Yokogawa Bridge Holdings Corp.

Integrated Report 2021

To Our Stakeholders

Aiming, as a leading company in the industry, to achieve sustainable growth and solve social issues through human talent and technologies that *build links to the future*

In line with our corporate philosophy of "Contribution to society and the public, and sound management," the YBHD Group has been contributing to the development of Japan's urban and transportation infrastructure for 114 years since our forerunner, Yokogawa Bridge Works Ltd., was founded in Nishi-ku, Osaka City in 1907. The Group has been a leading company in this industry for more than 100 years because we value *people* and have used the skills of *people to* increase our corporate value. At present, we are leveraging our solid technical capabilities based on steel structure technology, which is indispensable in the bridge business, to expand into various fields, such as our engineering business centered on engineered structures for factory and warehouse construction.

The business environment is changing dramatically with the intensification of social issues surrounding the YBHD Group, including aging urban and transportation infrastructure, an increase in natural disasters caused by climate change, the impact of COVID-19 on economic activities, a declining birthrate and aging population, a shortage of human resources, and economic development in emerging countries.

Under these circumstances, the Group's management vision is to realize the long-term protection of bridges, multifaceted steel structure engineering, the creation of a resilient social environment and harmonious coexistence with the natural environment, and the construction of a robust operational foundation, as well as the pursuit of sustained expansion.

Based on this management vision, our roles will include: creating value for society and the public by building and protecting high-quality products and connecting them to future generations; contributing to the improvement of regional convenience and the development of social life and logistics through infrastructure development; contributing to and driving the development of each business segment as a leading company; and by transferring technology and knowledge through our overseas business, contributing to the development of the human talent that underpins national and regional economic development.

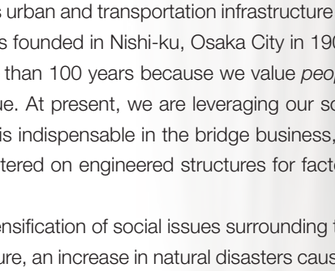
Going forward, we will keep doing our part to solve social issues while making steady progress, aiming to evolve into a corporate group that is needed by society and can grow sustainably through human talent and technologies that *build links to the future*.

Kazuhiko Takata
President and Representative Director
Yokogawa Bridge Holdings Corp.

Corporate philosophy
Contribution to society and the public, and sound management

Management vision
Realization of
- long-term protection of bridges
- multifaceted steel structure engineering
- creation of a resilient social environment and harmonious coexistence with the natural environment
- construction of a robust operational foundation

as well as the pursuit of sustained expansion



Roles of YBHD Group
- Creating value for society and the public by building and protecting high-quality products and connecting them to future generations
- Contributing to the improvement of regional convenience and the development of social life and logistics through infrastructure development
- Contributing to and driving the development of each business segment as a leading company
- Contributing to the development of the human talent that underpins national and regional economic development by transferring technology and knowledge through our overseas business

Editorial Policy

Starting in fiscal 2021, we are publishing an integrated report to communicate to stakeholders our efforts to realize the YBHD Group's corporate philosophy of "Contribution to society and the public, and sound management."

Going forward, we will continue to deepen our efforts and will enhance the content of the report, with the hope that it helps stakeholders to understand the YBHD Group.

Period
Fiscal 2020 (April 2020 to March 2021)

Published
September 2021

Guidelines referenced
- International Integrated Reporting Council (IIRC)
  International Integrated Reporting Framework
- Japan's Ministry of Economy, Trade and Industry
  Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation (Guidance for Collaborative Value Creation)
- Global Reporting Initiative
  GRI Global Standards for Sustainability Reporting

Scope
The YBHD Group's initiatives, focusing on the Group's financial and ESG information

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Group companies and their businesses

	Consolidated subsidiary	Equity method affiliate	Group management	Bridge Business	Engineering Business	Precision Equipment Business	Real Estate Business
Yokogawa Bridge Holdings	—		●				●
Yokogawa Bridge	○			●	●	●	
Yokogawa System Buildings	○				●		
Yokogawa NS Engineering	○			●	●		
Narasaki Seisakusyo	○			●	●		
Yokogawa Techno-Information Service	○					●	
Yokogawa New Life	○						●
YCE		○		●			
Yokogawa Techno Philippines, Inc.	—	—		●	●		

Segment structure

Bridge Business	New bridge construction business	● Design, manufacture, and on-site construction of new bridges
	Maintenance business	● Maintenance and repair of existing bridges
	Overseas business	● Design, manufacture, and on-site construction of bridges outside Japan
Engineering Business	Engineered structure system business	● Design, manufacture, and on-site construction of system structures ("yess buildings")
	Civil engineering business	● Design and manufacture of tunnel segments ● Design and manufacture of off-shore and port structures
	Construction and machinery steel business	● Construction of steel frameworks and forge work for high-rise buildings, etc. ● Design, manufacture, and on-site construction of moveable building systems (YMA) ● Water treatment equipment manufacturing business
Precision Equipment Business	Precision equipment manufacturing business	● Production of high-precision frames for manufacturing equipment for LCD panels, OLED panels, and semiconductors
	Information processing business	● Software development
Real Estate Business		● Leasing some real estate owned as logistics warehouses, etc.

Contents

Message from the President

We will contribute to the realization of a sustainable society by working hard to further improve our technologies, mainly by focusing on people, and by making effective use of the technologies we have.

Kazuhiko Takata
President and Representative Director
Yokogawa Bridge Holdings Corp.

Strengths of the YBHD Group

We are continuing to lead the industry as the company that has built the most bridges in Japan.

Since the founding of our forerunner, Yokogawa Bridge Works Ltd., in Nishi-ku, Osaka City, in 1907, the YBHD Group has been contributing continually to the development of urban and transportation infrastructure in Japan for 114 years as a corporate group that handles the manufacturing and construction of steel structures such as bridges and steel frameworks. For more than 100 years, the Group has grown as a leader in this industry because of our solid technical capabilities based on steel structure technology, which is indispensable in the bridge business, and also because we have worked continuously to refine those technical capabilities.

The YBHD Group has many businesses in which we are proud to be No. 1 in the industry. In particular, in the bridge business, which has been our core business since our founding, we have held the No. 1 position in order volume as well as production and construction volume for many years. It is no exaggeration to say that we are "the company that has built the most bridges in Japan," and we have been involved in the construction of many bridges that are well known in Japan. In the engineering business, which is our next core business after the bridge business, our system structures have the No. 1 share in the industry. Above all, our movable building systems (YMA), which are special structures, far outstrip the competition in terms of originality and high technical competence; thus, they are spreading not only across Japan but also globally. The high-precision steel frameworks of our precision equipment manufacturing business, the strengths of which are even higher technical and development capabilities, have an overwhelming competitive edge in the advanced technology business field. In the information processing business, the Group's bridge-related software has established a position as a de facto standard in the bridge industry.

In the civil engineering and construction industries, technology is advancing rapidly and evolving constantly. As a group that treats technical capabilities as a source of growth, we are utilizing cutting-edge ICT to develop new technologies. For example, in response to the i-Bridge* initiative promoted by Japan's Ministry of Land, Infrastructure, Transport and Tourism and the Japan Bridge Association, we are actively developing systems to make use of ICT. The use of 3D data in the field is now a trend in the industry, and the YBHD Group has gone one step further and built a system where it can be used at the construction stage in conjunction with production and processing drawings. We believe that if we can make this system usable all the way to the maintenance stage, it will make steel bridge maintenance easier and more reliable. In fiscal 2021, we established a Digital Transformation (DX) Promotion Office to further promote digitalization.

In the civil engineering business, we leverage our high general engineering capabilities to provide a variety of steel structures, including off-shore and port structures. The environmentally friendly water treatment technology of Narasaki Seisakusyo, a group company, is highly regarded, and R&D is currently underway to further improve its performance.

Bridge construction, which the YBHD Group has always excelled at, is precise, requiring accuracy at the millimeter level even for 1,000-meter-class bridges. Making use of our steel structure manufacturing technology in the precision equipment manufacturing business, we have been able to respond relatively easily to the micron- and nano-unit accuracy required in the production of frames for semiconductor manufacturing equipment.

In collaboration with other industries, we are jointly developing a number of new products that are useful in measures to extend the life of and maintain bridges, such as "cusa" aluminum alloy permanent scaffolding co-developed with Nikkei Engineering Co., Ltd. Since the use of lightweight, corrosion-resistant aluminum alloy enables the permanent installation of inspection walkways and scaffolding, we anticipate its further spread and market expansion in the future, and we expect this to become a new specialty of the Group.

We value *people* and will increase corporate value through the skills of *people*.

It is the power of our employees that underpins the maintenance and development of such high technical capabilities and manufacturing. The YBHD Group has a tradition of valuing people since its founding. "Embody integrity! Create outstanding things!" These words of our founder, Dr. Tamisuke Yokogawa, have been passed down for 100 years. In order to improve on the skills inherited from our predecessors and pass them on to future generations, we actively conduct employee education aimed at enhancing skills and knowledge. We will continue to make generous investments that lead to the nurturing of people, hoping to develop outstanding human talent. By making effective use of our extensive technical capabilities that have been further advanced mainly by focusing on people, we will contribute to the realization of a sustainable society by building social infrastructure that people can use with safety, comfort, and peace of mind. We also aim to create new businesses by actively promoting new technical development.

In group management, we will leverage the characteristics of each operating company to complement and share management resources, bringing together the Group's total strengths in an effort to increase corporate value over the medium to long term, with a view to our next 100 years.

* **i-Bridge**
An initiative to utilize ICT in all processes from investigation and surveying to design, construction, inspection, and maintenance, in order to significantly improve the productivity and safety of the bridge business

Message from the President

Recognition of the Business Environment and Current Situation Surrounding the Company

We are aiming to further expand our business by responding to the demands of society, including increasing national resilience.

Japan's urban and transportation infrastructure was rapidly developed when the country entered its period of rapid economic growth, meaning that more than 50 years have passed since its construction. Now, the number of facilities for which aging is a concern is increasing, and countermeasures are needed urgently. Moreover, large earthquakes that caused unprecedented damage, such as the Great East Japan Earthquake and the Kumamoto Earthquake, and flooding that submerged urban areas have occurred frequently in recent years. There is an urgent need to develop infrastructure that is resistant to such natural disasters. The YBHD Group has been committed to disaster recovery support, but now more than ever, there is a need to further promote seismic reinforcement as a way to bolster disaster prevention and mitigation measures. We also hope to contribute by fully utilizing our technology in emergency measures to reinforce Japan's national resilience.

In response to these social conditions, the maintenance business for existing facilities is growing in Japan. In particular, businesses such as large-scale highway renewal and repair projects are expected to continue in the future.

In the bridge business, the number of new bridges had been declining gradually, but there are plans for projects to expand provisional two-lane sections of highways to four lanes and to expand road networks such as the western extension of the Osaka Bay Road. Since we can expect the amount of business to increase, we will maintain and expand our bridge business by reinforcing capacity in our bridge maintenance business in addition to new bridge construction. In the engineering business, we are expecting large-scale projects such as the maglev Chuo Shinkansen high-speed rail line and urban redevelopment projects in the tunnel segment of our civil engineering business. In the system structure business, private business fixed investment weakened due to the impact of COVID-19, which also affected orders received. However, we expect demand for construction of factories and warehouses to grow as the economy recovers. We will aim to improve profit margins and expand our business by increasing production capacity through a dual-plant system (in the cities of Sodegaura and Mobara in Chiba Prefecture) and by strengthening our profit-and-loss management framework.

In Japan, although there is uncertainty caused by COVID-19, there is strong demand in all business domains, and we believe that the overall market will remain firm. In all our businesses, we will administer management resources such as engineers, equipment, and production and construction systems in an integrated manner, working to optimize their allocation.

Outside Japan, on the other hand, the need for bridge construction is increasing with the economic development of emerging countries, and we regard this as an important business in the Group's future growth strategy. Recently, due to the COVID-19 pandemic and local political unrest, infrastructure development overseas has been affected by construction interruptions in various countries and the forced return of our personnel to Japan, but this is a business with a great social contribution significance in that it supports the development of those countries and regions. Going forward, we will continue to expand our overseas business, to which we will direct every resource while responding appropriately to changing circumstances.

Progress of the Fifth Medium-Term Management Plan

The current medium-term plan is generally doing well, and we will focus on resolving issues in each business in fiscal 2021, the plan's final year.

In our Fifth Medium-Term Management Plan (for the period from fiscal 2019 to fiscal 2021; "Current Plan"), we have established basic policies by area: bridge business, system structure business, civil engineering business, and other businesses. By analyzing the challenges in each business and taking countermeasures, we aim to realize our management vision of long-term protection of bridges, multifaceted steel structure engineering, and construction of a robust operational foundation, and to pursue sustained expansion.

In fiscal 2020, orders received in the system structure business in particular were sluggish due to the COVID-19 pandemic, falling short of the plan. However, an upturn in the bridge business helped us achieve our targets for operating profit and earnings per share one year ahead of schedule. Although sales in fiscal 2021, the final year of the Current Plan, are expected to exceed fiscal 2020, it will be difficult to exceed the operating profit of fiscal 2020, which was higher than expected. Thus, we are anticipating higher sales but lower profit. Overall, the plan is generally on track. In terms of targets, although the achievement of sales of 160 billion yen will be somewhat difficult, we expect to achieve operating profit of 14 billion yen, given the work backlog. In fiscal 2021, the plan's final year, we will continue to work to resolve challenges in each business.

Working based on our basic policy to pursue maintenance, expansion, and optimization of the bridge business by reinforcing capacity in the bridge maintenance business in addition to new bridge construction, in fiscal 2020, our bridge business was able to successfully secure orders for major highway construction projects as well as projects from the Ministry of Land, Infrastructure, Transport and Tourism and local governments. Notably, in fiscal 2020, we posted record orders received and operating profit due to the completion of a concentrated cluster of major long-term construction projects. We expect sales in fiscal 2021 to remain high. Although we think it will be difficult to exceed the profit of the previous year when there was a cluster of project completions, we will continue to improve production efficiency and optimize management resources in order to keep capturing large-scale projects.

Our basic policy in the engineered structures business is to pursue the further expansion of the engineered structures business by establishing a dual-plant production system and strengthening our profit-and-loss management framework. The establishment of the dual-plant system generally proceeded as planned. As the economic downturn caused by the COVID-19 pandemic dragged on, orders received slumped due to postponements and reworking of some projects, but profitability improved with the strengthening of profit-and-loss management, resulting in an increase in profits in fiscal 2020. In fiscal 2021, we expect to start construction on projects that had been postponed, so we feel certain that our business performance will recover.

The basic policy for our civil engineering business is to further grow the civil engineering steel structure engineering business, as exemplified by tunnel segments. In this business, orders received and production remained flat in fiscal 2020, as work schedules for shield tunneling projects have generally been pushed back.

In other businesses, the COVID-19 pandemic had a considerable impact on businesses such as the overseas bridge business, but sales and profits increased in the precision equipment business, such as the precision equipment manufacturing business and information processing business. Other businesses are continuing to grow in line with our basic policy to also pursue the expansion of the overseas bridge, aluminum products, and precision equipment manufacturing businesses.

Our basic capital policy of maintaining a balance between financial soundness and capital efficiency remains unchanged, as does our shareholder return policy of paying stable dividends and flexibly acquiring treasury stock. Going forward, we hope to keep increasing dividends while comprehensively taking into account future capital requirements and other considerations.

Message from the President

Responding to Business Risks

We aim to build a resilient management foundation that can even withstand unexpected risks.

The YBHD Group's business risks vary by business domain. In the bridge business, the majority of orders are from national and local governments. So, major changes in policies related to social infrastructure and rapid deterioration in public finances may affect business performance, such as a decline in orders received and sales, especially if the number of new bridges ordered in the future is significantly lower than expected. While the bridge and civil engineering businesses are not easily affected by economic conditions, they are susceptible to government policy. A risk in the engineered structures business, on the other hand, is that it is sensitive to the economic climate. This is why we intend to pursue overall optimization, with the bridge, civil engineering, and engineered structures businesses complementing each other.

In addition, the shortage of workers in the construction business and their aging have been long-standing concerns. The aging of managing engineers and the decline in young personnel with a preference for field work are serious issues. Accordingly, we hope to secure personnel and enhance careers throughout our construction departments by conveying the appeal of field work and carrying out personnel rotations among various departments. In particular, active education is important for the development of managing engineers, for which we also need to strengthen measures to support the acquisition of qualifications. When I was active in the field, I was taught that work is something you learn by watching, but now the times have changed, so I think we need the sympathy to teach in the most specific terms possible. We will also proactively tackle workstyle reforms, including system reforms that take work-life balance into account.

We recognize that ensuring safety on construction sites continues to be an important issue for us and a risk that urgently needs countermeasures. We will therefore continue to make every effort to prevent accidents. Specifically, in addition to disseminating case studies on past accidents, we will accelerate more effective safety measures by promoting work procedure improvements, safety equipment innovation, redundancy of safety devices, systemization of work monitoring, thorough employee health management, etc. Moreover, there have been cases of COVID-19 in domestic construction projects we were involved with. Given this, we must assume that work processes could be affected and costs could increase due to the interruption of construction work or closure of business sites. We will therefore pay close attention to infection prevention and respond appropriately according to the situation, such as by consulting with our clients.

Deepening and Promoting ESG Management

We will do our part for the SDGs and carry out ESG initiatives according to our materiality (key issues).

It is not sufficient for companies to just make a profit and return it to employees and shareholders; they must also assume a variety of responsibilities as members of society. At the YBHD Group, we actively promote measures that emphasize ESG perspectives, and consider it essential to work to solve social issues through our business, including with a view to helping to achieve the SDGs.

Since not all social issues are solvable in the short term, I feel that there is a need for companies to take long-term, sustained initiatives. In order to advance solutions to social issues through our main business, it is necessary to incorporate elements such as a broad outlook and a long-term perspective into our governance, and for each member of the Group to share the same ideals.

The SDGs include goals deeply related to construction and development projects, such as building disaster-resilient infrastructure and developing sustainable cities and communities. These goals are very closely related to the Group's business and are also consistent with our corporate philosophy of "Contribution to society and the public, and sound management." In our case, a characteristic is that each and every employee is strongly aware and proud of being responsible for public works that support people's lives, and when a new bridge is completed, we often receive words of thanks from local residents. Going forward, we hope to continue to connect deeply with people living in the area and to connect our work to the development of social life and the local economy.

Since our founding, the YBHD Group has been working to solve societal issues in the field of social infrastructure development through the construction of bridges and other structures. Now, as we continue to expand globally, we must be fully aware of addressing social and environmental issues, including the SDGs. Given this background, at a Board of Directors meeting in September 2020, we established 18 material issues and added "creation of a resilient social environment and harmonious coexistence with the natural environment" as a new management vision. Accordingly, we will work to create a resilient social environment while minimizing the burden on the natural environment. For example, even if a natural disaster causes damage, if early recovery is possible, the impact on the natural environment would be that much less. Moreover, by providing highly durable infrastructure, we believe that the period until construction for maintenance and retrofitting can be lengthy, thereby also reducing the burden on the natural environment. Rather than building things and forgetting about them, we believe that it is our social responsibility to ensure that the things we build can be used for as long as possible. So, we will focus on the maintenance business more than ever before.

As tackling climate change has become increasingly important worldwide in recent years, one of the material issues we identified is the reduction of the environmental impact of business activities and promotion of the adoption of renewable energy. In the short term, we aim to further reduce CO_2 emissions, and we are currently working to quantitatively ascertain CO_2 emissions at each of our business and construction sites in Japan. In the medium to long term, we will advance CO_2 reduction, mainly through the development of products with low environmental impact based on the data gathered, aiming to actively contribute to the transition to a decarbonized society with a view to expanding the use of renewable energy in the future.

Regarding the balance between the social and economic value we provide to society, I hope that our officers and employees will recognize anew their significance, including the initiatives that we have taken for granted thus far as our corporate mission, and I want us to translate initiatives in the ESG field into sustainable growth for the Group. Focusing on our 18 material issues, we will accelerate initiatives in each Group company and business division, encourage them to take on challenges in new business fields, and promote solutions to social issues through our business.

To Stakeholders

I invite you to look forward to the future of the YBHD Group, which is needed by society and will achieve sustainable growth.

This is our first time issuing an integrated report.

In recent years, more attention is being paid to companies' non-financial information, and the way corporate information is disclosed is being reconsidered. Given this situation, the YBHD Group believes that the integrated report is one of the best communication tools to explain to shareholders, business partners, employees, and other stakeholders how we will create value over the long term.

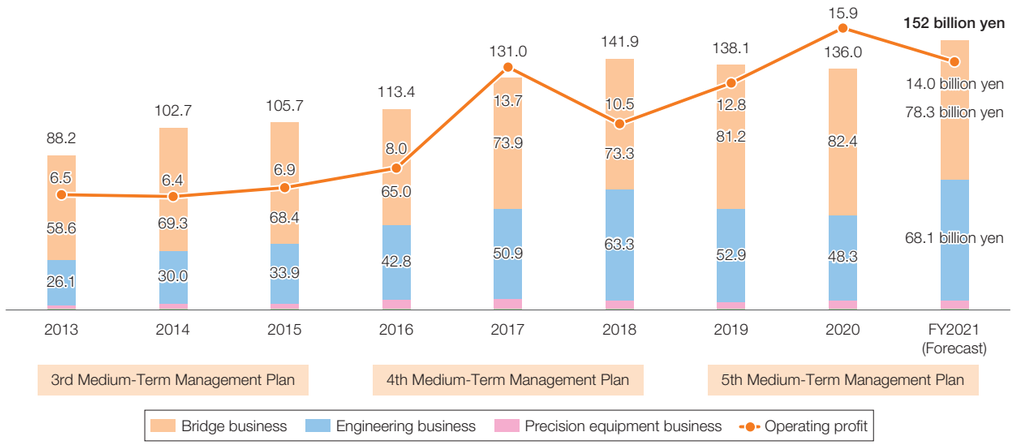
In this our first integrated report, we have organized currently obtainable data on our financial and non-financial information and striven to present it clearly. With this report, we will facilitate dialogue with stakeholders in an effort to enhance its content and establish a system for disclosing information.

