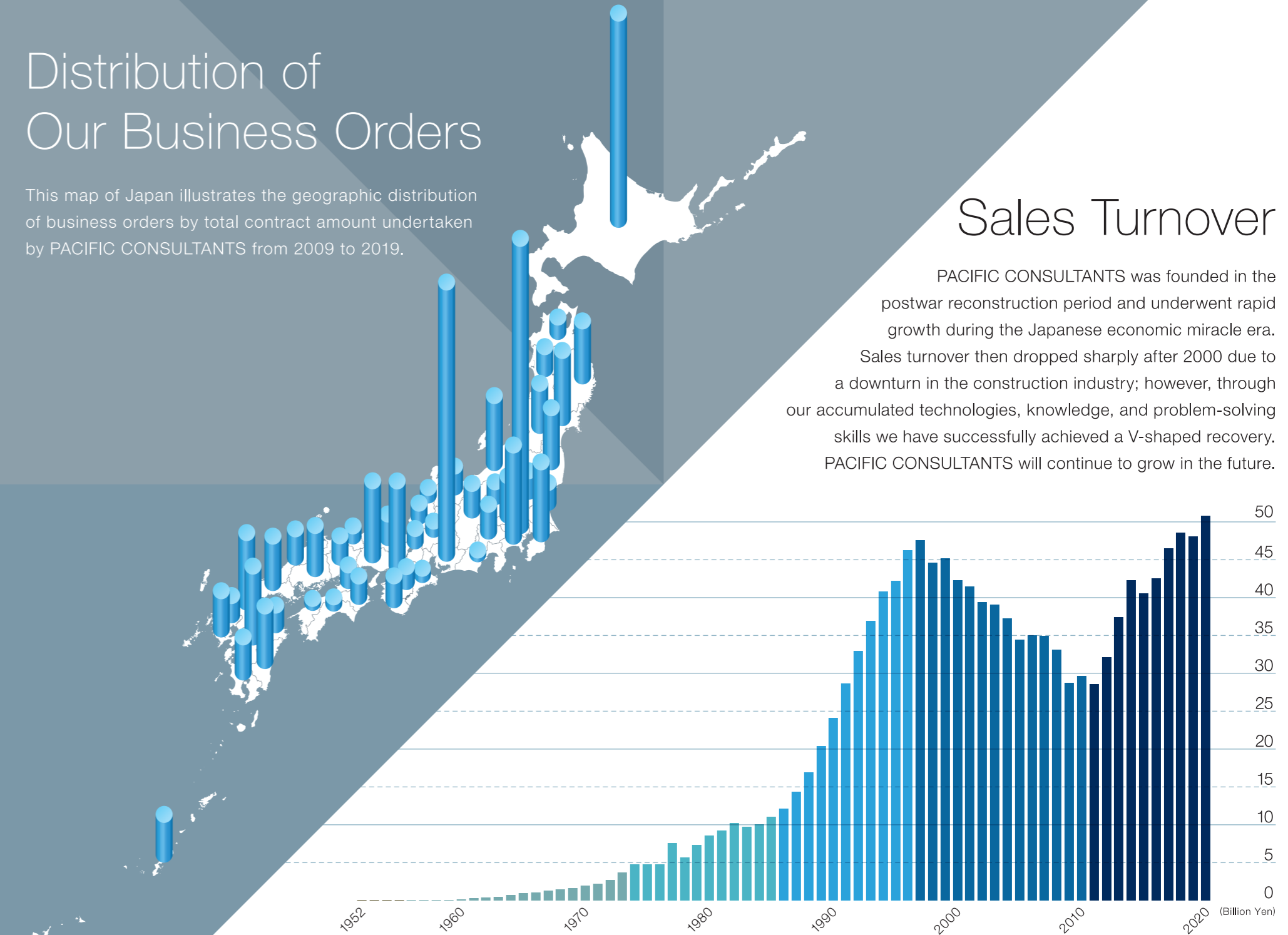
3 years later, PACIFIC CONSULTANTS CO., LTD. had evolved and was then established as a Japanese corporation in February 1954, inheriting the name and business of its predecessor.

Upon its founding, PACIFIC CONSULTANTS' philosophy was "Engineering is a universal truth, and therefore is borderless. We build global relations through our engineering", an ideology still alive today.



Distribution of Our Business Orders

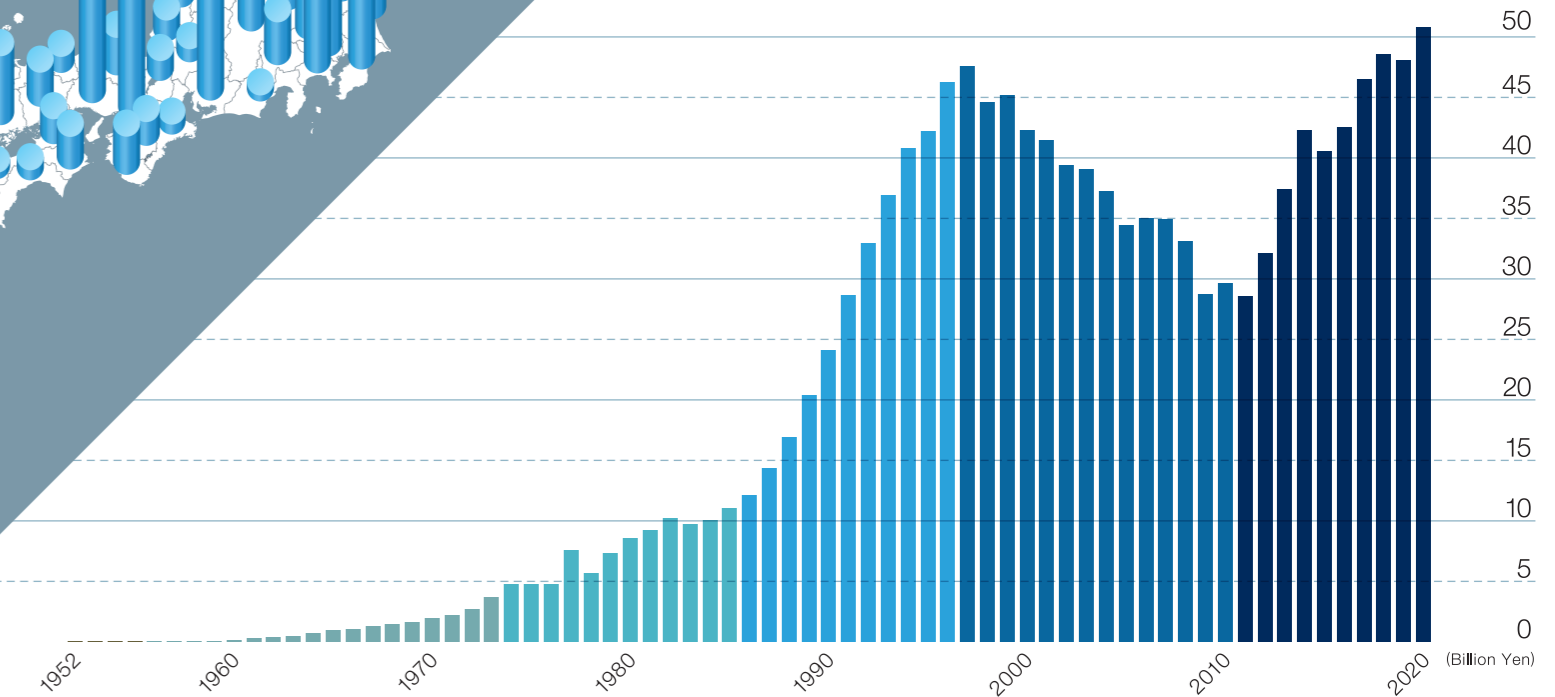
This map of Japan illustrates the geographic distribution of business orders by total contract amount undertaken by PACIFIC CONSULTANTS from 2009 to 2019.



