Yokogawa Bridge Holdings Corp.

Integrated Report 2022

Building links to the future





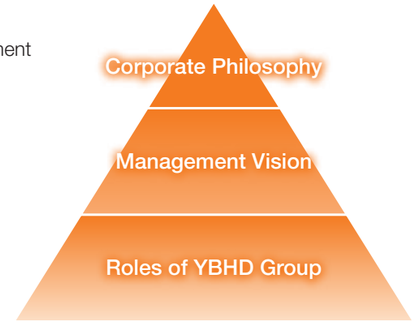
Corporate Philosophy

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

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 offshore 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 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.

Editorial Policy

In fiscal 2021, we began 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 2021 (April 2021 to March 2022)

Published

September 2022

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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http://www.en.ybhd.co.jp/

Contents

Message from the President

We will build a management foundation that is resilient to changes in the business environment and accelerate our growth strategy that focuses on both people and technology to translate ESG initiatives into sustainable growth.

Kazuhiko Takata
President and Representative Director
Yokogawa Bridge Holdings Corp.

Aims of the Sixth Medium-Term Management Plan

We are sowing the seeds and nurturing the buds for the future as we strive for sustainable growth.

The YBHD Group is responsible for the development of various kinds of infrastructure that form the basis of economic activities and human life. Since its establishment 115 years ago in 1907, the YBHD Group has been fulfilling its mission based on its solid technological capabilities under the corporate philosophy of "Contribution to society and the public, and sound management."

Over this long period of time, however, the business environment surrounding the Group has continued to change significantly, and in recent years, the changes seem to have become particularly intense. In order to adapt to these changes in the environment and to achieve sustainable growth for the YBHD Group far into the future, even 200 years after its founding, we have established a long-term vision that covers all Group companies. Our overarching policy is to support Group performance by reinforcing our solid bridge business while expanding our engineering business and continuing to aggressively take on challenges in new fields. Backcasting from this long-term vision, the Sixth Medium-Term Management Plan ("Sixth Plan"), which started in fiscal 2022, outlines our growth strategy for the next three years and the strengthening of our current management foundation.

The three-year period of the Sixth Plan is a time to lay the foundation for the realization of the four points in the YBHD Group's management vision and to simultaneously work on *strengthening the bridge business* and *expanding the engineering business* in line with our long-term vision. We will also look to create new businesses that anticipate future market trends and develop a management foundation that can respond to an ever-changing business environment. We have purposely designated the Sixth Plan as a period of *foundation building* because we believe that while drawing a roadmap for continuous growth toward the distant goal of our 200th anniversary, we must have a period during which to plant the seeds of new business creation and nurture their buds. Each measure in the Sixth Plan is designed with a medium- to long-term perspective and with the goal of the upcoming Seventh Medium-Term Management Plan in mind, and we are determined to make this period of foundation building meaningful so that we can make further progress as we move from the Fifth to the Sixth and from the Sixth to the Seventh Medium-Term Management Plans. In order to share a common direction with each and every employee toward our goals, we have set the slogan for the Sixth Plan as "Moving to the Next Phase of Growth." I hope that everyone who works for the Group will take this slogan to heart and never be satisfied with where they are today, but will continue to tirelessly take on new challenges.

Summary and Results of the Fifth Medium-Term Management Plan

Although different from how we had envisioned it, we achieved our goals by and large.

While we slightly missed our sales targets under the Fifth Medium-Term Management Plan ended in fiscal 2021, we achieved our profit targets, especially in fiscal 2020 and fiscal 2021, when we exceeded the targets for two consecutive years despite suffering from the COVID-19 pandemic. The initial plan was to grow the engineered structure system business significantly, developing it into a driver of growth for the entire Group, but among all our businesses, it did not grow as expected, partly because of the impact of the COVID-19 pandemic on customers' capital investment. However, this was offset by the strong performance of the bridge business, which was a major factor in achieving our targets. Although slightly different from the vision of growth in the engineered structure system business that we had imagined when we first formulated the Fifth Plan, I believe that we achieved a satisfactory result.

Technology Innovation in the Environmental Field as a Driver of Growth

We will contribute to a decarbonized society by actively promoting technological development that helps to solve environmental issues.

In December 2021, the YBHD Group announced its endorsement of the Task Force on Climate-related Financial Disclosure (TCFD) recommendations and publicly proclaimed both internally and externally that it will appropriately disclose climate-related financial information. The infrastructure development for which the Group is responsible has always been closely related to weather and natural disasters. Especially in recent years, the demand for infrastructure that can cope with climate change, such as disaster prevention, disaster mitigation, and carbon neutrality, has been expanding, making it increasingly important for us to support the TCFD recommendations, including in terms of business continuity. In conjunction with the declaration of support, we first laid the foundation for our TCFD compliance by organizing and disclosing our governance and risk management systems, and then conducted a simple scenario analysis to identify climate change-related risks and opportunities for the Group, followed by an impact analysis. We will continue to closely monitor the rapidly changing global situation related to climate change and enhance the content of our disclosures in line with TCFD recommendations.

I believe that this was an appropriate response to the current situation, as companies listed on the Prime Market, which the Group selected in conjunction with the reorganization of the Tokyo Stock Exchange market in April 2022, are strongly urged to disclose climate-related financial information based on the TCFD recommendations. On the other hand, I believe that solving climate change and other environmental problems is something companies must universally commit to; it is something that is essential for the YBHD Group to continue its business as a member of society and for us to continue on our main path.

The worldwide goal to avoid the risk of climate change is to achieve a "decarbonized society," that is, to achieve carbon neutrality. In the Environmental Initiatives section of the Sixth Plan, the YBHD Group has set, as specific targets, reducing CO_2 emissions (Scopes 1 and 2) from its business activities by 20% by fiscal 2024 and 50% by fiscal 2030 compared with fiscal 2020 and achieving

carbon neutrality by fiscal 2050. As short-term measures, we will increase our purchases of electricity derived from renewable energy sources and promote the installation of solar panels for private consumption on the roofs of buildings at our business sites. As for the YBHD Group's path to carbon neutrality, while measures to reduce CO_2 emissions from business activities can be taken by the Group on its own, reduction of CO_2 emissions related to the production and transportation of raw materials (Scope 3) requires efforts to become carbon neutral from the level of materials purchased. Therefore, we would like to explore collaboration with various partner companies throughout the supply chain.

In addition, the YBHD Group has identified materiality (key issues) and established new key performance indicators (KPIs) for the environment, society, and governance (ESG). We will advance the creation of a resilient social environment while minimizing all impacts on the natural environment, including not only climate change but also waste reduction and water conservation. Furthermore, we plan to actively promote the development of technologies that help to solve environmental issues, such as offshore wind power generation and more efficient water treatment facilities, and to use these technological innovations as a driving force for future growth.

People: The Most Important Factor in Running a Company

We are focusing on training workers, ensuring health and safety, and promoting diversity.

At the YBHD Group, we are proud to say that *people* and *technology* have been the two wheels upon which the Group has grown since its founding. Sparing no expense in investing in people and securing exceptional human talent are indispensable elements for the Group's sustainable growth. It is no exaggeration to say that for companies like the YBHD Group, which wins public works projects through bidding, the amount of work it can get depends on the number of people it has with outstanding skills. It is not enough just to have the right people; many skills can only be acquired through time-consuming education and a lot of experience, so it is necessary to develop human talent in a well-planned manner. The key to the "expansion of the engineered structure system business," which is a goal of the Sixth Plan, is naturally human talent. I believe that the most important thing in running a company is its people.

In a business such as ours, where we are engaged in a variety of manufacturing activities at construction sites and factories, ensuring the safety of workers is of the utmost importance, and we always place the highest priority on *eliminating accidents*. We will continue to implement measures to physically ensure safety, such as thorough routine safety measures and improved scaffolding, while at the same time focusing on *DX for safety*, which can prevent human error with the help of digital technology. The general idea of DX (digital transformation) is to use digital technology to transform business structures in order to increase sales and sales volume, but in the case of the YBHD Group, we also want to use the power of digital technology to improve *human safety*. As the health of workers is very important to prevent human error, I would like to promote health management and focus on initiatives related to the mental and physical health of employees and the improvement of the workplace environment.

The human resource strategy in our Sixth Plan is to strengthen the Group's competitiveness by having human talent with diverse values play an active role. In Japan, the decline in the working population due to the falling birth rate and aging population has already become a social issue. The utilization of foreign employees is an urgent issue for the Group in order to confront this issue. The YBHD Group has an overseas subsidiary in the Philippines, Yokogawa Techno Philippines, Inc., an engineering company that employs about 200 local engineers. Plans are currently underway to select some of these 200 engineers to work at our Group companies in Japan. Until recently, COVID-19 has made it difficult for local recruits in other countries to come to Japan, but now that restrictions on travel from abroad are finally being eased, I believe that our plans will proceed smoothly. I expect that by creating a system that enables people who have dreams of working in Japan to succeed here, the diversity of the YBHD Group will be enriched as a result, and the unique values that each individual brings will strengthen the competitiveness of the Group as a whole.

Building a Highly Resilient Management Foundation

We are strengthening risk management to respond to new risks and changes in the environment.

One of the basic policies of our Sixth Plan is to "establish a strong management foundation that looks ahead 100 years." We will actively promote ESG-focused management, building a *highly resilient management foundation* that can flexibly respond to changing social conditions in order to fulfill our social responsibilities.

In governance, we plan to implement a variety of measures, but first and foremost, as a Prime Market-listed company, we will build a strong governance system that complies with our revised Corporate Governance Code, such as by conducting effectiveness evaluations of the Board of Directors and enhancing cooperation with outside corporate officers. Something we intend to place particular emphasis on is the bolstering of risk management, including information security measures.

In the past few years, the business environment surrounding the Group has been changing at an unprecedentedly furious pace and has become complicated by risks that cannot be predicted in advance, such as infectious disease outbreaks, sharp exchange rate fluctuations, and increasing geopolitical risks, including conflicts. In order to continue proper corporate operations under these circumstances, I believe that *highly resilient management* is necessary to overcome any risks that may arise at any time, no matter how great the social changes may be. "Resilience" has various shades of meaning, such as *adaptability, toughness, suppleness*, and the *ability to recover or spring back*. I am particularly concerned with the meaning of the *ability to recover or spring back* from a crisis. Various risks will eventually go away over time. If you ask me what would be needed to get our business back on track when a crisis is over, and the situation is about to change again, I would answer without hesitation, "solid technology to keep the business going." If you have solid technology, you can make it the *core* of your business when you aim to make a leap forward during the recovery, and it also increases the likelihood of the innovations needed for new business. Therefore, in terms of risk management, I believe that having solid technological capabilities is deeply linked to highly resilient management. I believe that the reason the YBHD Group has remained a leader in the bridge industry for more than 100 years is that we possess solid technological capabilities based on steel structure technology and have continuously improved our technological capabilities.

This *solid technology* includes not only on-site technology in the bridge business and the engineered structure system business, but also the digital technology required for DX. Under our Sixth Plan, we are planning to invest 7 billion yen, or more than one-third of the total 18 billion yen in investments planned for the entire medium-term management plan, in DX and IT-related areas. I already mentioned that we will be adopting DX for occupational safety, but we also plan to focus on other areas, such as ICT enhancements to increase productivity, strengthening core systems related to finance, and enhancing information security. In particular, we would like to make our information security even more robust in light of the current climate of heightened vigilance on a global scale.

As a growth strategy in our Sixth Plan, we believe that without the realization of DX, it will be difficult to achieve our goals themselves. Thus, there is an urgent need to develop digitally literate human resources who can take charge of the DX strategy. In order to raise the level of digital literacy throughout the company, we plan to first provide DX training to managers and career-track employees, and then select about 50 of them who are considered to have particularly high literacy to further develop their specialized skills.

To Stakeholders

We will translate ESG initiatives into sustainable growth for the YBHD Group.

The YBHD Group has always provided a variety of social and economic value to its stakeholders and local communities. In order for the Group to continue to be needed by society and to achieve sustainable growth, all employees must reaffirm the significance of sustainable management and translate ESG initiatives into sustainable growth for the YBHD Group. We are determined to operate openly, listen to everyone's voice, and never shut ourselves away inwardly when faced with rapid changes in the business environment. And we will keep doing our part to help solve social issues by making steady progress based on our two wheels of *people* and *technology*.

History of the YBHD Group

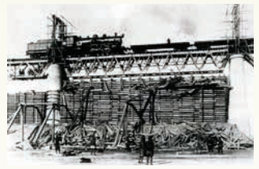
1907
Founding, through the war years, to post-war recovery

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
Manseibashi 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 the company had undertaken reconstruction work on 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, which was 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 the 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, which was 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

1907 Dr. Tamisuke Yokogawa founded Yokogawa Bridge Works in Nishi-ku, Osaka City.
1963 Yokogawa Construction Co., Ltd. was founded.
1984 Yokogawa Techno-Information Service Inc. was founded.
1991 Yokogawa Bridge Works Ltd. was renamed Yokogawa Bridge Corp.
1991 Yokogawa New Life Corp. was founded.
2000 YCE Corp. was founded.
2001 Yokogawa System Buildings Corp. was founded.
2003 Yokogawa acquired a controlling share in Narasaki Seisakusyo Co., Ltd., which became a Group company.
2007 Yokogawa Bridge Holdings Corp. was founded.
2009 Yokogawa acquired a controlling share in Yokogawa Sumikin Bridge Corp., which became a Group company.
2015 Yokogawa Construction Co., Ltd. was merged into Yokogawa Bridge Corp. (with Yokogawa Bridge Corp. as the surviving company).
2019 Yokogawa Sumikin Bridge Corp. was renamed Yokogawa NS Engineering Corp.

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.

From 2020
Expanding into the future

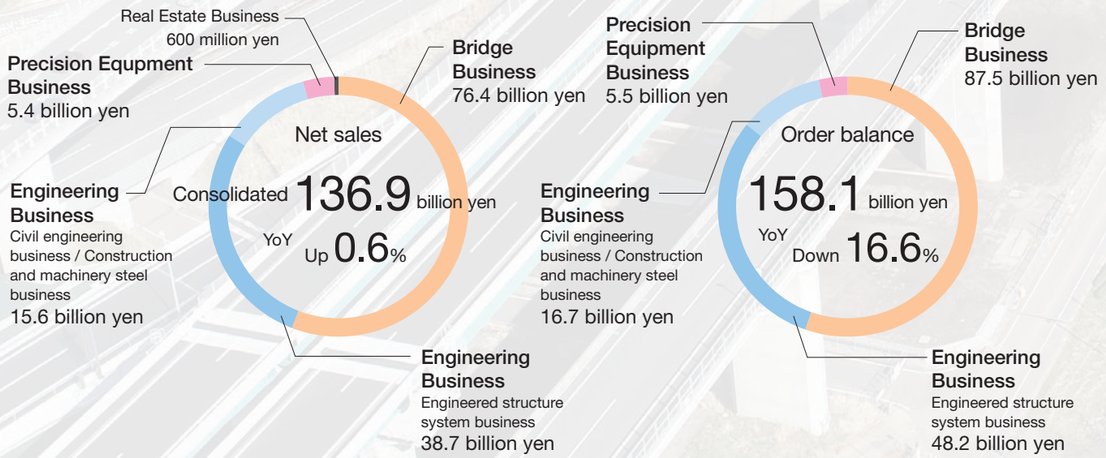
Intersection of the Tomei and Shin-Tomei, Japan's main arteries

2021 Shin-Tomei Expressway, Gotemba JCT

The YBHD Group will continue to actively pursue technological innovation and business expansion as a comprehensive steel structure company, aiming to create a social infrastructure that people can use with safety, comfort, and peace of mind.

Our Businesses

Net sales and orders received (FY2021)



Bridge Business

We promote social infrastructure development with our comprehensive technical proposal capabilities, covering the entire process from design to manufacture, erection, repair and reinforcement, rebuilding, and renewal.

As a leading company in the bridge industry, we are constantly engaged in the development of cutting-edge technologies and have been involved in the construction of many of Japan's leading bridges. In response to the aging of existing facilities and the need to develop infrastructure that is resilient to natural disasters, we have established a total maintenance business system that covers everything from inspections and surveys to design, manufacture, and on-site construction in maintenance and repair work, thus contributing to the maintenance of safe and high-quality social infrastructure along with new bridge construction.

Engineering Business Engineered structure system business

In the market for low-rise, large-space buildings such as factories, warehouses, and sports facilities, our "yess buildings" are high-quality products that can be produced quickly and at low cost and have taken the leading position in the system buildings industry.

Our "yess" buildings, which utilize Yokogawa's proprietary steel structural technology, are engineered structures with first-rate design and flexibility. They range from buildings with standard dimensional specifications to highly flexible custom-made specifications, depending on the purpose and use. With high quality, low cost, and quick delivery, our engineered structure system business has steadily increased its share in the industry and continues to grow as our second core business after the bridge business.

Engineering Business Civil engineering business / Construction and machinery steel business

Applying advanced technology and expertise developed in the bridge business, we are developing our civil engineering business, construction business, special structures business, and machinery steel business.

Our civil engineering business focuses on port and offshore structures for earthquake and tsunami protection, and the steel segment business addresses the utilization of underground space, such as major urban ring roads. In our special structures business, we are engaged in integrated design, construction, and maintenance services related to "movable buildings," such as retractable roofs for swimming pools and stadiums. We are also active in a variety of other fields related to the construction business, such as work on steel frameworks for high-rise buildings, etc., the construction of stadiums, and producing steel machinery for water gates (floodgates) and ship-lifting equipment.

Precision Equipment Business

We are entering higher-value-added fields by leveraging the advanced design, structural analysis, and metal fabrication technologies we have cultivated in bridge manufacture.

In the precision equipment manufacturing business, we provide a stable supply of high-precision products with excellent cost performance for use in the production of precision machinery manufacturing equipment for semiconductors, LCD panels, etc., through our integrated production management system from structural frame design to manufacturing. In the information processing business, our products, such as APOLLO, which is a total system for steel bridge design, and the CA* (Caster) series manufacturing simulation system, have gained the top share in the steel bridge industry.

Value Creation Process

For 115 years since its establishment, the YBHD Group has contributed to society through social infrastructure development and technological innovation. By further bolstering the Group's strengths, we will take on the challenge of creating new value adapted to the drastically changing social environment.