Also, since fiscal 2021 is the final year of our Current Plan, we have established a new management vision and are currently formulating our next medium-term management plan. We hope to make our next plan one that will resonate with employees and the Company's other stakeholders, while receiving opinions from people outside the Company such as outside directors, in light of the business and social environment that is changing due to things such as the impact of the COVID-19 pandemic. We will announce the new plan once it is finalized.

Going forward, we will continue to contribute solutions to social issues while pushing forward steadily, aiming to evolve into a corporate group that is needed by society and can grow sustainably through human talent and technology that *builds links to the future*.

Medium-Term Management Plan

Performance trends in the Medium-Term Management Plan



Basic policies and progress

The Fifth Medium-Term Management Plan ("Current Plan") that started in fiscal 2019 has four basic policies: realization of long-term protection of bridges, multifaceted steel structure engineering, and construction of a robust operational foundation, which is our management vision, as well as the pursuit of sustained expansion.

Even as the effects of COVID-19 continue to grow, the YBHD Group's business performance has been generally on track; operating profit, ordinary profit, and net income for fiscal 2020 all reached record highs.

Progress in relation to basic policies

1	Pursue maintenance, expansion, and optimization of the bridge business by reinforcing capacity in the bridge maintenance business in addition to new bridge construction	With projects to expand highways to four lanes and major renewals, new bridge construction and maintenance were both strong, with orders received and performance for fiscal 2020 hitting record highs.
2	Pursue further expansion of the engineered structures business by establishing a dual-plant production system and strengthening the profit-and-loss management framework	Establishment of the dual-plant system generally proceeded as planned, and while orders received slumped due to the COVID-19 pandemic, profitability improved with the strengthening of profit-and-loss management.
3	Further grow the civil engineering steel structure engineering business, as exemplified by tunnel segments	Although work schedules for shield tunneling projects have generally been pushed back, we continued to concentrate on capturing large-scale demand.
4	Also pursue expansion of the overseas bridge, aluminum products, and precision equipment manufacturing businesses	While overseas bridges and other businesses were impacted by the COVID-19 pandemic, orders received by the precision equipment manufacturing business increased.

Numerical targets

	Target	FY2019 (actual)	FY2020 (actual)	FY2021 (forecast)
Net sales	160 billion yen	138.1 billion yen	136.0 billion yen	152.0 billion yen
Operating profit	14.0 billion yen	12.8 billion yen	15.9 billion yen	14.0 billion yen
Earnings per share	230 yen/share	217 yen/share	273 yen/share	242 yen/share

We achieved the Current Plan's numerical targets for operating profit and earnings per share in the plan's second year. In fiscal 2021, the plan's final year, although achieving sales of 160 billion yen will be somewhat difficult, we expect to achieve operating profit of 14.0 billion yen.

Capital policy and shareholder returns

Recognizing the distribution of profits to shareholders as one of the most important measures, our basic policy is to continue to pay stable dividends, comprehensively taking into account our business performance, capital requirements associated with future business development, and other considerations. Based on this basic policy, we anticipate that the annual dividend for fiscal 2021 will be 60 yen, an increase of 8 yen and a payout ratio of 25%.

Basic strategy for capital policy **Maintaining a balance between financial soundness and capital efficiency**

Shareholder return policy **Paying stable dividends and flexibly acquiring treasury stock**

Performance

	FY2019	FY2020
Equity ratio	58.6%	59.6%
Return on equity	10.4%	11.9%
Payout ratio	17.0%	19.0%

Numerical targets (updated January 2021)

FY2021
Maintain at current level as it is sufficient
Maintain at approx. 10% level
Consider rough target range of 20% to 30%

Toward the Sixth Medium-Term Management Plan

For the Sixth Medium-Term Management Plan ("Next Plan"), which begins in fiscal 2022, we will analyze the business environment not only for the engineered structures business, which is a growth driver, but also the bridge business and other business from a medium- to long-term perspective in order to achieve sustainable growth. Under the Next Plan, we expect to aim for net sales above 160 billion yen, and in order to improve productivity, we will also make full-scale efforts to go digital, led by the DX Promotion Division established in fiscal 2021.

Furthermore, as we go about formulating the Next Plan, we will identify material issues as a Group from the perspective of ESG (environment, society, and governance), and hold discussions within the Group on various issues to address for the realization of a sustainable society.

History of the YBHD Group

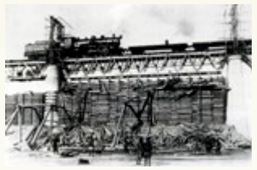
1907
Founding, through the war years, to post-war recovery

1907
Dr. Tamisuke Yokogawa founded Yokogawa Bridge Works Ltd., the forerunner of Yokogawa Bridge Corp.

1913
The Yatsuyama Bridge, then the largest overpass bridge ever built in Japan

1928
Mansebashi Overpass, Japan's first curved railway bridge

1931
The Hiyamagawa Bridge on the Ou Main Line, the first bridge of its kind in Japan to be built using welding reinforcement



1937
The upper truss of the Yu River Bridge in Datong, China; this was the first time that the company had undertaken reconstruction work of a bridge that had been destroyed.

1938
The company was responsible for producing the steel frame used in the Dai-Ichi Life Insurance head office building, the most imposing building of its kind in Japan at the time. In the immediate post-war period, the General Headquarters (GHQ) of the Supreme Commander for the Allied Powers (SCAP) was located in this building.

1940
On the Kachidoki Bridge, the 45.7-meter central spans opened to allow ships to pass.

1948
The Chusetsu Bridge paved the way for large-scale construction of road bridges in the post-war era.

1955
The Saikai Bridge, which heralded the trend towards larger, longer bridges.

1960
An era of rapid growth Yokogawa builds skyscrapers

1968
As a trailblazing manufacturer of steel structures, the company provided the structural framework for the Kasumigaseki Mitsui Building (now the Kasumigaseki Building), Japan's first skyscraper.

1970
World Trade Center Building (Tokyo)
Also in 1970: Keio Plaza Hotel

1974
Supporting skyscraper construction as a manufacturer of steel structures
Shinjuku Mitsui Building

1990
Linking Japan's transportation arteries

1993
A new Tokyo landmark: The Rainbow Bridge

1998
The world's longest suspension bridge: the Akashi Kaikyo Bridge

1999
The world's first triple suspension bridge, consisting of three long successive suspension bridges: Kurushima Kaikyo Bridge

2000
Advanced technology

2001
Toyota Stadium, built using Yokogawa System Buildings Corporation's YMA moveable building system

2003
The Rokujizo section of the Kyoto Municipal Subway Tozai Line used composite segments supplied by Yokogawa NS Engineering Corp.

2009
Stonecutters Bridge in Hong Kong, the world's largest composite cable-stayed bridge

2010
Linking and connecting large spaces

2011
Spacious, beautiful, and comfortable—the new, completely transformed Osaka Station

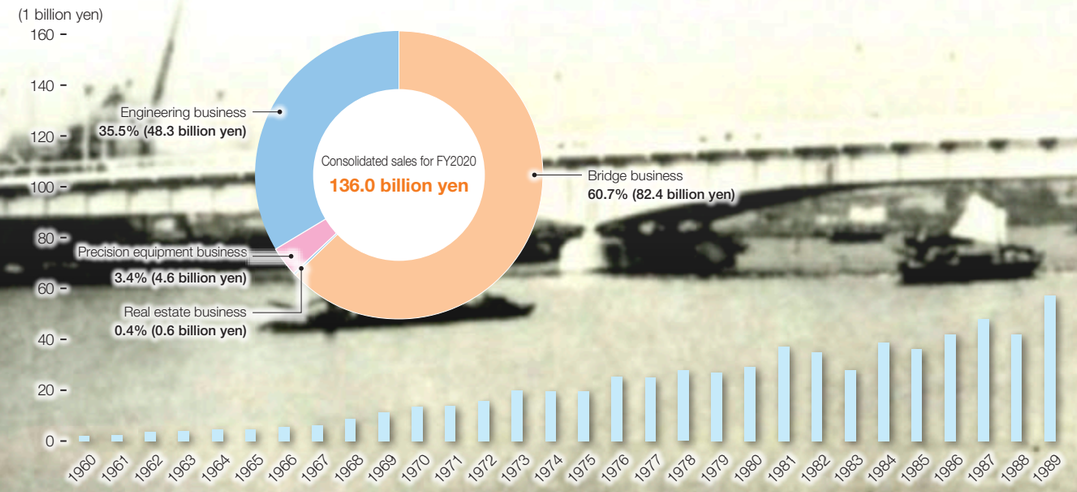
2016
An engineered structure carefully tailored to suit its purpose and usage—Nasu no Megumi Mekke!

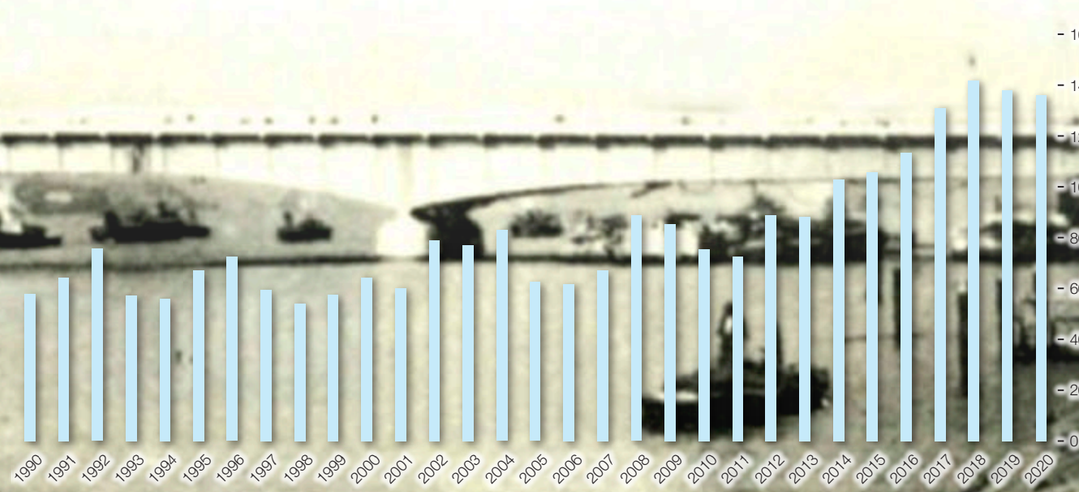
2018
Japan's largest solid-rib arch bridge: Tenjo Bridge

From 2020
Expanding into the future

Growth Strategies for Value Creation

Sales over time





The background photo shows the Kototoi Bridge, the furthest upstream of the six main bridges over the Sumida River, in 1928. At the time, this was the largest bridge in Japan.

Value Creation Process

Business environment

Social change
- Declining birth rate and aging population
- Digitization
- Workstyle and lifestyle changes

Social issues
- Infectious disease outbreaks
- Climate change
- Increasing natural disasters
- Aging infrastructure
- Decarbonized society

Industry issues
- Shortage of workers
- Work-life balance
- Prevention of occupational accident

Stakeholders

Shareholders and investors | Customers | Business partners | Employees | Local communities

Global environment

Inputs P17-18

Workforce consisting of a large number of qualified personnel

Technical capabilities accumulated through abundant achievements and experience

Corporate culture of embracing challenges as a leading company

Human capital

Employees	1,891
Qualified personnel	1,044

Intellectual capital

Patents	214
R&D spending	400 million yen

Manufacturing capital

Production bases	7
Osaka Plant	60,000 t/year
Chiba/Mobara plants	90,000 t/year

Social capital

Order value	189.6 billion yen
Distributors	Over 1,200

Financial capital

Stockholders' equity	94.8 billion yen
Interest-bearing debt	16.5 billion yen

Natural capital

Power consumption	24.23 million kWh
Steel consumption	115,000 tons

Corporate philosophy

Contribution to society and the public, and sound management P1

Management vision P1

Realization of
- Long-term protection of bridges
- Multifaceted steel structure engineering
- Creation of a resilient social environment and harmonious coexistence with the natural environment
- Construction of a robust operational foundation

as well as the pursuit of sustained expansion

Roles of YBHD Group P1

Growth strategy

Fifth Medium-Term Management Plan P7-8 P11-12

Business strategy

Bridge business	Engineering business	Precision equipment business
P21-24	P25-30	P31-32

R&D P39-42

Materiality (Key Issues) P43-44

Environmental Initiatives	Social Initiatives
P45	P46-48

Governance P49-56

Outputs


Bridges in Japan


Bridges outside Japan

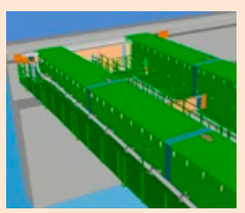

Engineered structures


Seawalls


Special-purpose buildings


Underground tunnels


Bridge attachments


Information processing

Outcomes

Economic value provided

P19-20 P57-62

Net sales	136.0 billion yen
Operating profit	15.9 billion yen
Ordinary profit	16.0 billion yen
Net income	11.2 billion yen
Earnings per share	273.09 yen
Equity ratio	59.6%
Payout ratio	19.0%

Social value provided

- Contribution to society through development of social infrastructure, etc.
- Greater customer satisfaction
- Support for employee skill development
- Accumulation of technical capabilities and know-how
- Revitalization of local economies through employment
- Consideration for the global environment

Management Resources

The YBHD Group's strengths are: a workforce consisting of a large number of engineers; technical capabilities accumulated through abundant achievements and experience; and a corporate culture of embracing challenges as a leading company. In order to bolster these further, we are working to enhance our management resources such as human capital and intellectual capital.

Human capital

Employees group-wide **1,891**
Qualified personnel **1,044**

For the YBHD Group to achieve sustainable growth, it is essential to improve the technical capabilities of employees, our human talent. Orders for public works projects in particular require experienced qualified personnel, so we need a large number of highly specialized engineers. In order to support and promote autonomous career development, the Group has a self-reporting system in which employees meet with the person in charge of their department to talk about transfer desires or skill development. We use this system to conduct job rotations and appropriate personnel assignment according to aptitude. We also actively provide support for employees to attend training sessions and seminars, including to obtain related qualifications. The broad expertise of each and every employee, deepened in this way, is the source of the Group's high technical capabilities.

Qualified personnel (engineers) As of March 31, 2021

	Persons
Professional engineers	157
First-class architects	37
First-class civil engineering management engineers	737
First-class architectural construction management engineers	113
Total	1,044

→ See P47-48 for our human resources initiatives.

Intellectual capital

Patents held **214**
R&D spending **400** million yen

The YBHD Group has built many and various kinds of pioneering buildings. As a fixed-arch bridge, the Saikai Bridge, which we worked on in 1955, was Japan's first large and long bridge. The Kasumigaseki Mitsui Building (now the Kasumigaseki Building), which we built in 1968, was Japan's first skyscraper. In addition, as a leading company, we have taken on the challenge of building other Japan-first and even world-first bridges, such as the Kurushima Kaikyo Bridge, the world's first triple suspension bridge, and Akashi Kaikyo Bridge, which boasts the world's longest span.

To further enhance the technical capabilities accumulated through such abundant achievements and experience, our Technical Research Laboratory and operating companies work together, and we focus on R&D through joint research with universities and research institutes.

Joint research achievements As of March 31, 2021

Period	Participants	Research topic
Nov. 2012 – Mar. 2019	Nippon Steel, Yokogawa Bridge Holdings, Yokogawa NS Engineering	Research on expansion device used for bridges and other structures
Dec. 2013 – Mar. 2016	Yokogawa Bridge, Metropolitan Expressway, Kawada Industries, Kawada Construction	Research on rapid construction updating techniques for existing RC slabs
Dec. 2014 – Mar. 2017	Hanshin Expressway, Hanshin Expressway Technology Center, YCE, Yokogawa Bridge	Joint research on structural improvement of closed cross-section ribbed steel plate reinforcement
Sep. 2015 – Dec. 2016	The University of Tokyo, Yokohama National University, Maebashi Institute of Technology, Yokogawa Bridge Holdings	Performance evaluation of blast furnace slag concrete for increased durability of steel bridge RC slabs
Apr. 2016 – Mar. 2019	Nippon Steel Engineering, Yokogawa NS Engineering	Structure proposal for small and medium span bridges and research on replacement and renewal techniques
Apr. 2016 – Mar. 2021	Yokogawa Bridge, Oxjack	Research on power dampers with bridge collapse prevention function
Apr. 2017 – Mar. 2021	Yokogawa Bridge, Oxjack	Development of earthquake-resistant equipment (grippers) in the direction of the bridge axis
Jul. 2017 – Jul. 2019	Yokogawa Bridge, Metropolitan Expressway	Research on the structure and construction method of slab connectors in existing RC slab renewal
Feb. 2018 – Mar. 2022	Nippon Steel, Yokogawa NS Engineering	Research on steel plate structure for rapid renewal of existing RC slab bridges
Apr. 2019 – Mar. 2021	Yokogawa Bridge, Nikkei Engineering, Yokogawa Bridge Holdings	Research on floor panel span extension in "cusa" aluminum alloy permanent scaffolding
Sep. 2020 – Mar. 2021	Yokogawa Bridge, Osaka Prefecture University	Development of damping assessment method for highly damped structures

→ See P39-42 for our R&D initiatives.

Manufacturing Capital

Production bases **7**
Osaka Plant **60,000** t/year
Chiba/Mobara plants **90,000** t/year

Osaka Plant

The YBHD Group has its own production bases, such as large plants that manufacture bridge parts, where employees and skilled craftsmen in production departments machine and assemble parts.

The Osaka Plant, our main plant, is located in the Sakai Senboku Coastal Industrial Zone. As a plant with state-of-the-art equipment, it is responsible for the production of various large steel structures.

In the engineering business, we operate at full capacity the industry's only plants dedicated to engineered structures (Chiba Plant and Mobara Plant) to further increase our market share in the field of engineered structures.

→ See P63 for information on our bases.

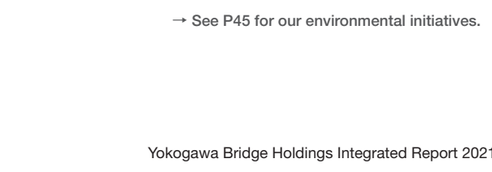
Social capital

Order value in FY2020 **189.6** billion yen
Distributors nationwide Over **1,200**
(Engineered structures affiliated builders)

In the bridge business, we have received orders for new construction, maintenance work, and overseas construction from various clients such as the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), local governments, highway companies, and private companies, based on the relationships of trust we have cultivated up to the present.

In the engineered structure system business, we are focusing on customer development and market expansion in collaboration with more than 1,200 affiliated builders nationwide.

Breakdown of consolidated orders received



Financial Capital

As of March 31, 2021

Stockholders' equity **94.8** billion yen
Interest-bearing debt **16.5** billion yen

In order to support business continuity as a builder of bridges that require 100 years of durability, we strive to ensure financial soundness with a basic capital policy of maintaining a balance between financial soundness and capital efficiency and a basic shareholder return policy of paying stable dividends and flexibly acquiring treasury stock. We secure operating capital and funds for capital investment through free cash flow and indirect procurement, and financial stability and liquidity are supplemented by commitment line agreements.

→ See P57-62 for financial information.

Natural Capital

As of March 31, 2021

Power consumption **24.23** million kWh
Steel consumption **115,000** tons

The YBHD Group strives to use resources efficiently by quantitatively ascertaining and scrutinizing resource and energy usage at its business sites in Japan.

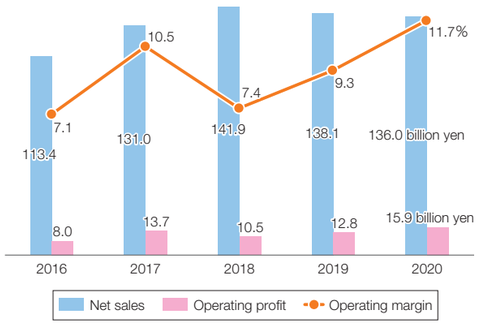
In addition, we will drive the reduction of environmental impact by actively working on the use of renewable energy and the development of environmentally friendly products and construction methods.

→ See P45 for our environmental initiatives.

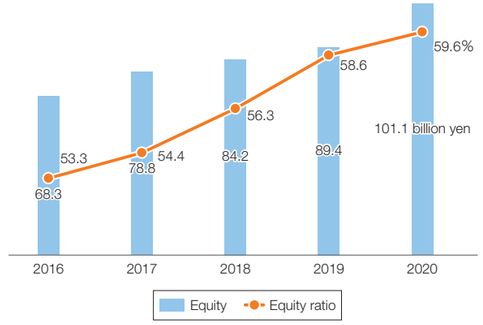
Financial and Non-Financial Highlights

(Items without notes are consolidated.)