Sales Turnover

PACIFIC CONSULTANTS was founded in the postwar reconstruction period and underwent rapid growth during the Japanese economic miracle era.

Sales turnover then dropped sharply after 2000 due to a downturn in the construction industry; however, through our accumulated technologies, knowledge, and problem-solving skills we have successfully achieved a V-shaped recovery. PACIFIC CONSULTANTS will continue to grow in the future.



Producing The Future

We, PACIFIC CONSULTANTS, are determined to take initiative for the creation of a better future.

While the Japan market is maturing, the Asian market is ever-changing, and we now face an uncertain global market. In spite of this, our Vision instills in us the determination that drives us forward.

We work side-by-side with our clients and partners to delineate the shape of society and the future they want to produce, and we will walk together each step of the way through learning from our failure to achieve continued success.

We will continue to provide added value through our deep knowledge and trust earned through social infrastructure services, by our culture of persistent passion and spirit, and by the diversity passed on through each individual.

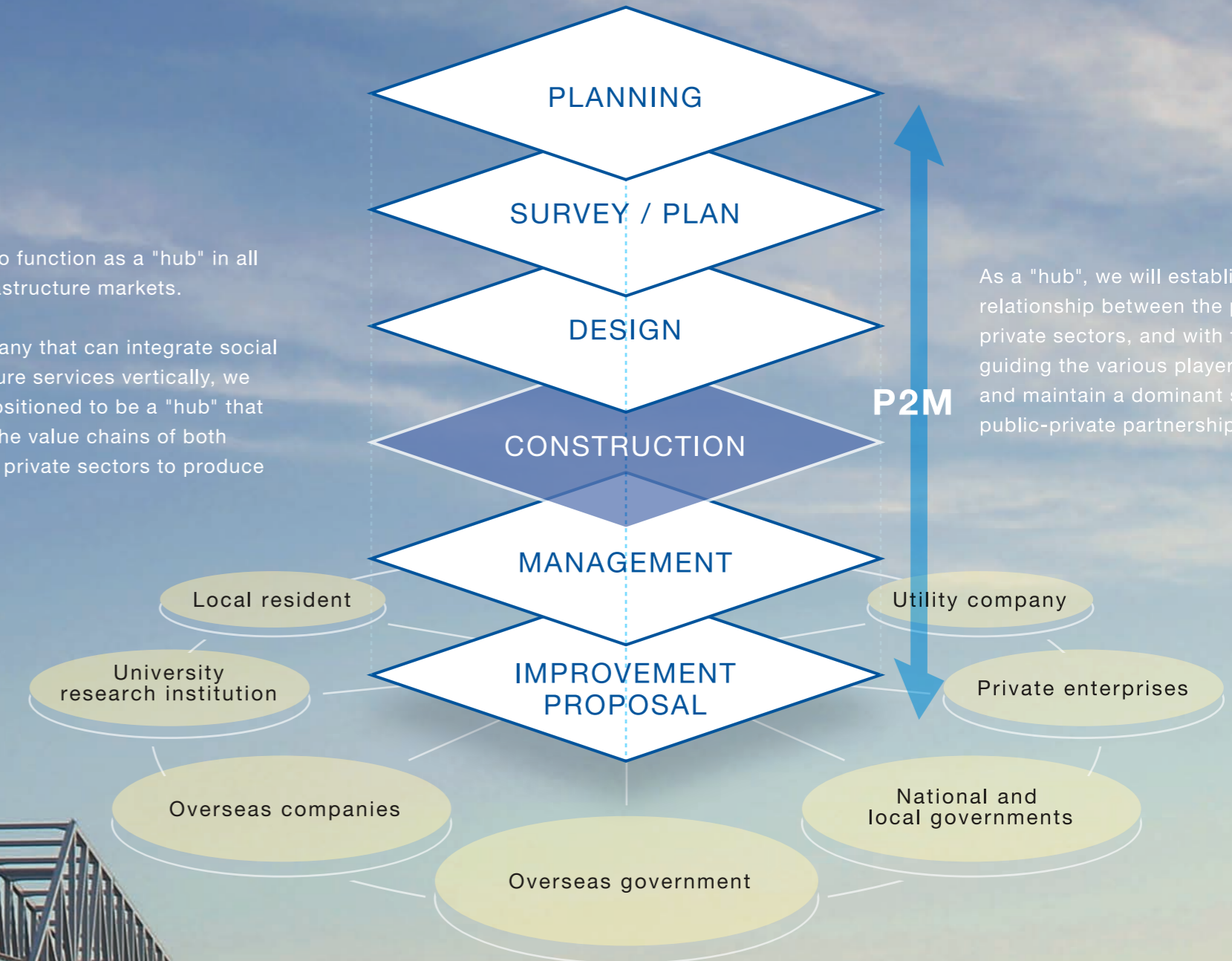
We, PACIFIC CONSULTANTS, will continue to define "What is the future?" Be our witness.