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

Inputs P13-14

Human capital*
Employees 1,962
Qualified personnel 1,226
* Including equity method affiliates.

Intellectual capital
Patents 177
R&D spending 400 million yen

Manufacturing Capital
Production bases 7
Production capacity of the main plant
Osaka Plant 60,000 t/year
Chiba / Mobara plants 90,000 t/year

Social capital
Order value 158.1 billion yen
Distributors Over 1,300

Financial capital
Stockholders' equity 103.3 billion yen
Interest-bearing debt 9.4 billion yen

Natural capital
Power consumption 25.56 million kWh
Steel consumption 128,000 tons

Corporate Philosophy
Contribution to society and the public, and sound management P1

Business Strategy

Bridge Business P27-30

Engineering Business
Engineered structure system business P31-32

Engineering Business
Civil engineering business / Construction and machinery steel business P33-36

Precision Equipment Business P37-38

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

Growth Strategy

Sixth Medium-Term Management Plan: Moving to the Stage of Further Growth P23-26

Materiality (key issues) / Environment / Society / Governance P44-46 P51 P52-56 P57-66

Roles of YBHD Group P1

Outputs


Bridges in Japan


Bridges outside Japan


Bridge attachments

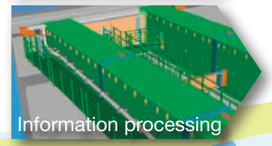

Engineered structures


Underground tunnels


Construction


Special-purpose buildings


Machinery steel


Information processing

Outcomes

Stakeholders
- Shareholders and investors
- Customers
- Business partners
- Employees
- Partner companies
- Local communities

Economic value provided P21-22 P67-72

Net sales	136.9 billion yen
Operating profit	14.7 billion yen
Ordinary profit	14.9 billion yen
Net income	11.0 billion yen
Earnings per share	267.54 yen
Equity ratio	62.5%
Payout ratio	28.0%

Social value provided
- Contribution to society through the 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

SDGs

Reinvestment in capital

Management Resources

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

Human capital

Employees group-wide **1,962***
Qualified personnel **1,226**

* Including equity method affiliates.

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 or skill development desires. We use this system to conduct job rotations and appropriate personnel assignments according to aptitude. We also actively provide support for employees who need to attend training sessions and seminars, including those needed to obtain related qualifications. The expertise of each and every employee, deepened in this way, is the source of the Group's high technical capabilities.

Qualified personnel — As of March 31, 2022

	Persons
Professional engineers	157
First-class architects	38
First-class civil engineering management engineers	756
First-class architectural construction management engineers	127
First-Class Construction Accountant	20
Second-Class Construction Accountant	128
Total	1,226

→ See P54-56 for our human resources initiatives.

Intellectual capital

Patents held **177**
R&D spending **400** million yen

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

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, 2022

Period	Participants	Research topic
Nov. 2012 – Mar. 2019	Nippon Steel, Yokogawa Bridge Holdings, Yokogawa NS Engineering	Research on expansion devices 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
Apr. 2019 – Mar. 2022	Yokogawa Bridge, Nikkei Engineering, Yokogawa Bridge Holdings	Research on a reverse-side sound absorption feature for "cusa" aluminum alloy permanent scaffolding
Sep. 2020 – Mar. 2021	Yokogawa Bridge, Osaka Prefecture University	Development of damping assessment method for highly damped structures
Apr. 2011 – Mar. 2022	Yokogawa Bridge, Osaka Prefecture University	Development of highly damped structures

→ See P40 for our R&D initiatives.

Manufacturing capital

Production bases **7**
Production capacity of the main plant
Osaka Plant **60,000** t/year
Chiba / Mobara plants **90,000** t/year

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

The Osaka Plant, which is 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.

Osaka Plant

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

→ See P73 for information on our bases.

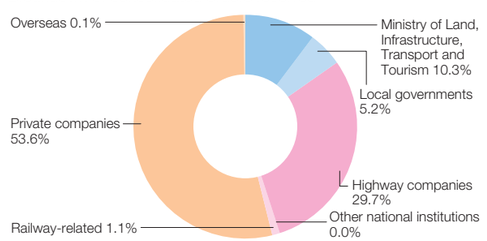
Social capital

Order value in FY2021 **158.1** billion yen
Distributors nationwide **Over 1,300**
(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 1,300 affiliated builders nationwide.

Breakdown of consolidated orders received



Financial capital

As of March 31, 2022

Stockholders' equity **103.3** billion yen
Interest-bearing debt **9.4** 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 trustworthiness 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 P67-72 for financial information.

Natural capital

As of March 31, 2022

Power consumption **25.56** million kWh
Steel consumption **128,000** tons

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

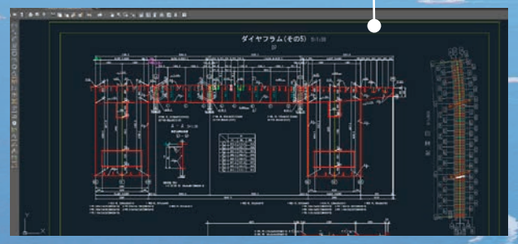
In addition, we will drive the reduction of environmental impact by actively working on the use of renewable energy and the development of environmentally friendly products and construction methods.

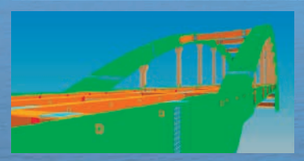
→ See P51 for our environmental initiatives.

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.

Order → Design → Mfg. Arranging materials → Mfg. Cutting / Machining → Mfg. Welding / Assembly → Mfg. Temporary assembly → Mfg. Painting → Trans-portation



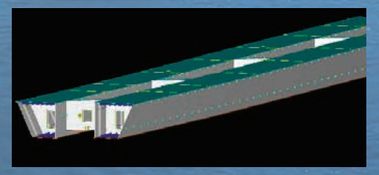


After creating comparative designs to select the form of the bridge most suited to the road plan and conditions, a detailed design is made, including the creation of detailed drawings. In addition, a design review is conducted to verify the validity of the design.

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

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.

Bridge blocks painted in the plant are transported to the construction site.



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

Assembled blocks are then fully or partially assembled temporarily into the bridge's finished shape to check that there are no errors in shape and dimensions, thus 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.

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

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, we stop the work and check and discuss it as many times as needed until everyone is satisfied.

Const. Erection

Temporary facilities

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

Ground assembly

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.

Girder construction

Using cranes, etc., the assembled blocks are lifted into place one by one in the order in which they are to be installed and built into a bridge.

Const. Deck

A deck is built on top of the erected steel girders so that vehicles can travel on it. 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.

Completion

Photo provided by East Nippon Expressway Company Limited.

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

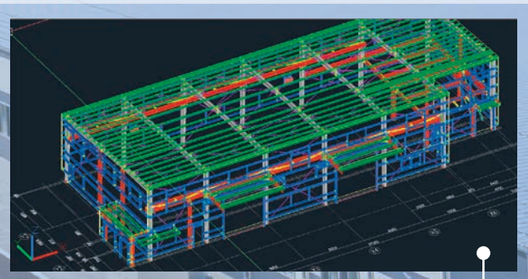
Engineered Structure Systems

Building Large Spaces Factory and Warehouse Building Process

Yokogawa Engineered Structure System (“yess”) is an architectural brand that specializes in buildings with 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 1,300 affiliated builders nationwide.

What are “yess” building sales and construction partners (affiliated builders)?
Affiliated builders nationwide serve as direct contacts for clients, and the YBHD Group’s Yokogawa System Buildings support the builders. To facilitate clients’ business expansion and ensure that their capital investment goes smoothly, we provide support together with affiliated builders, from consultation to construction and maintenance.



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, which is a structural design and production design system exclusively for “yess” buildings that has been independently developed by Yokogawa System Buildings.

We have established a system to produce “yess” buildings in the only plant in Japan dedicated to system buildings. This allows us to provide a stable supply of high-quality materials in a short time and at a low cost.

Rational construction methods that standardize members and joints 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 factories and warehouses.

South Regional Final Disposal Plant Chura Green Nanjo

Ichinomiya Logistics Center, Mylogi Co., Ltd.

Niigata Plant, Chiyoda Shoes Co., Ltd.

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

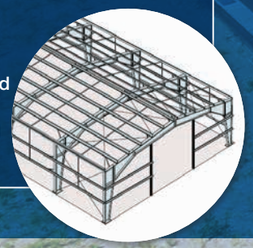
Mobara Plant, Yokogawa System Buildings

Order-taking → Design → Production → Const. → Completion

Four systems to create “yess” buildings

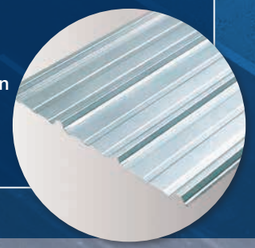
Frame system for “yess” buildings

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



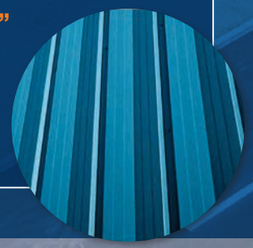
Roof system for “yess” buildings

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



Wall system for “yess” buildings

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



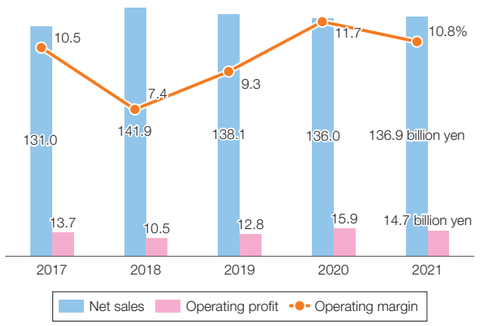
Accessories for “yess” buildings

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

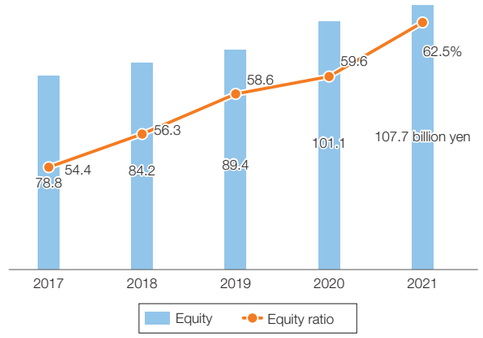
Financial and Non-Financial Highlights

(Items without notes are consolidated.)

Net sales / Operating profit / Operating margin

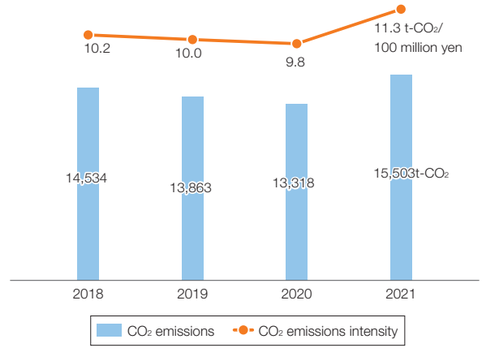


Equity / Equity ratio



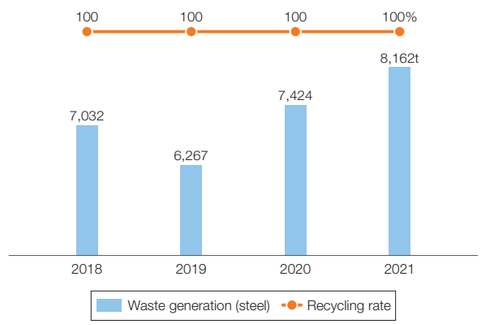
CO_2 emissions / CO_2 emissions intensity*

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

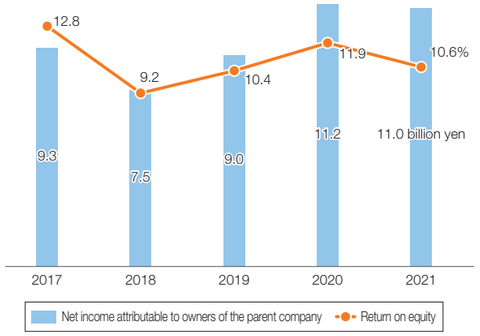


* CO_2 emissions per 100 million yen in sales

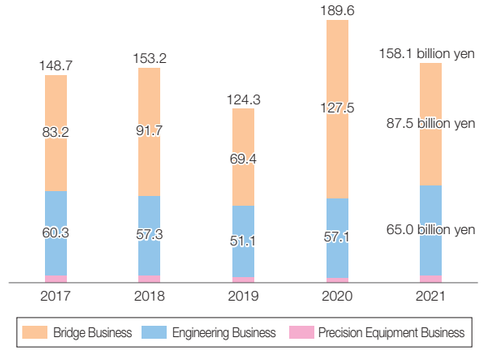
Waste generation (steel) / Recycling rate



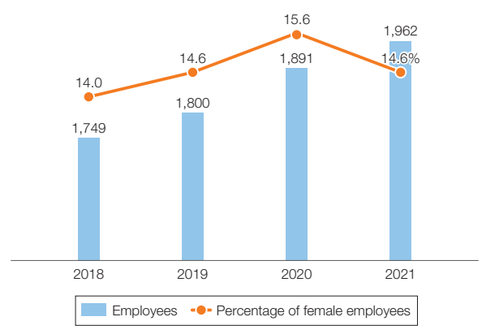
Net income attributable to owners of the parent company / Return on equity



Orders received

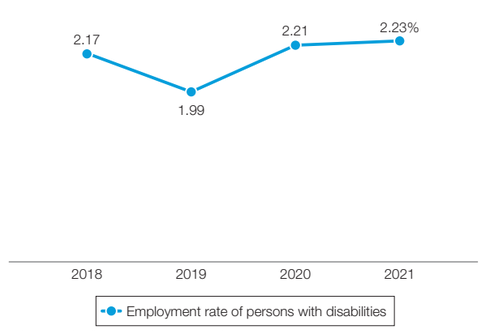


Number of employees/Percentage of female employees



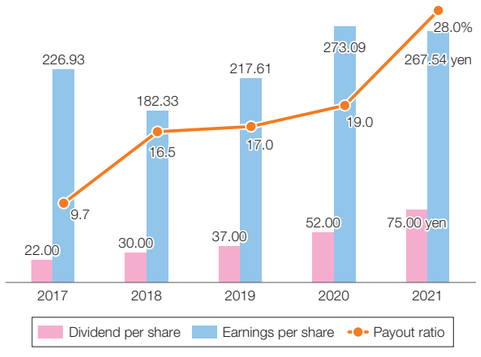
* Including equity method affiliates.

Employment rate of persons with disabilities

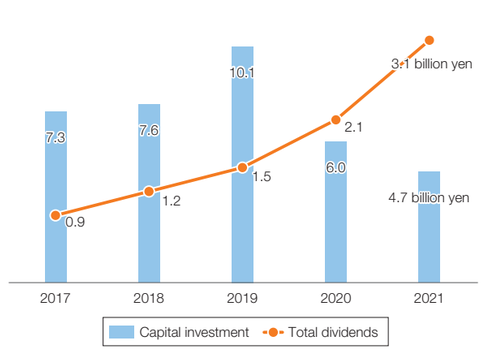


* Average for five operating companies

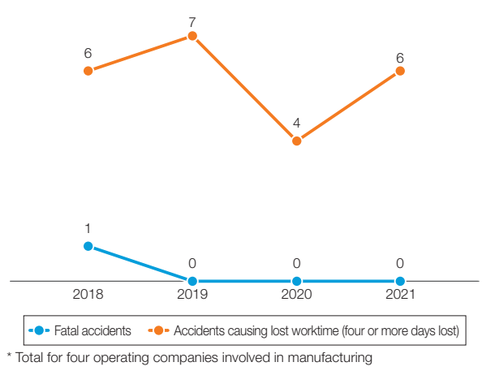
Dividend per share / Earnings per share / Payout ratio



Capital investment / Total dividends

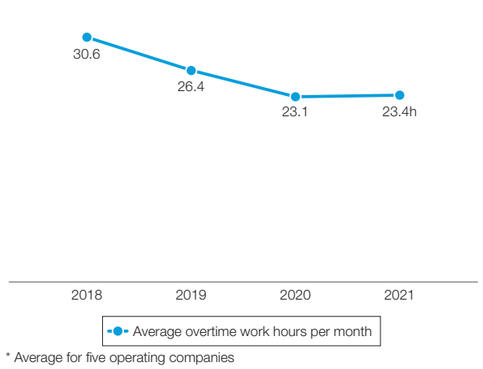


Number of occupational accidents



* Total for four operating companies involved in manufacturing

Average overtime work hours per month



* Average for five operating companies

Sixth Medium-Term Management Plan

—Moving to the Next Phase of Growth—

The YBHD Group plays a role in the development of the social infrastructure that forms the foundation of people's lives. For the 115 years since its establishment in 1907, it has been contributing to society through infrastructure development and technological innovation under the corporate philosophy of "Contribution to society and the public, and sound management." During this time, the business environment surrounding the Group has changed significantly. In order for the YBHD Group to continue to embody its corporate philosophy over the next 100 years and to conduct sustainable management aimed at the next phase of growth, we have formulated the Sixth Medium-Term Management Plan ("Medium-Term Plan") for the three-year period from fiscal 2022 to 2024.

Review of the Fifth Medium-Term Management Plan (Status of Achievement)

The engineered structure system business, which we expect to become a second key source of earnings, missed its targets, but our core bridge business secured major bridge construction and maintenance orders, and other segments broadly achieved their targets.