Net sales / Operating profit / Operating margin

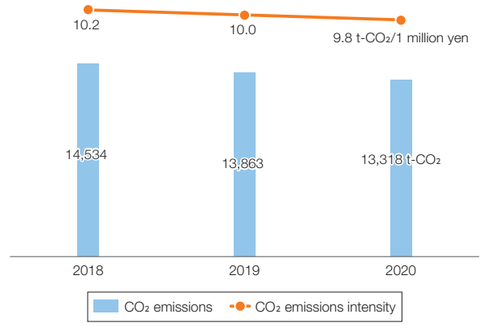


Equity / Equity ratio

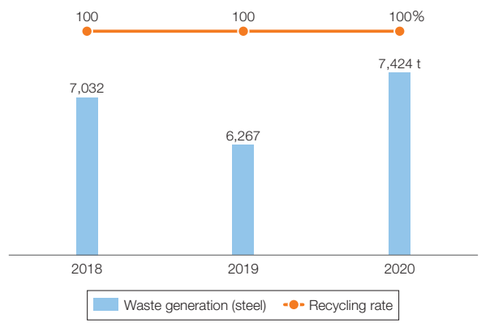


CO_2 emissions / CO_2 emissions intensity

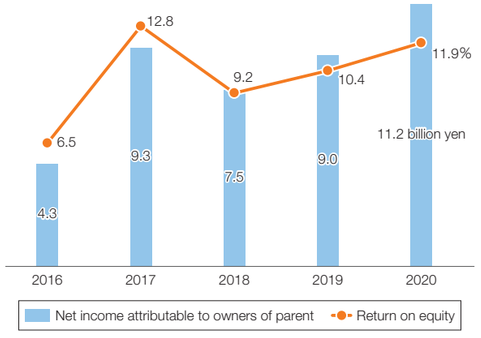
(Scope 1 and 2 for bases and construction sites in Japan)



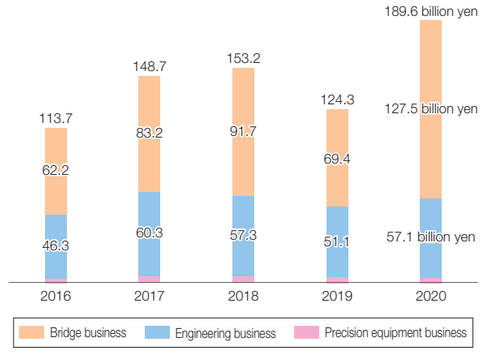
Waste generation (steel) / Recycling rate



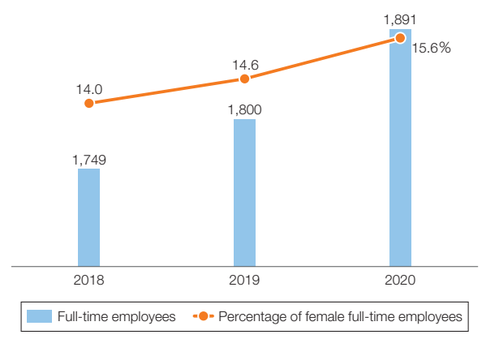
Net income attributable to owners of parent / Return on equity



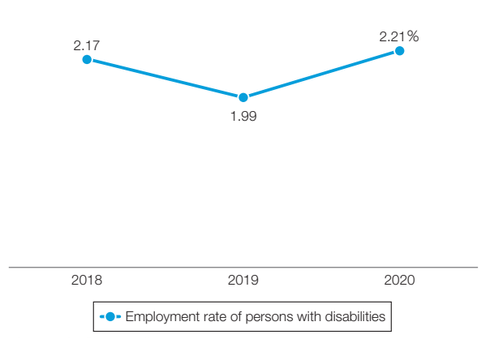
Orders received



Number of full-time employees / Percentage of female full-time employees

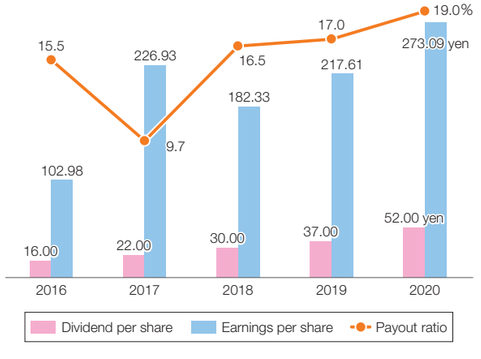


Employment rate of persons with disabilities

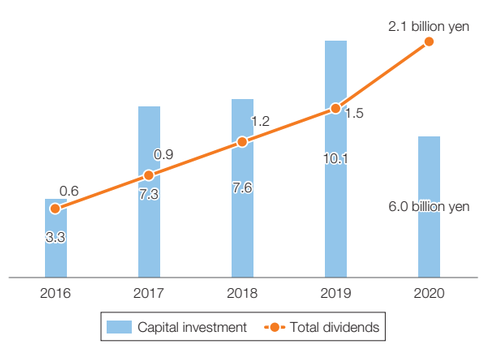


* Average for five operating companies

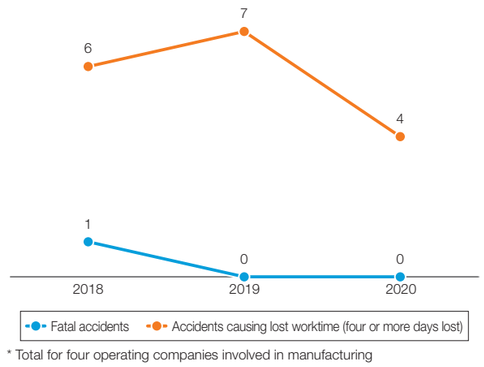
Dividend per share / Earnings per share / Payout ratio



Capital investment / Total dividends

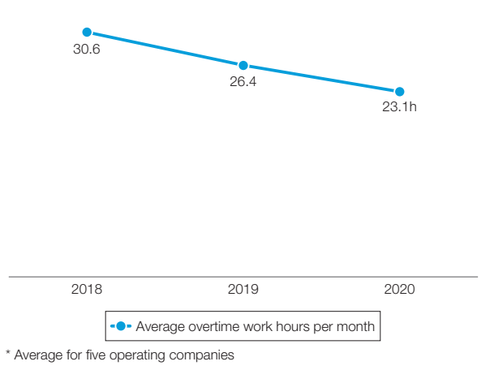


Number of occupational accidents



* Total for four operating companies involved in manufacturing

Average overtime work hours per month



* Average for five operating companies

Bridge Business

As a pioneer in steel bridges in Japan, the YBHD Group has been continually developing cutting-edge technologies for 114 years. Our bridge business consists of three businesses: the new bridge construction business, maintenance business, and overseas business.

Risks and opportunities

- Decrease in demand for new bridges
- Increase in demand for bridge maintenance
- Increase in computer-aided construction
- Safety risks such as accidents
- Quality defects
- Shortage of registered engineer
- Impact of COVID-19

Strengths

- Workforce consisting of a large number of qualified personnel
- Advanced technical capabilities accumulated over many years
- Corporate culture of taking on challenges
- Active use of state-of-the-art technology
- Ability to respond to customer needs
- State-of-the-art production plant (in Osaka) with an annual production capacity of 60,000 tons
- Possession of a full range of construction equipment
- Department specializing in computer-aided construction
- Integrated management system from material procurement to design, production, and on-site construction
- Proposal sales capabilities that take advantage of synergies across the Group

// Business situation

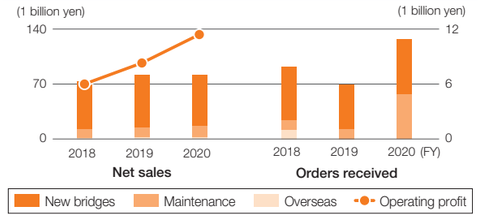
In the bridge business, the trend away from new construction towards greater emphasis on the maintenance and retrofitting of existing bridges, or in other words from "flow" towards "stock," is accelerating. In recent years, there has been growing concern that much of the infrastructure built throughout Japan during the era of rapid economic growth is starting to become old and decrepit. In response, plans are being formulated and implemented to facilitate a large-scale renewal and renovation program, with a particular focus on expressway bridges, along with large-scale repair work on the bridges of the Tokaido Shinkansen high-speed rail line. The YBHD Group's efforts to respond to the new trend in this business environment are creating results, including orders for large-scale maintenance projects with contract amounts exceeding 10 billion yen each, such as the renewal of bridges between the Ikeda and Takarazuka interchanges on the Chugoku Expressway (ordered by West Nippon Expressway Co., Ltd.) and the replacement of Anogawa River Bridge's deck slabs (ordered by East Nippon Expressway Co., Ltd.) in fiscal 2020. In addition, orders for new bridge construction remained strong, resulting in a record high in orders received for the bridge business.

As for overseas markets, while there is strong demand for infrastructure in emerging countries, risks related to the overseas business are increasing, such as the global spread of COVID-19 and the deterioration of law and order in some countries. With regard to these issues, we will move forward with our business while putting the first priority on ensuring the safety of personnel posted overseas.

Regarding human talent, which is one of the YBHD Group's strengths, we are trying to pass on skills from veterans to young employees as the shortage of registered engineer becomes an issue.

Also, with BIM/CIM, i-Construction, and other computer-aided construction using ICT increasing rapidly, we have established a department specialized in computer-aided construction in order to better address this trend.

Net sales and orders received (left axis) and operating profit (right axis) in the bridge business



ICT: Information and communications technology
BIM/CIM: The introduction of 3D modeling from the investigation, planning, and design stages, and their utilization while enriching information at each stage of subsequent construction and maintenance. Also, the effort to improve operational efficiency and sophistication in a series of construction production and management systems by sharing information among concerned parties throughout a project.
i-Construction: Initiatives to improve productivity by adopting the use of ICT on construction sites

// Business strategy

As bridge professionals, the YBHD Group has created value for society and the public by building, protecting, and passing on to future generations high-quality bridges that can withstand the test of time. Going forward, we will continue to be a leading company in steel bridge construction and aim to be a comprehensive bridge engineering company that also manufactures concrete structures. Further, we will expand our business overseas in regions where significant growth is expected in the future, mainly in Southeast Asia, Southwest Asia, and Africa.

Providing a stable supply of high-quality products through the enhancement of human capital and organizational responsiveness

Although plans for new road construction are on the decline, there is demand for new bridges as part of improvements in the road network to increase national resilience, new projects on the Osaka Bay Road, and projects to expand temporary two-lane sections of expressways to four-lanes. In maintenance work, there are large-scale renewals and renovations of expressways as well as maintenance and repair of a huge stock of existing bridges, and the amount of business related to bridges, counting both new bridges and maintenance, is increasing. In response to expanding business volume, we will further enhance our abundant human capital and optimally allocate personnel, and we will provide a stable supply of high-quality products through integrated management from material procurement to design, production, and on-site construction. In the diversifying maintenance business, we will propose construction methods that can efficiently achieve the performance required with our organizational responsiveness.

Responding to increasingly severe disasters and future changes in the environment to ensure safety and peace of mind over 100 years

In response to frequent disasters, we will work together with research institutes of the national government, road companies, universities, and industry associations to improve the performance of bridges.

In case of disaster, we have established a system that can respond to emergencies, including investigations of the safety of damaged bridges. In response to changes in the service environment, such as the increase in vehicle size and traffic volume in the future, we will draw on our abundant experience and knowledge gained from our past achievements to propose appropriate reinforcement and functional improvement methods, to improve the safety, load carrying capacity, and functionality of bridges. Based on our achievements over the years, we will continue to contribute to society by building and protecting bridges that can be used safely and with peace of mind over the next 100 years.

Contributing to the longevity of social capital stock through the development of new technologies and products

As the highways and bridges that served as the social infrastructure that has long supported Japan's postwar economy become older, there is a growing demand for maintenance and repair technology and improved maintainability. Building on our many years of experience and achievements as a leading bridge company, our engineers with advanced expertise are developing maintenance and repair methods with higher safety, workability, and durability. In addition, we have a large number of original products that help improve the maintainability and seismic performance of existing bridges. Through these technologies for extending the life of bridges, we will contribute to the maintenance of high-quality social infrastructure.

Main business overview (disclosure basis)

Project owner	Overview		Project extension	Cost	Notes
(1) East, Central, and West Nippon Expressway	Large-scale renewal	Bridge slab replacement	Approx. 230 km	Approx. 1,650 billion yen	Materials disclosed on Jan. 22, 2014
		Girder replacement	Approx. 10 km	Approx. 100 billion yen	
	Large-scale repairs	Girder reinforcement, etc.	Approx. 150 km	Approx. 260.0 billion yen	
(2) Metropolitan Expressway	Large-scale renewal	Haneda Route, Shibuya Route, Inner Circular Route	Approx. 8 km	Approx. 380.0 billion yen	Fiscal years: 2014 – 2040
	Large-scale repairs	Shibuya Route, Shinjuku Route, etc.	Approx. 55 km	Approx. 250.0 billion yen	Fiscal years: 2014 – 2024
(3) Hanshin Expressway	Large-scale renewal	Whole bridge replacement (two locations)	0.5 km	Approx. 48.7 billion yen	Fiscal years: 2020 – 2028
		Bridge girder and slab replacement (three locations)	0.9 km	Approx. 34.4 billion yen	Fiscal years: 2016 – 2029
		Bridge slab replacement (four locations)	3.1 km	Approx. 48.8 billion yen	Fiscal years: 2015 – 2029
	Large-scale repairs	Bayshore Route, Ikeda Route, etc.	57 km	Approx. 217.6 billion yen	Fiscal years: 2015 – 2029
(4) Ministry of Land, Infrastructure, Transport and Tourism	Five-year accelerated measures for disaster prevention and mitigation and national resilience	All related measures (123 measures)	–	Approx. 15 trillion yen	Fiscal years: 2021 – 2025
(5) Kinki Regional Development Bureau, Hanshin Expressway, etc.	Large-scale renewal	Western extension of the Osaka Bay Road	14.5 km	Approx. 500.0 billion yen	Fiscal years: 2016 onward

New bridge construction business

Kesennuma Bay Bridge Kawaguchi Area Upper Works

Kesennuma Bay Bridge Kawaguchi Area Upper Works, ordered by the Tohoku Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism, is a bridge that constitutes a part of the Sanriku Coast Expressway / Kesennuma Bay Bridge, an earthquake reconstruction road. It is a steel 7-span continuous box girder bridge with a bridge length of 473.5 m, a width of 12.67 m, a steel weight of 2,955 t, and a maximum effective span length of 90.5 m. 2 spans that include the span with the longest effective span length were installed using the incremental launching method. Since a large curvature occurs in girders with a long span, we dealt with this using a curvature handling device, a technology patented by the YBHD Group, and completed the construction safely. It was opened to traffic on March 6, 2021.

Incremental launching construction (The part that is temporary support diagonally upward at the end of the girder on the left side of the photo is the "curvature handling device.")

Shinmachigawa Bridge

Shinmachigawa Bridge, ordered by the Shikoku Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism, is a bridge located in the central portion of the Tokushima-Nanbu Expressway (2.4 km extension between Tokushima Okinosu and Tokushima Tsuda interchanges). It is a steel 3-span continuous steel deck plate box girder bridge with a bridge length of 500.0 m, a width of 28.6 m, a steel weight of 9,364 t (including 2,842 t constructed by the YBHD Group), and an effective span length of 250 m. For a continuous box girder bridge, this effective span length is one of the longest in Japan. Japan's largest floating crane (load: 4,100 t) was used to erect the bridge, which was conducted with the large block erection method. It was opened to traffic on March 21, 2021.

Large block erection using a crane vessel

Maintenance Business

Repair work on Kanmon Bridge

Opened in 1973, Kanmon Bridge is a suspension bridge (with a maximum effective span length of 712 meters that was the longest in the East at the time) connecting Shimonoseki, Yamaguchi Prefecture, and Kitakyushu, Fukuoka Prefecture. As more than 40 years had passed since it went into use, refreshment work has been carried out since fiscal 2011 from the viewpoint of preventive maintenance. The YBHD Group is performing stiffening girder repair work and cable repair work (both ordered by West Nippon Expressway). In the stiffening girder work, we are re-painting the center span (Moji side), replacing stringer supports, replacing bolts, etc. In the cable work, we are re-painting the main cable and hanger ropes for the entire bridge, replacing hand ropes, and installing air feed equipment as a countermeasure against the rusting of cables.

Installation of work scaffolding on a main cable using a vehicle for work at height

"cusa" on Joyo Elevated Bridge No. 2

During construction to open the entire Shin-Meishin Expressway, a "cusa" aluminum alloy permanent scaffolding was installed at Joyo Elevated Bridge No. 2, which crosses the Kintetsu Railway's Kyoto Line. Since maintenance work above the railway would be difficult when it is in service, this product, which can cover the girders completely with panels to enable safe work at all times, was adopted. The aluminum alloy panels are lightweight and the main installation work was done by manpower. In addition to its function as permanent scaffolding, cusa is expected to be utilized in many ways as a bridge maintenance technology, such as an anti-corrosive function for the girders and providing strength to prevent concrete from falling off below the girders.

Girders and cusa (gray section above the railway) under construction

Overseas business

In our overseas business, we are focusing on ODA construction in emerging countries in the region from Southeast Asia to the African continent. Recently, in addition to the construction of bridges on National Highway N-70 in Pakistan, we have a track record of renovation work that includes Chroy Changwar Bridge in Cambodia (photo on left). Meanwhile, major projects that we are currently working on include the Nile River Bridge in South Sudan and the Kalna Bridge in Bangladesh. For the Nile River Bridge, a Langer bridge will be built over the Nile River, which divides South Sudan east-west. It is expected to contribute to the revitalization of international logistics and economic activities in South Sudan, where the effects of civil war still remain (see column).

The Kalna Bridge will be built at the Madhumati River crossing as part of Asian Highway 1, an international highway crossing Bangladesh. It will be a Nielsen-Lohse bridge with an effective span length of 150 meters (photo on right). In addition, in Tanzania, we are proceeding with the construction of Gerezani Bridge, which will be an overpass. In this way, we are carefully moving ahead with overseas projects despite being affected by the global spread of COVID-19, and we will continue to develop our overseas business to contribute to the development of local infrastructure.

Installation of panel scaffolding for repair and painting of Chroy Changwar Bridge

Temporary assembly of Kalna Bridge at in Vietnam production plant

South Sudan Nile River Bridge Project

Yoshinori Hidai, Overseas Business Dept., Yokogawa Bridge

This project will to build a new bridge to replace an aging existing bridge over the Nile River flowing outside Juba, the capital of South Sudan. It is being carried out as a grant aid project by the Japanese government through the Japan International Cooperation Agency (JICA). The bridge has a length of 560 meters, and the main river part is a Langer bridge, a kind of arch bridge, built in four consecutive spans. Although it began in 2015, construction was interrupted three times due to multiple civil wars and the spread of COVID-19. This bridge is called the Freedom Bridge locally, and I hope that it will contribute to the development of South Sudan as much as possible.

Engineering Business

The YBHD Group's civil engineering business consists of three businesses: engineered structure system, civil engineering, and construction machinery and steel. The Engineered structure system business has established itself as the No. 1 in the industry through production at a dedicated plant and by realizing short construction periods. We are also applying the technology we have cultivated over many years in the bridge business to work on the civil engineering and the construction machinery and steel businesses.

Risks and opportunities

- Safety risks such as accidents
- Building market trends
- Shortage of registered engineer
- Political and economic situation at overseas bases
- Impact of COVID-19
- Growing need for disaster prevention facilities and flood control techniques due to the intensification of natural disasters
- Market expansion of sports business
- Underground use in metropolitan areas

Strengths

- Workforce consisting of a large number of qualified personnel
- Advanced technical capabilities accumulated over many years
- A corporate culture of taking on challenges
- Active use of state-of-the-art technology
- Ability to respond to customer needs
- Collaboration with more than 1,200 affiliated builders nationwide
- The industry's only dedicated plant with an annual production capacity of 90,000 t
- High productivity through the use of robots

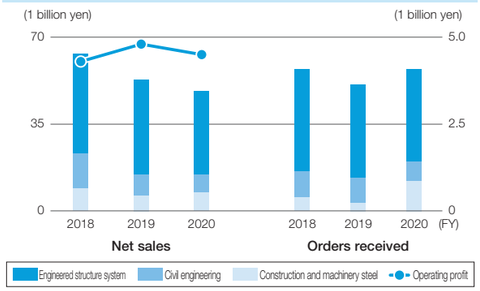
// Business situation

There are various functions required of buildings depending on the type, and among them, in buildings such as plants and warehouses, short construction periods and low costs are especially required. The YBHD Group has realized shorter construction periods and lower costs by using longer and lighter parts that apply our steel bridge technology cultivated over many years, as well as by developing "yess buildings" based on our unique systemization from design to construction.

Moreover, for 114 years since the Group's founding, we have been working on many innovative structures with comprehensive engineering, drawing on technologies built up in various fields such as architecture, bridges, and electrical control. These technologies are diverse, ranging from those used in the civil engineering business, which builds off-shore and port structures for disaster prevention and contributes to the fulfilment of underground tunneling projects that respond to the growing density of cities, to those used in the construction machinery and steel business, which contributes to infrastructure development by applying steel bridge construction and other technologies, including special structures that create new value by making buildings themselves movable.

These technologies have received high ratings from various quarters as technologies unique to the YBHD Group, which has been manufacturing steel structures for many years.

Net sales and orders received (left axis) and operating profit (right axis) in the engineering business



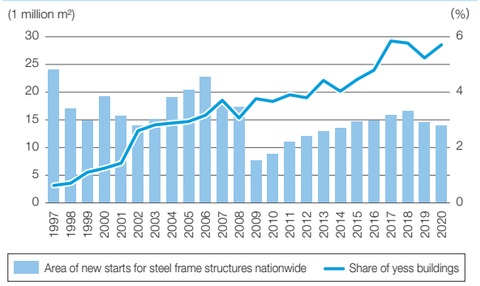
// Business Strategy

In the engineered structure system business, which is a pillar of the YBHD Group's growth, we operate the industry's only dedicated engineered structure manufacturing plant at full capacity to further increase our market share in the field of engineered structures. In the civil engineering business and the construction machinery and steel business, we will create new value in buildings and contribute to infrastructure development.

Engineered structure system business
Aiming for a further increase in market share through wider penetration by the "yess" (Yokogawa Engineered Structure System) brand

The functions required of buildings vary depending on their type. Low cost and short construction periods are especially important factors in the construction of buildings such as factories and warehouses. With engineered structures, by standardizing the parts that make up a building, we have achieved low costs and short construction periods through the "systemization" of total building production from design to on-site work. Yokogawa System Buildings' "yess buildings" are engineered buildings that provide high quality with short construction periods at a low cost thanks to the Group's unique steel structure technology. We have established ourselves as No. 1 in the field of engineered structures.

Area of new starts for steel frame plants, warehouses, and works nationwide, and the share of "yess buildings"



In collaboration with more than 1,200 affiliated builders (sales and construction agents) nationwide from Hokkaido to Okinawa, we will focus on developing potential customers and expanding sales channels, while at the same time enhancing our technical support system to boost our technical proposal capabilities, increase customer satisfaction, and increase orders received.