Vertical Integration of Social Infrastructure Services

We strive to function as a "hub" in all social infrastructure markets.

As a company that can integrate social infrastructure services vertically, we are well-positioned to be a "hub" that connects the value chains of both public and private sectors to produce the future.

As a "hub", we will establish a win-win relationship between the public and private sectors, and with the region by guiding the various players to capture and maintain a dominant share of the public-private partnership (PPP) market.



OUR STRENGTHS

DNA

Since its founding in 1951, PACIFIC CONSULTANTS has grown into a leading company among construction consultants in-step with the national growth of Japan. While inheriting the technology and frontier spirit cultivated by our predecessors, we will continue to provide innovative value to society and produce the future.

SUPPORT

- Hand in Hand with Our Clients, Our Society, and Our Future Generations

We accurately comprehend the issues and needs of our clients, and provide them with support from responsive proposals to project implementation. While creating the norm for people's lifestyles, we are achieving our purpose of adding value to our work as a professional consultant by forging deep relationships with our clients and communities for the long-term perspective to provide sustainable solutions to social issues. Our mission is to protect our world by continuing to tackle the issues faced by today's society, such as energy and environmental problems, and disaster response in an eventual effort to save the planet.



Worked on 94% of the national highways in Japan



Engaged in the design and inspection of over 8,000 bridges in Japan

Understanding PACIFIC CONSULTANTS through Figures

FUSION

- Integrating force that captures diverse technologies and weaves them into an overall optimal solution

In our free and open organizational culture, we welcome the challenge of new business fields while conceiving added value. To achieve this, it is necessary to comprehend the overall project and define one's vision, then conceptualize the goal, and then take action to make a breakthrough. Furthermore, for large-scale comprehensive projects, it is vital to coordinate the interests of the various stakeholders with our managerial abilities to facilitate cross-cutting cooperation. Our strength lies in integrating the diverse perspectives and technical specialties across various disciplines while driving consensus to formulate a comprehensive optimal solution to all of the problems that may arise throughout all stages of the project life cycle.