	Basic Policies	Progress and Achievements
1	Pursue maintenance, expansion, and optimization of the bridge business by reinforcing capacity in the bridge maintenance business in addition to new bridge construction	Strong orders for new bridge construction and maintenance, such as projects to expand highways to four lanes and major upgrade projects; performance outpaced targets, with record earnings and orders in FY2020
2	Establish a dual-plant framework and strengthen profit/loss management to drive further growth in the engineered structure system business	Work on establishing the dual-plant system generally proceeded as planned; orders started recovering in the second half of FY2021, but earnings underperformed targets due to the impact of the COVID-19 pandemic
3	Further grow the civil engineering steel structure engineering business, as exemplified by tunnel segments	Earnings missed targets due to sluggish orders and production, reflecting delays in work schedules for shield tunneling projects
4	Also, pursue expansion of the overseas bridge, aluminum products, and precision equipment manufacturing businesses	The overseas bridge business was weak due to the COVID-19 pandemic, but earnings were firm in aluminum products and precision equipment manufacturing

Business Environment

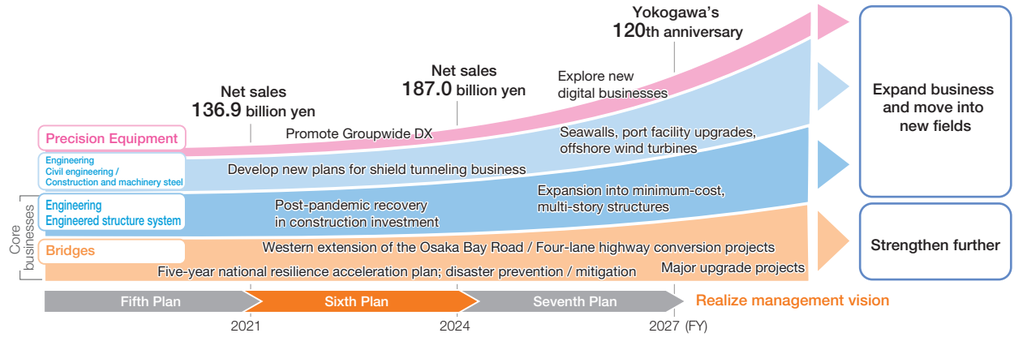
In the bridge business, the long-term market trend is a gradual shift to mainly reinforcement and repair work as the number of new bridges being built declines. In the medium term, however, a significant number of large orders are in sight for both new construction and maintenance projects. In the engineered structure system business, the market for warehouses and factories is expected to remain strong, and the switch away from conventional construction methods is expected to progress further. In the civil engineering business and the construction and machinery steel business, we expect demand for new civil engineering structures, supported by carbon neutrality strategies, in addition to demand for underground structures for railroads, etc. Demand in the precision equipment business is also expected to increase as the economy recovers from the COVID-19 pandemic. Meanwhile, the promotion of DX and efforts to address ESG issues are becoming increasingly important for business continuity.

Segment		Medium term	Long term
Bridges		Growth in new construction order volume, driven by projects to expand highways to four lanes and the start of orders for the western extension of the Osaka Bay Road	Moderate decline in new construction order volume; continued steady level of maintenance projects such as earthquake-proofing and major upgrade work
Engineering	Engineered structure system	Private-sector investment contracted due to the pandemic, but the market is recovering based on moves to bring supply chains back to Japan	Rising investment in warehouse and logistics facilities spurred by growth in the e-commerce market, as well as upgrades to aging facilities and consolidation / redevelopment of existing facilities
	Civil engineering / Construction and machinery steel	Firm demand for tunnel segments, supported by planning and implementation of major infrastructure projects such as the maglev Chuo Shinkansen high-speed rail line	Increase in demand in the carbon neutral-related market for civil engineering steel structures such as offshore wind turbines
Precision Equipment		Flat demand in the mainstay market for LCD and OLED panel manufacturing equipment	Continued growth in demand for semiconductor production equipment

Longer-term Vision and Basic Policies of the Sixth Medium-Term Plan

The YBHD 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. We envision growth as shown in the figure below. The period of the Sixth Medium-Term Plan is a time to lay the foundation for the realization of our management vision, and we will do more to bolster our bridge business and expand our engineering business. We will also prepare to create new businesses that anticipate longer-term market trends in the years ahead and will spend the next three years building a highly resilient business base that can flexibly respond to drastically changing social conditions.

The Sixth Medium-Term Plan designates the bridge business and the engineered structure system business as our two core businesses, and we will reinforce and grow both of them. We will also make efforts to move into new civil engineering business fields, develop technologies to reduce environmental impact, promote DX, and further build up our business base.



Basic Policy Build a highly resilient business base

1 Further reinforce core businesses

Bridge business: Reinforce maintenance services, secure orders for major new projects

Engineered structure system business: Develop various management systems to improve coordination between orders and production and make additional capital investments to improve productivity

2 Create and develop diverse businesses

Move into new fields such as seawalls, port facility upgrades, and offshore wind turbines

3 Establish a robust business base for the next 100 years

Develop new materials, construction methods, and other technologies with low environmental impact, promote wider use of renewable energy, double investment in IT, and accelerate DX measures

Business Strategy

- Bridge P.27-30
- Engineering Engineered structure system P.31-32
- Engineering Civil engineering / Construction and machinery steel P.33-36
- Precision Equipment P.37-38

(Core businesses)

Business Base Strategies

- DX strategy P.39
- Technology strategy P.40
- Human resources strategy P.41
- ESG initiatives P.42

Sixth Medium-Term Management Plan

Earnings Targets in the Sixth Medium-Term Management Plan

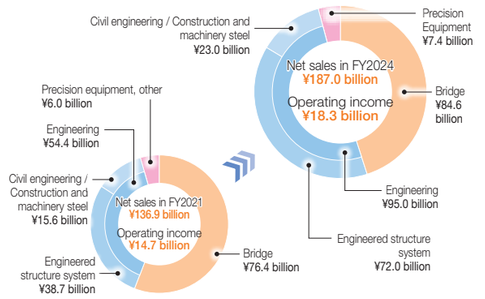
In order to quickly increase earnings, which had remained sluggish during the Fifth Medium-Term Plan period, we have set the following earnings targets for fiscal 2024, the final year of the Sixth Medium-Term Plan: net sales of 187 billion yen, operating profit of 18.3 billion yen, and earnings per share (EPS) of 290 yen. With an average annual growth rate of 11% in net sales, we plan to close in on 200 billion yen in net sales in the final year of the plan.

Sales targets by segment are: 84.6 billion yen for the bridge business, up 11% from fiscal 2021; 72 billion yen for the engineered structure system business of the engineering business, up 86% from fiscal 2021; 23 billion yen for the civil engineering business / construction and machinery steel business, up 47% from fiscal 2021; and 7.4 billion yen for the precision equipment business and others, up 24% from fiscal 2021. We will strive to expand the performance of all of our businesses, including our core bridge business, but in particular, we will aim to achieve our targets by significantly increasing performance in our other core business, the engineered structure system business. We assume that this will result in sales from the engineering business exceeding those from the bridge business in the final year of the plan.

	Fifth Plan				Sixth Plan
	FY2021 targets	FY2019 results	FY2020 results	FY2021 results	FY2024 targets
Net sales (billion yen)	**160.0**	138.1	136.0	136.9	**187.0**
Operating profit (billion yen)	**14.0**	12.8	15.9	14.7	**18.3**
EPS (yen)	**230**	218	273	268	**290**
ROE	**8% or higher**	10.4%	11.9%	10.6%	**9% or higher**

* Cost of equity assumption is roughly 7.3%.

Net sales by segment



Capital Policy

The basic goal of our capital policy in the Sixth Medium-Term Plan is to "balance sound finances with capital efficiency." As of the end of the Fifth Medium-Term Plan, our equity ratio exceeded 60%, and while the company's financial soundness is well secured, we intend to increase shareholder returns to maintain return on equity (ROE), which is an indicator of capital efficiency, at 9% or higher. We will continue our policy of paying stable dividends while aiming to maintain dividend increases based on a payout ratio target of 30% or higher. We also expect to buy back a certain number of shares as conditions permit.

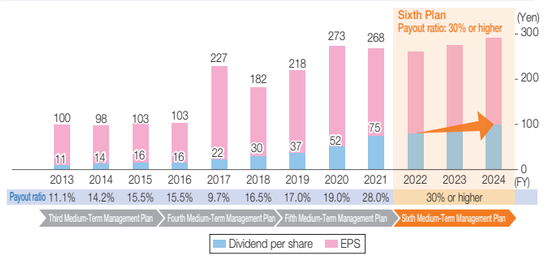
Policy on cross-shareholdings

Yokogawa holds shares in other companies (cross-shareholdings) when doing so is deemed beneficial to increasing the Group's corporate value over the medium and long term by maintaining and strengthening business relationships and business alliances.

Verification of appropriateness of cross-shareholdings

In light of the aforementioned policy, the Board of Directors annually reviews the appropriateness of holding each individual security, including the possibility of selling it, by comprehensively considering the necessity of holding the security, investment efficiency, and other benefits and risks associated with holding the security. We are working to further reduce cross-shareholdings based on dialogue with the companies in which Yokogawa holds shares.

EPS and dividend per share



Investment Plans and Cash Flow Projections

Under the Sixth Medium-Term Plan, we will make capital investments focused on continued investment in the engineered structure system business, which is growing significantly, expansion of IT-related investments to advance DX, and investment in decarbonization. Although final investment decisions will be made on a fiscal year-by-year basis, we plan to make capital investments totaling 18 billion yen over the next three years.

Regarding cash flow, we forecast a cash inflow of 31.0 billion yen over three years. Of that amount, 18 billion yen will be used for capital investments, and around 13 billion yen will be allocated for shareholder returns, thereby balancing the investment necessary for growth with returns to shareholders.

Key investments in the Sixth Medium-Term Plan

IT-related investment

To promote DX, we plan to put a total of 7 billion yen into DX and IT-related investments over three years. Particular emphasis will be placed on investments in various management systems, including sales and production management systems for the engineered structure system business, in order to cope with growth in orders and production.

Investment in facility upgrades and decarbonization

To expand the scale of our business and deal with the aging of facilities, we will make the necessary investments to add capacity, rationalize and save labor, and maintain and upgrade various production facilities. We will also rebuild our aging office buildings and research facilities.

In addition, we will invest 330 million yen in our offices and plants to install solar power systems and utilize renewable energy to reduce CO_2 emissions.

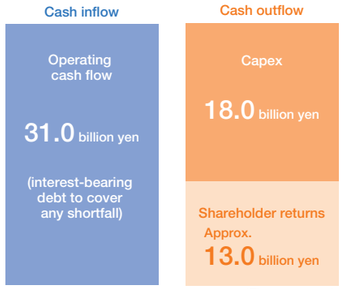
Projected cash flows under the Sixth Medium-Term Plan

Although we expect net sales to increase annually during the Sixth Medium-Term Plan period, we anticipate a corresponding increase in trade receivables. Accordingly, we project cash inflow to be 31.0 billion yen, slightly less than the total net income for the three-year period.

Against this, we expect cash outflows to include 18 billion yen for capital investments and around 13 billion yen for shareholder returns, including dividends and share buybacks.

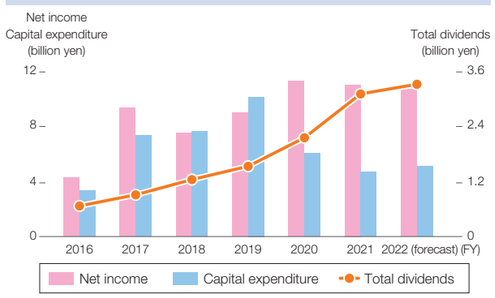
Major investment plan (three-year total)

Purpose	Amount (billion yen)
Additional capacity	1.6
Rationalization, labor-saving	0.6
Maintenance, upgrades	4.2
Environmental initiatives	0.4
DX/IT related	7.0
Other	4.2
Total	18.0



*Three-year totals

Total amount of dividends



Bridge Business

As a pioneer in steel bridges in Japan, the YBHD Group has been continually developing cutting-edge technologies for 115 years.
Our bridge business consists of three businesses: the new bridge construction business, the maintenance business, and the overseas business.

Risks and opportunities	● Decrease in demand for new bridges ● Increase in demand for bridge maintenance ● Expansion of BIM/CIM application ● Safety risks such as accidents ● Quality defects ● Shortage of field engineers ● 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 ● Osaka Plant with an annual production capacity of 60,000 tons ● Possession of a full range of construction equipment ● Specialized department for BIM/CIM ● Integrated management system from material procurement to design, production, and on-site construction ● Proposal sales capabilities that take advantage of synergies across the Group

Basic policy for bridge business

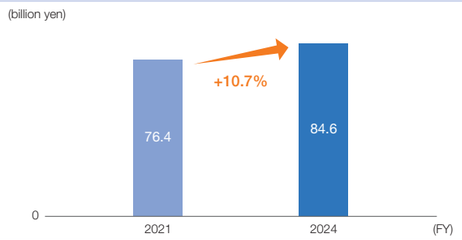
New bridge orders are recovering from the drop in orders received in fiscal 2019, and we expect large projects to be ordered during the Sixth Medium-Term Plan period.

In the maintenance business, major upgrades and earthquake-proofing projects are in full swing, and the volume of orders received is approaching that of new bridge construction.

At the same time, we must respond to the ongoing shortage of human resources and workstyle reform. The basic policy for the business can be summarized as follows.

- Focus on securing orders for major new bridge projects starting in the next few years; also, with the new-build market likely to contract in the future, strengthen the bridge maintenance business to capture emerging demand for aging infrastructure repair work
- Implement DX to achieve the new “3Ks” (*kyuryo* [wages], *kyuka* [time off], and *kibo* [prospects]) for construction workers, and reinforce safety measures

Bridge Business net sales



Environment of the bridge business

With expectations of projects to expand highways to four lanes and the ramping up of orders for the west extension of the Osaka Bay Road, the total annual volume of orders for new bridges is projected to recover during the Sixth Medium-Term Plan period from the severe drop to 135,000-190,000 tons/year in fiscal 2019-2021.

The bridge maintenance market is expanding, especially in the area of deck replacement work, as NEXCO and other highway companies are planning large-scale upgrade projects (worth 3 trillion yen) through fiscal 2030. According to a summary by the Japan Bridge Association, maintenance projects account for 50% of the orders received by member companies (in terms of value), and efforts in maintenance projects, including large-scale upgrading projects, are becoming increasingly prominent. At the same time, budgets for the maintenance and repair of bridges under the jurisdiction of local governments are also on the rise, with strong demand in the business expected for the foreseeable future. This business environment for bridges can be summarized as follows:

- Projects to expand highways to four lanes, ramping up orders for the western extension of Osaka Bay Road
  → Projected large increase in order volume for the new bridge construction business
- Ongoing major upgrade projects, mainly centered on expressway operators
  → Sustained strong levels of demand in the bridge maintenance business

From a longer-term perspective beyond the Sixth Medium-Term Plan period, we believe that it is necessary to actively work on both new bridge construction and bridge maintenance while balancing the two.

Initiatives in the bridge business

Address engineer shortage, improve productivity

All planning related to the bridge business is predicated on ensuring safety and quality, and it is important to improve worksite efficiency in order to reduce the workload of managers. Meanwhile, the expansion of the maintenance business and the diversification of order types, such as the ECI method*, as well as the increasing difficulty of construction work, have made it a major issue to secure capacity in design and planning departments. We will make wider use of ICT as a means of maximizing productivity with a limited number of people.

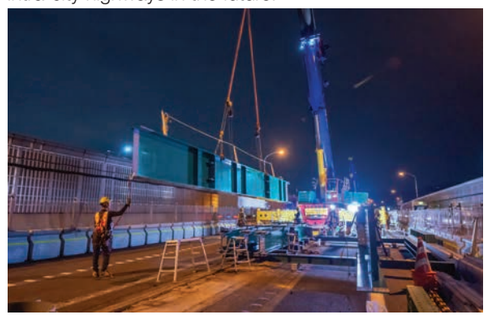
* Method in which the builder is involved from the design stage

Tackle more technically challenging projects (earthquake-proofing truss and arch bridges)

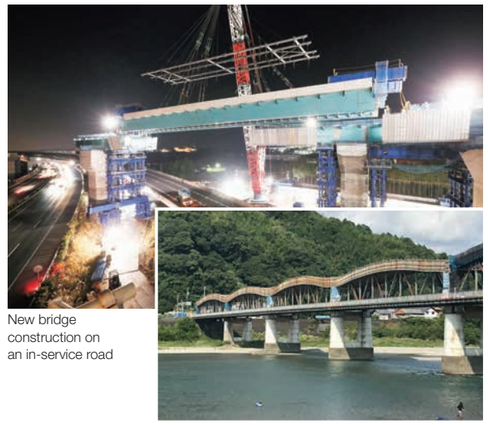
Earthquake-proofing of special bridges (trusses, arches, etc.) and renovation work involving deck replacement are projects requiring a high level of technical expertise that the YBHD Group should undertake. At the same time, as construction projects become larger and more complex, it is difficult to handle them alone, thus necessitating the possibility of tie-ups with other companies in the same or different industries. We will incorporate each of these methods of supplementing production capacity in order to respond to demand actively.

Use large upgrade projects etc., to stand out in the market

In order to stand out from competitors in maintenance, repair, and large upgrade projects, we will push for the early commercialization of a steel deck replacement process (product name: STEEL-C.A.P. method), which we are developing with Nippon Steel Corporation; and small replacement bridges (product name: NY Rapid Bridge), which we are developing with Nippon Steel Engineering Co. Ltd., thereby contributing to business expansion in this field. In addition, “cusa” aluminum alloy permanent scaffolding can be used as temporary scaffolding when replacing decks, and we have further developed the product to add a sound absorption feature. We now expect that “cusa” will be adopted for intra-city highways in the future.