We will also continue our standardization and streamlining efforts in the fields of design, production, and on-site construction. Specifically, we will aim to reduce costs and improve safety by streamlining materials, specifications, and structures in the course of technological development.

Furthermore, we will improve profitability by increasing the accuracy of estimates and quotes, improve the accuracy of process control, and improve field profits through efficient on-site staffing by developing various construction tools.

Trends in the market and orders received for yess buildings
(As of March 2021)

	2018 performance	2019 performance	2020 performance
Market size (1 million m²) Steel frame plant warehouses	16.6	14.5	13.7
Market size (buildings) Steel frame plant warehouses	18,300	17,300	15,800
Orders area (1,000 m²)	961	772	798
Share of orders area	5.8%	5.3%	5.8%
Order amount (million yen)	40,894	37,569	37,113

Civil engineering business
Providing disaster-resistant off-shore and port structures, and taking up the challenge of building underground tunnels

In the civil engineering business, we have established an unrivaled advanced business structure covering everything from material development to design, production, and construction by making full use of the YBHD Group's management resources: technical proposal capabilities, product development capabilities, and production capabilities.

By leveraging the know-how that we have cultivated in the bridge business, we are taking on the challenge of developing new earthquake- and tsunami-resistant off-shore and port structures. In the construction of disaster prevention facilities to counter increasingly severe disasters and renewal work for aging roads and other infrastructure, optimal structures are required given various site conditions such as needs related to space-saving and rapid construction.

By centrally managing every aspect from technical proposals to design, production, and construction, the Group provides high-quality products such as seawalls that protect nuclear power plants from tsunamis and steel-concrete composite culverts that enable rapid road construction.

Normal seawalls stop tsunamis by piling earth up high. In contrast, the steel seawalls and precast composite structure seawalls that the Group manufactures appear as concrete seawalls, but their combination with steel materials creates strong walls that can protect coastal safety with a very small site area compared to conventional seawalls.

Steel-concrete composite precast seawall

Furthermore, we will contribute to society through infrastructure development and the improvement of national resilience by aggressively taking on the challenges of the steel segment business in response to the trend towards utilization of underground space, such as for major urban ring roads, which are becoming deeper with larger cross-sections.

In highly developed metropolitan areas, the maglev Shinkansen, the Tokyo Outer Ring Road, and even reservoir facilities for flood control measures are being developed underground, advancing the effective use of multilevel underground spaces.

The Group meets the diverse needs of customers with a variety of products, centered on segment products that cover the inner surface of tunnels and including thick-walled tubular steel columns that support the huge load in underground spaces.

We began selling segment products in the 1960s and have been actively engaged in the development of new technologies, such as the six-sided steel shell sandwich composite segment, which is a proprietary product, and the TUF segment, jointly developed with Hazama Ando Corporation. Based on the relationships of trust we have cultivated with our customers over many years, we aim to further develop our business by proposing new technologies, such as the establishment of a manufacturing system linked to on-site measurement technology.

Temporary assembly of a steel tunnel segment

Future underground tunnel projects

Hokkaido Shinkansen construction
Chuo Shinkansen construction
Tokyo Outer Ring Central JCT construction
Metropolitan Expressway tunnel construction
Osaka Subway tunnel construction

Construction and machinery steel business
Contributing to a wide range of infrastructure improvement projects by applying steel bridge construction technology to other sectors

By applying the advanced technology and revolutionary solutions that we have cultivated at bridge erection sites to the building construction sector, we have won high praise for our work on steel frameworks for high-rise buildings, etc., and on the construction of large structures such as dome-type sports stadiums.

Retractable roofs for swimming pools and stadiums, and special structure technologies that make buildings movable were created through comprehensive engineering that leveraged our technologies in various fields such as architecture, bridges, and electrical control, built up over the 114 years since the Group's founding. With few companies able to tackle these kinds of structures, we have won high praise from various quarters for technologies unique to the YBHD Group that can handle all kinds of buildings, such as drive systems and opening/closing patterns tailored to the size and purpose of the structure.

Our special structures movable system has been adopted in more than 150 facilities, ranging from sports facilities such as swimming pools to cultural facilities and large domes.

Noevir Stadium Kobe retractable roof

In our machinery steel business, we are actively conducting sales with the aim of securing an increase in orders for products such as penstocks, water gates (floodgates), ship-lifting equipment, and water treatment equipment.

We are working actively on technological development to meet changes in customer needs for our original products—ship-lifting equipment and water treatment equipment—to further develop our business.

Flap gate (floodgate) in Kenbuchi, Hokkaido

// Engineered structure system business

Here, we introduce WAM All Athlete Station, an indoor sports facility run by Asano Enterprise in Takamatsu, Kagawa Prefecture, as an example of a engineered structure made into a sports facility.

WAM All Athlete Station

The building, 37.8 meters long × 30.6 meters wide, is a custom type with pillars at the location of the roof ridge. It has a 25-meter pool with eight lanes, a training gym, and a two-story office. It is a full-fledged sports facility equipped with starting blocks for official competitions—a first for a privately run facility in Kagawa Prefecture—as well as the latest equipment, such as a water purification system and a hyperbaric chamber. Engineered structures are widely used not only for facilities such as plants and warehouses, but also for stores and sports facilities.

Kyoto Office of Otomo Logistics Service Co., Ltd.

This is the Kyoto Office, located in Yawata, Kyoto Prefecture, of Otomo Logistics Service Co., Ltd.

The building is a 149.6-m wide × 66.88-m deep logistics warehouse with an area of more than 10,000 m^2. On the foreground side, 25.5 meters of the 66.88-m depth are a lean-to style format with a two-story office and truck pit. The back 41.38 meters are a warehouse space with no indoor pillars. The spacing between steel columns in the direction of the crossbeams is all a wide 8.4 meters except for the office area. Including the Kyoto Office, Otomo Logistics Service Co., Ltd. has constructed 21 yess buildings nationwide.

These buildings are structures with large spaces, where yess buildings excel. They provide high quality, short construction periods, and cost performance, earning high ratings from customers.

Kanku Ice Arena

Kazuyuki Kurata, Osaka Construction Dept., Yokogawa System Buildings Corp.

The Kanku Ice Arena, built in Izumisano, Osaka Prefecture, is a building that makes the most of the features of yess buildings, with a pillarless span of 56.7 m × a depth of 66.0 m.

During construction, the wind from Osaka Bay was blowing constantly, and we worked carefully to keep the major beam erection work during the steel frame construction from being shaken by the wind. From the middle of the construction work onward, we held daily meetings, coordinated where work intersected with other companies' work, and handled visitors from various fields.

In a follow-up after building completion, I was moved to see a well-known athlete practicing in the rink, and I was proud to think that all kinds of drama will play out in this building that I worked on.

Civil engineering business

In the civil engineering business, we mainly manufacture civil engineering structures using steel materials. Typical civil engineering structures are things called “tunnel segments” that lead to underground spaces. These segments, which play a part in the construction of underground spaces, are manufactured mainly as steel segments that can be built in a short period using steel materials and provide excellent flexibility and quality, as well as composite segments integrated with concrete. In particular, in recent years, many segments have been used in large-scale spaces and irregularly shaped tunnels, such as for underground highways and subways in the Tokyo metropolitan area.

The photo below shows the inner surface of a subway tunnel built using our unique six-sided steel shell sandwich composite segment. Taking advantage of its high strength features, it was used for the large cross-sectional area of the confluences near stations.

We conduct actual-size ring loading tests to confirm high load performance.

We expect great demand for tunnel segments for underground highways in the Tokyo metropolitan area and railway-related projects such as the maglev Shinkansen.

Completed subway tunnel

Actual-size ring loading test

Highway tunnel

The picture above shows the construction of an underground highway using a steel-concrete composite box culvert. It is a large cross-sectional structure, 18.4-m tall × 43.8-m wide, with eight lanes of road running through on two levels. The construction required a very high level of technical expertise, as the location conditions above-ground included a railway line.

Going forward, we will continue to contribute to the effective use of underground spaces with a variety of products, such as underground passageways where the walls of the steel segments are used as is in the design, and thick-walled tubular steel columns that support station buildings built underground.

An underground passageway where the exterior wall of steel segments is visible

Expertise not only in bridges but also underground spaces

Shota Okamoto, Underground Space Technology Dept., Yokogawa NS Engineering Corp.

Currently, I am involved in the development and design of segments that are indispensable for building underground spaces such as roads, subways, water and sewerage systems, and multipurpose utility conduits. There is no *fixed solution* to challenges in this work. For tunnels, the design conditions are different at every site depending on construction methods and the surrounding environment, such as ground and underground water. We look for solutions through trial and error to make the structure high quality and easy to construct, according to each condition. I find this job satisfying and interesting because my ideas are adopted and used to create actual structures. I hope to continue it with pride and master it. I aim to become an engineer with such diverse perspectives who knows voices and thoughts of staff in the factory and site.

Construction and Machinery Steel Business

Kawaguchiko Stellar Theater

The photo above shows the Kawaguchiko Stellar Theater in Fujikawaguchiko, Yamanashi Prefecture.

It opened in 1995 as an outdoor music hall with approximately 3,000 seats in a 72-meter diameter semicircle. In 2007, the YBHD Group installed a movable roof, transforming the building into an all-weather outdoor music hall.

When it was constructed, few performances were planed due to the vulnerability of performers’ musical instruments to rain and dew and the risk of poor weather, so it continued to draw only about 10,000 visitors per year. After the retractable roof was installed, the worry of wind and rain was eliminated while maintaining the openness of an open-air venue. With this, the number of concerts by famous performers from Japan and overseas increased dramatically, and the annual number of visitors now exceeds 70,000.

Ship-lifting equipment

Ship-lifting equipment refers to a facility in which a ship is guided over a set table, and then the table and the ship are raised together. The YBHD Group’s ship-lifting equipment has been installed at more than 80 fishing ports nationwide, mainly in Hokkaido. It can launch and lift ships out of the water in a short time, and also meets the needs for high safety and labor savings.

Penstocks

Penstocks are facilities that supply water to hydroelectric plants, one of the sources of renewable energy. The YBHD Group will contribute to the realization of a sustainable society through the recovery of clean energy.

Development of a new water treatment system

Tetsuya Kuroda, Machinery Steel Dept., Narasaki Seisakusyo Co., Ltd.

Turbid water is always generated at civil engineering and building construction sites. Construction turbid water must be treated appropriately according to the standards specified by law. We have been working on this issue for half a century and sell turbid water treatment equipment. I am currently involved in the development of a new water treatment system that improves turbid water processing capacity. The new water treatment system combines sedimentation separation technology that sinks grime and floatation separation technology that floats grime. We are currently developing products that meet customer needs. Going forward, we will continue to contribute to the realization of a sustainable society through water treatment technology.

Precision Equipment Business

Our precision equipment business consists of two businesses: the precision equipment manufacturing business, which uses various steel structure technologies that we cultivated over many years in the bridge business; and the information processing business, which provides strong support to design, manufacturing, and management operations not only within the YBHD Group but also for the wider steel bridge industry.
The precision equipment manufacturing business supports the production of precision machinery manufacturing equipment that is used in the production of semiconductors, LCD and OLED panels, etc., and ensures a stable supply of steel framework products that are the skeletons of high-precision equipment.
In the information processing business, we develop and sell software in the "3M" areas of modeling (information analysis and design), manufacturing, and management nationwide.

// Business situation

The precision equipment manufacturing business develops, designs, manufactures, and sells relatively large high-precision steel frameworks for private customers in the high-tech sector. Frameworks manufactured by the YBHD Group play an important role as the skeleton of high-precision equipment, such as devices for manufacturing LCD and OLED panels for TVs and devices for manufacturing semiconductor components such as IC chips. Recently, there has been a growing demand to switch smartphone screens from LCD panels to OLED panels, so orders received for products for OLED panel manufacturing equipment are on the rise. Our Izumi Plant in Izumi, Osaka Prefecture, which is a manufacturing base, has facilities such as a large five-face machining center and a 3D measuring machine. It manufactures high-precision frameworks that need micron (1/1,000 mm) level accuracy. In 2019, our Kishiwada Plant in Kishiwada, Osaka Prefecture, went into operation as a second plant. It has a mass production system for a wide variety of products.

Izumi Plant (Izumi, Osaka Prefecture)

Kishiwada Plant (Kishiwada, Osaka Prefecture)

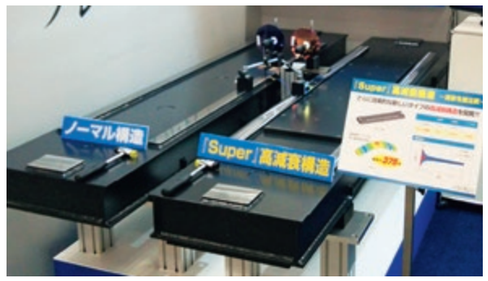
Large five-face machining center

3D measuring machine

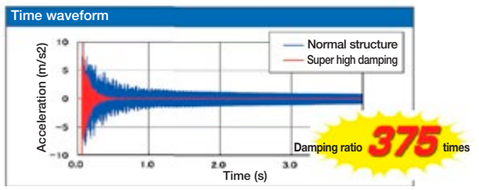
// Business strategy

Precision equipment manufacturing business

We have put in place an integrated production management system from frame product design to manufacturing, quality assurance, and shipment, with the aim of providing our customers with a stable supply of high-quality, high-precision products with excellent cost performance. In addition, with the Group's proprietary high-damping structure frameworks, we aim to meet various needs by providing a technology that improves the accuracy and speed of high-precision equipment, which cannot tolerate minute vibrations that are invisible to the human eye. Going forward, we will continue to aim to develop products in a wider range of fields.



	Frequency	Damping ratio	Vs. normal
Normal structure	128Hz	0.020%	–
Super high damping	138Hz	7.500%	375 times

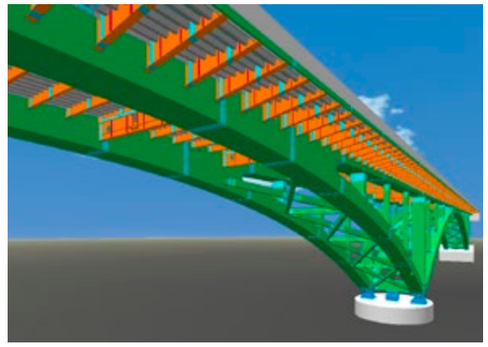


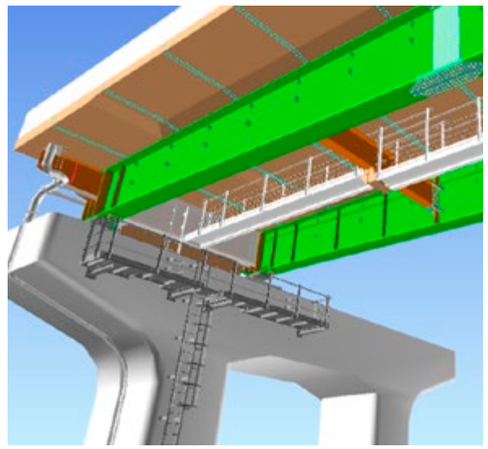
High-damping structure framework and vibration damping effect

"Anchor version VFORM," an example of 3D measurement of anchor bolt position

Information processing business
Providing value-added solutions that meet the needs of today's era of cutting-edge technology

We develop and sell software in the "3M" areas of modeling (information analysis and design), manufacturing, and management. Our products—which include the APOLLO system, a total solution for bridge design incorporating linear, analysis, design, drawing, and materials calculation functions, CasterJupiter, a 3D full-scale system that supports the production of steel bridges, and CA* (Castar), a CAM system for steel structures—have earned a large market share and a strong reputation in the steel bridge sector. Further, we offer an impressive line-up of 3D measurement systems, and are able to meet customers' needs by providing products that support steel bridge design, construction, and management operations. Going forward, we will contribute to the industry by providing value-added solutions that meet the needs of the times.





A 3D model using CastarJupiter data

Special Feature

Yokogawa's Manufacturing

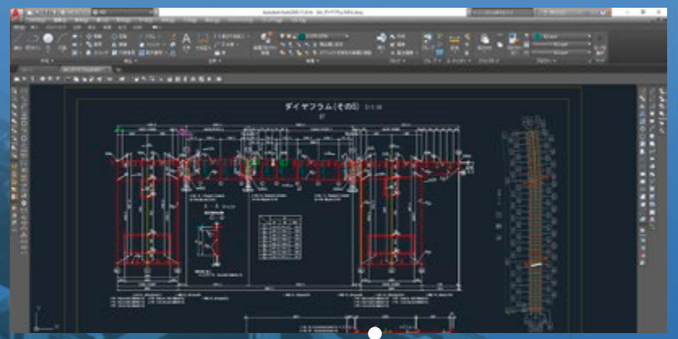
Building Strong Bridges Bridge Building Process

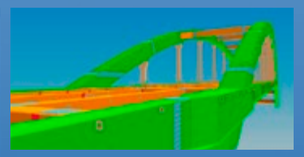
The YBHD Group accurately meets diverse requests and contributes to the development of social infrastructure by exercising its comprehensive technical and management capabilities in all processes of bridge design, production, and construction.

Manufacturing: Arranging materials → Cutting / machining → Welding / assembly → Temporary assembly → Painting

Construction: Erection → Deck → Painting

Order → Design → Transportation → Completion



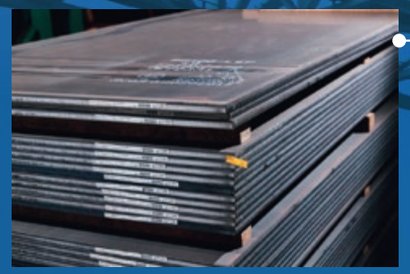


After doing comparative designs to select the form of the bridge according to the road plan and conditions, a detailed design is made, including the creation of detailed drawings. In addition, a design review is conducted to verify the validity of the design.

Order

Design

Mfg. Arranging materials

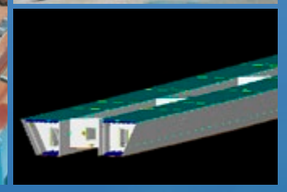


Materials are procured based on the design. The main material is steel plate.

Mfg. Cutting / machining

The procured steel plate is cut into the designed shape. Steel bridges are manufactured in blocks that can be transported from the plant to the construction site. It is common to use bolts as the method of joining the blocks that make up a bridge. For this reason, bolt holes are drilled at the joints of the cut steel plates.

Mfg. Welding / assembly



Assembled blocks are fully or partially assembled into the bridge's finished shape to check that there are no errors in shape and dimensions, making sure that there will be no problems in on-site construction. There are two kinds of temporary assembly: actual temporary assembly in which the blocks are actually assembled, and simulated temporary assembly using a computer-based 3D measurement system.

Mfg. Temporary assembly

Bridge blocks after finished painting in the plant are transported to the construction site.

Mfg. Painting

After temporary assembly, the blocks are dismantled again and painted. Some bridges use weather-resistant steel materials that do not require painting.

Individual steel plates that have been machined, such as the drilling of holes, are assembled by welding to create the shape of the blocks that will make up the finished bridge.

Transportation

Building Strong Bridges Bridge Building Process

Manufacturing: Arranging materials → Cutting / machining → Welding / assembly → Temporary assembly → Painting

Construction: Erection → Deck → Painting

Order → Design → Manufacturing → Transportation → Construction → Completion

Construction site experts gather to build the bridge with great care for safety. Depending on the type of bridge, topography, environment, and other conditions on site, the way the bridge is supported during construction and the block transportation equipment will change. Moreover, there are about 20 methods to erect bridges. In order to stick to the schedule for completion while ensuring safety as the top priority, it is necessary to respond quickly to daily changes in circumstances. Every time someone has a question, no matter how small, work stops and it is checked and discussed as many times as needed until everyone agrees.

Individual blocks are assembled on the ground or on temporary facilities into a size suitable for erection. The blocks are joined by welding and bolting.

Photo provided by East Nippon Expressway Co. Ltd.

Once completed, the bridge will be a route over which people, goods, hearts, and cultures pass. It will continue to support safe and secure lives by connecting people and communities.

Const. Erection

Temporary facilities

Temporary facilities set up to support the bridge during construction. The temporary facilities are dismantled after all erection work is completed.

Ground assembly / Girder construction

One by one, the assembled blocks are lifted into place using cranes, etc., and assembled into a bridge.

Const. Deck

A deck that vehicles can travel on is built on top of the erected steel girders. The material is mainly reinforced concrete, but there are also steel decks manufactured from steel plate in plants.

Const. Painting

The joints between the blocks are painted on-site the same as in the plant.

Completion

Building Large Roofs Warehouse Building Process

Yokogawa Engineered Structure System ("yess buildings") is an architectural brand that specializes in large, pillarless spaces that are manufactured and constructed by applying Yokogawa's own structural specifications to the engineering of engineered structures. This enables the construction of high-quality buildings, mainly plants and warehouses, with short delivery times at low cost by standardizing parts such as beams, pillars, roofs, exterior walls, fittings, etc.

In addition to direct sales activities, we are developing this business by leveraging our network of more than 1,200 affiliated builders nationwide.

What are yess building sales and construction partners (affiliated builders)?

More than 1,200 affiliated builders nationwide serve as direct contacts for customers, and the YBHD Group's Yokogawa System Buildings supports the builders. To facilitate clients' business expansion and ensure their capital investment goes smoothly, we provide support together with builders, from consultation to construction and maintenance.

Client

Affiliated builder (contact point)
Everything from estimates to construction

Yokogawa System Buildings (manufacturer)
Design and production

New Shimodaira Plant, Taisei Co., Ltd.

Ichinomiya Logistics Center, Mylogi Co., Ltd.

Niigata Plant, Chiyoda Shoes Co., Ltd.