SOLUTION

- Accumulated experience to keep one step ahead

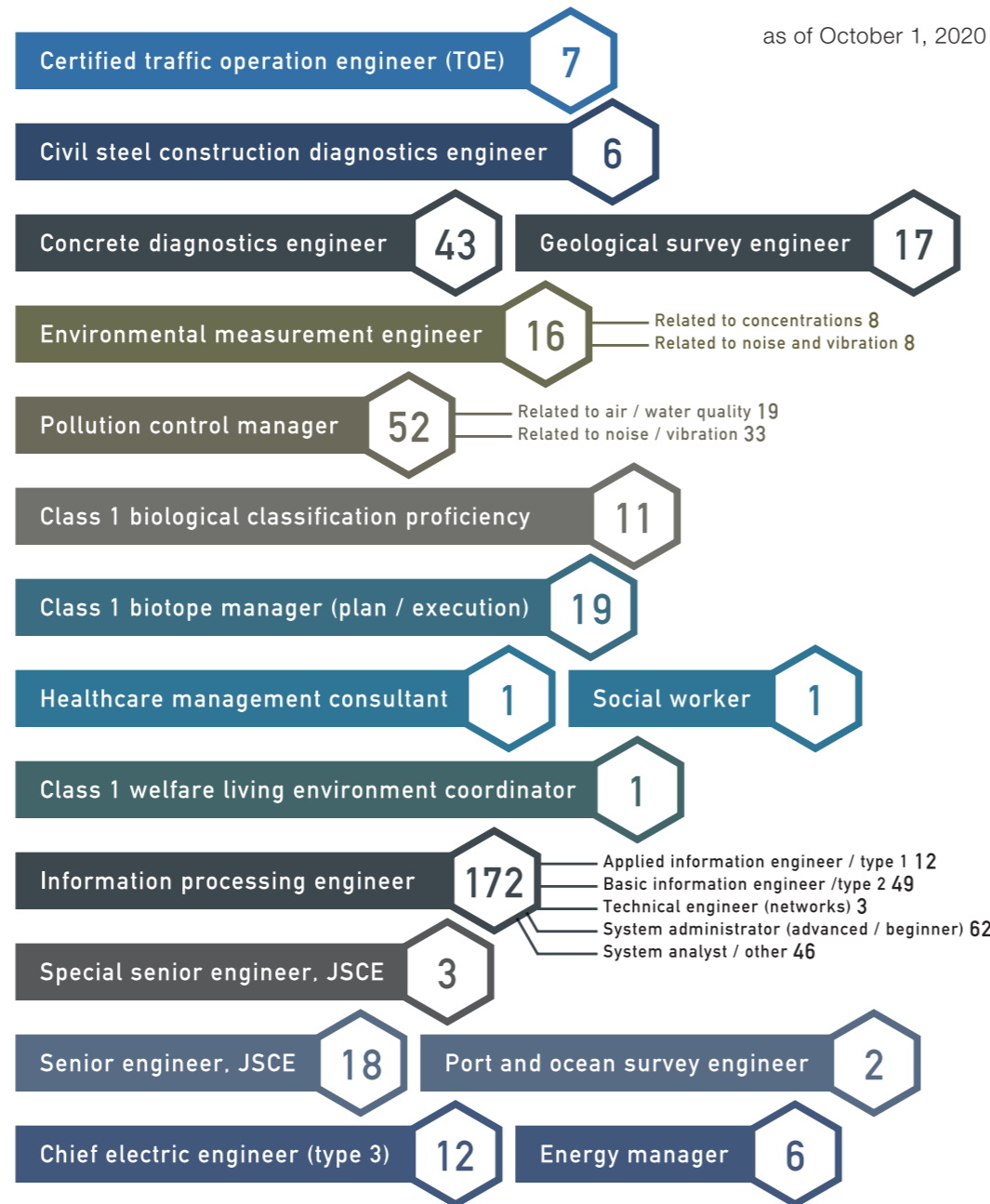
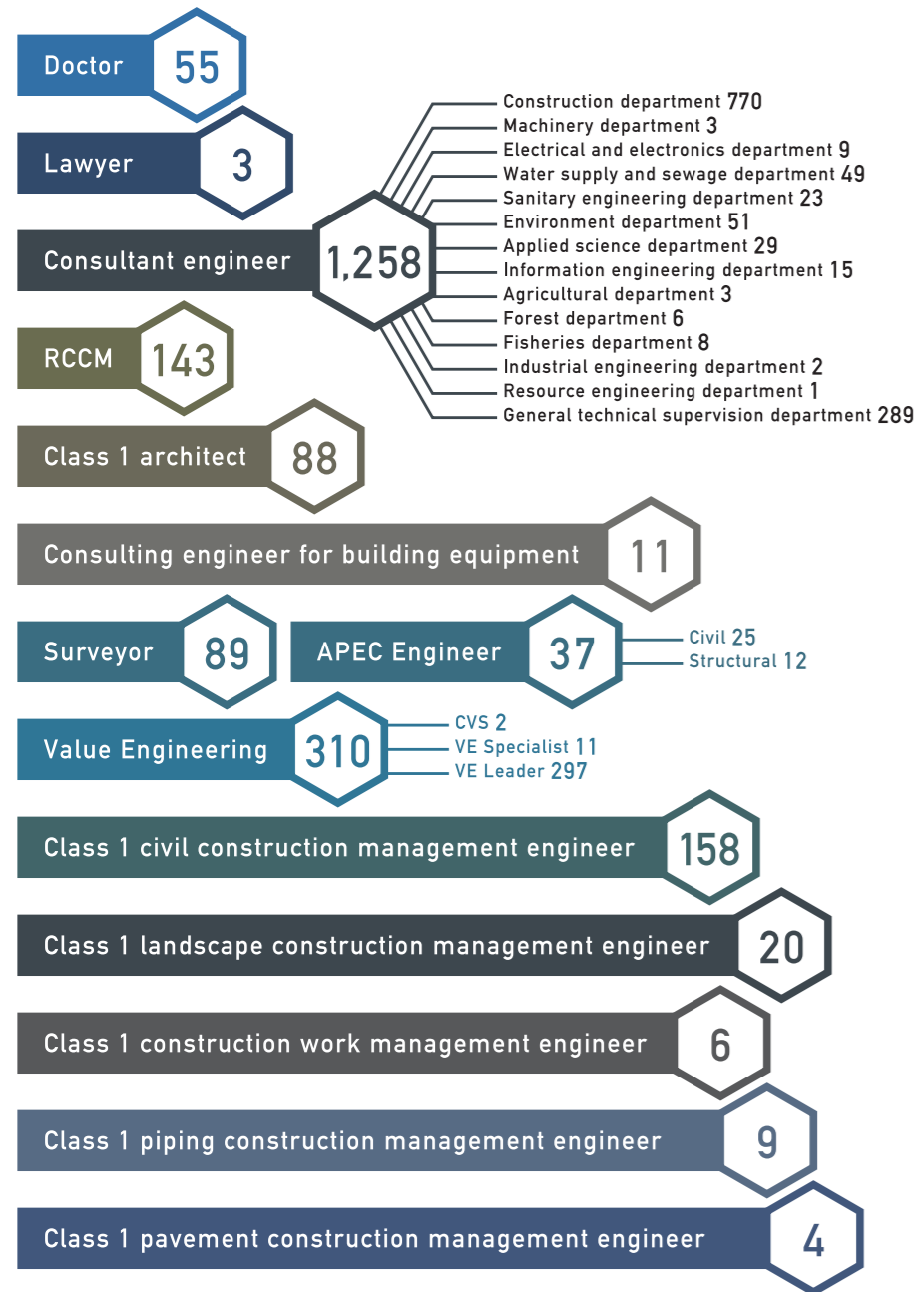
For nearly 70 years, we have been engaged in the planning, feasibility studies, design, and maintenance of social infrastructure services, and as a consequence, we have earned the unwavering trust of our clients. Based on the overwhelming technical capabilities and knowledge cultivated through our extensive project history, our experts who specialize in diverse fields will define the potential challenges that our clients face and lead them to solutions.



Worked on 9 of the best 10 longest tunnels in Japan



Regions active in promoting digital information-oriented society in Japan



as of October 1, 2020

CORPORATE INFORMATION

Company Name : **PACIFIC CONSULTANTS CO., LTD.**

Head Office : 3-22 Kanda-Nishikicho, Chiyoda-ku, Tokyo, Japan

URL : www.pacific.co.jp/e

TEL : +81.3.6777.3716

Founded : September 4, 1951
 Established as PACIFIC CONSULTANTS Inc., an American corporation

Established : February 4, 1954
 Established as PACIFIC CONSULTANTS., LTD.

Capital : 820,000,000 yen

Number of employees : 2,079 (As of October 1, 2020)