Large upgrade and renovation work



New bridge construction on an in-service road

Earthquake-proofing of a truss bridge

Large-scale upgrade and projects – projected market of ¥3 trillion

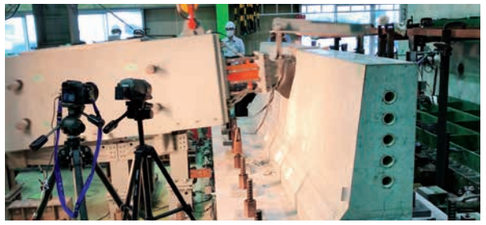
Deck replacement, girder replacement, etc.	Repair work such as reinforcement of bridge piers, girders, decks	Functional improvements such as road widening and the addition of connecting roads
East Nippon Expressway Co., Central Nippon Expressway Co., West Nippon Expressway Co.	Large-scale upgrade and repair projects (girder and deck replacement, girder reinforcement) worth roughly ¥2.2 trillion	
Metropolitan Expressway Co.	Large-scale upgrade and repair projects (bridge replacement, widening, deck replacement, deck, pier, and girder reinforcement) worth roughly ¥630 billion	
Hanshin Expressway Co.	Large-scale upgrade and repair projects (deck replacement, deck, pier, and girder reinforcement) worth roughly ¥370 billion	
Ministry of Land, Infrastructure and Transport (existing bridges)	Replacement of reinforced-concrete decks: around 2,100 bridges; repair steel decks: 370 bridges	

Five-year program to accelerate disaster prevention / mitigation and national resilience set to get underway

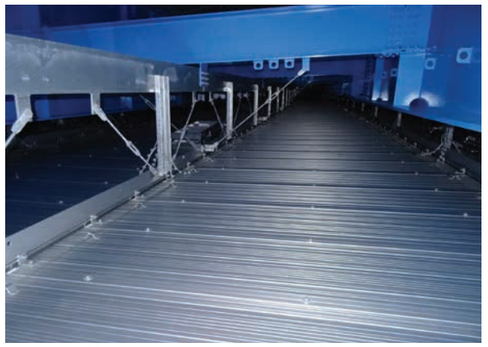
Bridge Business

Develop technologies that help to reduce environmental impact

Precast wall balustrade Rapid Guard Fence as well as the above-mentioned STEEL-C.A.P. and NY Rapid Bridge methods, are a lineup of rapid construction methods that can minimize congestion on heavy traffic routes and help reduce environmental impact. We will focus on spreading their use. We have also developed a pier construction method with Kumagai Gumi Co., Ltd. that enables construction in a shorter period of time than conventional methods when removing and replacing existing bridges. In addition, we are focusing on the development of environmentally friendly technologies with various objectives, such as a paint coat removal method that can reduce the overall amount of waste, the application of which is expanding, thus increasing its track record.



Crash performance tests of Rapid Guard Fence



Interior view of “cusa” aluminum alloy permanent scaffolding

Construction Work of Matsuyama Expressway Kaminadagawa Bridge and Other One Bridge (superstructure of steel bridge)

Yurie Sano, Osaka Construction Headquarters, Yokogawa Bridge

This work is for the superstructures of the Kaminadagawa Bridge and Karasudani Bridge in support of the additional lane project between the Iyo IC and Uchiko-Ikazaki IC. The purpose of this project is to eliminate accidents, speed reductions, and traffic congestion by expanding a temporary two-lane section to four lanes, as well as to enhance the road network’s ability to respond to large-scale disasters. The staff at this site includes one man (the director) and two women, including myself, with the other being from Myanmar, making it a real diversity promotion site. What I feel from a woman’s perspective about the on-site environment is that it is a much easier working environment than I had imagined, with infrastructure such as “comfortable toilets” in place. The Karasudani Bridge, which is currently under construction, is located near the first-phase line of the Matsuyama Expressway, which is in service. The work is being carried out at the height of approximately 30 meters. Therefore, we are paying close attention to the first-phase line when erecting the girders and PC decks and also striving to prevent fall accidents while proceeding with the work.

New bridge construction business

The Otochi Bridge, ordered by Kochi Prefecture, is a bridge on Route 195 that spans the Nagase Dam Lake upstream on the Monobe River. The bridge is a half-through-type steel Nielsen-Lohse bridge with a length of 201 meters, an arch span of 170 meters, and a steel weight of 1,442 tons (including 564 tons constructed by the YBHD Group). During erection, a special method called the cable-erection diagonal suspension was used with a steel tower approximately 50 meters tall. The adjacent old bridge (red), a Baltimore truss bridge, was also constructed by the YBHD Group in 1955.

Otochi Bridge (Monobe-cho, Kami City, Kochi Prefecture)

Maintenance business

The Sogabegawa Bridge is located between the Otoyo IC and Nangoku IC on the Kochi Expressway. It is a steel 3+4-span continuous truss bridge with a maximum span of 143 meters, the largest of its kind on a route in Shikoku. Since the bridge is required to function as an emergency route in the event of an earthquake or other disaster, measures were taken to prevent the bridge from falling or collapsing, and seismic reinforcement was implemented. The main measures included replacing stringer supports, reinforcement of splicing plates, and installation of vibration dampers in the superstructure. In the substructure, the RC bridge piers were reinforced with continuous fiber sheets and concrete lining. Although it was a challenging construction project, it was completed with no accidents or injuries.

Seismic reinforcement work between the Otoyo IC and the Nangoku IC (Sogabegawa Bridge)

Overseas business

In our overseas business, we are focusing on ODA construction in fast-growing regions from Southeast Asia to the African continent. Recently, the Nile River Bridge in South Sudan was successfully completed after three construction stoppages due to civil war and the spread of COVID-19. We also completed the erection of the Kalna Bridge (photo), one of the largest Nielsen-Lohse bridges in Bangladesh. This bridge is expected to make a significant contribution to international logistics as part of Asian Highway 1, which is an international highway. During the past two years, we have been affected by the global spread of COVID-19, but we will continue to aggressively pursue overseas projects while keeping a close eye on global post-pandemic developments.

Fully erected Kalna Bridge

Bridge peripheral business

Metropolitan Expressway Kanagawa Kariba Route “cusa”

Permanent scaffolding is being installed on existing bridges on the Metropolitan Expressway for bridge inspection and other maintenance. As part of the project, the YBHD Group’s “cusa” aluminum alloy permanent scaffolding was adopted for the Kanagawa Kariba Route. The target bridge is located on a river, and “cusa” was installed to function as inspection scaffolding and bridge corrosion prevention. In this project, the girder-to-girder type was to fit the underside of the bridge’s main girder, but we also have a suspended type that covers a bridge’s main girder. It is expected to be used in long-term bridge maintenance for its corrosion protection of the entire girder, inspection, and landscape improvement.

Exterior view of “cusa” aluminum alloy permanent scaffolding

Engineering Business

The YBHD Group's civil engineering sector consists of three businesses: the engineered structure system business, the civil engineering business, and the construction machinery and steel business. 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 construction machinery and steel businesses.

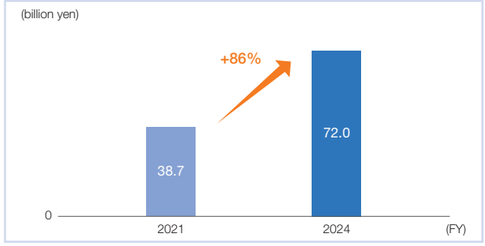
Risks and opportunities	● Safety risks such as accidents ● Building market trends ● Shortage of field engineers ● Political and economic situation at overseas bases ● Impact of COVID-19 ● Market expansion of sports business ● Underground use in metropolitan areas ● Growing need for port facility upgrades ● Growing need for technologies related to carbon neutrality ● Growing need for disaster prevention facilities and flood control techniques due to the intensification of natural disasters
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 ● Collaboration with more than 1,300 affiliated builders nationwide ● High productivity through the use of robots ● The industry's only dedicated plant with an annual production capacity of 90,000 tons ● Development and design capabilities in new fields, such as offshore wind turbines and port facility upgrades

Basic policy for the engineered structure system business

We established a dual-plant structure at our Mobara and Chiba plants during the Fifth Medium-Term Plan (fiscal 2019–2021) in order to further expand our engineered structure system business. However, performance was below expectations due to the impact of a declining market caused by the spread of COVID-19 and other factors.

Under the Sixth Medium-Term Plan (fiscal 2022–2024), we plan to achieve a significant improvement in orders and production in markets that are expected to recover in the future. We intend to secure annual orders and a production area of at least 1.3 million m^2 and achieve sales of 72 billion yen in fiscal 2024 (up about 86% from fiscal 2021) by promoting DX, including the use of ICT, in addition to the initiatives in order and production activities described below.

Engineering Business (Engineered structure system) net sales



Environment of the engineered structure system business

In the engineered structure system business, the market declined significantly during the Fifth Medium-Term Plan period due to a drop in private-sector investment caused by the spread of COVID-19 and the increase in the consumption tax rate. However, there are signs of market recovery beginning in fiscal 2021, partly due to the government's policy of bringing supply chains back to Japan. In the medium to long term, the market for factories and warehouses, the core market for the engineered structure system business, is expected to expand with recovery from the COVID-19 pandemic, the effects of government policies, the growth of the e-commerce market, as well as renewal due to aging and the consolidation and redevelopment of existing facilities. The peripheral markets of offices and stores are expected to increase moderately. Although the timing of economic recovery from the pandemic will result in a range of forecasts, we estimate that both the core and peripheral markets are on an expansionary trend.

Trends in the market and engineered structure system orders received (As of March 2022)

	FY2018	FY2019	FY2020	FY2021
Market size (1 million m^2) Steel frame plant warehouses	16.60	14.50	13.70	14.80
Market size (buildings) Steel frame plant warehouses	18,300	17,300	15,800	23,000
Orders area (1,000 m^2)	961	772	798	1,008
Share of orders area	5.8%	5.3%	5.8%	6.8%
Order amount (million yen)	40,894	37,569	37,113	48,278

Initiatives in the engineered structure system business

Initiatives to increase orders

We will step up proposal-based, face-to-face marketing aimed at accurately identifying customer needs and proposing optimal plans through collaboration between sales and technology. We will also strengthen our partnerships with builders through builder general meetings and sales trips accompanying clients, and we will continue to conduct effective advertising to increase awareness of "yess" buildings.

In addition, cost reductions, including the use of ICT and the adoption of new construction and process management methods, will further strengthen the competitive advantages of "yess" buildings compared to conventional building construction methods and other companies' system structures.

New terminal constructed for Miyakonojo Daikyu Transportation Co., Ltd.

Reinforcement of plant and worksite production systems

In terms of plant production, we will advance robotization and the system of round-the-clock operations at our two plants in Mobara and Chiba and improve coordination with other Group plants to secure production volume aligned to increased orders.

Regarding on-site construction, we will cope with the increase in production by developing on-site management support tools such as 3D drawings, improving construction manuals, and cultivating and training new subcontractors.

In parallel with the above, we will establish various management systems (sales management and production management systems) in order to improve operational efficiency and productivity.

Fujisan Plant of Tomomasu Holdings Co., Ltd.

New Production Shop for GIS at the Maebashi Works, Nissin Electric Co., Ltd.

Masaki Taguchi, Tokyo Sales Department, Sales Division, Yokogawa System Buildings

I will introduce the New GIS Plant at the Maebashi Works of Nissin Electric Co., Ltd., which was completed in February 2022.

Nissin Electric is an electric power equipment manufacturer with a history of more than 100 years. It is involved in a wide range of businesses, centered on products such as capacitors and gas-insulated switchgear used for the stable supply of electric power to buildings, factories, etc., as well as photovoltaic system-related products and electron irradiation devices.

The company has production facilities in Kyoto (Head Office Works), where its head office is located, and Maebashi (Maebashi Works). Recently, it planned a new plant to increase production of gas-insulated switchgear at the Maebashi Works, for which it adopted a "yess" building, which is a system structure product of the YBHD Group.

It is a large production plant with a building width of ≈61 meters, a building length of ≈120 meters, and a building area of 7,660 m^2.

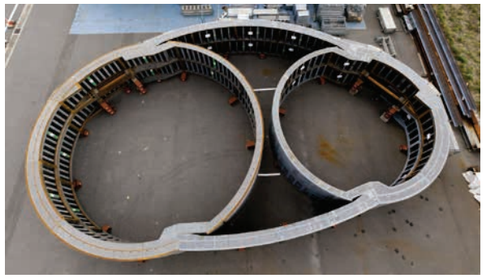
The plan, which was challenging, required the installation of 10 overhead traveling cranes of various sizes, three jib cranes, a partial two-story office zone, and panel supports for a dust-proof room. Nevertheless, we were able to fully demonstrate a high degree of design freedom despite being a system structure, which is a characteristic of "yess" buildings, and provide a building that satisfied the client.

Going forward, "yess" buildings will continue to contribute to the construction investment of Japanese companies.

Engineering Business (Civil engineering business)

Basic policy for the civil engineering business

In the civil engineering business, we will continue to secure orders and production work for civil engineering steel structures for road and railroad tunnel segments and tsunami countermeasure projects for electric power companies. We will also actively develop new products and construction methods in fields where future market growth is expected in order to expand "multifaceted steel structure engineering."



Temporary assembly of a steel tunnel segment

Environment of the civil engineering business

The recovery in economic activity is forecast to spur infrastructure development, especially road and rail development associated with logistics, and demand for deep underground tunnels is anticipated to increase in major cities as the use of underground space is promoted.

Flood control projects are projected to increase as climate change driven by global warming leads to the annual occurrence of larger typhoons and serious disasters caused by unexpectedly heavy rainfall. There are also plans to move transportation infrastructure underground to protect it from heavy snowfall in cold regions. Investment in disaster prevention and disaster mitigation projects is also a continuing trend, and we anticipate increased opportunities to participate in projects such as tsunami countermeasures.

At the same time, there is a growing trend toward carbon neutrality investments to combat global warming, with a particular interest in offshore wind turbine projects.

Initiatives in the civil engineering business

- We will maintain and expand the business scale by securing orders for large railway-related projects in which our proprietary tunnel segment products are incorporated into the design.
- For large projects such as seawalls, we will secure reliable earnings by establishing a design, production, and construction system in coordination with Group companies.
- We will develop new technologies in fields with good growth prospects, such as offshore wind turbines and port facility upgrades. With regard to offshore wind turbines, we will collaborate with general contractors and others in development in order to rapidly launch businesses.

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

Role of the Engineering Business and Our Involvement

Thick-walled tubular steel columns supporting a station building

Satoshi Haseyama, Steel Structure Engineering Sales Department, Yokogawa NS Engineering

My department handles a variety of products ranging from bridge-related products to other civil engineering and construction material products, as well as large steel structures. I currently work on underground structures such as shield tunnel segments and thick-walled tubular steel columns for underground stations. Because these products are used in underground spaces, many of these structures are not very visible and are not part of the landscape, unlike bridges. However, as they are mainly constructed in major cities, the main feature that they share is that they are connected to the lives of many people. They mainly play a role in supporting large-scale infrastructures such as roads and railroads, so I feel that I am able to be involved in important projects through various products.

Tunnel segments

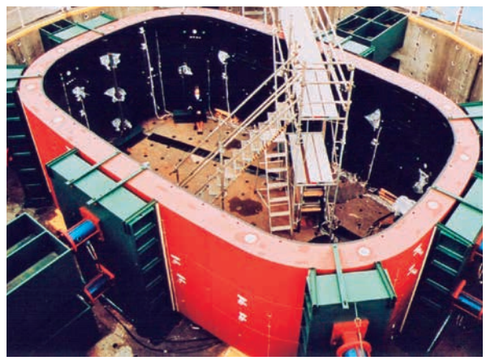
In the civil engineering business, we mainly manufacture civil engineering structures using steel materials. Typical civil engineering structures include things called "tunnel segments" that lead to underground spaces. These segments, which play a part in the construction of underground spaces, are manufactured 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. Particularly, in recent years, many segments have been used in large-scale spaces and irregularly shaped tunnels, such as for underground highways and subways in major cities.

The photo below shows the inner surface of a subway tunnel built using our unique six-sided steel shell composite segment. Taking advantage of its feature of high strength, 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 tunnels for the maglev Shinkansen.

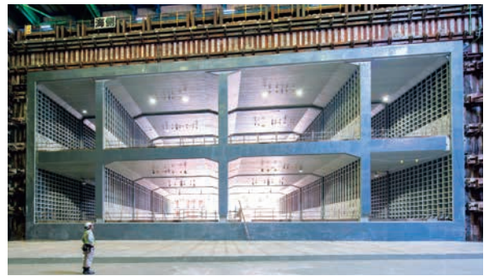
Completed subway tunnel



Actual-size ring loading test

The picture below shows the construction of a highway using a steel-concrete composite box culvert. With its large cross-section, 18.4 m tall × 43.8 m wide, it has eight lanes of road running through on two levels. The construction required a very high level of technical expertise, as the above-ground location conditions 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 construction of the thick-walled tubular steel columns that support station buildings built underground.



Steel-concrete composite box culvert highway

Seawalls

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

Normal seawalls designed to stop tsunamis are constructed by piling earth up to high levels. By contrast, the steel seawalls and precast composite structure seawalls that we manufacture appear to be concrete, but their combination with steel materials makes it possible to create strong walls that can protect coastal areas with much smaller footprints than conventional seawalls.

Steel-concrete composite precast seawall

Engineering Business (Construction and Machinery Steel Business)

Construction and Machinery Steel Business

Construction business

We have participated in many large stadium construction projects, including Japan National Stadium. For the New Tochigi Stadium, we constructed the framework, including the fabrication of the precast members that are the main structure of the seating, and erected the steel frame roof. Both the construction technology and workmanship were highly evaluated by the client. Large-space buildings such as stadiums require unique technologies such as the bent and sliding construction methods. These are projects where the YBHD Group comes into its own. We have also participated in the construction of many noted skyscrapers and have earned the trust of our customers as steel frame construction specialists. Many skyscrapers, including redevelopment projects in the Tokyo Metropolitan Area, are planned for the future, widening the opportunities for the YBHD Group to play active roles.

New Tochigi Stadium
(left: completed,
right: under construction)

Otemachi One building
(left: completed,
right: under construction)

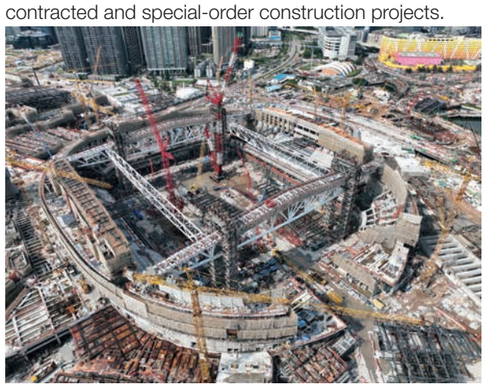
Special structures business

There is a trend for corporate real estate investment to flow into the sports and entertainment businesses, with investment in the construction of stadiums, arenas, and theaters increasing.

The order format is shifting to the concession method, in which the private sector takes the initiative in constructing and operating facilities. Since profitability is required in post-construction operations, highly efficient and multifunctional structures are attracting attention, with the need for retractable roofs projected to increase. Accordingly, we will step up our sales efforts targeting the entertainment and media industries, along with the aggressive information dissemination we have been doing.