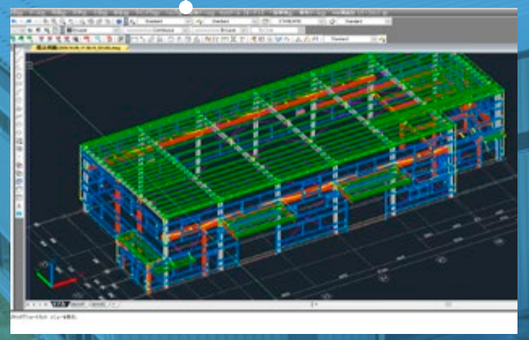
Nasu no Megumi Mekke!, Nasu Rindo-ko Lake View

Reasonable and economical construction methods enable construction in a short period. Moreover, since yess buildings can have pillarless spaces of up to 60 meters, they can be used in various fields such as sports facilities and stores in addition to warehouses.

Order-taking

Design

The design and production system for yess buildings is based on the steel bridge structure technology we have cultivated in the bridge business. This is achieved through the SCAPY3D & YMD System, a structural design and production design system exclusively for yess buildings that has been independently developed by Yokogawa System Buildings.



Production

We have established a system to produce yess buildings in our own dedicated plant, the only one in the system building industry. This allows us to provide high-quality materials in a short time and at a low cost.

Construction

Mobara Plant

Completion

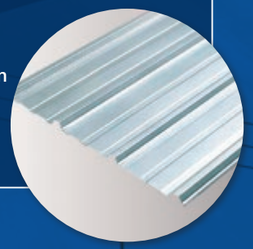
Four systems to create yess buildings

Frame system for yess buildings

Our proprietary design method enables weight savings and large spans in the frame used for pillars and beams.

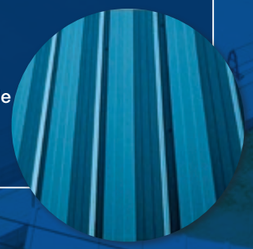
Roof system for yess buildings

Metal roofs set with insulation ensure high insulation at low cost.



Wall system for yess buildings

We have a large lineup from which selections can be made according to the application and design.



Accessories for yess buildings

We provide a full range of accessories such as shutters, fittings, cranes, etc.

R&D

Research and development in the YBHD Group focuses on the acquisition and innovation of basic technologies for steel structures related to the bridge business and applies our elemental technologies to the civil engineering business and precision equipment business to advance product development and new development. We also conduct research and development leading to business and product commercialization involving unique technologies owned by each Group company in fields such as the environment and information processing.

// R&D system

Yokogawa Bridge Holdings' Technical Research Laboratory carries out investigative research on basic technologies and develops technologies before they are commercialized into a business. Each operating company conducts development for the improvement of its own products and business feasibility studies. Yokogawa Bridge Holdings' Engineering Management Office oversees all technology development in the Group and manages the direction, budget, and implementation status of technology development. By actively using the new technologies we have developed, we will provide workable and durable social infrastructure, thereby helping to improve productivity and reduce maintenance costs in the future.

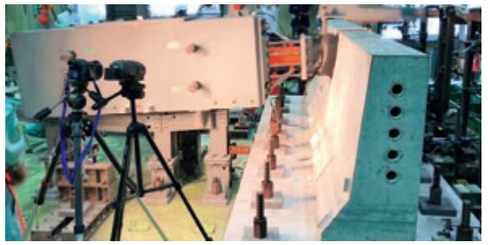
At the Technical Research Laboratory, a full-time research staff supports basic research, technical support for actual construction, and research and development across the entire Group.

Load testing of rigid connection of superstructure and substructure for Tamagawa Sky Bridge

// R&D in the bridge business

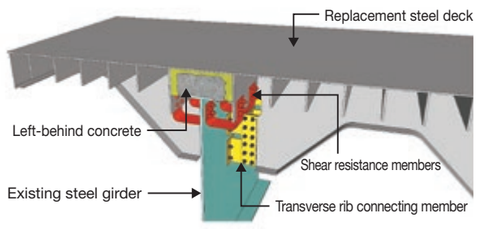
Technology development in the bridge maintenance business

Large-scale renewal and repair projects, mainly on expressways, are at their height, and there is a growing demand for technologies that are effective in improving safety at construction sites and shortening construction periods. As new technologies to respond to this demand, we developed a new method for cutting and removing existing decks, a new pre-cast wall balustrade Rapid Guard Fence, a deck replacement method STEEL-C.A.P. (co-developed with Nippon Steel Corporation), and a small- to medium-span bridge replacement method NY Rapid Bridge (co-developed with Nippon Steel Engineering Co., Ltd.).



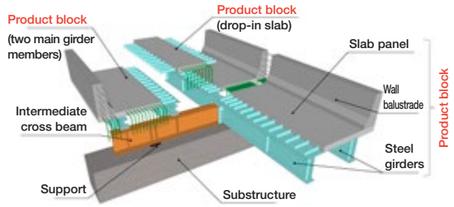
Pre-cast wall balustrade Rapid Guard Fence

The STEEL-C.A.P. method replaces existing RC decks with high-performance steel decks, and by engineering a connection between the steel girders and steel deck, the work of removing concrete on the girders, which is usually necessary, can be omitted, making rapid construction possible. We are developing this as a method applicable even on heavy traffic routes where road regulation conditions are especially tough.



STEEL-C.A.P. method for replacement steel deck

NY Rapid Bridge is a new type of composite deck bridge suitable for small- and medium-span bridges with demanding girder height and crossing conditions. Since "steel girder + deck concrete" are erected in the form of product blocks that are manufactured as units in the plant, it is possible to replace a bridge with rapid construction.



Overview of NY Rapid Bridge

Rust and corrosion prevention for existing steel members are also important themes. We are expanding the application of a paint removal method using IH (electromagnetic induction heating) and also conducting R&D into renewal technologies for various anti-corrosion methods.

Expanding the application of a paint removal method (application to a main cable of the Kanmon Bridge)

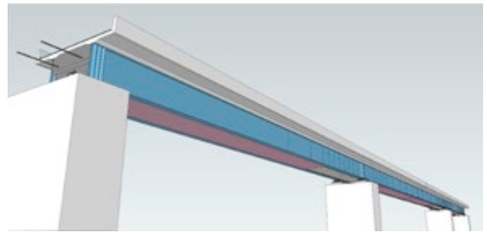
Development of a mobile scaffold for scaffolding disassembly

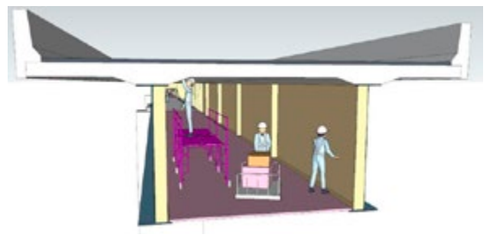
We have developed a mobile scaffold for scaffolding disassembly to make scaffolding disassembly safer, and confirmed its effectiveness on actual bridges. The structure allows middle bridge piers to pass through so that it can be applied even with continuous girders, and the floor surface is made of "cusa" aluminum alloy permanent scaffolding panel material to reduce weight and improve safety. It can be expected to be applied to scaffolding disassembly work in ultra-high places where vehicles for work at height cannot be used. In addition, we have developed a device that sounds an alarm when the safety belt hook is not in use, which is effective in preventing human error fall accidents, and confirmed its effectiveness in performance tests. We will always use the latest elemental technologies to improve work safety in our measures to prevent occupational accidents.

Mobile scaffold for scaffolding disassembly

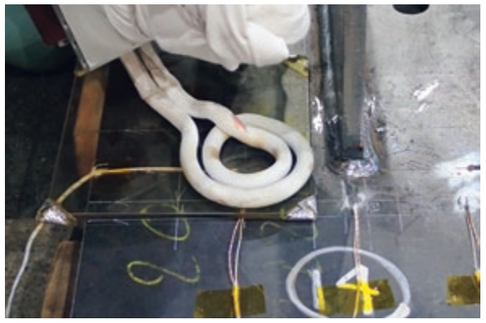
Improving the maintainability of new bridges

In order to improve the maintainability of new bridges, we have devised a new bridge structure that makes it easy to inspect bridges with a small number of main girders. The connection structure between the main girders is simplified and a flat floor is provided to improve convenience for the movement of people and the carrying of equipment. Other technology development we are pursuing includes a method for improving fatigue strength of welds by heat treatment using electromagnetic induction, and the streamlining of a method to improve the anti-corrosion performance of high-strength bolted joints that can be performed in a continuous process from rust removal to the laying of an anticorrosive undercoat.





Bridge structure for easy inspection



Research on increase the fatigue strength of welds

Research on improving the anti-corrosion performance of high-strength bolts

Adding features to permanent inspection scaffolding

Permanent scaffolding is becoming widespread on expressway and other bridges for the purpose of inspection and maintenance and to increase the longevity of bridges, and the adoption of “cusa” aluminum alloy permanent scaffolding has also increased. Now, as an additional feature for “cusa,” we have developed a reverse side sound absorption feature that attaches under the scaffolding floor. We will meet the need for additional features of inspection scaffolding on bridges where sound absorbing plates are installed.

“cusa” aluminum alloy permanent scaffolding panel

R&D in the engineering business

Technology development for system structures

For system structures (product name: yess buildings), we have developed and started selling Rapid A (Ace), a standardized product for small buildings with areas from approximately 200 m^2 to 600 m^2. In addition to its use in snowy areas and as logistics warehouses, we are also working to expand application to food plants, offices, stores, etc. In order to expand applications, we are continuing to work on the improvement and development of roof structures and structural members, the improvement of exterior members, and the development of exterior-related products. On top of that, we are also standardizing designs and production information in line with the expansion of these products and specifications, and we are also working on improvements such as improving members and reviewing construction procedures so that we can enhance workability and safety on construction sites.

Standardized yess building Rapid A (Ace)

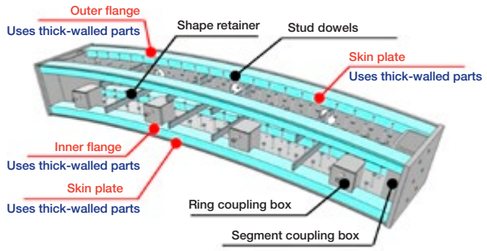
Development of a new water treatment system

We have developed a new water treatment system that continuously performs precipitation and flotation processing. In prototype performance testing, we confirmed that the processing capacity is two to three times higher than that of conventional equipment, and that high-quality treated water with less turbidity can be obtained.

New water treatment system

Technology development for the use of underground space

Currently, construction work on railways and road tunnels is advancing, mainly in urban areas. Many of these underground spaces have a large cross-section and are very deep, and since huge force acts on the tunnels, their lining must have high strength and bearing force. As a product that meets these needs, we have developed a composite segment that fully integrates steel and concrete: Tough United Full (TUF) Sandwich Segment (co-developed with Hazama Ando Corporation). Going forward, we will continue to further evolve this technology, aiming to expand its use in underground spaces in the future.

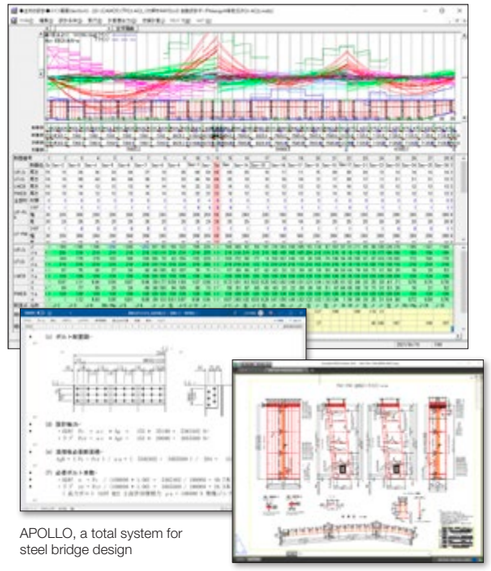


TUF Segment

R&D in the Precision Equipment Business

Functional improvements to comply with regulatory revisions and meet user requests

APOLLO, a total system for steel bridge design complying with revisions to the Specifications for Highway Bridges, a national standard related to road bridges, is in full-scale utilization. For this reason, we are continuing to make functional improvements to comply with revisions to the relevant provisions of the Specifications for Highway Bridges and meet user requests.



APOLLO, a total system for steel bridge design

System development for productivity improvement

There is growing demand to respond to efforts to improve productivity through i-Construction, promoted by the Ministry of Land, Infrastructure, Transport and Tourism. The YBHD Group is working to develop systems to further improve productivity and quality using technologies such as VR/AR/MR, utilizing 3D model data output from a steel bridge design system and steel bridge production information system, and 3D point cloud data measured by laser scanners.

Simulation of crane erection of a steel bridge

Materiality (Key Issues)

The YBHD Group undertakes business activities that involve the building of social infrastructure and the realization of technological innovation, based on our corporate philosophy of "Contribution to society and the public, and sound management." The past few years have witnessed dramatic changes in society, while environmental problems have grown steadily more serious. In response, the YBHD Group utilizes the process outlined below to identify the materiality (key issues) that we need to prioritize addressing as a Group, based on an ESG (Environmental, Social, and corporate Governance) perspective, and in line with the United Nations' Sustainable Development Goals (SDGs) and the Group's business strategy. Going forward, we will actively work to tackle various social problems as we strive to help realize a sustainable society.

Materiality Identification Process

1. Selection of materiality candidate items for examination
2. Prioritizing and weighting of materiality candidate items
3. Determination of materiality based on deliberation by an intra-group, cross-departmental body (the Sustainability Committee) and review by members of senior management

Assigning of priority order to materiality candidate items

Blue: Opportunities Black: Risks

Environment

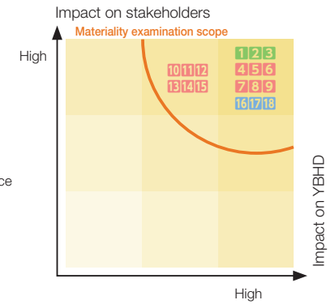
1 Responding to material risk associated with climate change and natural disasters
2 Responding to demand for development of disaster-resistant products
3 Responding to demand for retrofitting services and maintenance associated with National Resilience Promotion

Social

4 Ensuring the stable supply of products
5 Quality assurance
6 Support for disaster recovery
7 Safeguarding occupational health and safety
8 Responding to global health issues
9 Promoting the recruitment of diverse, outstanding personnel
10 Strengthening of talent management
11 Labor productivity enhancement
12 Respecting the human rights of employees and of partner company and supplier personnel
13 Diversity promotion
14 Prevention of overwork and promotion of work-life balance
15 Equivalent competition for equivalent work

Governance

16 Fair transactions
17 Prevention of corruption
18 Information security management



Materiality

ESG	Sector	Materiality	Measures	Specific Content	Related SDGs
Environment	Climate change and natural disasters	1 Responding to material risk associated with climate change and natural disasters	Establishing systems to facilitate business continuity	● BCP formulation and continued effective utilization and training	
			Reducing the environmental footprint of business activities	● CO_2 emissions reduction ● Promoting the adoption of renewable energy ● Reducing wastage of materials and improving the recycling rate ● Development of products with minimal environmental footprint, and provision of related technologies ● Reuse of materials, and reducing electricity consumption at all facilities	
	Responding to National Resilience Promotion needs	2 Responding to demand for development of disaster-resistant products	Developing products and construction methods that will contribute toward reducing the damage suffered in a natural disaster	● Development of earthquake-resistant products ● Development of products and construction methods that facilitate early recovery in the event of an unanticipated disaster	
		3 Responding to demand for retrofitting services and maintenance associated with National Resilience Promotion	Developing technologies and products relating to the improvement, maintenance and upgrading of the highway network	● Development of technologies for enhancing and upgrading the functionality of existing infrastructure ● Development of maintenance-friendly aluminum and stainless steel products	
Social	Provision of high-quality products	4 Ensuring the stable supply of products	Strengthening production and construction systems	● Strengthening BCP-related investment, facilities, and personnel	
		5 Quality assurance	Preventing reoccurrence of quality non-conformance incidents	● Quality management system utilization and continuous improvement ● Reflecting information obtained at every stage from planning and design through to manufacturing and construction, and information obtained through inspections and diagnostics	
	Disaster recovery support	6 Support for disaster recovery	Strengthening systems for providing rapid support	● Building the systems needed to allow high-priority response in the event of an incident, and provision of related equipment	
	Occupational health and safety	7 Safeguarding occupational health and safety	Thorough prevention of serious accidents	● Reducing the incidence of fatal accidents to zero through measures to eliminate danger from tasks that involve working at height	
		8 Responding to global health issues	Infectious disease response measures and putting in place the environment needed for employees to maintain and improve their health	● Putting in place the environment needed for teleworking and flexible work hours, and implementing these measures ● Promoting health management that makes effective use of collabohealth (collaboration between Health Insurance Society providers, companies, and employees)	
	Recruitment, cultivation, and retention of outstanding human talent	9 Promoting the recruitment of diverse, outstanding personnel	Promotion of recruitment activities	● Effective utilization of site visits, internships, and the holding of seminars in schools and colleges	
		10 Strengthening of talent management	Support for self-directed career development	● Job rotation using a self-directed application system, and appropriate personnel allocation ● Support to help employees secure professional qualifications, and implementing of various types of training	
		11 Labor productivity enhancement	Effective utilization of technology (with ICT as the core element) and business process improvement	● Development of new, labor-saving construction methods, promotion of R&D, and promotion of digital transformation (DX)	
	Human rights	12 Respecting the human rights of employees and of partner company and supplier personnel	Thorough implementation of mutual respect	● Implementation of the YBHD Code of Corporate Behavior, and continuing education	
		13 Diversity promotion	Effective utilization of diverse human talent	● Proactive recruitment and effective utilization of human talent regardless of nationality, gender, or age, including persons with disabilities and senior citizens	
	Working conditions	14 Prevention of overwork and promotion of work-life balance	Steady efforts to reduce working hours, and effective health management	● Active promotion of incentive systems and of the various types of leave system	
		15 Equivalent compensation for equivalent work	Commitment to fair remuneration	● Establishment of internal systems in relation to various laws	
Governance	Fair business practices	16 Fair transactions	Thorough implementation of compliance and transaction record management	● Formulation of manuals and rules, compliance with their stipulations, and related education ● Auditing of compliance status and appropriate utilization of the internal whistleblowing system	
		17 Prevention of corruption	Thorough implementation of effective corporate governance and risk management	● Appropriate operation of the Compliance Committee and Sustainability Committee ● Further improvement of the system for appropriate risk management	
	Information security	18 Information security management	Preventing the leaking of corporate business secrets	● Improvement of the rules for preventing data leaks, and implementation of related training	

Environmental initiatives

Faced with the increasingly serious issues of global warming, deforestation, various kinds of pollution, etc., in order for future generations to be able to enjoy a healthy planet, the YBHD Group is adopting an approach that gives due consideration to the global environment, by implementing corporate activities aimed at reducing the Group's environmental footprint. We are also striving to build resilient infrastructure, to safeguard both people's lives and business activity from the impact of natural disasters such as earthquakes, mega-typhoons, torrential rains, etc. Through these initiatives, we are aiming to help realize the "creation of a resilient social environment and harmonious coexistence with the natural environment," and to contribute towards the achievement of a sustainable society.

Climate change and natural disasters

We are striving to ensure the safety of our employees and maintain business continuity by responding effectively to the risks posed by the frequent natural disasters that have accompanied climate change, an issue that has become increasingly serious.

Responding to material risks relating to earthquakes, tsunamis, storms and floods, and other natural disasters and aspects of climate change

Establishing systems to facilitate business continuity

- Formulation and effective implementation of business continuity planning (BCP) that specifies the need for close coordination between the Group's production sites
- Continued implementation of training based on emergency scenarios
- Adoption of a disaster preparedness expenditure support system and post-disaster recovery support system for employees
- Implementation of emergency response in accordance with industry associations' disaster management cooperation agreements, etc.

Reducing the environmental footprint of business activities

- Reducing CO_2 emissions (making a proactive contribution towards the transition to the post-carbon society)
- Promoting the adoption of renewable energy, such as photovoltaic electricity generation systems, etc. (to realize further enhancement in the renewable energy self-sufficiency rate)
- Aiming to eliminate waste of materials and improve the recycling rate
- Developing products with minimal environmental footprint and providing related technologies
- Promoting reuse of equipment, and promoting energy-saving and resource conservation activities at all facilities
- Promoting greenification of factory grounds and company building rooftops

Responding to National Resilience Promotion needs

Responding to the growing demand for durable products, products with superior disaster-resistance, and products that are easy to maintain, we are striving to develop products and services that meet these needs.

Responding to demand for development of disaster-resistant products

- Developing Disaster-prevention Pre-cast Sea-walls to reduce the damage caused by tsunamis and high tides.
- Provision of earthquake-resistant products such as "Powerchain", which can prevent bridge superstructure components from falling off in the event of an earthquake, and can mitigate powerful impact forces.

Earthquake-resistant "Powerchain" product

Responding to demand for retrofitting services and maintenance associated with National Resilience Promotion

- Enhancing the functionality of existing infrastructure and developing technology to upgrade it
- Development of maintenance-friendly aluminum and stainless steel products

"cusa" aluminum alloy permanent scaffolding panels

Materials flow (as of FY2020)

Business activities consume energy – including electric power – and resources, and generate both greenhouse gas emissions and waste. We have been working to clarify this environmental footprint in terms of inputs and outputs, as a basis for implementing activities to reduce our environmental footprint.

INPUTS	
Energy	
● Electric power	24.23 million kWh
● Gasoline	87 kL
● Diesel	50 kL
● Kerosene	280 kL
● Gas	744,000 m^3
Water	90,000 m^3
Main construction materials (steel)	115,000 t

Yokogawa Bridge Holdings Corp.

- Bridge business
- Civil engineering business
- Precision equipment business
- Real estate business

OUTPUTS	
CO_2 emissions	13,318 t
Construction waste	121,381 t
Steel-related emissions	7,424 t
Steel recycling rate	100%

Social Initiatives

Seeking to create a future in which both people and the planet can thrive, we contribute towards the sustainable development of society through a variety of business activities, working from a platform of mutual understanding with our stakeholders.

Provision of high-quality products

We strive to ensure the stable supply of high-quality products

Ensuring stable supply and quality of products

- Strengthening investment for business continuity planning (BCP) facilities and personnel
- Quality and environmental strategy (Yokogawa Bridge Corp.)