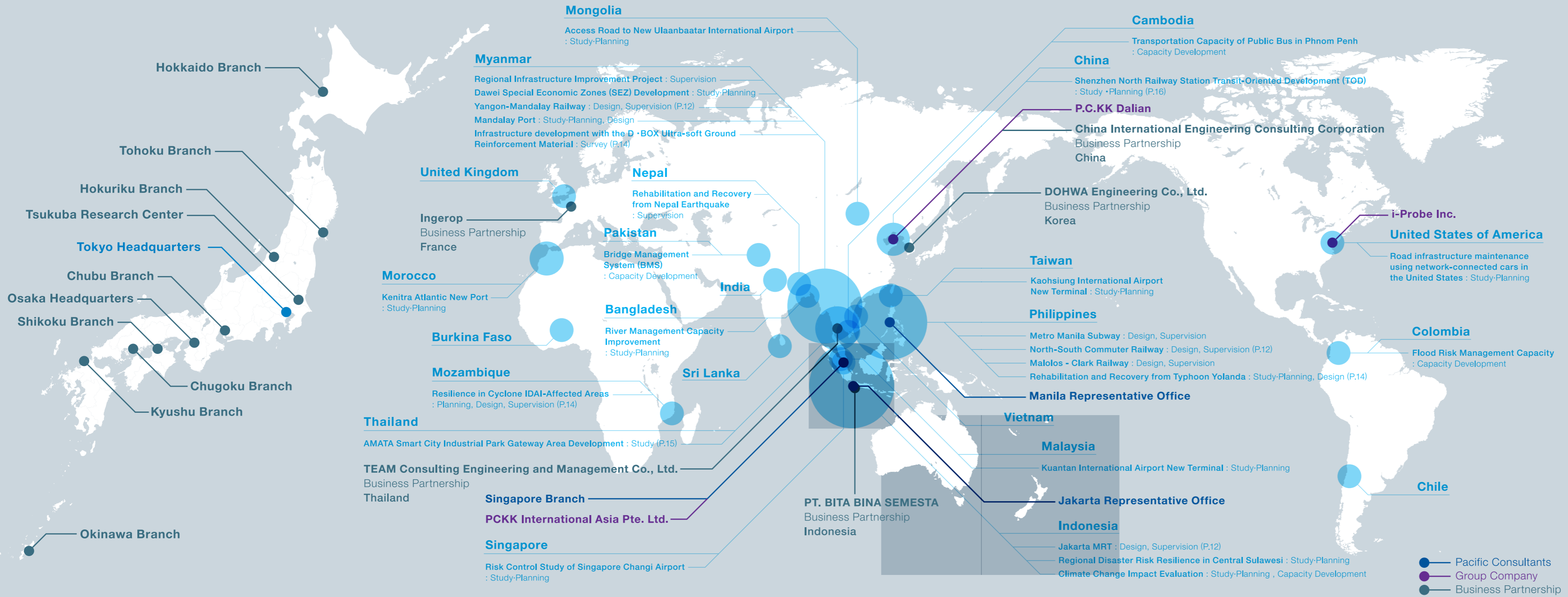
Number of foreign employees :

47

China	19	Malaysia	1
Korea	10	Vietnam	1
USA	4	Philippines	1
Taiwan	2	Nepal	1
Brazil	2	Guinea	1
Indonesia	2	Uganda	1
Laos	1	Iran	1

(As of October 1, 2020)

NUMBER OF QUALIFIED PERSONNEL



WORK

FIELD STRENGTHS & REPRESENTATIVE ACHIEVEMENTS >>>

- 11-16 GLOBAL BUSINESS
- 17-18 RAILWAYS / BRIDGES / TUNNELS
- 19-20 ROADS / PORTS, HARBOUR & COAST / AIRPORTS
- 21-22 ARCHITECTURE / URBAN DEVELOPMENT
- 23-24 RIVERS / DISASTER PREVENTION
- 25-26 PPP/PFI / WASTE
- 27-28 DISASTER REHABILITATION / ENERGY
- 29-30 BUSINESS DEVELOPMENT

DOMESTIC AND OVERSEAS BUSINESS LOCATIONS

Country Name

Content : Business

The size of the circle is proportional to number of the results



GLOBAL BUSINESS



GLOBAL BUSINESS

▪ We have carried out projects in over 50 countries since 2012 in fields such as transportation infrastructure, urban development, and global environment solutions among other areas.

Under the challenging natural and social conditions of Japan, we apply our technical proficiency and wide range of project experience accumulated over the years to broaden our international footprint.

With our fields of expertise, we can articulate the needs of our clients, foster professional working relationships, and provide optimal recommendations on a variety of issues.

< Construction Management Consulting Services for Jakarta Mass Rapid Transit (MRT) System Project in Indonesia

Responsible for the construction supervision of a 15.7 kilometer railway system including the first subway system in Jakarta, the capital of Indonesia.

North-South Commuter Railway Project in Manila (Malolos-Tutuban) in the Philippines >

Responsible for detailed design and quantity surveying of elevated bridges, river-crossing bridges, and 10 rail stations for this 38-kilometer railway project connecting Metro Manila from north to south.



^ Yangon-Mandalay Railway Improvement Project in Myanmar

The Yangon-Mandalay Railway is a critical transportation infrastructure that spans over 600 kilometers and connects Myanmar's largest commercial city of Yangon to the second largest commercial city of Mandalay via the new capital Naypyidaw. Work involved construction supervision related to replacement of approximately 240 bridges.





GLOBAL BUSINESS



< Project on Strengthening Resilience in Cyclone IDAI-Affected Areas in Mozambique

This project targets Beira, a city in Sofala Province severely damaged by Cyclone Idai which hit central Mozambique in March 2019.

Work involved disaster risk assessment, production of hazard maps, and development of an action plan for the "Beira Municipality Recovery and Resilience Plan" based on the hazard maps.



< Project Formulation Survey on Infrastructure Development with the D-BOX Ultra-soft Ground Reinforcement Material in Myanmar

Promotion of D-BOX, which has an effective result in reinforcing soft ground, throughout Southeast Asia and other regions.



^ The Project on Rehabilitation and Recovery from Typhoon Yolanda in the Philippines

Contributed to supporting the formulation of an emergency restoration and reconstruction master plan for the wide-scale damage caused by Typhoon Yolanda in the Philippines in November 2013.

GLOBAL BUSINESS



△ AMATA Smart City Industrial Park Gateway Area Development Survey Project in Thailand (Commissioned by the Ministry of Economy, Trade and Industry (METI))

A METI-financed project focusing on the AMATA Smart City Chonburi Industrial Park Gateway Area in cooperation with Yokohama City and the Yokohama Urban Solution Alliance (YUSA) for conceptual design of the smart city utilizing Japanese smart technology and know-how.

V 1st Place Winner of International Competition for Shenzhen North Railway Station Transit-Oriented Development (TOD) in China

A new expansion plan for an immense terminal station which functions as the northern gateway to Shenzhen and features a number of rail tracks including a High Speed Rail line.



Tenryukyo Ohashi Bridge

A bridge spanning the scenic Tenryu Gorge. We proposed and designed a bridge with the flattest arch in Japan to be in harmony with the scenery.

Length of Bridge: 280 meters

Arch Span: 210 meters

Height: Approximately 80 meters (from the river)



RAILWAYS

- Supports a wide range of business fields, from feasibility studies and planning for subways and railways to design, construction supervision, environmental impact assessment, and related work.
- Ability to propose detailed plans comprehensively for rail-road crossings, rivers, water and sewage facilities, station buildings, station plazas, and more.

In Japan, railways play a vital role in urban transportation (subways, etc.) and intercity transportation (shinkansen, etc.). In addition to railway network surveys, design, and construction supervision, we can also carry out other railway-related buildings and facilities.