In addition, as facilities age, renovation and repair work are becoming more extensive, and the market for maintenance and repair work is also expected to expand. Therefore, while conducting regular periodic inspections, we will focus on strengthening marketing, thus leading to orders for large-scale repairs. We are also concurrently planning, proposing, and negotiating a maintenance support contract for the retractable roof of the main stadium at Kai Tak Sports Park in Hong Kong, which is currently under construction. We envision building a successful maintenance business model for a 20-year operation.

There will be a need in the market for on-site installation of photovoltaic systems in the coming two to three years when companies are forecast to take environmentally friendly measures to promote carbon neutrality. However, since profit margins are expected to be low due to increasing price competition, we will maintain our technology and closely monitor industry trends by conducting a limited number of already-contracted and special-order construction projects.



Main stadium under construction at Kai Tak Sports Park, Hong Kong

Machinery steel business

Our machinery steel business has three core products: steel structures, environmental machinery, and industrial machinery.

While our main steel structure products are penstocks for hydroelectric power plants in Hokkaido, we also manufacture floodgates and debris collectors, which are important components for river infrastructure. Regarding penstocks, in particular, we anticipate large-scale renewal work for aging pipes, driven by the growing market need in recent years for environmental friendliness, including carbon neutrality. We will meet this growing market need.

Our development of environmental machinery, mainly turbid water treatment equipment, began with the construction of the Seikan Tunnel connecting the islands of Honshu and Hokkaido, and we have been accumulating technologies for about 60 years since then. In recent years, many of the YBHD Group's thickeners and filter presses have been used in tunnel construction for the Hokkaido Shinkansen bullet train. The next-generation thickeners under development in our new water treatment system can open up new markets beyond the boundaries of existing products.

New water treatment system

Our main industrial machinery products are ship-lifting equipment. Our ship-lifting equipment is highly regarded as indispensable for the maintenance of fishing vessels in the Hokkaido and Tohoku regions. Since 40 years have passed since the start of sales and the equipment is aging, many renewals are planned at fishing ports. Furthermore, in fiscal 2021, we developed new lift-type lifting equipment. We made various improvements based on our 40 years of experience and feedback from fishers. With the new development, we expect renewal work to continue.

We have also added tidal floodgates to our product lineup as disaster prevention devices for inclusion in plans to improve national resilience.

These products are expected to further expand the range of areas in which the YBHD Group can play active roles.

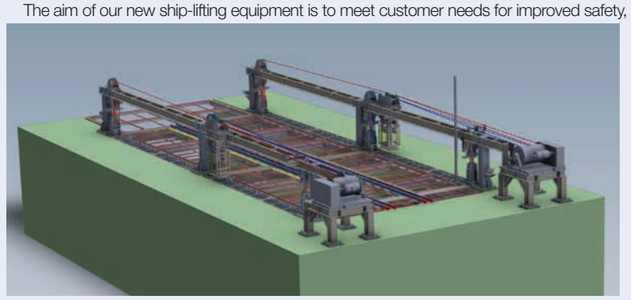
Penstocks

Development of New Lift-type Lifting Equipment

Yuto Sasaki, Design Department, Narasaki Seisakusyo

We have delivered ship-lifting equipment to more than 80 fishing ports throughout Japan, primarily in Hokkaido. I am currently involved in the development and design of new lift-type equipment.

The aim of our new ship-lifting equipment is to meet customer needs for improved safety, automation of operation, and compactness. In June 2022, we received an order for the first unit, which was our target. Production and installation are scheduled to be completed by the end of the fiscal year.



I hope to keep improving and developing products that meet customer needs and aim to become an engineer who can contribute to society.

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 the 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.

Precision Equipment Manufacturing Business

In the precision equipment manufacturing business, we will pursue continued business growth by strengthening our efforts in the semiconductor manufacturing equipment industry, which is forecast to grow, in addition to securing firm orders in the LCD and OLED panel manufacturing equipment industry.

We will focus on continuing to secure orders for existing products and securing new orders for next-generation equipment by leveraging our accumulated technological development capabilities, high-precision processing technologies, and high-quality assurance systems. We also aim to meet the needs of many customers in the precision equipment manufacturing equipment industry by establishing a mass production system, including the new Kishiwada Plant, which was established in 2019.

Izumi Plant (Izumi, Osaka Prefecture)

Kishiwada Plant (Kishiwada, Osaka Prefecture)

Environment of the precision equipment manufacturing business

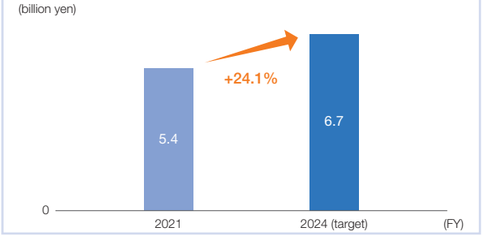
The worldwide demand for smartphones and TVs over the next few years is expected to remain at the same level as the previous year’s results, with the market size of LCD and OLED panel production equipment also expected to remain flat. On the other hand, the size of the semiconductor production equipment market is anticipated to continue growing moderately over the medium term, although uncertainty remains given the current global turmoil.

Initiatives in the precision equipment manufacturing business

In the precision equipment manufacturing business, we will work on developing proprietary technologies, centering on high-damping structure frameworks. We will also actively engage in technological proposals aimed at adding value to existing products and in the development and design of next-generation equipment. We will also aim to improve manufacturing efficiency and save labor, thereby enhancing the competitiveness of mass production systems.

High-damping structure framework

Precision Equipment Business (Precision equipment manufacturing / Information processing) net sales



Information Processing Business

In the information processing business, the realization of the YBHD Group’s DX is a top priority. All businesses and Group companies will work on DX, and we plan to work on BIM/CIM and digital technology-based safety management as DX projects. We will also contribute to the digitization of the industry and expand our information processing business by commercializing our results and by launching products.

For existing businesses, such as steel bridge design, manufacturing systems, and structural analysis, we will maintain and expand business by expanding functions and reducing costs based on customer needs.

Environment of the information processing business

Similar to the YBHD Group, steel bridge fabricators and construction consultants, who are clients of our information processing business, are gaining momentum in DX promotion and are investing more actively in digitization. High demand for the IT needed to transform business operations is forecast to continue, and we must meet the expectations of our customers.

Initiatives in the information processing business

In the information processing business, we will invest management resources of Yokogawa Techno-Information Service Inc., the Group’s information processing company, as a top priority to realize DX.

For existing products and services, we will strive to improve our services to meet customer needs while expanding product functions and upgrading services based on the results of the Group’s DX.

Steel bridge construction simulator

It integrates steel bridge members, point cloud data obtained by laser scanners, construction machinery, etc., to examine workability.

AR system for maintenance work

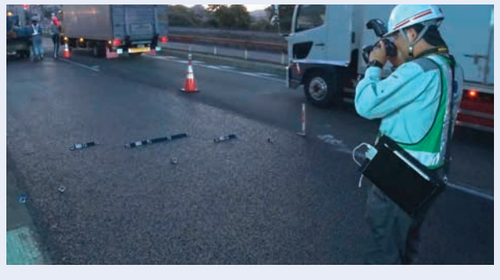
Using augmented reality (AR), members and building materials are projected onto images of the construction site to verify workability.

Not Just for Bridges! Contributing to ICT for Pavement!

Kenshiro Ogura, Sales Department, Yokogawa Techno-Information Service

We have long used digital camera measurement technology to measure bridge girder dimensions and pier anchor bolt positions. NIPPO Corporation, which is a leading road paving company, evaluated this technology and helped us arrange it for pavement use, thereby resulting in the Pavement Version VFORM.

This is an excellent product that saves labor, improves accuracy, and increases safety by changing the pavement finish measurement work that used to be done by hand into a simple process of marking and photographing with a digital camera.



Its effectiveness and novelty have been recognized by the Ministry of Land, Infrastructure, Transport and Tourism. In April 2022, it was adopted as a finish control standard, and in May, it was registered in NETIS (New Technology Information System).

In the pavement industry, where ICT has been progressing, we are working to make this product the de facto standard in the industry as a product that will revolutionize the inspection and measurement process, which has not changed in several decades.

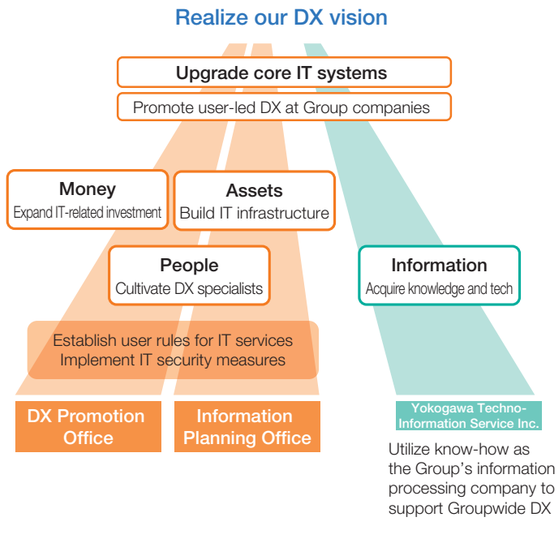
Business Base Strategies

DX Strategy

In order to achieve sustainable corporate growth and create new value in the midst of the drastically changing social conditions around the YBHD Group, we will seek to achieve our vision by developing a DX platform through the concentrated investment of management resources and the establishment of an implementation system under the slogan "Harnessing Digital Tools to Transform, Grow, and Support."

DX Vision

a) Use DX to reform work practices, improve productivity, and deliver the new "3Ks" at worksites (kyuryo [wages], kyuka [time off], and kibo [prospects])
b) Use digital tools to reinforce safety measures
c) Use digital tools to preserve and utilize the skills of Yokogawa's master engineers
d) Use DX to support and accelerate growth in the engineered structure systems business
e) Use DX to explore new business opportunities



Utilize know-how as the Group's information processing company to support Groupwide DX

Cultivate DX specialists

We define the YBHD Group's "DX specialists" as individuals who understand what DX is and have a certain level of IT knowledge and literacy or individuals who are capable of carrying out IT-related projects. We will begin cultivating them in fiscal year 2022.

We will conduct DX assessments (visualization of skills and knowledge) and IT literacy education through e-learning for employees in back office departments in order to raise the overall level of IT literacy. We will also select personnel with a certain level of DX skills and knowledge to receive specialized training in AI, data science, no-code/low-code development, etc. In addition, we have established a new internal certification system for personnel who are recognized as being able to solve business issues in their own departments and work on business reforms by utilizing the knowledge they have acquired through specialized training. We aim to certify around 50 employees Groupwide during the Sixth Medium-Term Plan period.

Build IT infrastructure

We will expand IT investment to actively introduce new networks, PCs, and other IT equipment, as well as new technologies, products, and services that support information sharing and teamwork.

We will also build a new core IT system and promote digitization and system linkage of peripheral operations so that we can respond quickly and flexibly to drastic changes in the business environment. We will support the realization of work-style reforms and productivity improvement by establishing a base for DX promotion in back office departments. This includes the digitization of order forms, invoices, and other order-related tasks, the establishment of a data utilization platform for data-driven management, a further shift to paperless systems for internal documents, and an improvement of workflow.

Technology Strategy

The YBHD Group conducts R&D with the objective of "creating technologies that enhance the Group's corporate value and contribute to sustainable growth, thereby leading to business expansion." Our units for conducting R&D are the Technical Research Laboratory and the development and engineering departments of each operating company. The Technical Research Laboratory is mainly responsible for basic technology research, while each operating company develops new construction methods and adds or improves the functionality of existing products related to its own business. We currently have an Engineering Management Office to oversee these technology development efforts overall, but we plan to start a Groupwide organization to lead our medium- to long-term technology strategy for the entire group in order to further improve the efficiency of technology development.

Basic Policy on R&D

With a view to strengthening competitiveness in existing markets, expanding into new markets, being environmentally friendly, and promoting Construction DX, we have established the following basic policy in the Sixth Medium-Term Plan.

a) Raise technology level to maintain competitiveness
b) Develop technologies to support moves into new markets
c) Provide environmentally friendly technology to support society's decarbonization
d) Actively promote Construction DX to improve quality, productivity, and safety

Technology strategies in each business

In the bridge business, technologies related to maintaining and upgrading aging bridges are becoming increasingly important. Accordingly, we will focus, in particular, on the development of methods to replace girders and decks, such as the NY Rapid Bridge and the STEEL-C.A.P. method, as well as technologies for higher durability, repair, and reinforcement related to fatigue and corrosion. The market for bridge-related products such as "cusa" is also expanding, and we will continue to develop and improve these products to meet customer needs.

In the engineering business, our engineered structure system business will aim to improve product competitiveness in order to increase market share, reduce costs by streamlining designs and manufacturing, and accelerate R&D to expand features such as multi-story structures. Our civil engineering / construction and machinery steel business will aim to commercialize and launch products for civil engineering and building structures such as port facility upgrades, underground rivers, and offshore wind turbines, as well as environment-related technologies such as next-generation water-processing facilities in order to meet social demands for disaster prevention and mitigation, greater national resilience, and reduction of environmental impact.

In the precision equipment business, we intend to enhance product value by improving and adding functions to existing products based on the latest market and customer needs, and to invest management resources intensively in Groupwide DX support, which is a key issue in the Sixth Medium-Term Plan.

Common issues throughout the Group include the promotion of Construction DX at production sites and the reduction of environmental impact in business activities. We will aggressively pursue this in all of our business segments, including the use of new ICT and new materials.

Loading test of composite girders using the STEEL-C.A.P. method

Business segment		Technology strategies in Sixth Medium-Term Management Plan	Basic policy on R&D
Bridge	New bridge construction / Maintenance	• Further develop technologies to support maintenance and upgrade work • Increase added value in bridge-related products and develop new products	a) a)
Engineering	Engineered structure system	• Reduce costs and improve functionality to boost sales (streamline designs, adopt multi-story structures)	a)
	Civil engineering / Construction and machinery steel	• Expand applications for civil engineering steel structures (port facility upgrades, offshore wind turbines, etc.) • Promote R&D in environmental technologies (next-generation water-processing facilities) • Commercialize Phovare – Pitch Hovering Arena	b) c) b)
Precision Equipment	Precision equipment manufacturing	• Improve performance of highly damped structures for semiconductor manufacturing equipment	a)
	Information processing	• Increase competitiveness by adding / improving functions of software-aided design and manufacturing • Support DX rollout at Group companies	a) d)
Groupwide technology strategy		• Actively promote the use of Construction DX at production sites • Reduce environmental impact in business activities	d) c)

Human Resources Strategy

In view of the fact that the construction industry's shortage of workers is becoming even more serious due to Japan's declining birth rate, aging and declining population, and young people's avoidance of the industry, we will consider necessary measures from a longer-term viewpoint based on three basic policies: improve business efficiency across the whole Group; attract, retain, and train human resources, and secure work for employees; and reform work practices.

Basic Policies

Amid the chronic shortage of human resources in the construction industry, we will consider individual measures in accordance with the policy below in order to implement proactive personnel measures, such as employment promotion, improvement of compensation and working environment, and human resource development through invigoration of personnel rotation, in order to attract the human resources needed for the continuation of the Group's business.

a) Improve business efficiency across the whole Group
b) Attract, retain, and train human resources, and secure work for employees
c) Reform work practices

Attract human resources

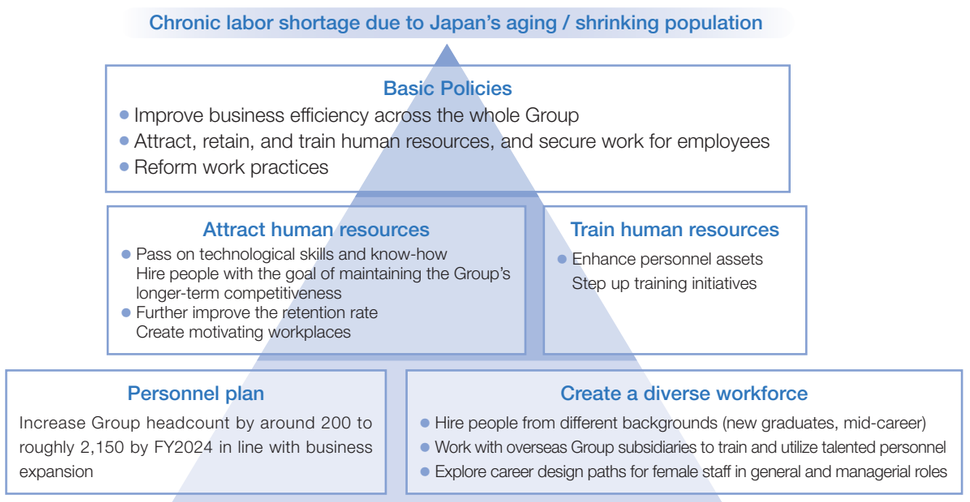
While implementing stable new graduate recruitment and mid-career recruitment with clear recruitment targets, we will focus on securing and maintaining work for employees and encourage the passing on of technical skills and know-how to ensure competitiveness over the medium to long term.

We will examine new work practices with an eye to correcting long working hours, responding to life after the pandemic, and balancing career development and life events. In addition, to prevent the loss of personnel, both young and experienced, we will consider expanding benefit programs and continuously improving compensation for senior employees.

Train human resources

We will also consider and implement measures to create next-generation leaders by emphasizing talent management, with the aim of invigorating personnel rotations, especially among young employees, for the purpose of developing multi-skilled human resources and for optimizing the allocation of personnel across the Group.

In order to promote the further success of overseas personnel, we will work to strengthen cooperation between each operating company and Yokogawa Techno Philippines, Inc. In addition, we will continue to actively recruit female staff in general roles and provide them with opportunities to develop their skills while striving to create a rewarding work environment where they can develop their careers on their own initiative.



ESG Initiatives

Seeking to realize a sustainable society, we will advan0ce the development of sustainable cities and communities through the improvement of social infrastructure, which is the YBHD Group's business, in an effort to solve various issues faced by local communities. Furthermore, we will help to solve social issues such as global warming, effective use of limited resources, declining birth rate and aging population, and reform of work practices, which are required regardless of industry.