Basic Principles

Yokogawa Bridge Corp. will contribute towards the realization of a sustainable society through the provision of high-quality infrastructure-related products and by reducing the environmental footprint of our business activities, in line with our corporate philosophy of "Contribution to society and the public, and sound management."

Basic Policies

1. We will meet customers' needs and comply with relevant laws and regulations in regard to products.
2. We will identify and comply with applicable laws, regulations, and agreements in regard to the environment.
3. We will help to safeguard the environment in our business activities by formulating measures with respect to the prevention of global warming, prevention of pollution that might affect neighboring residents or the natural environment, 3R (Reduce, Reuse, Recycle) activities, appropriate disposal of waste, etc.
4. We will continuously improve our quality and environmental management systems using the PDCA cycle, in order to enhance our operations, the quality of our products, and customer satisfaction, and to reduce our environmental footprint.

- Organization of a dedicated unit for quality assurance
- Quality management system utilization and continuous improvement
- Reflecting information obtained at every stage from planning and design through to manufacturing and construction, and information obtained through inspections and diagnostics
- Development of bridge deck upgrading methods, etc., for large-scale highway structure renewal and repair projects, taking into account both society's needs and environmental considerations.
- Development of TUF Segments for use in the shield method, which reduces the impact of excavation on the surface, and makes it possible to reduce the area of ground affected by the excavation; the superior durability of TUF Segments makes them suitable for use in very deep excavations.

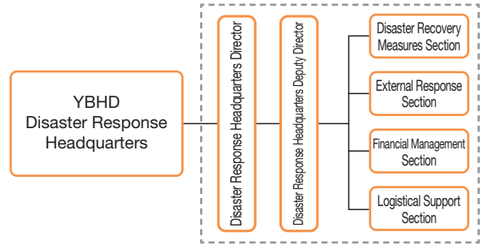
Disaster recovery support

We believe that the YBHD Group has a mission to build and maintain disaster-resistant structures and infrastructure, and to upgrade existing structures and infrastructure to make them even safer and provide greater peace of mind.

Support for disaster recovery

- Emergency inspections in the event of a natural disaster such as a major earthquake
- Bearing capacity evaluation and earthquake resistance evaluation of structures, and consideration of methods for extending structure lifespan
- Timely provision of equipment such as temporary bridges and machinery
- Provision of rapid support based on disaster management cooperation agreements

Organization of the Disaster Response Headquarters



Occupational health and safety

We implement a wide range of measures with the aim of creating a working environment in which all Group employees can work conveniently and safely.

Safeguarding occupational health and safety

- Company-wide Health and Safety Policy (Yokogawa Bridge Corp.)

FY2021 Company-wide Health and Safety Policy

"Safety and quality" are the foundations on which our company was built.

The health and safety policy outlined below has been announced with the aim of ensuring safety and creating a comfortable working environment, based on the principle of respect for human rights and the principle of compliance with relevant laws and regulations.

1. Eliminating serious accidents and incidents
2. Compliance with occupational health and safety legislation and internal rules
3. Creating a healthy, comfortable working environment

Measures to prevent serious accidents and incidents

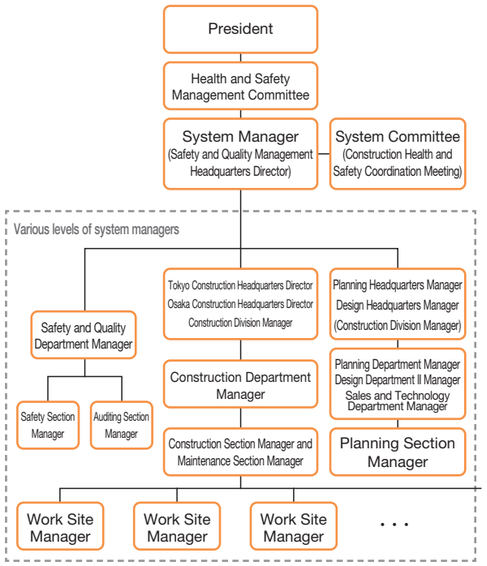
As basic strategies for preventing serious accidents and incidents, we will continue to hold meetings of the Safety System Improvement Committee, which is chaired by the company president, and we will thoroughly implement the following measures.

1. Make improvements in relation to multi-level subcontracting
2. Make improvements in relation to the fleshing out of operating procedures and ensuring that personnel are thoroughly familiar with them
3. Focus on having reliable access to first-class partner companies (and operatives)
4. Promote the cultivation of partner companies' foremen and of young operatives
5. Promote the development of technology in relation to scaffolding system, installation methods, etc., so as to enhance the safety of construction work

Social initiatives

- Health and Safety System (Yokogawa Bridge Corp.)

System Framework Diagram (Construction Health and Safety Management System)



- Occupational accident prevention
- Revision of operation standards to facilitate major accident prevention
- Periodic checking of the effectiveness of measures adopted to prevent the reoccurrence of accidents
- Implementation of safety patrols by corporate officers
- Continued implementation of the safety chant activity and of safety education
- Arrangement of safety monitors and safety belt monitors, and adoption of the “safety bloc system”

Responding to global health issues

- Promotion of measures to support heath improvement for employees and employees’ families (who support them), in accordance with the Group Health Declaration
- Infection prevention measures, including daily temperature checks, and the use of mouthwash, wearing of masks and disinfecting of hands, etc. at factories and work sites
- Putting in place the environment needed for teleworking and flexible work hours
- Promoting health management that makes effective use of “collabohealth” measures to improve employees’ health through collaboration between the company and its Health Insurance Society

Recruitment, cultivation, and retention of outstanding human talent

We are implementing various measures to realize the recruitment, cultivation, and retention of outstanding human talent

Recruitment of diverse, outstanding human talent

- Promotion of recruitment activities that effectively utilize site visits, internships, and the holding of seminars in schools and colleges
- Re-employment system

Strengthening of talent management

- Promoting talent cultivation through job rotation, and encouraging employees to obtain professional qualifications
- Appropriate personnel allocation using a self-directed application system
- Promoting employee education aimed at enhancing skills and knowhow
- Effective utilization of e-learning

Labor productivity enhancement

- Promoting new, labor-saving construction methods, and related R&D
- Promoting measures to use IT for enhancing operational efficiency, develop various types of systems, effectively utilize robotic process automation (RPA), and use ICT to realize i-Construction
- Promoting digital transformation (DX)

Human rights

We implement measures that embody respect not only for the human rights of Group employees, but also for the human rights of all stakeholders

Respecting the human rights of our employees, and the employees of partner companies and suppliers

- Respect for human rights and prohibition of discrimination
  The YBHD Charter of Corporate Behavior clearly stipulates the requirement to respect the human rights of each individual employee, and prohibits discrimination on unreasonable grounds that do not relate to the conducting of business, such as discrimination on the grounds of place of origin, nationality, race, ethnic background, beliefs, religious faith, gender, age, disability or academic background.
- Implementation of human rights training
  All employees receive annual compliance training, and are thoroughly familiarized with the Charter of Corporate Behavior and its provisions relating to respect for human rights and the prohibition of discrimination.

Diversity promotion

- Formulation and implementation of a General Employer Action Plan pursuant to the Act on Promotion of Women’s Participation and Advancement in the Workplace
- Promoting the recruitment and retention of female engineers, establishing the infrastructure needed for female employees to be able to work comfortably in factories and at construction sites (for example through the provision of comfortable toilets), and providing safety belts that are designed to fit women’s bodies more comfortably
- Expansion of women-friendly working environment measures and systems
- Setting a target to increase the percentage of female employees to at least 15% company-wide

Receiving the Award for Successful Cultivation of Female Engineers from the Japan Association of Technology Executives (JAOTEX)

- Proactive recruitment and effective utilization of human talent regardless of nationality, gender, or age, including persons with disabilities and senior citizens
- Japanese language training for foreign employees

Working conditions

We are putting in place a working environment that makes working more convenient for all employees.

Prevention of overwork and promotion of work-life balance, and realizing equivalent compensation for equivalent work

Workstyle Reform Promotion Message

- Formulation of the 2-day Weekend Action Plan to rectify the problem of excessively long working hours at work sites
- Promoting the active utilization of the EAP external consultation window (for mental health consultations) in addition to regular care provision by in-house occupational health physicians and nurses
- Implementation of overwork prevention training, and awareness verification
- Work-life balance measures (accommodation expenses subsidy system, travel expenses subsidy system for employees returning home, commemorative holidays, reduced working hours system, implementation of “No Overtime Days”, etc.)
- Free association and collective bargaining
  All Group companies have good labor relations, and discussion of various issues proceeds smoothly.
- Formulation of internal systems in accordance with laws such as the Act on Improvement etc. of Employment Management for Part-time and Fixed-term Workers and the Act on Proper Technical Intern Training and Protection of Technical Intern Trainees

Social contribution activities

Assistance for developing nations and a contribution to local communities through support for culture and the arts and through volunteering

Strengthening development assistance for developing nations

- Aiming to realize the transfer of technology and know-how, collaborating on cultivating the human talent needed for economic development, and contributing towards employment creation and economic development
- Stimulating economic development and creating employment opportunities through infrastructure improvement via ODA
- Creating employment opportunities through the establishment of local operating companies in developing nations

Overseas operations (South Sudan)

Working together with the local community

To fulfill our roles and responsibilities as an enterprise engaged in providing society with infrastructure and the foundations for daily life, as a corporate citizen that seeks to work in harmony with the local community, we implement measures to invigorate local communities, with the goal of helping to create a society in which people can live safely and with peace of mind.

- Clean-up activity in the vicinity of a YBHD facility
- Fire prevention training in the local community
- We invite children from local schools and other local residents to visit our factories and work sites, so that they can develop a more in-depth understanding of bridges and buildings
- YBHD staff give “visiting classes” in which they visit schools, etc.

Hands-on class involving the making of miniature bridge models

Site visit

Corporate Governance

Directors and Auditors

Directors

Chairman and Representative Director
Hisashi Fujii

President and Representative Director
Kazuhiko Takata

Managing Representative Director
Kiyotsugu Takagi

Managing Representative Director
Hidenori Miyamoto

Director
Kazuya Kuwahara

Director
Akira Kobayashi

Outside Director
Yasunori Kamei

Outside Director
Kazunori Kuromoto

Outside Director
Reiko Amano

Auditors

Standing Audit & Supervisory Board Member
Ryogo Hirokawa

Standing Audit & Supervisory Board Member
Teruhiko Oshima

Outside Audit & Supervisory Board Member
Masashi Shishime

Outside Audit & Supervisory Board Member
Kazunori Yagi

Outside Audit & Supervisory Board Member
Tomozo Yoshikawa

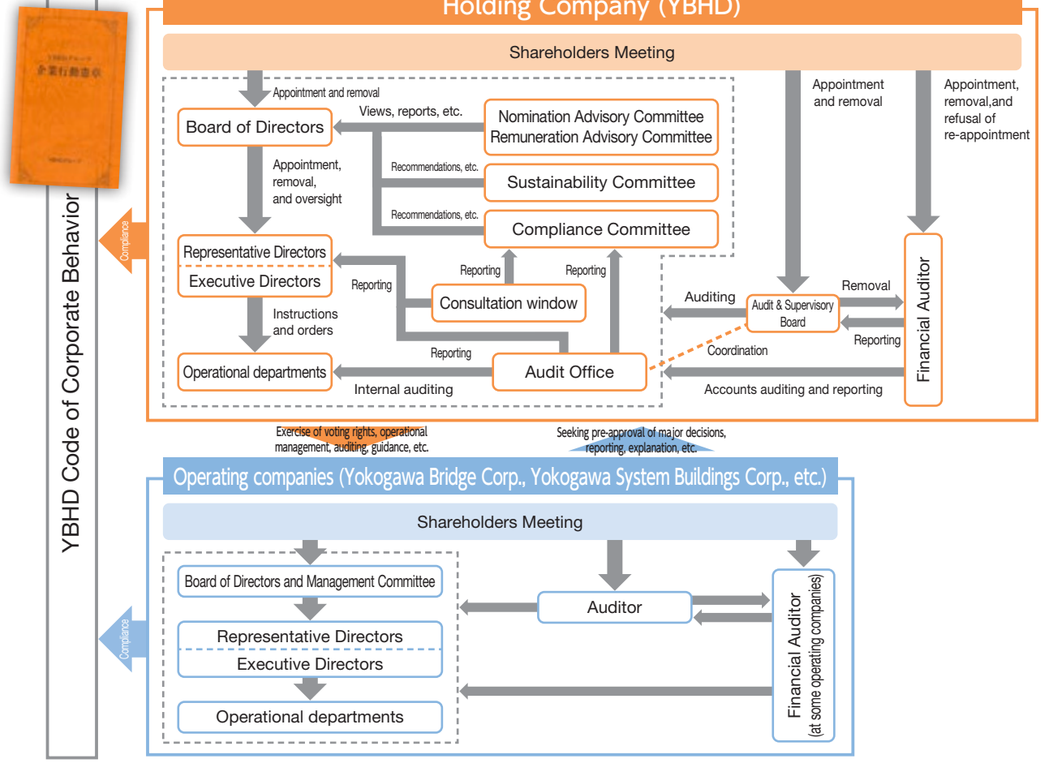
Our approach to corporate governance

In line with our corporate philosophy of "Contribution to society and the public, and sound management," the YBHD Group aims to make a positive contribution to society by carrying out *monozukuri* manufacturing with integrity, and by providing high-quality, safe social infrastructure.

Utilizing the YBHD Group's wealth of human talent and high-level technological capabilities to realize sustainable growth and enhance corporate value over the medium to long term has won us the trust of our stakeholders. In continuing to implement our corporate activities going forward, remaining aware of our responsibilities as a good corporate citizen, ensuring thorough compliance, managing risk properly, and earning the trust of the people who work for us, we will strive to make ourselves an enterprise that helps people to live with safety and peace of mind. To realize this vision, we will implement thorough corporate governance based on the following five core principles.

① Respecting shareholder rights, and ensuring meaningful shareholder equality.
② Striving to engage in appropriate consultation with shareholders and other stakeholders.
③ Disclosing corporate information in an appropriate manner, and ensuring transparency.
④ Ensuring that the board of directors fulfils its roles and responsibilities appropriately, and implements transparent, responsive decision-making.
⑤ Striving to engage in constructive dialog with shareholders regarding the company's strategy for long-term, stable growth.

Governance Structure



Corporate Governance

Overview of the corporate governance system

YBHD is a company with a Board of Directors, an Audit & Supervisory Board, and a Financial Auditor. Within the YBHD Group, a group-wide risk management system, compliance system, and internal auditing system have been established, and Group governance is performed on a group-wide basis. In addition, three Outside Directors and three Outside Audit & Supervisory Board Members oversee and audit the Board of Directors' decision-making process and the manner in which Directors fulfil their duties.

Furthermore, with regard to the Group's business operations, by requiring operating companies to seek prior approval for major decisions and provide periodic progress reports on the state of implementation, we are able to manage operations in a way that effectively coordinates the activities of each operating company, while striving to further the development of the Group as a whole and enhance corporate value.

Additionally, by having Directors of YBHD, the Group's holding company, serve concurrently as Presidents of Group operating companies, we are able to achieve appropriate management in which operating company Presidents are more aware of their responsibility to shareholders, also allowing us to pursue synergy.

Board of Directors

The Board of Directors meets, in principle, on a monthly basis, to carry out decision-making in relation to Group management. The Board formulates the Group's overall operational strategy and plans, evaluates performance implementation, reviews, and makes decisions regarding important managerial matters at operating companies and other important operational issues, and oversees individual Directors' fulfilment of their duties.

Three of YBHD's Directors also serve concurrently as the Presidents of major Group operating companies. In addition, five Presidents of Group operating companies who are not YBHD Directors are present at YBHD Board meetings. Furthermore, the Board's three Outside Directors have the status of independent corporate officers, in accordance with Tokyo Stock Exchange (TSE) regulations.

The Board of Directors' Optional Committees

- **Nomination Advisory Committee**
  With the aim of strengthening the independence, objectivity, and accountability of the functioning of the Board of Directors in relation to the nomination of Representative Directors, Directors, and Members of the Audit & Supervisory Board, based on consultation with the Board of Directors, the Nomination Advisory Committee deliberates nominations of candidates for the positions of Director or Member of the Audit & Supervisory Board and the appointment of Representative Directors and Executive Directors, as well as matters relating to succession planning for the President, and submits its views, reports, etc. to the Board of Directors. The Nomination Advisory Committee consists of two Representative Directors and three independent Outside Directors.
- **Remuneration Advisory Committee**
  With the aim of strengthening the independence, objectivity, and accountability of the functioning of the Board of Directors in relation to matters relating to Directors' remuneration, based on consultation with the Board of Directors, the Remuneration Advisory Committee deliberates and makes decisions relating to the remuneration, etc. of Directors, and submits its views, reports, etc. to the Board of Directors. The Remuneration Advisory Committee consists of two Representative Directors and three independent Outside Directors.
- **Compliance Committee**
  The Compliance Committee deliberates basic policies and important matters relating to the promotion of compliance, as well as performing deliberation, etc. from a neutral standpoint in regard to the handling of whistleblowers' reports, and submits its recommendations, etc. to the Board of Directors.
- **Sustainability Committee**
  The Sustainability Committee considers the linking of the YBHD Group's business activities to sustainability and the fleshing out of the Group's non-financial information disclosure, and submits its recommendations, etc. to the Board of Directors.

Managing Executive Officers Committee

To help ensure that the company's operations proceed smoothly, the Managing Executive Officers Committee, whose membership comprises all Board members other than Outside Directors, as well as the Standing Audit & Supervisory Board Members and the Presidents of operating companies, meets, in principle, once a month, to receive and deliberate on reports regarding important managerial matters at individual operating companies and other important matters relating to the implementation of business activities.

Audit & Supervisory Board

The Audit & Supervisory Board, whose membership comprises two Standing Audit & Supervisory Board Members and three Outside Audit & Supervisory Board Members, for a total of five members, meets, in principle, once a month. The Audit & Supervisory Board Members attend important meetings such as regular meetings to exchange views with the Board of Directors, the Managing Executive Officers Committee, and the Representative Directors, and exchange information with the Audit Office (which functions as the internal auditing department) and the Financial Auditor, so as to develop a clear picture of the decision-making process. They express their views when necessary, and they receive reports on the current state of operational implementation, finance, compliance, internal auditing, etc. Furthermore, the Audit & Supervisory Board's three Outside Audit & Supervisory Board Members have the status of independent corporate officers, in accordance with Tokyo Stock Exchange (TSE) regulations.

Financial Auditor

YBHD has appointed Kyowa Accounting Group as its Financial Auditor. Besides providing the Financial Auditor with accurate management-related information as required, YBHD also undergoes auditing by the Financial Auditor throughout the fiscal year.

Evaluation of the Effectiveness of the Board of Directors

To enhance the functioning of the Board of Directors, we have conducted analysis and evaluation of the Board's overall effectiveness.

More specifically, we administered a questionnaire survey to all Directors and Audit & Supervisory Board Members, and to the Presidents of all of the Group's operating companies. Based on the results obtained in this survey, and on the opinions expressed by external assessment organizations, we performed analysis and evaluation of the overall effectiveness of the Board of Directors.

The survey results showed that the overall level of satisfaction with the Board's discussions, composition, etc., was high, from which it was determined that the Board had maintained its effectiveness in terms of approving important managerial matters and exercising appropriate oversight of operational implementation.

On the other hand, as an issue that will need addressing in the future, it was determined that discussion of a sustainable medium- and long-term growth strategy for YBHD needed to be continued and expanded.

On the basis of the results of the most recent evaluation of the effectiveness of the Board of Directors and of the issues, etc. identified, going forward, we will be expanding discussion of medium- and long-term management strategy, and we will be striving to realize further enhancement of the effectiveness of the Board of Directors.

Policies for deciding on remuneration

Policies for deciding on remuneration, etc. for Directors and Audit & Supervisory Board Members

Having put in place the remuneration governance outlined below, the remuneration, etc. of company officers is decided upon using the Remuneration Program, in accordance with the resolutions passed at the Shareholders Meeting regarding the remuneration of company officers and with the basic policy on the remuneration system for company officers.

① Remuneration governance

The company's policy regarding decisions on the amount of remuneration to be paid to company officers and the method of calculation is decided on by the Board of Directors, based on deliberation and reporting by the Remuneration Advisory Committee, which is chaired by an independent Outside Director, and a majority of whose members must be independent Outside Directors.

a. Roles and responsibilities of the Remuneration Advisory Committee

With regard to the basic policy governing the remuneration system for company officers and the remuneration system, the framework for performance-linked remuneration, the amounts paid to individual company officers, etc., the Remuneration Advisory Committee undertakes appropriate deliberation and decision-making, making effective use of information collected by and advice received from external remuneration consultants, and on the basis of objective, vital information regarding the recent state of company officer remuneration systems, key trends in discussions of this area, trends in other companies' systems, etc.

In the event that the Board of Directors reaches a decision that diverges from the content of reports submitted by the Remuneration Advisory Committee, the Remuneration Advisory Committee will ask the Board of Directors to collate and announce the reasons for this decision.

b. Composition of the Remuneration Advisory Committee and Attributes of the Committee chair

The Remuneration Advisory Committee comprises five members, of which a majority are independent Outside Directors. The chair of the Remuneration Advisory Committee is expected to strive for effective Committee operation from the perspective of strengthening functionality in terms of independence, objectivity, and accountability, and is appointed by the decision of the Board of Directors from among those Committee members who are independent Outside Directors.

② Remuneration Program

The remuneration received by the company's Directors (excluding Outside Directors) comprises basic remuneration (which is a fixed amount), performance-linked remuneration, and non-monetary remuneration. Performance-linked remuneration consists of an annual bonus, which is linked to the extent that company-wide performance targets for that year have been achieved. Non-monetary remuneration consists of share-based remuneration, the aim of which is to ensure that Directors share common interests with shareholders, and to strengthen Directors' awareness of the need to enhance corporate value. However, taking into account the roles that they play, the remuneration received by Outside Directors and by Audit & Supervisory Board Members consists only of basic remuneration.