< Okinawa Urban Monorail

A 17 kilometer long monorail line from Naha Airport to Tedako-Uranishi. Responsible for structural design, demand forecasting and ridership promotion measures, and transit-oriented town development around stations.

BRIDGES

- Supports planning and design of complicated structures.
- Ability to design public structures that emphasize landscape and design in harmony with the surrounding environment.

Japanese bridges are required to apply high-level engineering technology that is both resistant to frequent natural disasters and designed to be in harmony with nature. We provide planning and design of public structures that emphasize landscape and design in harmony with the surrounding environment.

Biwako Ohashi Bridge >

Responsible for the implementation design of Biwako Ohashi Bridge spanning Lake Biwa. At the time of its opening in 1964, it was the longest toll bridge in Japan.



TUNNELS

- High-level technical capacity involved in the design of 9 of Japan's best 10 longest tunnels.
- Overwhelming technical capacity to undertake large-scale tunnels for both urban and mountainous settings.
- Integrated in-house support for tunnel facilities engineering that is indispensable for large tunnels.

Since most of Japan's land is mountainous, Japanese tunnel engineering is at an outstanding level in the world. Tunnel engineering requires more than just theory and technology, but the technical capacity accumulated from long experience. We possess such ability to plan and design large-scale and technically-challenging tunnels.



< Kanetsu Tunnel

Detailed design of an 11 kilometer long tunnel passing through Mt. Tanigawa on the prefectural border between Minakami in the Tone District of Gunma Prefecture and Yuzawa in the Minami-Uonuma District of Niigata Prefecture. A revolutionary project that employed full cross-section boring methods.

Tokyo-Gaikan Expressway (Chiba Section) >

We carried out detailed design for a design-build construction of the expressway section from Matsudo City to Ichikawa City.

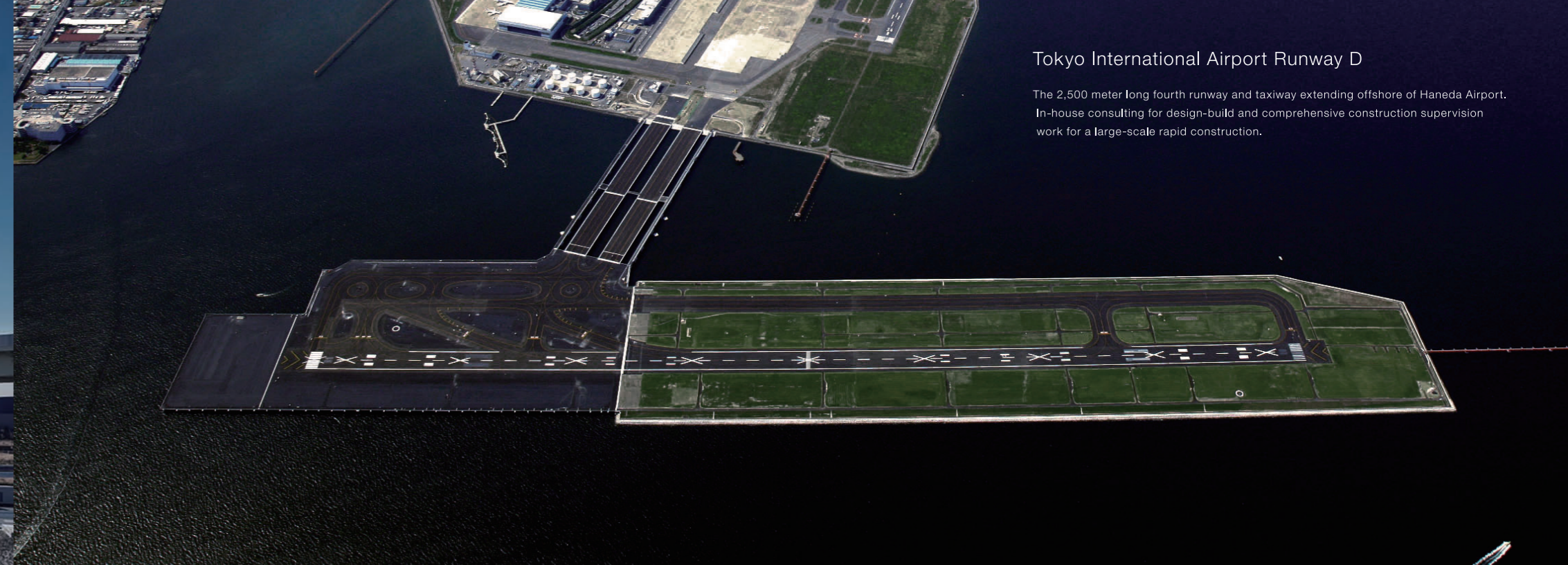


RAILWAYS / BRIDGES / TUNNELS



Ukishima Junction

Expressway planning of the junction that connects the Metropolitan Expressway Bayshore Route, Kawasaki Route, and Tokyo Bay Aqua-Line.



Tokyo International Airport Runway D

The 2,500 meter long fourth runway and taxiway extending offshore of Haneda Airport. In-house consulting for design-build and comprehensive construction supervision work for a large-scale rapid construction.

ROADS

- Control the largest share of the Japan market.
- Involved in the planning and design of many major corridors of Japan since the 1950s, including the three major ring expressways in the Tokyo metropolitan area (Central Circular Route, Outer Ring Road, Inter-City Expressway), the Shuto Expressway, and the Tomei Expressway.
- Promoting software and technology application for the road sector, such as countermeasures against traffic accidents and area management visualization.

Road planning in Japan requires high-level engineering due to many constraints, such as challenging geographical terrain and densely-populated urban areas. We have the capacity to address all issues in the road sector through feasibility studies, road planning, economic evaluation, preliminary and detailed designs, maintenance, operation management, reduction of traffic congestion, and accident prevention among other areas.

PORTS, HARBOR & COAST

- Technical capacity to handle all engineering aspects of ports and coastal works.
- Control the largest share of the Japan port market.
- Overwhelming track record in port facility design and coastal revetment seismic design.

Port facilities are critical infrastructure that supports Japan as an island nation. We have been engaged in numerous rehabilitation and reconstruction operations from the Great East Japan Earthquake, and we have the technical capacity to undertake disaster mitigation measures, such as tsunami analysis and embankment planning as well as all port-related works.