Focus initiatives under the Sixth Medium-Term Plan

1 Environment

To achieve carbon neutrality by 2050, we will switch to a CO_2 emission reduction plan for purchased electricity and install solar power facilities. By carrying out these climate change countermeasures, we plan to reduce CO_2 emissions in our business activities (Scope 1 and 2) by 20% from the fiscal 2020 level by fiscal 2024. We will also work with relevant parties to reduce CO_2 emissions during the manufacturing process of steel and other raw materials (Scope 3). As part of our long-term efforts, we will actively engage in the development of technologies for reducing environmental impacts, including the effective use of low-carbon materials, offshore wind turbines, and more efficient water processing facilities.

Furthermore, as a countermeasure against natural disasters, which have been increasing in recent years, we will focus on developing disaster-resistant products and providing upgrading services and maintenance for urban infrastructure.

2 Social

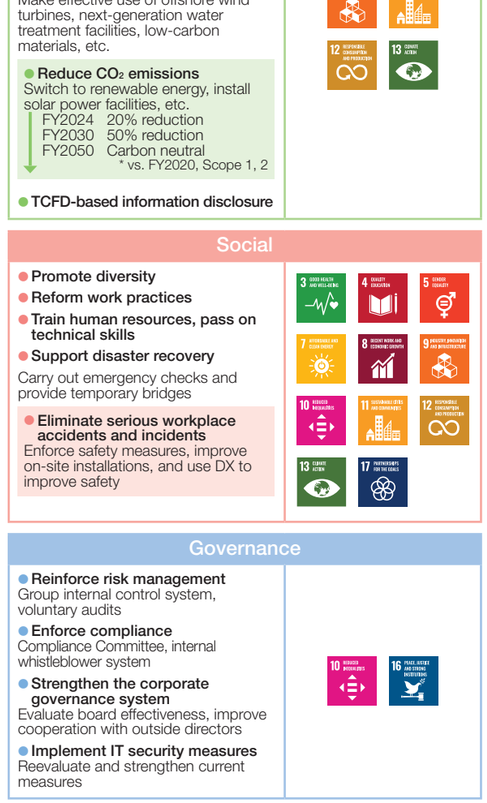
As the aging of urban and transportation infrastructure becomes a social issue, we will contribute to safe and secure city and community development and maintenance by providing high-quality and highly durable infrastructure. We also help to build a strong, risk-resistant economic foundation by providing and maintaining a high-quality logistics network to prepare for new risks that could have a significant impact on economic activities. In the event of large-scale natural disasters, in particular, such as an earthquake or torrential rain, we will conduct emergency inspections of our products, and we will also establish a system to provide prompt support to affected areas based on disaster-relief support agreements.

Meanwhile, in light of the fact that new working practices, such as teleworking, have taken root due to the spread of COVID-19, we will examine ways of working that can cope with various situations, as well as develop an environment and systems that enable diverse human resources to play active roles.

3 Governance

As a Prime Market-listed company, we will establish a strong governance system that complies with the revised Corporate Governance Code, including implementation of board effectiveness evaluations and enhancement of cooperation with outside directors.

In addition, in order to respond to the accelerating digitalization of society, we will actively promote DX and expand the adoption of new IT services while re-examining and continuously strengthening our measures for information security, the risks of which are feared will increase.



Striving to Help Realize a Sustainable Society

—YBHD Group's ESG Initiatives—

In its Sixth Medium-Term Management Plan, the YBHD Group incorporated environmental, social, and governance (ESG) initiatives as a business base strategy. Accordingly, it will carry out specific measures to help realize a sustainable society and enhance corporate value over the medium to long term.

Basic Sustainability Policy

Basic Approach

Under the corporate philosophy of "Contribution to society and the public, and sound management," the YBHD Group aims to realize its management vision of "long-term protection of bridges," "multifaceted steel structure engineering," "creation of a resilient social environment and harmonious coexistence with the natural environment," and "construction of a robust operational foundation," as well as the pursuit of sustained expansion. Based on this vision, our basic sustainability policy is to contribute to the development of society by creating and protecting high-quality products and passing them on to future generations.

We will actively and proactively work to resolve social, environmental, and other sustainability issues with a view to not only reducing risk but also increasing corporate value over the medium to long term, based on our recognition that this will lead to new revenue opportunities.

Sustainability Promotion Structure

(1) Among the various sustainability issues, we will identify those that the YBHD Group should give priority to as materiality (key issues) and reflect them in our medium-term management plan. Each materiality will be reviewed as necessary.
(2) Materiality identification will be discussed by the Sustainability Committee and approved and monitored by the Board of Directors.
(3) The Board of Directors will monitor the progress of goals and initiatives with respect to individual sustainability issues.

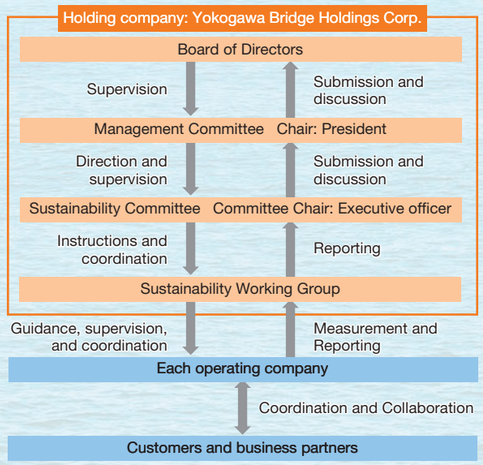
Disclosure of Information

We will strive to disclose information to stakeholders in a timely and appropriate manner and ensure transparency.

Promotion Structure

Sustainability policies and measures are considered by the Sustainability Committee, which was established as an advisory body to the Board of Directors, and important policies and measures are reported to the Board of Directors for deliberation and decision after submission to and discussion by the Management Committee. The Sustainability Working Group, which is a subordinate body of the Sustainability Committee, incorporates the decided policies and measures into business activities and promotes specific initiatives in coordination and

Sustainability Promotion Structure



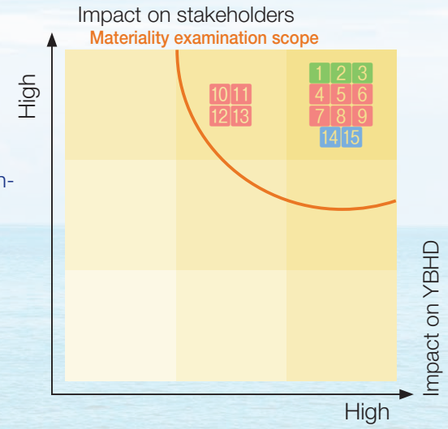
Materiality Identification Process

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 the material risk associated with climate change and natural disasters
2 Responding to the 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 Securing talent and promoting diversity
10 Strengthening of talent management
11 Labor productivity enhancement
12 Respecting the human rights of our employees, and the employees of partner companies and suppliers
13 Prevention of overwork and promotion of work-life balance, and realizing equivalent compensation for equivalent work

Governance

14 Fair transactions and prevention of corruption
15 Information security management

List of Materiality Items and KPIs

From an ESG viewpoint and in light of the various Sustainable Development Goals (SDGs) and the direction of the YBHD Group's business, we have identified materiality (key issues) that should be prioritized by the Group and are working actively to resolve various issues in society to help realize a sustainable society.

In fiscal 2022, we revised the materiality items, combining two items in the area of recruitment, two items in the area of working conditions, and two items in the area of fair business practices into one item each, identifying 15 material issues and setting 32 key performance indicators (KPIs).

ESG	Materiality (Key Issues)	Measures	Specific Content	KPI (Key Performance Indicator)	FY2021 Results	FY2022 Targets	Related SDGs
Environment	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	Implementation of BCP training	20 times per year	More than 20 times per year	
		Reducing the environmental footprint of business activities	● CO_2 emissions reduction	CO_2 emission reduction rate, short-term target (20% in FY2024) (Base year: FY2020, Scope 1 and 2)	Up 16.4%	—	
			● Promoting the adoption of renewable energy				
			● Reducing wastage of materials and improving the recycling rate	Continuation of a 100% steel recycling rate	100%	100%	
			● Develop products and provide technologies with minimal environmental impact				
			● Reusing materials and reducing electricity consumption at all facilities				
	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	R&D expenses	0.4 billion yen	0.8 billion yen	
			● Development of products and construction methods that facilitate early recovery in the event of an unanticipated disaster				
	3 Responding to demand for the 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	Bridge maintenance business net sales	24.0 billion yen	More than 24.0 billion yen	
			● Development of maintenance-friendly aluminum and stainless steel products				
Social	4 Ensuring the stable supply of products	Strengthening production and construction systems	● Strengthening BCP-related investment, facilities, and personnel	Capital expenditures (totaling at least 18.0 billion yen in FY2022–2024)	4.7 billion yen	—	
				Personnel (2,150 in FY2024)	1,962* * Including equity method affiliates.	—	
	5 Quality assurance	Preventing the reoccurrence of quality non-conformance incidents	● Quality management system utilization and continuous improvement	Construction grades for bridge business	Average of 83.1 points	Average of 80 points or higher	
			● Reflecting information obtained at every stage, from planning and design through to manufacturing and construction, and information obtained through inspections and diagnostics				
	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 the provision of related equipment	Conducting disaster response training	Response training: once a year Support for disaster recovery: 5 cases	Response training once a year	
	7 Safeguarding occupational health and safety	Thorough prevention of serious accidents	● Reducing the incidence of fatal accidents to zero through measures to eliminate the danger from tasks that involve working at heights	Fatal accidents	0	0	
				Number of accidents causing four or more days of lost worktime	6	0	
				Frequency rate	0.84	—	
				Severity rate	0.13	—	
				Average number of lost workdays per casualty	156	—	
	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	Application for the Health & Productivity Management Outstanding Organization Recognition Program	—	Apply	
			● Promoting health management that makes effective use of "collabo-health" (collaboration between Health Insurance Society providers, companies, and employees)				
	9 Securing talent and promoting diversity	Promotion of recruitment activities	● Effective utilization of site visits, internships, and the holding of seminars in schools and colleges	Achievement of recruitment plan for the fiscal year	Recruitment plan: 75 hires Actual: 66 hires, 88% achievement rate	Recruitment plan: 55 hires Achievement rate: 100%	
		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	Employment rate of persons with disabilities (average for 5 operating companies)	2.23%	2.3% or higher	
				Percentage of female employees out of all employees	14.6%	15% or higher	
				Steady increase in the rate of male employees taking childcare leave	5.7%	—	
				Return-to-work rate after childcare leave (= actual number of employees who returned to work / number of employees scheduled to return to work after childcare leave × 100)	100%	100%	
				Utilization of foreign human resources (including transfers and trainees from Group companies)	36	36 or more	
	10 Strengthening of talent management	Support for self-directed career development	● Job rotation using a self-directed application system, and appropriate personnel allocation	Support for acquisition of necessary qualifications* according to the type of job * Professional engineer / First-class architect / First-class civil engineering management engineer / First-class architectural construction management engineer / Construction accountant (1st and 2nd classes)	Target: 256 people Support implementation rate: 100%	Target: 267 people Support implementation rate: 100%	
			● Support to help employees secure professional qualifications and implement 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)	Establishment of an internal certification system for DX personnel and certification of about 50 employees (50 in FY2024)	—	—	
				Expansion of the area of ordered engineered structures through promotion of DX (1.3 million m^2 or more in FY2024)	1.01 million m^2	—	
	12 Respecting the human rights of our employees, and the employees of partner companies and suppliers	Thorough implementation of mutual respect	● Implementation of the YBHD Code of Corporate Behavior and continuing education	Percentage of harassment training provided through e-learning	36%	100%	
	13 Prevention of overwork, the promotion of work-life balance, and realizing equivalent compensation for equivalent work	Steady efforts to reduce working hours and the promotion of leave-taking	● Active promotion of incentive systems and of the various types of leave system	Percentage of construction sites implementing 7 days off in a 4-week schedule: 100% (FY2022), 8 days off in a 4-week schedule: 100% (FY2023 and FY2024)	7-days-off in 4 weeks Implementation rate: 80.3%	7-days-off in 4 weeks Implementation rate: 100%	
		Commitment to fair remuneration	● Establishment of internal systems in relation to various laws				
Governance	14 Fair transactions and prevention of corruption	Thorough implementation of compliance and transaction record management Thorough implementation of effective corporate governance and risk management	● Formulation of manuals and rules, compliance with their stipulations, and related education	Number of serious noncompliance incidents	0	0	
			● Auditing of compliance status and appropriate utilization of the internal whistleblowing system	Conducting independent audits in all departments of each Group company based on the Group's internal control system and auditing regulations, as well as the identification of events and the implementation of preventive, remedial, and recurrence-prevention measures	Once a year	Once a year	
			● Appropriate operation of the Compliance Committee and Sustainability Committee	Auditing department personnel and implementation rate of education on internal controls	Personnel: 26 Education implementation rate: 100%	Personnel: 31 Education implementation rate: 100%	
			● Further improvement of the system for appropriate risk management	Conducting meetings between the Group's auditors and the head of the Audit Office	Twice a year	Twice a year	
	15 Information security management	Preventing the leaking of corporate business secrets	● Improvement of the rules for preventing data leaks, and implementation of related training	Number of serious information security incidents	0	0	
				Implementation of training on data preservation in the event of a disaster	Once a year	Once a year	

Complying with TCFD Recommendations:
—Toward the Realization of a Decarbonized Society—

The international community as a whole urgently needs to make the transition to a decarbonized society, as climate change is resulting in more frequent extreme weather events and more severe flooding. As a corporate group responsible for social infrastructure development, the YBHD Group has traditionally worked to solve various issues arising from climate change through its business, including the development of disaster-resistant infrastructure, long-term protection of bridges, and support for disaster recovery.

The Group recognizes climate change as an important management issue and identified "responding to material risk associated with climate change and natural disasters" as a materiality (key issue) in 2020.

Furthermore, in December 2021, we announced our support for the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, and in May 2022, we set out a goal of achieving carbon neutrality by reducing CO_2 emissions (Scope 1 and 2) in our business activities to zero by fiscal 2050. To achieve this goal, we have established a mid-term target of a 50% reduction* in Scope 1 and 2 CO_2 emissions in fiscal 2030 and a short-term target of a 20% reduction* in fiscal 2024.

In the future, we will further advance efforts to achieve carbon neutrality and will disclose the results and other information in accordance with the framework of the TCFD recommendations. In addition to the YBHD Group's efforts, we will contribute to the realization of a decarbonized society through dialogue and collaboration with investors and other stakeholders.

* The base year is fiscal 2020.

Governance

In its Basic Sustainability Policy formulated in 2021, the YBHD Group declared that it will actively and proactively work to resolve social, environmental, and other sustainability issues. The Sustainability Committee, which is a cross-Group body, looked at whether climate change is a Group materiality (key issue), and it was decided as such by the Board of Directors.

The Sustainability Committee reviews agenda items on basic management policies, business activities, and corporate governance policies and strategies related to sustainability, including climate change, and ESG more broadly. Important policies and measures are reported to the Board of Directors for deliberation and decision-making after discussion by the Management Committee. The Sustainability Committee is chaired by an operating officer of a major operating company and consists of executives and operating officers from each operating company.

The Sustainability Working Group, which is a sub-organization of the Sustainability Committee, is responsible for promoting the implementation of policies and strategies decided by the Management Committee and the Board of Directors. The Sustainability Working Group consists of the general managers in charge of general affairs at each operating company and handles the promotion of CO_2 emission reduction measures at operating companies, monitoring progress, and other practical matters.

Agenda items discussed and decided by the Management Committee and the Board of Directors are incorporated into the initiatives of the business execution divisions of each operating company. We will strive to reduce $_2$ emissions in our supply chain (Scope 3) in coordination and collaboration with the relevant parties. The Management Committee and Board of Directors monitor, direct, and supervise the status of efforts to address materiality, including climate-related issues, at least once a year.

Track record of decisions made on climate change

In fiscal 2021, the Sustainability Committee met three times, and the issue of climate change was brought up to the Management Committee and the Board of Directors.

Board of Directors	Matters on climate change issues discussed, decided, and reported
FY2020	● Determination of materiality related to climate change ・Responding to material risk associated with climate change and natural disasters ・Responding to demand for development of disaster-resistant products ・Responding to demand for retrofitting services and maintenance associated with National Resilience Promotion ・Support for disaster recovery
FY2021	● Initiatives to disclose information based on TCFD Recommendations ● Declaration of CO_2 reduction targets ● Efforts to reduce CO_2 emissions

TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Strategy

We conducted a scenario analysis to determine how climate change would affect the Group's operations and finances. The scope of the analysis covered the Group's major businesses (Bridges, Engineering, and Precision Equipment), and the period of the analysis was from the present to around 2050.

The bridges and engineered structures provided by the YBHD Group use steel, cement, and other materials that emit a large amount of CO_2 during their manufacture. CO_2 emissions are also generated from the transportation of these raw materials and building materials, and from the operation of heavy machinery during construction. In addition, as requests for environmental consideration from local governments and private-sector companies, which are our main customers, are increasing year by year, we are developing technologies such as low-carbon construction methods and low-maintenance products, and pursuing a 100% recycling rate for steel materials throughout the Group.

Given these business characteristics, we have identified the following as major risks: increased construction and procurement costs due to tighter regulations on CO_2 emissions and the introduction of a carbon tax; damage to our own facilities and supply chain disruptions due to increased and more severe extreme weather events; and a decline in labor productivity at construction sites due to chronic temperature increases.

As for opportunities, we have identified the expansion of the market for national resilience, disaster prevention, disaster mitigation, and maintenance, as well as the increasing demand for environmentally friendly bridges and buildings.

Going forward, we will further refine our analysis, including quantitative analysis of the financial impact of particularly important risks and opportunities, and reflect them in our medium-term management plan and business strategies.