With regard to the remuneration received by Audit & Supervisory Board Members, basic remuneration (only) is paid, based on consultation within the Audit & Supervisory Board, within the scope of the total amount of remuneration approved by resolution of the Shareholders Meeting.

a. Basic policies regarding the company officers remuneration system

- The company officers remuneration system must allow the appropriate rewarding of outstanding management talent able to contribute towards the sustainable development of the company and long-term growth in corporate value.
- The company officers remuneration system must facilitate the operation of a sound incentive function aimed at the company's sustainable growth, which not only provides motivation for the achievement of performance targets but also reflects the latent risks of such achievement.
- The company officers remuneration system must provide support for encouraging the management team to work together with the aim of enhancing the company's corporate value and realizing company-wide strategic objectives.

Corporate Governance

- As decisions relating to the company officers remuneration system and determinations made regarding its utilization must be made through objective, transparent procedures, such decisions must be made following deliberation by an independent Remuneration Advisory Committee, and on the basis of the reports received from this Committee.

b. Policies regarding the determination of basic remuneration (monetary remuneration)

Policies regarding the determination of the amount of basic remuneration (monetary remuneration) to be received by each individual shall be decided on after the Remuneration Advisory Committee has deliberated and reported to the Board of Directors.

When deciding on basic remuneration, a managers' remuneration database run by an external remuneration consulting firm will be used as the basis for performing benchmarking for each company officer position every year, taking other firms that operate on a similar scale to YBHD as comparable enterprises, to determine a monthly fixed remuneration amount.

c. Content of performance-linked remuneration, and policies regarding the determination of performance-linked remuneration

The key performance indicator (KPI) for the annual bonus shall be consolidated operating profit for that fiscal year. The reason for choosing this indicator is that consolidated operating profit is a financial indicator that effectively shows the results achieved by enterprise activities in the company's core business, and that the reasonableness of the payment made can be easily explained.

When evaluating operational performance, a payment ratio is calculated according to the level of achievement as compared to the operational performance target values, set by the Board of Directors at the beginning of the fiscal year following deliberation on and verification of their appropriacy by the Remuneration Advisory Committee, and this payment ratio is used as the basis for the Remuneration Advisory Committee's calculation of the amount to be paid and its evaluation and determination.

The annual bonus is paid at a specified time that is set in advance. The payment ratio varies within a range of 0% to 150%.

Regarding the KPI target value for performance-linked remuneration in FY 2020, the consolidated operating profit target was set at 13 billion yen, and the actual result was 15.9 billion yen.

d. Content of non-monetary remuneration, and policies regarding the determination of non-monetary remuneration

The purpose of share-based remuneration is to enhance commitment to boosting medium- and long-term performance and increasing corporate value by making clearer the connection between the company's share price and Directors' remuneration, and by ensuring that Directors share the benefits and risks of changes in the share price with the company's shareholders. Directors receive points (with each point being equivalent to one share in the company) for each year of service, and on leaving the company they are given a number of shares based on the number of accumulated points. The number of points granted is calculated by dividing the basic amount specified for the position in question by the company's share transfer rules by the acquisition price of company stock held in trust.

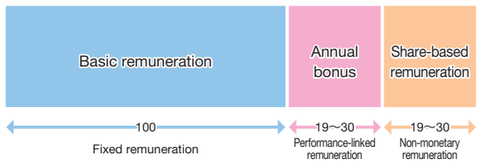
e. Policies regarding the determination of the share of overall remuneration held by each type of remuneration

A policy has been decided on regarding the determination of the share of overall remuneration provided to Directors (excluding Outside Directors) for each type of remuneration, with deliberation to be conducted by the Remuneration Advisory Committee.

When deciding on the share in question, a managers' remuneration database run by an external remuneration consulting firm will be used as the basis for performing benchmarking every year, taking other firms that operate on a similar scale to YBHD as comparable enterprises, to verify the appropriateness of the decision, including the level of remuneration.

Regarding the share of overall company officers' remuneration held by each category of remuneration, the standard amount of the annual bonus per fiscal year for each company officer position is set within a range of 19-30% of the basic remuneration, and the value of the standard points of share-based remuneration per fiscal year is also set within a range of 19-30% of the basic remuneration. By raising the share of the overall remuneration received by company officers in senior positions for performance-linked remuneration and non-monetary remuneration, the level of managerial responsibility can be reflected in the remuneration composition for each position. The standard amount of the annual bonus per fiscal year for each company officer position and the value of the standard points of share-based remuneration per fiscal year are weighted equally.

Schematic diagram showing the share of overall remuneration for Directors (excluding Outside Directors) held by each category of remuneration



③ Matters relating to the determination of the content of the remuneration received by individual Directors

In order to ensure a high level of independence and objectivity in all decisions made in relation to the remuneration system, starting from FY 2020 the Board of Directors has entrusted the Remuneration Advisory Committee with decisions regarding the content of the remuneration received by individual Directors.

Compliance

Our Approach to Compliance

YBHD Group companies and all persons working for them are required to abide by the YBHD Code of Corporate Behavior, and are expected to constantly be aware of their social responsibility and public mission. In order to win a high level of trust from society, we comply with all relevant laws and regulations, both in Japan and overseas, and we behave as an ethical enterprise that respects corporate ethics and social norms.

Compliance Management System

Compliance Committee

We have put in place a system whereby the Compliance Committee deliberates basic policies and important matters relating to compliance promotion, and the results of this deliberation are reported by the Compliance Committee to the Board of Directors. Persons who violate the YBHD Code of Corporate Behavior, or who allow others to violate the Code, will be dealt with in accordance with the Companies Act or other relevant laws, and with YBHD's Employment Rules.

Internal auditing

With regard to the state of compliance with the YBHD Code of Corporate Behavior and other internal rules, the Audit Office (which has been established as an internal auditing department independent of the company's operational departments), either acting on its own or in collaboration with the auditing department of one or more Group operating companies, implements efficient, effective auditing by performing compliance auditing, including attending meetings and verifying accounting slips, by performing self-directed auditing of all Group departments, and by implementing activities to promote the utilization of the internal whistleblowing system and responding to reports submitted through the whistleblowing system, etc. In addition, the company strives to strengthen the organization and authority of the Compliance Committee as necessary.

Internal whistleblowing system

YBHD's Directors promote the active utilization of the "Yellow Card System," an internal whistleblowing system which has been put in place for reporting and consultation in relation to violations of relevant laws, the company's Articles of Association, the YBHD Code of Corporate Behavior or internal rules, and in relation to misconduct or other compliance issues, or the possibility thereof. Improvements are made to the system as necessary, and efforts are made to expand it. The system is also included in compliance training, with the aim of spreading awareness of the system.

Fair Business Practices

Fair business transactions

The YBHD Group's YBHD Code of Corporate Behavior includes provisions that forbid, regardless of the circumstances, behavior that violates the Antimonopoly Act such as cartels, bid-rigging, fixing the re-sale price, or abusing a dominant position, and that specify the need to engage in free, fair competition. We implement thorough compliance with relevant laws and regulations, and perform thorough management of transaction records. More specifically, we implement compliance education through the formulation of various types of manuals and rules and the provision of compliance training, and we have the Audit Office implement audits and ensure appropriate operation of the internal whistleblowing system, and strive to safeguard its efficacy.

In May 2005, Yokogawa Bridge Corp. was involved in a violation of the Antimonopoly Act relating to bid-rigging on bridge construction, which attracted strong criticism from society as a whole. The YBHD Group deeply regrets the occurrence of such a serious incident. The incident brought home to us the importance of compliance, and we have committed ourselves to ensure that no incident of this kind will occur again in the future. Since then, we have worked to ensure comprehensive implementation of the YBHD Code of Corporate Behavior and to strengthen our internal auditing system, putting in place the systems needed to ensure that our business activities are in compliance with legal requirements. Going forward, the YBHD Group will continue to implement measures relating to compliance.

Corruption prevention

When implementing political contributions or donations to various organizations, the YBHD Group complies with relevant laws such as the Public Offices Election Act and Political Funds Control Act, and ensures in advance that internal rules such as the Rules Specifying the Scope of Authority are followed. Besides refusing to engage in bribery or illegal political contributions, YBHD has also clearly stipulated that employees must think carefully before engaging in any actions that could be misconstrued as indicating excessively close relations with politicians or government officials, and employees must not entertain or offer gifts to government officials or persons with equivalent status.

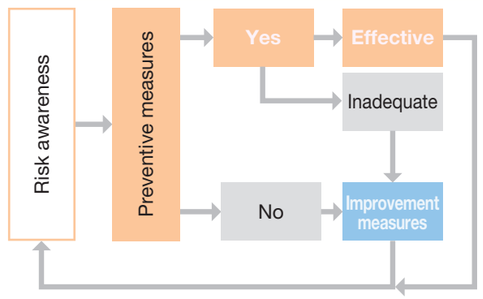
To ensure the effectiveness of these measures, we have put in place an appropriate risk management system, and we have been working to strengthen compliance and the related education and training system, for example though effective utilization of the internal controls system, appropriate operation of the Compliance Committee, and compilation of a manual outlining the rules to follow in relation to election campaigns and a manual on the prevention of bribery involving foreign government officials, etc.

Risk Management

Our approach to risk management

With regard to the risk of loss in relation to our business activities resulting from accidents, quality issues, violations of laws or regulations, etc., the Board of Directors, etc. spreads awareness and conducts verification in regard to preventive and remedial measures, and when a report is received about an incident, the Board aims to provide thorough guidance in regard to strategies to prevent reoccurrence, etc. Furthermore, by having all departments within all Group companies implement periodic self-directed auditing of the state of management of the risk of loss involving their own department, we are strengthening measures to prevent the risk of loss throughout the Group as a whole.

Self-directed auditing flow



Main risks and countermeasures

The risks that we have identified through self-directed audits, and other major risks that we recognize have the potential to have a serious negative impact on the Group's financial status, operational performance, or cash flow status, are outlined below.

① Safety risks relating to accidents, etc.

The process of constructing steel structures such as bridges can be broadly divided into three stages: fabrication at the factory, transportation, and on-site construction work. At each of these stages, the products that are being handled are very large and heavy, and if an accident were to occur, there is a risk that it could have a serious impact. To eliminate the danger of a serious accident occurring, we are working to enhance the efficacy of our safety measures, by disseminating case studies of past incidents and accidents, improving operational procedures, adopting innovative safety equipment, creating dual layers of safety provision, putting work monitoring on a systematic footing, etc.

Safety-related in-house education

② Reliance on public infrastructure projects

The largest share of work in the bridge business, which is the YBHD Group's main business area, derives from tenders awarded by central government or local government authorities. Consequently, in the event of an unexpectedly large fall in orders for new bridges, due to a major change in societal infrastructure policy or a dramatic worsening in government finances, this would result in a fall in the volume of orders received and in our sales revenue, which could significantly impact our operational performance. To reduce this kind of risk, we are aiming to maintain, expand, and optimize our bridge business by strengthening the responsiveness of our bridge maintenance business in combination with new construction, while also proceeding with diversification in terms of our civil engineering business (particularly tunnel segments) and our steel structures business. At the same time, we are also working to expand the amount of business we do with private companies, with a particular focus on realizing growth in our system structures business.

③ Risks relating to trends in the construction market

The system structures business is a key pillar of growth for the YBHD Group. Orders from private-sector companies account for the largest share of this business, so in the event that private-sector capital investment falls as a result of an economic downturn in Japan or overseas, this would result in a fall in the volume of orders received and in our sales revenue, which could significantly impact our operational performance. For this reason, we are implementing measures to expand our sales network and reduce costs.

④ Risks relating to the regulatory framework

Although we conduct our business in accordance with relevant laws such as the Construction Business Act and the Antimonopoly Act, both within Japan and overseas, in the event of a violation of such laws, we could be liable to criminal penalties and administrative sanctions, which would result in a fall in the volume of orders received and in our sales revenue, which in turn could significantly impact our operational performance. To avoid this kind of situation, the YBHD Group positions compliance as the foundation for Group operation, and is committed to engaging in business activities in an appropriate manner.

⑤ Responding to defects

Regarding defects in steel structures constructed by the YBHD Group, we are statutorily liable for such defects according to contract, and depending on the seriousness of the defects, there is a risk that YBHD could incur significant costs in remedying the situation. To avoid this kind of situation, as an enterprise entrusted with the construction of public assets, we are strongly aware of our responsibility to provide high-quality products at a reasonable cost, and in carrying out our business we give painstaking attention to quality management, etc.

⑥ Country risk

The YBHD Group's bridge business has been expanding overseas through participation in ODA projects, etc., mainly in the Asia region. In addition, part of the design work for our bridge business and system structure business is conducted by our subsidiaries in China and the Philippines. In the event of a dramatic change in the political or economic situation in one of these countries, it might become difficult to continue operations, which could significantly impact our operational performance. In order to be prepared for this type of risk, besides striving to put in place methods for ensuring the safety of our employees and establishing crisis management systems for use in emergencies, we have also established backup systems for our operations (including our domestic operations), and we undertake planning to ensure effective coordination with the Japanese government, the local Japanese embassy in other countries, and other related parties, as necessary.

⑦ Large-scale disaster risk

In the event of a large-scale natural disaster such as an earthquake, tsunami, or damage from storms or floods, factories or work sites could suffer damage, which could significantly impact our operational performance. In order to be prepared for this type of risk and minimize negative impact, we have formulated business continuity plans, and we implement training based on emergency scenarios.

Evacuation drill

⑧ Risk relating to default

Although public-sector clients, where there is no risk of default, account for the largest share of business in the YBHD Group's bridge business, which is the Group's main business area, in the civil engineering business and precision equipment business, most of the clients are private-sector companies. Before engaging in a business transaction with a private-sector company, the YBHD Group conducts thorough credit checks in advance, and we also allocate an allowance for doubtful accounts in relation to accounts receivable.

⑨ Risk relating to the COVID-19 pandemic

There is a possibility that the spread of the COVID-19 pandemic may lead to work being interrupted or facilities having to close, which would affect our operational processes and result in increased costs. We are responding appropriately to this issue by paying painstaking attention to infection prevention and consulting with clients as needed. We are also implementing infection prevention measures and measures to prevent the spread of COVID-19, for example by putting in place an environment that supports teleworking and flexible working hours.

Information security

To prevent the leaking of corporate business secrets, etc., we strive to ensure compliance with the information security items specified in the YBHD Charter of Corporate Behavior and the Security Guidelines, and we are establishing necessary rules and implementing training, as well as providing periodic training in dealing with targeted e-mail attacks.

Furthermore, when establishing Group information systems, we take all necessary measures to ensure safety, and implement a range of measures to prevent data leaks. In the unlikely event that a data leak does occur, our IT systems department will rapidly take all necessary steps to prevent the issue from spreading to affect important data assets or persons and organizations outside the company, and to restore information system functionality. It will also take steps to prevent reoccurrence.

Training in progress

Long-term financial results (nine years)

(100 million yen)

FY	2012	2013	2014	2015	2016	2017	2018	2019	2020
Net sales	887	882	1,027	1,057	1,134	1,310	1,419	1,381	1,360
Operating income	34	65	64	69	80	137	105	128	159
Operating income margin (%)	3.9	7.4	6.2	6.5	7.1	10.5	7.4	9.3	11.7
Ordinary income	36	65	66	69	81	138	106	129	160
Net income attributable to owners of the parent company	19	42	42	43	43	93	75	90	112
Net assets	537	595	641	655	698	806	865	920	1,039
Total assets	1,016	1,040	1,167	1,149	1,281	1,449	1,496	1,525	1,696
Net assets per share (yen)	1,227.76	1,370.27	1,485.09	1,532.44	1,650.17	1,907.50	2,037.61	2,159.88	2,451.96
Net income per share (yen)	45.23	99.50	98.40	103.19	102.98	226.93	182.33	217.61	273.09
Total dividends	4	4	5	6	6	9	12	15	21
Dividend (yen/share)	10.00	11.00	14.00	16.00	16.00	22.00	30.00	37.00	52.00
Dividend payout ratio (%)	22.1	11.1	14.2	15.5	15.5	9.7	16.5	17.0	19.0
Return on shareholders' equity (%)	3.8	7.7	6.9	6.9	6.5	12.8	9.2	10.4	11.9
Shareholders' equity	530	587	631	643	683	788	842	894	1,011
Shareholders' equity ratio (%)	52.1	56.5	54.1	56.0	53.3	54.4	56.3	58.6	59.6
Capital expenditure	9	11	16	24	33	73	76	101	60
Depreciation and amortization	13	13	13	15	16	17	21	28	34
R&D expenses	2	2	3	3	2	2	2	4	4
Number of employees (persons)	1,529	1,567	1,626	1,649	1,663	1,687	1,749	1,800	1,891
Segment information									
Net sales									
Bridge business	632	586	693	684	650	739	733	812	824
Engineering business	230	261	300	339	428	509	633	529	483
Precision equipment business	15	25	25	26	47	53	44	32	46
Real estate business	9	8	7	7	7	7	6	6	6
Operating income									
Bridge business	27	42	43	46	38	85	60	83	114
Engineering business	11	23	22	26	40	48	43	48	45
Precision equipment business	-1	4	3	4	7	9	8	4	9
Real estate business	4	4	3	3	3	3	4	4	3
Order balance									
Bridge business	700	720	532	795	622	832	917	694	1,275
Engineering business	219	290	469	423	463	603	573	511	571
Precision equipment business	21	22	25	30	52	51	41	37	49

Consolidated financial statements, etc.

Consolidated financial statements

(1) Consolidated balance sheet

(Unit: million yen)

	Previous fiscal year (March 31, 2020)	Current fiscal year (March 31, 2021)
Assets		
Current assets		
Cash and deposits	22,769	19,602
Notes receivable, accounts receivable from completed construction contracts and other	65,666	80,118
Inventories	2,748	2,365
Other	2,709	2,547
Allowance for doubtful accounts	△2	△0
Total current assets	**93,891**	**104,632**
Fixed assets		
Property, plant and equipment		
Buildings and structures, net	13,287	14,433
Machinery, equipment and vehicles, net	7,549	8,303
Land	15,200	15,145
Construction in progress	240	580
Other, net	599	609
Total property, plant and equipment	**36,877**	**39,072**
Intangible fixed assets		
Software	1,096	1,417
Other	60	56
Total intangible fixed assets	**1,156**	**1,474**
Investments and other assets		
Investment securities	13,935	17,282
Shares of affiliates	306	398
Deferred tax assets	6,032	6,331
Other	382	503
Total investments and other assets	**20,656**	**24,516**
Total fixed assets	**58,691**	**65,062**
Total assets	**152,583**	**169,695**
Liabilities		
Current liabilities		
Notes payable, accounts payable for construction contracts and other	20,345	16,330
Short-term borrowings	–	4,000
Current portion of bonds	50	–
Current portion of long-term borrowings	3,300	3,000
Income taxes payable, etc.	2,192	3,894
Advances received on uncompleted construction contracts	2,361	2,254
Provision for losses on construction contracts	4,851	4,176
Provision for bonuses	2,513	2,641
Other reserves	62	165
Other	2,701	4,325
Total current liabilities	**38,378**	**40,789**
Fixed liabilities		
Corporate bonds	2,300	2,600
Long-term borrowings	6,200	6,985
Deferred tax liabilities	1,424	2,471
Deferred tax liabilities for land revaluation	70	70
Allowance for executives' retirement benefits	625	386
Allowance for stock-based compensation	47	91
Retirement benefit liability	11,168	11,975
Other	320	381
Total fixed liabilities	**22,156**	**24,960**
Total liabilities	**60,534**	**65,749**
Net assets		
Shareholders' equity		
Capital stock	9,435	9,435
Capital surplus	10,185	10,185
Retained earnings	69,592	79,140
Treasury stock	△3,612	△3,900
Total shareholder's equity	**85,600**	**94,860**
Accumulated other comprehensive income		
Valuation difference on available-for-sale securities	3,650	6,110
Revaluation reserve for land	159	159
Total accumulated other comprehensive income	**3,810**	**6,269**
Non-controlling interests	**2,638**	**2,815**
Total net assets	**92,048**	**103,945**
Total liabilities and net assets	**152,583**	**169,695**

(2) Consolidated statement of income and consolidated statement of comprehensive income

Consolidated statement of income

(Unit: million yen)

	Previous fiscal year (From April 1, 2019 to March 31, 2020)	Current fiscal year (From April 1, 2020 to March 31, 2021)
Net sales	138,144	136,091
Cost of sales	117,205	111,287
Gross profit	**20,939**	**24,803**
Selling, general, and administrative expenses	**8,056**	**8,837**
Operating income	**12,883**	**15,966**
Non-operating income		
Interest income	1	5
Dividends income	300	292
Insurance income and dividends received	41	55
Equity in investment revenue of affiliates	39	93
Other	44	66
Total non-operating income	**428**	**513**
Non-operating expenses		
Interest expense	89	102
Commitment fee	100	144
Group term insurance premiums	63	65
Prepayment of guarantee fee	53	36
Other	34	36
Total non-operating expenses	**342**	**385**
Ordinary income	**12,969**	**16,094**
Extraordinary income		
Income on selling property, plant and equipment	435	0
Gain on sales of investment securities	7	502
Insurance income	273	33
Proceeds from subsidies	–	97
Other	0	–
Total extraordinary income	**716**	**633**
Extraordinary loss		
Loss on disposal of non-current assets	14	92
Losses on impairment of fixed assets	62	–
Loss on disasters	74	–
Loss on valuation of investment securities	64	111
Loss on valuation of stocks of affiliates	22	–
Total extraordinary loss	**239**	**204**
Net income before income taxes and non-controlling interests	**13,446**	**16,523**
Corporate, inhabitant, and enterprise taxes	**3,542**	**5,307**
Deferred income taxes	**576**	**△338**
Total corporate tax	**4,119**	**4,969**
Net income	**9,327**	**11,554**
Net income attributable to non-controlling interests	**322**	**265**
Net income attributable to owners of the parent company	**9,004**	**11,289**

Consolidated statements of comprehensive income

(Unit: million yen)

	Previous fiscal year (From April 1, 2019 to March 31, 2020)	Current fiscal year (From April 1, 2020 to March 31, 2021)
Net income	9,327	11,554
Other comprehensive income		
Valuation difference on available-for-sale securities	△2,530	2,459
Total other comprehensive income	**△2,530**	**2,459**
Comprehensive income	**6,796**	**14,013**
Total comprehensive income attributable to:		
Comprehensive income attributable to owners of parent	6,473	13,748
Comprehensive income attributable to non-controlling interests	322	265

Consolidated financial statements, etc.