Naha Port Tomari Wharf Passenger Terminal Ship Berth Design

Planning and design of a large scale passenger ship terminal to address domestic and overseas cruise demand. It also functions as a base for emergency transport of cargo, and as a center for refuge or evacuation in the event of a large-scale earthquake.



AIRPORTS

- Engaged in planning, design, construction supervision, and other services for almost all airports within Japan, including Tokyo International Airport and Narita International Airport.
- We have the technical capabilities to provide comprehensive solution services including transportation policies related to airport access, approach lighting systems, and secondary facilities among other aspects.

Despite the harsh land conditions, Japan has a large number of airports per land area in the world. We have been involved in airport planning, design, construction supervision, and related services for almost all airports in Japan. In recent years, we have also engaged in actual airport operations through airport concessions. Through our participation, it will be possible to expand integrated development from a regional management perspective, for example improving airport transportation access, planning town development of the surrounding area, and making recommendations on tourism.

ROADS / PORTS, HARBOR

& COAST / AIRPORTS



< Kyoto Station, South Exit Plaza

As the gateway to Kyoto, Kyoto Station services over 50 million tourists per year. Improvement of transportation access between the station and its plaza facilities, including buses and taxis. Creation of safe and comfortable pedestrian space. Responsible for establishment of the basic concept from a user's perspective, formulation of the plaza facilities plan, assessment of area management, and all related design.

Sea Forest Waterway, Uminomori, Koto-ku >

Designed boat and canoe sprint competition facilities and peripheral facilities to international standards – the only such venue in the Tokyo Metropolitan Area.

Carried out civil engineering work for water sport competition courses and floodgates, structural facilities including bathouses and grandstands, and maintenance work of parks, parking lots, and other exterior facilities, such as access roads and bridges.

Responsible for planning and design related to competition venue facilities, renovation of existing waste treatment facilities, and environment-related surveying.



^ Shin-Tamana Station, Kyushu High-Speed Rail

Implementation design of the station building which incorporates a hybrid structure of wood and steel to express the station's unique identity.

ARCHITECTURE

- Our strength lies in structures that require engineering solutions in line with civil engineering works, such as transport station buildings, structures integrated with bridges, port/harbor buildings, and structures related to water and sewage systems.
- Strength in international sporting events: planning for large events cannot be limited to on-site work only. A comprehensive approach is necessary to consider related transportation, environment, economic spillover effects, and other related components. Our strength is our ability to comprehensively undertake large-scale, complex event planning.

We excel in structures needing a combination of civil engineering and architecture solutions. In addition to the planning and design of international sporting event facilities, we have the ability to comprehensively drive forward interrelated components, including works facilities, transport planning, economic spillover analysis, and all related aspects.

URBAN DEVELOPMENT

- Excellence in a broad range of operations from urban planning, transport planning, development planning, amenity planning, master plans, conceptualization, and basic planning to project preparation, feasibility study, basic design, implementation design, and public permitting.

We specialize in Transit-Oriented Development (TOD) and we are involved in large-scale station area development in Japan. We have the ability to draw out the allure of a city, and model its future development based on analysis of the current situation and future projection for the creation of urban space and mobility.



Shibuya Redevelopment Project

Urban redevelopment of an area lined with commercial facilities and offices, and incorporating urban features, such as sewerage systems and urban river management; and transportation infrastructure, including railways, highways, and station plazas. We have played a key role in this redevelopment project for over 20 years, and we continue to produce the future of Shibuya, one of the most prominent terminal stations in Tokyo.

Number of passengers per day: Approximately 2.4 million people
Number of connecting train lines: 9 lines

ARCHITECTURE

URBAN DEVELOPMENT



Kanda River / Kandagawa Ring Road No.7 (Kannana-Dori)
Flood Control Reservoir

As a countermeasure against flooding in the central basin of the Kanda River, a 4.5 kilometer tunnel with a diameter of 12.5 meters was constructed to collect floodwater. Carried out the basic design of the facilities, examination of weir height, and flood projection modeling among other works.

RIVERS

- Demonstrable strength in flow rate observation, flood and inundation modeling, and our hydraulic experiment laboratory that can reproduce the flow of rivers.
- Structural maintenance engineering (natural frequency).
- Unmanned Aerial Vehicle (UAV) inspection technology for extending the service life of dams.

Rivers in Japan are steep, and when heavy rains occur, the risk of flooding increases abruptly. We boast a hydraulic laboratory that can reproduce the flow of rivers, and which enables us to propose comprehensive flood control measures based on scientific verification. We excel at creating attractive river spaces through interdisciplinary cooperation within our expertise.

DISASTER PREVENTION

- With our "Disaster Prevention Management Department", we can showcase our cross-cutting capability across a wide range of specialized fields within the company.
- Based on the expertise and know-how about natural disasters accumulated from our extensive experience, we are able to judge the risk of disasters to a high degree of accuracy and apply the data to evacuation decisions and other areas. (We have developed original software to forecast torrential rain, called the "Dosha-buru" application service.)
- From our long experience in disaster mapping and related areas, we can advance Business Continuity Planning (BCP) and create disaster prevention action timelines with greater efficiency.

In recent years, large-scale natural disasters have occurred frequently in Japan. We operate a specialist unit dedicated to disaster prevention, which sources from a wide range of specialized fields to provide expertise and know-how in disaster prevention drawn from the disaster-prone country of Japan.



The Metropolitan Area Outer
Underground Discharge Channel

From overall concept to hydraulic analysis to the planning and design of structures and facilities, was responsible for one of the world's largest underground discharge channels, built 50 meters underground to prevent flooding in the regions of the Nakagawa and Ayase Rivers in eastern Tokyo and Saitama Prefecture.