Process for identifying climate-related risks and opportunities

STEP 1 Identify the risk and opportunity factors affecting business at each stage of business activities for each target business

STEP 2 For each risk and opportunity factor identified, consider the specific nature of its impact, the likelihood of being impacted, the magnitude of the impact, and when the impact might occur, and identify the final business impact

Major risks and opportunities arising from climate change and their impact on business

Category			Risks/opportunities and impact on business	Details	Affected businesses*1	Time frame*2	Magnitude of impact
Transition	Policy and regulations	Risks	Increase in operating and procurement costs due to introduction of carbon pricing	Carbon tax on CO_2 emissions during factory production and on-site construction, as well as increased operating and procurement costs if the carbon tax is passed on to material prices.	B, E, PE	Medium term	Medium
	Market	Risks	Shrinkage of construction market due to introduction of carbon pricing and tighter regulations (decrease in construction and capital investment)	Shrinking market for bridges and buildings that use steel and cement, which emit a lot of CO_2 during manufacturing.	B, E	Medium term	Medium
	Technology	Risks	Increase in steel prices and shortages due to introduction of low-carbon technologies	Increased prices due to the introduction of new technologies to achieve decarbonization of the steel manufacturing process and steel shortages in Japan due to the export of low-carbon steel overseas.	B, E	Long term	Large
	Products and services	Opportunity	Increased demand for environmentally friendly bridges and buildings	Increased demand for bridges that are easy to maintain. Increased demand for engineered structures with short construction periods and lower steel usage.	B, E	Medium term	Small
		Opportunity	Improved competitiveness through low-carbon construction	Improved competitiveness through the use of low-carbon materials and increased productivity to meet the demand for CO_2 reduction.	B, E	Medium term	Small
Physical	Chronic	Risks	Increased incidents of heatstroke and reduced work efficiency due to rising temperatures, and increased costs for heatstroke countermeasures	Increased incidents of heatstroke due to rising temperatures, leading to lower productivity and difficulty in securing personnel. Additional safety measures are required, incurring costs.	B, E	Now	Large
	Acute	Risks	Extreme weather conditions impacting procurement networks, disrupting or delaying construction	Typhoons and torrential rains frequently cut off procurement networks, limiting operations and leading to shut down of factories and construction sites.	B, E, PE	Now	Large
		Risks	Damage to own facilities due to extreme weather	Flooding and strong winds caused by extreme weather conditions damage the company's own sites.	B, E	Now	Large
	Acute	Opportunity	Expansion of national resilience, disaster prevention, mitigation, and maintenance markets	Increased demand for construction of highly durable, easy-to-maintain bridges and disaster-resistant civil engineering steel structures.	B, E	Now	Large
		Opportunity	Increased demand for highly resilient structures	Increased demand for bridges and civil steel structures that can be easily restored from damage.	B, E	Medium term	Medium
		Opportunity	Demand for relocation from areas with low elevation and high risk of flooding	Demand for bridge replacement to address flooding risks, and increased demand for engineered structures due to relocation of facilities.	B, E	Medium term	Medium
		Opportunity	Increased demand for unmanned construction in the event of a disaster	Increased demand for technologies such as robotization and remote management to safely and quickly carry out disaster recovery activities.	B, E	Medium term	Medium

*1: B: Bridge Business, E: Engineering Business, PE: Precision Equipment Business
*2: Time frames considered are now, short term (2-3 years), medium term (around 2030), and long term (around 2050).

Measures to address climate change

Responding to policy, legal, market, and technology risks associated with the transition to a low-carbon society	● Achievement of CO_2 reduction targets ● Cooperation with industry associations and suppliers in their efforts to reduce CO_2 emissions ● Cooperation with steel manufacturers in the development of decarbonization technologies ● Application of new materials such as FRP-balsa materials, lumber, and low-carbon concrete to the Group's business fields ● In the precision equipment manufacturing business, commercialization of structures made of materials other than steel, mainly for the semiconductor industry
Responding to physical risks due to rising temperatures, more frequent extreme disasters, etc.	● Introduction and use of ICT for working environments and health management ● Promotion of labor savings through robotization of welding operations and use of ICT ● Provision of air-conditioned clothing, etc., in the workplace ● Strengthening BCP-related investment, facilities, and personnel ● BCP formulation and continued effective utilization and training ● Utilization of products and construction methods that facilitate early recovery in the event of an unanticipated disaster
Responding to business opportunities created by climate change mitigation and adaptation to a low-carbon society	● Provision of Disaster-prevention Pre-cast Sea-walls to reduce the damage caused by tsunamis and storm surges ● Provision of internal water pressure-compatible tunnel segments for underground rivers that are prepared for heavy rainfall disasters ● Provision of technology for replacing aging road bridge decks ● Provision of maintenance-related products made of aluminum and stainless steel ● Provision of hybrid steel and wood products ● Responding to increased orders and production expansion by developing a DX-based production management system and sales management system ● Application of effective elemental technologies such as electric furnace steel, low-carbon concrete, and environmentally friendly paints; use of the new technology of decarbonized processing machinery (electric and hydrogen); and the promotion of technological developments such as pre-casting and rapid construction methods to shorten construction periods on site ● Accurately identifying demand for bridge replacement and facility relocation, and strengthening technical proposal capabilities ● Development of technologies that contribute to improving safety and workability at disaster sites by promoting construction DX

To address risks associated with climate change related to "transition" such as stricter regulations to promote a low-carbon society and market contraction, we will steadily reduce CO_2 emissions (Scope 1 and 2) in our business activities to achieve our CO_2 reduction targets. In fiscal 2021, we established CO_2 reduction targets and worked to save energy, conserve electricity, and install solar power generation facilities. We will also work to reduce CO_2 emissions from the manufacturing process of steel and other raw materials (Scope 3) by supporting technological innovation in cooperation with related parties, and we will promote the development of new structural forms with a view to making use of new materials.

In response to "physical" risks to our own sites due to extreme weather, we will prepare for early recovery from damage by formulating a business continuity plan (BCP), continuing its effective utilization and training, and strengthening our BCP investments, facilities, and personnel. In addition, the increase in heatstroke incidents due to rising temperatures is a factor in the decline in productivity and the shortage of workers, making it essential to address this issue from the perspective of safety. Currently, air-conditioned clothing is provided at workplaces, and in the future, we will advance manpower saving through the use of ICT and robotization.

Solar power facilities installed in the new No. 2 Experimental Building of the Technical Research Laboratory

Installed watertight panels at the entrance to the Osaka Plant building in preparation for flooding damage due to heavy rains, etc.

Risk Management

The Sustainability Committee identifies risks arising from climate change and assesses their impact on our business. The identified risks, as well as countermeasures, are examined under a system in which the Sustainability Committee and the Sustainability Working Group, which is in charge of practical matters, work together. Particularly important issues are reported to the Board of Directors for deliberation.

In addition, in preparation for the occurrence of large-scale natural disasters such as storms and floods due to climate change, we have developed a business continuity plan and conduct emergency drills to minimize the impact of such disasters.

Indicators and Targets

In May 2022, we announced our long-term goal of "achieving carbon neutrality by 2050" as a response to climate change, along with establishing short- and medium-term CO_2 emission reduction targets as milestones toward achieving this goal.

These targets are positioned as one of the "business base strategies" to "establish a robust business base for the next 100 years" as set out in our Sixth Medium-Term Management Plan (fiscal 2022–2024), which started in fiscal 2022, and will be promoted strongly throughout the Group along with the Medium-Term Management Plan.

At the same time, we will work with suppliers, customers, and other stakeholders to reduce Scope 3 emissions.

CO_2 emissions

(t-CO_2)

	FY2020	FY2021
SCOPE 1	2,539	4,856
SCOPE 2	10,779	10,647
SCOPE 1 and 2 total	13,318	15,503
SCOPE 3	332,518	361,007
SCOPE 1, 2, 3 total	345,836	376,510

CO_2 emissions reduction target

Scope	Base year	Target year	Target
SCOPE 1 & 2	FY2020	FY2024	20% reduction
		FY2030	50% reduction
		FY2050	Carbon neutrality

Development of an FRP sandwich deck

(Construction of a pedestrian bridge in Imanoura Park, Iwata City, Shizuoka Prefecture)

Ryojiro Kato, Technical Research Laboratory, Yokogawa Bridge Holdings Corp.

Pedestrian bridges in Japan are showing deterioration due to deck corrosion. There are also many road bridges in Japan with narrow sidewalk widths or no sidewalks. Thus, there is a growing need to add sidewalks to these existing road bridges or to widen them to improve convenience and safety for residents. Against this background, Yokogawa Bridge has developed "FRP sandwich decks" for sidewalks in collaboration with Yamaha Motor Co., Ltd.

Imanoura Park Pedestrian Bridge

FRP sandwich decks are made with balsa wood, which is a lightweight wood familiar to people who make model airplanes, as the core material, and reinforced with glass fiber reinforced plastic on the top and bottom. Compared to conventional decks, it is lighter and more durable, and the fast-growing balsa wood, which is systematically planted, fixes CO_2 in the deck, thus contributing to the SDGs and carbon neutrality.

This FRP sandwich deck was used for a pedestrian bridge in Imanoura Park in Iwata City, Shizuoka Prefecture. Although there have been cases of its use as road bridge decks overseas, this is only the second case in Japan. After confirming its performance through various tests, construction work was carried out, and the bridge was successfully opened to traffic on March 27, 2022.

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 in order 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.

Materials flow (as of FY2021)

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	25.56 million kWh
● Gasoline	498 kL
● Diesel	795 kL
● Kerosene	110 kL
● Gas	691,000 m^3
Water	72,000 m^3
Main construction materials (steel)	128,000 t

YBHD

Outputs	
CO_2 emissions	15,503 t
Construction waste	8,989 t
Steel-related emissions	8,162 t
Steel recycling rate	100 %

Responding to the material risk associated with climate change and natural disasters

Measures	KPI	FY2021 results	FY2022 target
Establishing systems to facilitate business continuity	Conducting BCP training	20 times per year	20 or more times per year
Reducing the environmental footprint of business activities	CO_2 reduction rate short-term target (20% reduction in Scope 1 and 2 by FY2024, base year of FY2020)	Up 16.4%	–
	Continuation of a 100% steel recycling rate	100%	100%

We are responding to the risk of natural disasters, which are becoming more frequent due to the worsening climate change, to ensure the safety of our employees and to ensure business continuity.

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
- Disaster recovery assistance program for employees
- Implementation of emergency response in accordance with disaster management cooperation agreements

Reducing the environmental footprint of business activities

- Reducing CO_2 emissions (making a proactive contribution toward the transition to a post-carbon society)
- Promoting the adoption of renewable energy, such as photovoltaic electricity generation systems, etc. (to further increase electricity self-sufficiency)
- 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 the "greenification" of factory grounds and company building rooftops

Responding to demand for the development of disaster-resistant products

Measures	KPI	FY2021 results	FY2022 target
Developing products and construction methods that will contribute toward reducing the damage suffered in a natural disaster	R&D expenses	0.4 billion yen	0.8 billion yen

- 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.

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

Measures	KPI	FY2021 results	FY2022 target
Developing technologies and products relating to the improvement, maintenance, and upgrading of the highway network	Bridge maintenance business net sales	24.0 billion yen	24.0 billion yen or more

- Development of technologies for enhancing and upgrading the functionality of existing infrastructure
- Development of highly durable aluminum and stainless-steel products
- Development of bridge deck upgrading methods for large-scale highway structure renewal and repair projects, taking into account both society's needs and environmental considerations
- Development of TUF segments with high bearing capacity, thus making them suitable for use in very deep excavations, for use in the shield method, which reduces the impact of an excavation on the surface, and makes it possible to reduce the area of ground affected by the excavation

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.

Ensuring the stable supply of products

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

Measures	KPI	FY2021 results	FY2022 target
Strengthening production and construction systems	Capital expenditures (totaling at least 18.0 billion yen in FY2022–2024)	4.7 billion yen	–
	Personnel (2,150 in FY2024)	1,962*	–

* Including equity method affiliates.

- 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, the three "Rs" (Reduce, Reuse, and Recycle), and appropriate disposal of waste, etc.
4. We will continuously work to improve our quality and environmental management systems in order to enhance our operations, the quality of our products and customer satisfaction, and to reduce our environmental footprint.

Quality assurance

Measures	KPI	FY2021 results	FY2022 target
Preventing the reoccurrence of quality non-conformance incidents	Construction grades for bridge business	Average of 83.1 points	Average of 80 points or higher

- 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

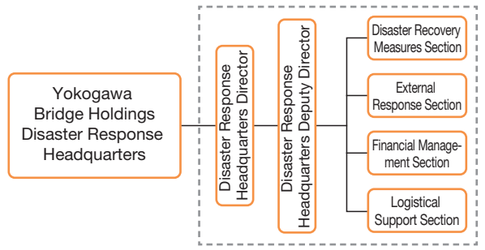
Support for disaster recovery

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

Measures	KPI	FY2021 results	FY2022 target
Strengthening systems for providing rapid support	Conducting disaster response training	Response training: once a year Support for disaster recovery: 5 cases	Response training once a year

- 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 lifespans
- 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



Social Initiatives

Safeguarding occupational health and safety

To eliminate serious accidents, we are taking various initiatives to safeguard health and safety in cooperation with our partner companies.

Measures	KPI	FY2021 results	FY2022 target
Thorough prevention of serious accidents	Fatal accidents	0	0
	Number of accidents causing four or more days of lost worktime	6	0
	Frequency rate	0.84	—
	Severity rate	0.13	—
	Average number of lost workdays per casualty	156	—

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

FY2022 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 and comfortable working environment

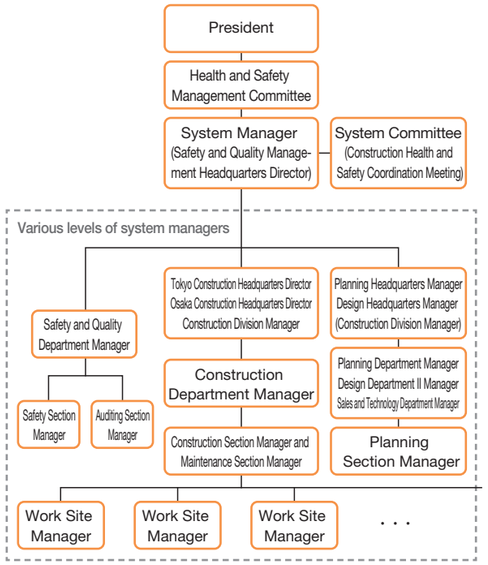
Measures to prevent serious accidents and incidents

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 systems, installation methods, etc., so as to enhance the safety of construction work

- Health and Safety System (Yokogawa Bridge Corp.)

System Framework Diagram (Construction Health and Safety Management System)



- Prevention of occupational accidents
- 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"

Commended for Quick Response in the Fukushima Offshore Earthquake Restoration Project

The Fukushima Offshore Earthquake that occurred late at night on March 16, 2022, caused significant damage to the elevated facilities of the Tohoku Shinkansen Line, and in some sections, Shinkansen trains were also derailed, causing tremendous damage.

In the early hours of the following day, March 17, the YBHD Group received a request from Totetsu Kogyo Co., Ltd. for emergency support. We went to the site and took emergency measures for the First Kosaka Kaido Bridge and its viaduct, which was the most damaged among the severely damaged facilities in various locations and was estimated to be critical to the full opening of the line.

With the cooperation of East Japan Railway Company and other related companies, the YBHD Group's planning, sales, equipment, and construction divisions worked together to carefully and quickly carry out the restoration work, thereby helping to restore the entire Tohoku Shinkansen Line on April 14.

In recognition of these efforts, Totetsu Kogyo presented us with the President's Commendation, and East Japan Railway Company presented us with the Shinkansen General Manager's Commendation.

Responding to global health issues

We support the health of employees and their families (who support them) by putting in place the environment needed for teleworking and flexible work hours and by making effective use of "collabohealth" measures.

Measures	KPI	FY2021 results	FY2022 target
Infectious disease response measures and putting in place the environment needed for employees to maintain and improve their health	Application for the Health & Productivity Management Outstanding Organization Recognition Program	—	Apply

Group Health Declaration

In the midst of severe changes in its business environment, the YBHD Group views the health of employees as one of its most important management resources and promotes initiatives to support the health of employees and the families who support them. The Group aims to develop its business and contribute to society through workplaces where employees can work vigorously and reach their full potential.

- Infection prevention measures, including daily temperature checks, the use of mouthwash, wearing of masks, and disinfecting 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
- In order to realize the health management objectives stated in the Health Declaration, we have established a Health Promotion Committee consisting of our corporate officer in charge of human resources, human resources personnel of each group company, medical staff (industrial physicians and nurses), and our Health Insurance Society as a "health promotion system." The committee shares and analyzes health issues and plans health projects, which are then approved by the Board of Directors and the Health Insurance Society, after which various organizations jointly implement the activities.

Securing talent and promoting diversity

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

Measures	KPI	FY2021 results	FY2022 target
Promotion of recruitment activities	Achievement of recruitment plan for the fiscal year	Recruitment plan: 75 hires Actual: 66 hires Achievement rate: 88%	Recruitment plan: 55 hires Achievement rate: 100%
	Employment rate of persons with disabilities (average for 5 operating companies)	2.23%	2.3% or higher
	Percentage of female employees out of all employees	14.6%	15% or higher
Effective utilization of diverse human talent	Steady increase in the rate of male employees taking childcare leave	5.7%	—
	Return-to-work rate after childcare leave (= actual number of employees who returned to work / number of employees scheduled to return to work after childcare leave × 100)	100%	100%
	Utilization of foreign human resources (including transfers and trainees from Group companies)	36	36 or more

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

Utilization of Foreign Human Resources

Yokogawa Techno Philippines, Inc. is a company based in the Philippines. The Philippines has a large number of young people, which is said to be a demographic bonus, and the environment in the country is such that people are seeking opportunities to utilize their language skills and work on a global scale. Yokogawa Techno Philippines employs nearly 200 talented engineers and is a major pillar of practical support for the technologies of YBHD Group companies. Physical exchanges that were interrupted by the COVID-19 pandemic have been resumed, and many engineers from the Philippines have crossed the sea to further the scope of their activities in Japan while learning technology and Japanese.