(3) Consolidated statement of changes in shareholders' equity

Previous fiscal year (April 01, 2019 March 31, 2020)

(Unit: million yen)

	Shareholders' equity				
	Share capital	Capital surplus	Retained earnings	Treasury shares	Total shareholder's equity
Balance at the beginning of current period	9,435	10,185	61,997	△3,693	77,924
Changes of items during period					
Dividends of surplus			△1,409		△1,409
Profit attributable to owners of parent			9,004		9,004
Acquisition of treasury shares				△0	△0
Disposal of treasury stock		0		81	81
Net changes of items other than shareholders' equity					
Total changes during period	–	0	7,594	80	7,675
Balance at the end of period	9,435	10,185	69,592	△3,612	85,600

	Accumulated other comprehensive income			Non-controlling interests	Total net assets
	Valuation difference on available-for-sale securities	Revaluation reserve for land	Total accumulated other comprehensive income		
Balance at beginning of current period	6,181	159	6,341	2,317	86,583
Changes of items during period					
Dividends of surplus					△1,409
Profit attributable to owners of parent					9,004
Acquisition of treasury shares					△0
Disposal of treasury stock					81
Net changes of items other than shareholders' equity	△2,530	–	△2,530	320	△2,210
Total changes during period	△2,530	–	△2,530	320	5,465
Balance at the end of period	3,650	159	3,810	2,638	92,048

Current fiscal year (From April 1, 2020 to March 31, 2021)

(Unit: million yen)

	Shareholders' equity				
	Share capital	Capital surplus	Retained earnings	Treasury shares	Total shareholder's equity
Balance at the beginning of current period	9,435	10,185	69,592	△3,612	85,600
Changes of items during period					
Dividends of surplus			△1,741		△1,741
Profit attributable to owners of parent			11,289		11,289
Acquisition of treasury shares				△348	△348
Disposal of treasury stock				60	60
Net changes of items other than shareholders' equity					
Total changes during period	–	–	9,548	△287	9,260
Balance at the end of period	9,435	10,185	79,140	△3,900	94,860

	Accumulated other comprehensive income			Non-controlling interests	Total net assets
	Valuation difference on available-for-sale securities	Revaluation reserve for land	Total accumulated other comprehensive income		
Balance at beginning of current period	3,650	159	3,810	2,638	92,048
Changes of items during period					
Dividends of surplus					△1,741
Profit attributable to owners of parent					11,289
Acquisition of treasury shares					△348
Disposal of treasury stock					60
Net changes of items other than shareholders' equity	2,459	–	2,459	177	2,636
Total changes during period	2,459	–	2,459	177	11,897
Balance at the end of period	6,110	159	6,269	2,815	103,945

(4) Consolidated statement of cash flows

(Unit: million yen)

	Previous fiscal year (From April 1, 2019 to March 31, 2020)	Current fiscal year (From April 1, 2020 to March 31, 2021)
Cash flows from operating activities		
Income before income taxes	13,446	16,523
Depreciation and amortization	2,818	3,447
Losses on impairment of fixed assets	62	–
Increase (decrease) in retirement benefit liability	202	803
Increase (decrease) in allowance for executives' retirement benefits	61	△196
Increase (decrease) in allowance for stock-based compensation	27	43
Increase (decrease) in other provisions	△246	101
Increase (decrease) in provision for loss on construction contracts	△1,365	△674
Increase (decrease) in provision for bonuses	105	127
Interest and dividend income received	△302	△298
Interest expense	89	102
Loss (gain) on sales of investment securities	△7	△502
Loss (gain) on sales of property, plant, and equipment	△425	20
Loss on disposal of fixed assets	3	47
Loss (gain) on valuation of investment securities	64	111
Non-cash portion of other income and expenses, etc. (net)	△102	△78
Decrease (increase) in notes receivable, accounts receivable from completed construction contracts and other	841	△14,451
Decrease (increase) in costs on uncompleted construction contracts and work in process	△230	△187
Decrease (increase) in accounts receivable-other	△645	△12
Increase (decrease) in notes payable, accounts payable for construction contract and other	△1,079	△4,015
Increase (decrease) in advances received on uncompleted construction contracts	374	△106
Increase (decrease) in accounts payable-other	△25	244
Increase (decrease) in deposits received	297	360
Increase (decrease) in accrued consumption tax, etc.	△1,078	2,144
Increase (decrease) in other assets and liabilities	△720	124
Subtotal	12,164	3,679
Interest and dividends received	303	299
Interest expenses paid	△66	△102
Income taxes, etc. paid	△2,909	△3,682
Payments for accident-related losses	△323	–
Cash flows from operating activities	9,168	195
Cash flows from investing activities		
Purchase of property, plant and equipment	△8,716	△5,577
Proceeds from sales of property, plant and equipment	493	36
Purchases of intangible fixed assets	△549	△879
Expenditures on purchase of investment securities	△98	△303
Proceeds from sales of investment securities	109	770
Payments for loans	–	△40
Proceeds from collection of loans	0	4
Other expenditures	△32	△60
Other proceeds	34	63
Cash flows from investing activities	△8,761	△5,985
Cash flows from financing activities		
Net increase (decrease) in short-term loans payable	△1,000	4,000
Proceeds from long-term borrowings	6,200	3,848
Repayments of long-term debt	△5,971	△3,362
Proceeds from issuance of bonds	2,300	300
Payments for redemption of bonds	△2,300	△50
Payments for purchase of treasury stock	△0	△348
Proceeds from sales of treasury stock	81	60
Dividends paid	△1,408	△1,740
Dividends paid to non-controlling interests	△2	△87
Cash flows from financing activities	△2,101	2,619
Foreign currency translation adjustments on cash and cash equivalents	18	23
Net increase (decrease) in cash and cash equivalents	△1,675	△3,147
Cash and cash equivalents at beginning of period	24,414	22,739
Cash and cash equivalents at end of period	22,739	19,592

Yokogawa Bridge Holdings Corp.

"Embody integrity! Create outstanding things!"
This was the *monozukuri* approach to manufacturing espoused by our founder, Dr. Tamisuke Yokogawa, which has been handed down and maintained in our company for over a century.
This philosophy, which extends throughout the YBHD Group, helps to strengthen cohesion while also driving YBHD to create even better products and market them not only in Japan, but throughout the world.

By expanding our domestic and international business network, we are contributing to the improvement of societal infrastructure on a global scale.

Yokogawa Bridge Holdings Corp. (YBHD) came into being in August 2007 with the aim of integrating the YBHD Group's multi-faceted capabilities in a flexible manner and making a substantial contribution to society. YBHD responds to customers' diverse needs through our extensive domestic and international network.

Main domestic business locations

Branches
Muroran City, Hokkaido
Kamisu City, Ibaraki Prefecture
Minato-ku, Tokyo
Funabashi City, Chiba Prefecture
Sakai City, Osaka Prefecture

Sales Offices
Sapporo City, Hokkaido
Sendai City, Miyagi Prefecture
Yokohama City, Kanagawa Prefecture
Shizuoka City, Shizuoka Prefecture
Nagoya City, Aichi Prefecture
Osaka City, Osaka Prefecture
Amagasaki City, Hyogo Prefecture
Okayama City, Okayama Prefecture
Hiroshima City, Hiroshima Prefecture
Fukuoka City, Fukuoka Prefecture
Naha City, Okinawa Prefecture

Plants
Muroran Plant (Hokkaido)
Kashima Plant (Ibaraki Prefecture)
Chiba Plant (Chiba Prefecture)
Mobara Plant (Chiba Prefecture)
Osaka Plant (Osaka Prefecture)
Izumi Plant (Osaka Prefecture)
Kishiwada Plant (Osaka Prefecture)

Equipment Centers
Hokkaido Equipment Center (Hokkaido)
Tone Equipment Center (Ibaraki Prefecture)
Harima Equipment Center (Hyogo Prefecture)

Research Facilities
Technical Research Laboratory (Chiba Prefecture)

Main overseas business locations

Vietnam
Hanoi City
Hanoi Office

Myanmar
Yangon City
Yangon Branch

Philippines Pasig City
Yokogawa Techno Philippines,Inc.

Yokogawa Bridge Corp.

A long-standing contribution to social and economic development through the improvement and maintenance of social infrastructure

Founded in 1907, Yokogawa Bridge Corp. has played an important role in improving social infrastructure—including bridge construction, both within and outside Japan, and the manufacture of steel structures. Today, Yokogawa Bridge Corp. operates as an integrated general engineering company, offering total solutions that encompass every stage from design through to installation, repair and reinforcement, rebuilding, and renewal. The company is focused on the new bridge construction business, the bridge maintenance business (demand for which is forecasted to increase significantly), and the expressway large-scale upgrading and large-scale repair business. Other business areas include the construction of special-purpose buildings, such as high-rise buildings, domes, etc., the construction of large, high-precision structures using ultra-precise finishing technology, and the development of products that help to enhance the maintenance of existing bridges. In overseas markets, Yokogawa Bridge Corp. is focused on improving infrastructure in regions with significant growth potential, such as Africa and Southeast Asia.

Company History

1907 Dr. Tamisuke Yokogawa founded Yokogawa Bridge Works in Nishi-ku, Osaka City.
The Osaka Plant was established (closed in 1943).
1918 Yokogawa Bridge Works was reorganized as a joint-stock company.
1922 The new Tokyo Plant was established in the Shibaura district of Tokyo (closed in 1969).
1964 The Osaka Branch was established, and the Osaka Plant began operation.
1969 The Tokyo Branch was established, and the Chiba Plant began operation (closed in 1999).
1991 Yokogawa Bridge Works Ltd. was renamed Yokogawa Bridge Corp.
2005 The Bridge Stage Izumi Plant, located in Izumi City, Osaka Prefecture, began operation.
2007 Yokogawa Bridge Holdings Corp. was established.
2007 Yokogawa Bridge Corp. became a wholly owned subsidiary of Yokogawa Bridge Holdings Corp., and was delisted.
2007 A ceremony was held to commemorate the 100th anniversary of the company's founding.
2019 The Kishiwada Plant was established in Kishiwada City, Osaka Prefecture.


New bridge construction business


Construction business

Yokogawa System Buildings Corp.

Yokogawa Engineered Structure System (yess), which makes effective use of Yokogawa's unique steel structure technology, holds the highest market share in the engineered structure market.

Yokogawa System Buildings Corp. was launched around a core business of engineered structures, a new style of building. Under the brand name "yess" (Yokogawa Engineered Structure System), the company has been involved in the construction of over 10,000 buildings throughout Japan. What makes "yess" special is that Yokogawa System Buildings Corp. has Japan's only dedicated engineered structure factory, and a network of more than 1,200 sales and construction agents (builders) throughout Japan, enabling the company to rapidly supply high-quality products to any location. These structures are used in a wide variety of applications, from factories, warehouses, and shops, to offices, sports facilities, and final disposal sites. In its special-purpose buildings business, Yokogawa System Buildings Corp. has been a pioneer in retractable roofs for swimming pools, stadiums, etc., providing an integrated total solution for movable buildings that includes design, installation, and maintenance. In the future, Yokogawa System Buildings Corp. will continue striving to realize further enhancements in the quality of its products and services, satisfying customer needs with an approach that emphasizes integrity while contributing to society.

Company History

1989 An engineered structure division, the forerunner of today's Yokogawa System Buildings Corp., was established within Yokogawa Bridge Works (now Yokogawa Bridge Corp.)
1990 The Sodegaura Plant (now Chiba Plant) was established.
2002 The division was spun off from Yokogawa Bridge Corp.
It began operation as a separate company under the name Yokogawa System Buildings Corp.
2006 The facilities of the Chiba Plant were improved.
2008 The company acquire certification general appraisal certification from The Building Center of Japan (BCJ).
2019 The Mobara Plant was established.


Engineered structure—Factory


Special-purpose buildings—Retractable roof

Yokogawa NS Engineering Corp.

Industry-leading comprehensive capabilities that extend from materials development, design and manufacturing through to installation

Yokogawa NS Engineering Corp. was established as an engineering company that would combine the technology solution capabilities of Yokogawa Bridge Holdings Corp. with the product development and production capabilities of Sumitomo Metal Industries (now Nippon Steel Corporation). By making full use of the operational assets of these two industry-leading companies, Yokogawa NS Engineering Corp. has been able to build an unrivalled high-level business framework that covers everything from materials development to design, manufacturing and installation. Through bridge construction and related products, steel segments for road tunnels and other underground structures, harbor structures utilizing the jacket method, etc., Yokogawa NS Engineering Corp. contributes to the construction of resilient infrastructure in Japan with its advanced technology development capabilities, high productivity, and solid cost competitiveness.

Company History

1977 Founded as the Engineering Division of Sumitomo Metal Industries (now Nippon Steel Corporation).
1989 Began operation in the Kashima Works as the Kashima Bridge Girder Factory.
1999 The new Kashima Bridge Girder Factory was established in Kamisu City, Ibaraki Prefecture.
2009 Sumitomo Metal Industries' bridge business was spun off and absorbed into Sumikin Bridge Co., Ltd.
2009 Sumikin Bridge Co., Ltd. was renamed Yokogawa Sumikin Bridge Corp., to serve as a joint operating company for Yokogawa Bridge Holdings Corp. and Sumitomo Metal Industries.
2019 Yokogawa Sumikin Bridge Corp. was renamed Yokogawa NS Engineering Corp.


Bridge business


Underground structures—Steel segments

Narasaki Seisakusyo Co.,Ltd.

Aiming to use our advanced technological capabilities to create bridges that satisfy local communities and develop products to meet diverse needs

Founded in 1935 as a shipbuilding firm, Narasaki Seisakusyo Corp. used shipbuilding technology as a foundation for growing into a specialist manufacturer of steel bridges and machinery steel products (including steel tubes, ship-lifting equipment, water gates, water treatment facilities, etc.), and has expanded its business activities throughout Japan, with a focus on Hokkaido and the Tohoku region. Going forward, Narasaki Seisakusyo Corp. will strive to further enhance technology, safety, and quality in its bridge business, while continuing to expand its business operations as a leading Hokkaido-based company. In the machinery steel sector, the company will further refine its original products—including ship-lifting equipment and water treatment facilities—and will actively work to respond to diversifying needs on a nationwide basis.

Company History

1935 Narasaki Shipbuilding Ltd. was founded in Tsukiji-cho, Muroran City.
1975 The Sakimori Plant began operation.
1984 The company name was changed to Narasaki Seisakusyo Co., Ltd.
1986 The company's head office moved to its current location in Sakimori-cho, Muroran City.
2003 Narasaki Seisakusyo Co., Ltd. became a subsidiary of Yokogawa Bridge Corp.
2018 The new head office building was completed.


Water treatment and environmental products


Ship-lifting equipment

Yokogawa Techno-Information Service Inc.

Bridge expertise combined with IT expertise

Since its founding in 1984, Yokogawa Techno-Information Service Inc. has focused on the development and sale of IT systems for the civil engineering and construction sector, and the provision of information processing services. The application of information technology to the civil engineering and construction sector began in the 1970s with the adoption of CAD systems, progressed with the introduction of construction CALS systems in the 1990s, through to the recent adoption of CIM and i-Construction. Yokogawa Techno-Information Service Inc. has kept pace with these developments, and has continued to evolve while striving to stay one step ahead. With a specific focus on bridges, the company has provided many users with a series of information systems for use in the design and manufacture of steel structures.

Steel bridge design

Provision of a comprehensive range of services relating to steel bridge design

Yokogawa Techno-Information Service Inc. provides a wide range of systems and services associated with steel bridge design, including preliminary design, detailed design, and reconstruction design. These products and services have proved very popular with architectural consultants, bridge manufacturers, and other customers involved in bridge design.

Structural analysis

Using our wealth of experience and superior technological capabilities to assist with structural analysis

We provide high-quality services covering everything from model building tailored to customers' needs, to the creation of reports. We are able to assist with structural analysis for steel bridges and also in other fields.

Yokogawa New Life Corp.

Putting in place powerful support systems for all Group companies

Yokogawa New Life Corp. provides high-quality back-office solutions for the YBHD Group, including real estate property management, human resource assignment, and salary calculation.


Real estate management

Real estate property management

Yokogawa New Life Corp. helps the YBHD Group to achieve stable earnings by playing an active role in the Group's real estate strategy, in relation to the operational management of real estate owned and leased by the Group.

Human resources assignment

We utilize our high-level recruitment capabilities to provide human talent throughout Japan, both within and outside the Group. To respond effectively to the rapid pace of change in today's business world, we provide powerful support for staff skill enhancement, and aim to provide companies with human talent that matches their needs.

Salary calculation operations

Yokogawa New Life Corp. undertakes salary calculation on behalf of all YBHD Group companies, thereby helping to reduce the burden on individual Group companies HR departments, and helping to enhance operational efficiency by allowing them to focus on their core competencies.

YCE Corp.

Providing support for various aspects of bridge preservation as a team that offers specialist expertise in safeguarding bridges

YCE Corp. is a construction consultant firm for the YBHD Group. Since its establishment in 2000, it has continued to grow steadily, and as Japan moves away from the era of building new infrastructure to one in which the focus will be on managing and upgrading existing infrastructure, the company is now entering a new stage of growth. Making effective use of the wide-ranging technology capabilities that we have accumulated in relation to new bridge construction, as well as the reinforcement and renewal of existing bridges, we fulfill our social mission as construction consultants.

Inspections, surveys, and diagnostic operations

To ensure that structure maintenance is managed appropriately, we perform inspections, surveys, and diagnostics to check for abnormalities, deterioration, damage, etc., on steel bridges, concrete bridges, tunnels, and other highway structures. We also conduct services ranging from third-party damage precautions in case of accidents to emergency inspections following earthquakes and other natural disasters.

Design, analysis and, review operations

With the goal of extending the lifespan of existing bridges and other structures, we conduct a wide range of planning and design work, from repair and reinforcement design as well as seismic reinforcement design aimed at improving earthquake resistance to large-scale renewal planning and preventive measure planning. We also undertake the 3D finite element analysis and time history response analysis that this design work requires.

Testing and measurement operations

In order to verify planning and designs and put new technologies into practical use, we implement testing using Group facilities, and also perform on-site load testing and other related tasks. We undertake remote monitoring using the Internet, and three-dimensional measurement using 3D scanners, as well as utilizing audio-capable cameras to check for abnormal sounds, etc.

Yokogawa Techno Philippines, Inc.

Supporting the operations of Group companies from outside Japan

Yokogawa Techno Philippines, Inc. (commonly known as YTP) began in 2005 with the purpose of undertaking some of the technical work related to the design, full-scale drawing, and structural analysis of steel bridges in the Philippines. In January 2018, it became the Group's eighth operating company. Currently, YTP support the work of Group companies not only in steel bridges but also in a wide range of fields such as engineered structure design and system development. Going forward, YTP will continue to collaborate in the Group's development from outside Japan through human resource development to cultivate many engineers based on the technologies and knowledge accumulated within the Group.

Company Profile

As of March 31, 2021

Company name	Yokogawa Bridge Holdings Corp.
Address	4-4-44 Shibaura, Minato-ku, Tokyo 108-0023, Japan
Established	August, 2007
Capital	9.4 billion yen
Number of employees	1,891 (consolidated)
Stock exchange listing	First Section of the Tokyo Stock Exchange Securities Code 5911
Administrator of Shareholder Registry	Sumitomo Mitsui Trust Bank, Limited

Information Related to the Company's Shares

As of March 31, 2021

Total number of authorized shares	180,000,000
Total number of issued shares	45,564,802
Number of shareholders	7,832

Major shareholders (top 10)

Shareholder	Shares (thousands)	Stake (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	4,570	11.02
Custody Bank of Japan, Ltd. (Trust Account)	3,077	7.42
Yokogawa Electric Corporation	2,234	5.39
Nippon Steel Corporation	1,987	4.79
Custody Bank of Japan, Ltd. (Trust Account 9)	783	1.89
Sumitomo Realty & Development Co., Ltd.	674	1.62
Yokogawa Bridge Holdings Employee Shareholding Association	592	1.42
Nippon Life Insurance Company	543	1.31
Custody Bank of Japan, Ltd. (Trust Account 5)	520	1.25
Mitsui Sumitomo Insurance Co., Ltd.	514	1.23

(Notes) 1. The Company, which holds 4,109,282 treasury shares, is excluded from the above major shareholders. Treasury shares (4,109,282 shares) do not include company shares owned by the Employee Stock Ownership Plan Trust (150,900 shares) and company shares owned by the Stock Granting Trust for Officers (60,000 shares).

2. Stakes are calculated excluding treasury shares.

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Yokogawa Bridge Corp.

27 Yamano-cho, Funabashi City, Chiba Prefecture 273-0026, Japan
Tel: 047-437-8000　Fax: 047-495-2910
http://www.yokogawa-bridge.co.jp/

Yokogawa System Buildings Corp.

47-1 Yamano-cho, Funabashi City, Chiba Prefecture 273-0026, Japan
Tel: 047-410-3215　Fax: 047-410-3280
https://www.yokogawa-yess.co.jp/

Yokogawa NS Engineering Corp.

16-5 Sunayama, Kamisu City, Ibaraki Prefecture 314-0255, Japan
Tel: 0479-46-6688　Fax: 0479-46-6684
http://www.ynse.co.jp/

Narasaki Seisakusyo Co.,Ltd.

385 Sakimori-cho, Muroran City, Hokkaido 050-8570, Japan
Tel: 0143-59-3611　Fax: 0143-59-4688
http://www.narasaki-ss.co.jp/

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