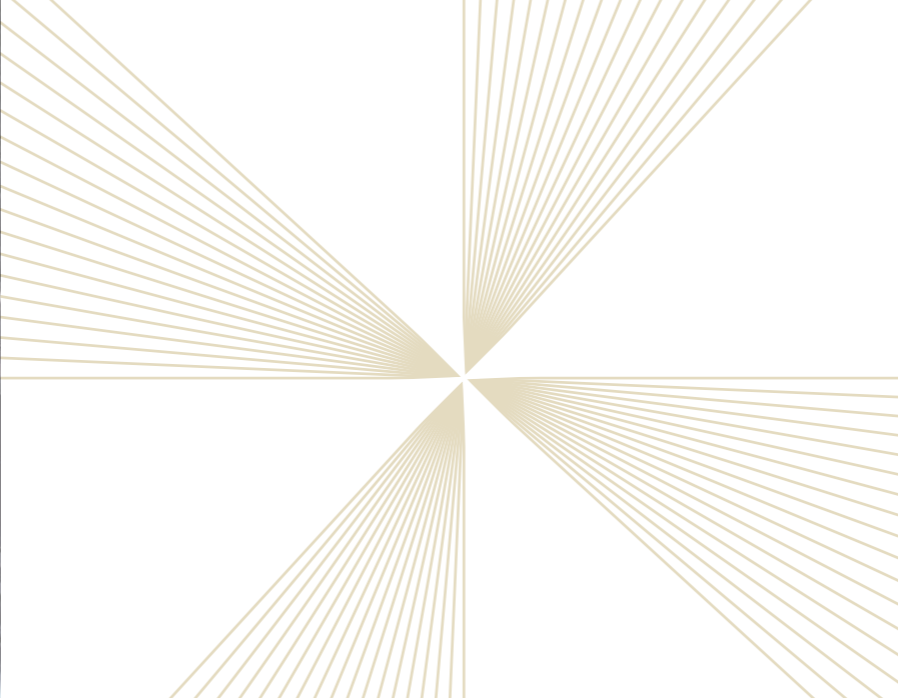
Length of tunnel: 6.3 kilometers
Number of tanks: 5 tanks
Diameter of tanks: 78 meters
Height of tanks: 177 meters
Discharge rate : 200 cubic meters per second

RIVERS/DISASTER

PREVENTION



PPP/PFI/WASTE



WASTE

- Command of the largest market share in Japan.
- Number 1 experience in Japan for effectively utilizing waste as a valuable resource and energy source.
- Has the capacity to undertake all work related to waste treatment, including national policy-making and support work of waste treatment in municipalities.
- Carries out advisory services, disaster-related waste work, and project support work for the private sector and overseas market utilizing the expertise, experience, and know-how from the private sector in the waste treatment business (PPP/PFI).

In Japan, sanitary treatment technology for waste near densely populated areas is advancing. We can provide consistent support from upstream stages (planning) to downstream services (construction supervision / monitoring), for example creating national policies for a recycling-oriented society or treating waste from municipalities.

PPP/PFI

- Drawing from our specialized know-how and extensive work experience, we provide consulting services in public-private partnerships (PPP) and private finance initiative (PFI) for a wide range of public facilities and service fields through the application of various PPP/PFI business schemes.
- Applications of our services include: government buildings, schools, housing and lodging, medical and welfare facilities, cultural facilities and concert halls, libraries, pool and gymnasiums, community facilities, food service centers, funeral parlors, sewage and waste treatment facilities, car and bicycle parking, roads, railways, airports, marine ports, parks, and plumbing and sewage systems among others.

In Japan's challenging financial environment, PPP/PFI which utilize private funding is being promoted. We provide total support from the concept and planning stages through implementation in order to achieve efficient and effective financial investment for each project. This has earned us the number one track record of PPP/PFI consulting services in Japan.

< ECORE Kumamoto

A final waste disposal site with an area of about 115,000 square meters, of which about 31,000 square meters is reclaimed, and a volume of about 420,000 square meters designed to be integrated with nature. The facility structure features roofs and walls built to a high degree of safety.

West Hamamatsu Waste Treatment Plant >

Planning, design, construction, maintenance and operation support of a waste treatment facility for intermediate treatment and final disposal.





DISASTER REHABI

< The Heavy Rain Event of July 2018 (Western Japan)

Assistance to Western Japan for rapid restoration and reconstruction from the destruction caused by heavy rains in July 2018, which resulted in large-scale disasters including river floods and landslides.

Number of casualties: 237 people
 Number of missing persons: 8 people
 Number of destroyed buildings (including partially-destroyed): 22,001 buildings
 Number of inundated buildings: 28,469 buildings

Support for Introduction of Renewable Energy and Energy-saving Technology >

Total support of feasibility studies for site selection and business operations, technical evaluation, implementation and operation management.

DISASTER REHABILITATION

▪ Active engagement in emergency measures, support for formulating recovery plans, and disaster waste disposal for recent disasters, such as the Great East Japan Earthquake, Kumamoto Earthquake, torrential rains in Western Japan, and Typhoon 19 (2019).

Japan is a country with active seismic and volcanic activity, and it is prone to disasters, including typhoons, heavy rains, heavy snowfalls, floods, landslides, earthquakes, tsunamis, and volcanic eruptions.

We have the expertise to deal with a wide range of natural disasters, and we can provide support from emergency measures to the formulation of recovery plans.



ENERGY

▪ Wide range of services, including drafting of policy for the realization of a low-carbon society, to assessments of commercialization based on planning, to business management.
 ▪ Experienced in addressing needs in solar power generation, wind power generation, geothermal power generation, biomass power generation, and more.

The energy self-sufficiency rate of Japan is 9%, and a greater shift to renewable energy and energy mix are expected. We can provide a range of consulting services, such as for climate change adaptation and mitigation efforts; Environmental, Social, and Governance (ESG) investment and Task Force on Climate-related Financial Disclosures (TCFD) compliance; CO2 reduction, and energy balance.

LITATION / ENERGY

BUSINESS DEVELOPMENT

▪ Promotion of new business development, taking advantage of our extensive experiences accumulated from our consulting business and the wide range of our technical expertise.

As business professionals, we are continuing to grow not only our consulting business but also our energy business including new electric power, comprehensive sewerage systems works for the private sector, operation of parks and roadside stations ("Michi-no-Eki"), and new business of infrastructure-specific operations for airports among many others. We are a consultant who understands business operations and provides consistent support throughout the entire cycle of project implementation and its operation.



Michi-no-Eki Mutsuzawa Smart Wellness Town >

Capitalizing on the private sector proposal system established under the 2011 revision of the Private Finance Initiative (PFI) law, undertook the overall business and operations of the Michi-no-Eki in addition to carrying out the proposal preparation, planning, and design.

< Takamatsu Airport

Participated in the operation of the airport, which was privatized in April 2018.



BUSINESS

DEVELOPMENT