Social Initiatives

Strengthening of talent management

Measures	KPI	FY2021 results	FY2022 target
Support for self-directed career development	Support for acquisition of necessary qualifications* according to the type of job * Professional engineer / First-class architect / First-class civil engineering management engineer / First-class architectural construction management engineer / Construction accountant	Target: 256 people Support implementation rate: 100%	Target: 267 people Support implementation rate: 100%

- 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 know-how
- Effective utilization of e-learning

Labor productivity enhancement

Measures	KPI	FY2021 results	FY2022 target
Effective utilization of technology (with ICT as the core element) and business process improvement	Establishment of an internal certification system for DX personnel and certification of about 50 employees (50 in FY2024)	–	–
	Expansion of the area of ordered engineered structures through promotion of DX (1.3 million m^2 or more in FY2024)	1.01 million m^2	–

- 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)

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

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

Measures	KPI	FY2021 results	FY2022 target
Thorough implementation of mutual respect	Percentage of harassment training provided through e-learning	36%	100%

- 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 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.

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

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

Measures	KPI	FY2021 results	FY2022 target
Steady efforts to reduce working hours, and promotion of leave- taking	Implementation rate of 7 days off in 4 weeks at construction sites: 100%	7 days off in 4 weeks implementation rate: 80.3%	7-days-off in 4 weeks Implementation rate: 100%

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)
- Implementation of overwork prevention training
- Work-life balance measures (accommodation expenses subsidy system, travel expenses subsidy system for employees returning home, commemorative holidays, telecommuting system, 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

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 well 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.

Site tours with BIM/CIM experience


Site tours for local students

Supporting Fujikawaguchiko Town’s Music Town Development Project

The Mt. Fuji Kawaguchiko Piano Festival was held for the first time from September 23 to 26, 2021, as part of the Music Town Development Project of Fujikawaguchiko Town, Yamanashi Prefecture, with concerts featuring Nobuyuki Tsujii and other world-class pianists.

The event allowed people to enjoy world-class music in the great outdoors while feeling the power of Mt. Fuji. Not only was the festival a great success, with fans visiting from all over Japan, but it also contributed to the promotion of local culture, education, and the arts through programs for families and children, including by inviting Mr. Tsujii to give a music class at an elementary school (Photo 1) and by holding a free picnic concert in a town park (Photo 2).

The YBHD Group is supporting this project through a corporate hometown tax payment (a donation), which was inspired by the construction of a retractable roof for the Kawaguchiko Stellar Theater (Photo 3), the main venue of the festival.

The second event, in 2022, is scheduled for September 22 to September 25.

https://pianofes.stellartheater.jp/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2


3

Corporate Governance

Directors, Auditors, and Executive Officers

Directors

Kazuhiko Takata
President and Representative Director

Kiyotsugu Takagi
Director & Managing Executive Officer

Hidenori Miyamoto
Director & Managing Executive Officer

Yoshida Akihito
Director & Executive Officer

Kazuya Kuwahara
Director & Executive Officer

Akira Kobayashi
Director & Executive Officer

Yasunori Kamei
Outside Director

Kazunori Kuromoto
Outside Director

Reiko Amano
Outside Director

Auditors

Ryogo Hirokawa
Standing Audit & Supervisory Board Member

Teruhiko Oshima
Standing Audit & Supervisory Board Member

Masashi Shishime
Outside Audit & Supervisory Board Member

Kazunori Yagi
Outside Audit & Supervisory Board Member

Tomozo Yoshikawa
Outside Audit & Supervisory Board Member

Executive Officers

Isao Saito
Executive Officer

Hirohito Kaji
Executive Officer

Yuzuru Nakamura
Executive Officer

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, while remaining aware of our responsibilities as a good corporate citizen, complying with laws, regulations, social norms, etc., 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.

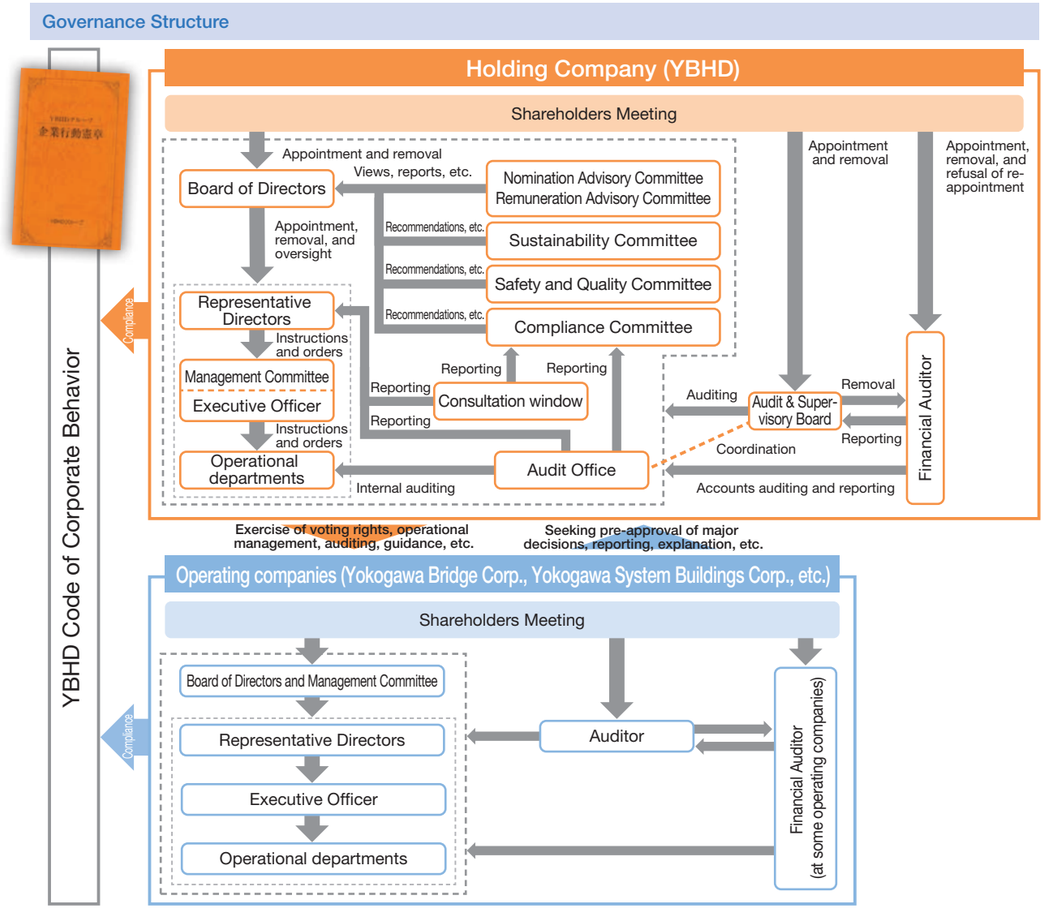
Skills Matrix for Directors and Auditors

Position	Name	Skills, Experience, and Expertise							
		Corporate Management	Finance & Accounting	Legal & Risk Management	Human Resources & Labor	Sustainability	Sales & Marketing	R&D and DX	Safety, Quality & Production
Directors	Kazuhiko Takata	○					○	○	○
	Kiyotsugu Takagi	○		○	○	○			
	Hidenori Miyamoto	○	○				○	○	
	Yoshida Akihito	○			○			○	○
	Kazuya Kuwahara	○	○				○	○	
	Akira Kobayashi	○		○			○	○	
	Yasunori Kamei	○			○		○		○
	Kazunori Kuromoto	○					○	○	○
	Reiko Amano	○				○		○	○
Auditors	Ryogo Hirokawa			○		○	○		
	Teruhiko Oshima	○						○	○
	Masashi Shishime			○					
	Kazunori Yagi	○	○	○					
	Tomozo Yoshikawa	○	○	○					

* Yasunori Kamei, Kazunori Kuromoto, and Reiko Amano are Outside Directors.
* Masashi Shishime, Kazunori Yagi, and Tomozo Yoshikawa are Outside Audit & Supervisory Board Members.

Corporate Governance

Governance Structure



Overview of the corporate governance system

YBHD is a company with a Board of Directors, an Audit & Supervisory Board, and a Financial Auditor. It conducts group management under a holding structure with YBHD as the holding company.

We have adopted an executive officer system to clearly separate business operations from oversight, increase the flexibility and adaptability of business operations, and respond quickly and flexibly to changes in the business environment. In addition, the Board of Directors (three Outside Directors out of nine Directors), more than one-third of whom are independent Outside Directors, and the Audit & Supervisory Board (three Outside Auditors out of five Auditors) oversee and audit the decision-making process of the Board of Directors and the execution of duties by the Directors, thereby reinforcing the Group's governance.

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.

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.

Four of YBHD's Directors also serve concurrently as the Presidents of Group operating companies. In addition, four 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, Members of the Audit & Supervisory Board, and Executive Officers, based on consultation with the Board of Directors, the Nomination Advisory Committee deliberates nominations of candidates for the positions of Director, Member of the Audit & Supervisory Board, and Executive Officer and the appointment of Representative Directors, Executive Directors, and Executive Officers 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 one Representative Director 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 Executive Officers, and submits its views, reports, etc., to the Board of Directors. The Remuneration Advisory Committee consists of one Representative Director and three independent Outside 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.
- **Safety and Quality Committee**
  The Safety and Quality Committee analyzes the safety and quality management operations of each operating company, examines the effectiveness and other aspects of various measures, and makes recommendations for improvement to the Board of 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.

Management Committee

To help ensure that the company's operations proceed smoothly, the Management Committee, whose membership comprises all Board members other than Outside Directors, as well as the Standing Audit & Supervisory Board Members, Executive Officers, 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. Important documents, including minutes of Management Committee meetings, are distributed to Outside Directors and Outside Audit & Supervisory Board Members in order to provide sufficient information to enable them to confirm the current status of the company.

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 Management Committee, and the Representative Directors, and exchange information with the Audit Office (which functions as the internal auditing department) and the Financial Auditor, in order 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 compliance 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 analyzed and evaluated 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 an 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 the discussion of a sustainable medium- and long-term growth strategy for YBHD needed to be continued and expanded.

Corporate Governance

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 the 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

The company, having put in place the remuneration governance outlined below, decides upon the remuneration, etc., of company officers 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**

a. Method of deciding on policies for deciding on remuneration, etc.

The company's policy for deciding the remuneration, etc., of individual Directors is decided by the Board of Directors based on the deliberations and reports of the Remuneration Advisory Committee, which is chaired by an independent Outside Director and consists of a majority of independent Outside Directors. In the event that the Board of Directors reaches a decision that diverges from the content of reports submitted by the company's Remuneration Advisory Committee, the Remuneration Advisory Committee will ask the Board of Directors to collate and announce the reasons for this decision.

b. Roles and responsibilities of the Remuneration Advisory Committee

In order to ensure a high level of independence and objectivity in all decisions made in relation to the remuneration system, the company's Remuneration Advisory Committee has been entrusted by the company's Board of Directors with decisions on the content of the remuneration received by individual Directors. When deciding on remuneration, the company's Remuneration Advisory Committee undertakes appropriate deliberation and decision-making with regard to the basic policy governing the remuneration system for company officers, the remuneration system, the framework for performance-linked remuneration, the amounts paid to individual company officers, etc. The Committee makes 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, identifies key trends in discussions of this area, trends in other companies' systems, etc.

As a measure taken to ensure that the entrusted authority is properly exercised, the company endeavors to provide the Remuneration Advisory Committee with sufficient objective information by utilizing external remuneration consultants, as described above, in order to guarantee effective deliberation by the Remuneration Advisory Committee while safeguarding the Committee's independence.

The involvement and participation of external remuneration consultants in the Remuneration Advisory Committee is limited to attending Remuneration Advisory Committee meetings as necessary to provide indirect support for effective deliberation and consensus building. They do not make recommendations to the Board of Directors regarding the appropriateness of the content of reports.

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

The Remuneration Advisory Committee comprises four members, most of which 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.
- 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)

The company's policies regarding the determination of the amount of basic remuneration (monetary remuneration) to be received by each individual are 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.

Basic remuneration is paid on a monthly basis.

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 the consolidated operating profit for that fiscal year. The reason for choosing this indicator is that the 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, which are set by the Board of Directors at the beginning of the fiscal year following deliberation on and verification of their appropriateness 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 every fiscal year at a predetermined specified time. The payment ratio varies within a range of 0% to 150%.

Regarding the KPI target value for performance-linked remuneration in the current fiscal year, the consolidated operating profit target was set at 14 billion yen, and the actual result was 14.7 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.

Share-based remuneration is paid every fiscal year at a predetermined specified time.

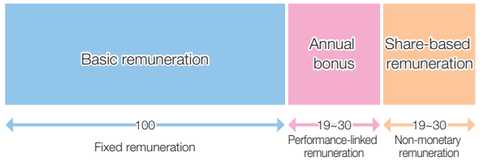
e. Policies regarding the determination of the share of overall remuneration held by each type of remuneration

The company has decided on a policy regarding the determination of the share of overall remuneration provided to Directors (excluding Outside Directors) for each type of remuneration, subject to deliberation 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 in order 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, the company's Board of Directors entrusts the Remuneration Advisory Committee with decisions regarding the content of the remuneration received by individual Directors. As a measure taken to ensure that the entrusted authority is properly exercised, the company endeavors to provide the Remuneration Advisory Committee with sufficient objective information by utilizing external remuneration consultants to guarantee effective deliberation while safeguarding the Committee's independence.

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," which is an internal whistleblowing system that 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 transactions and prevention of corruption

Measures	KPI	FY2021 results	FY2022 target
・Thorough implementation of compliance and transaction record management ・Thorough implementation of effective corporate governance and risk management	Number of serious noncompliance incidents	0	0
	Conducting independent audits in all departments of each Group company based on the Group's internal control system and auditing regulations, as well as identification of events and implementation of preventive, remedial, and recurrence-prevention measures	Once a year	Once a year
	Auditing department personnel and implementation rate of education on internal controls	Personnel: 26 Education implementation rate: 100%	Personnel: 31 Education implementation rate: 100%
	Conducting meetings between the Group's auditors and the head of the Audit Office	Twice a year	Twice a year

1) Fair 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 the 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 ensuring 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.

2) Prevention of corruption

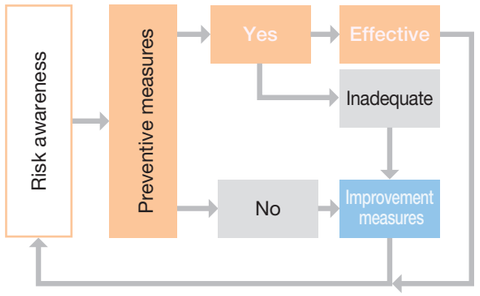
When implementing political contributions or donations to various organizations, the YBHD Group complies with relevant laws such as the Public Offices Election Act and Political Funds Control Act and ensures, in advance, that internal rules such as the Rules Specifying the Scope of Authority are followed. 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, through 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

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.

In the unlikely event of an accident, not only would the accident cause direct damage, but it could also cause the Group to lose social credibility and be subject to administrative penalties, such as suspension from bidding, from various ordering agencies, which could have a serious impact on the order receiving. To eliminate the danger of serious accidents, we are working continually 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 or local government authorities. Consequently, a major change in societal infrastructure policy, a dramatic worsening in government finances, or other factors, could significantly impact our operational performance, such as a decrease in the volume of orders received and in our sales revenue, especially in the event of an unexpectedly large fall in orders for new bridges in the future. 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 will continually implement 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**

According to our contracts, we are statutorily liable for defects in steel structures constructed by the YBHD Group. In the event that a defect is discovered for any reason, we will take emergency measures to avoid any risk, regardless of whether or not the customer makes a defect warranty claim, and will focus on investigating the cause of the defect and preventing its recurrence. Thus, depending on the seriousness of the defect(s), 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 has been expanding overseas, mainly in the Asia region, including in the bridge business through participation in Official Development Assistance (ODA) projects.

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 impacts, 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 and precision equipment businesses, 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

Measures	KPI	FY2021 results	FY2022 target
Preventing the leaking of corporate business secrets	Number of serious information security incidents	0	0
	Implementation of training on data preservation in the event of a disaster	Once a year	Once a year

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 (ten years)

(100 million yen)

FY	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Net sales	887	882	1,027	1,057	1,134	1,310	1,419	1,381	1,360	1,369
Operating income	34	65	64	69	80	137	105	128	159	147
Operating income margin (%)	3.9	7.4	6.2	6.5	7.1	10.5	7.4	9.3	11.7	10.8
Ordinary income	36	65	66	69	81	138	106	129	160	149
Net income attributable to owners of the parent company	19	42	42	43	43	93	75	90	112	110
Net assets	537	595	641	655	698	806	865	920	1,039	1,107
Total assets	1,016	1,040	1,167	1,149	1,281	1,449	1,496	1,525	1,696	1,725
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	2,608.54
Net income per share (yen)	45.23	99.50	98.40	103.19	102.98	226.93	182.33	217.61	273.09	267.54
Total dividends	4	4	5	6	6	9	12	15	21	31
Dividend (yen/share)	10.00	11.00	14.00	16.00	16.00	22.00	30.00	37.00	52.00	75.00
Dividend payout ratio (%)	22.1	11.1	14.2	15.5	15.5	9.7	16.5	17.0	19.0	28.0
Return on shareholders' equity (%)	3.8	7.7	6.9	6.9	6.5	12.8	9.2	10.4	11.9	10.6
Shareholders' equity	530	587	631	643	683	788	842	894	1,011	1,077
Shareholders' equity ratio (%)	52.1	56.5	54.1	56.0	53.3	54.4	56.3	58.6	59.6	62.5
Capital expenditure	9	11	16	24	33	73	76	101	60	47
Depreciation and amortization	13	13	13	15	16	17	21	28	34	36
R&D expenses	2	2	3	3	2	2	2	4	4	4
Number of employees (persons)	1,529	1,567	1,626	1,649	1,663	1,687	1,749	1,800	1,891	1,940
Segment information										
Net sales										
Bridge Business	632	586	693	684	650	739	733	812	824	764
Engineering Business	230	261	300	339	428	509	633	529	483	544
Precision Equipment Business	15	25	25	26	47	53	44	32	46	54
Real Estate Business	9	8	7	7	7	7	6	6	6	6
Operating income										
Bridge Business	27	42	43	46	38	85	60	83	114	110
Engineering Business	11	23	22	26	40	48	43	48	45	37
Precision Equipment Business	(1)	4	3	4	7	9	8	4	9	11
Real Estate Business	4	4	3	3	3	3	4	4	3	2
Order balance										
Bridge Business	700	720	532	795	622	832	917	694	1,275	875
Engineering Business	219	290	469	423	463	603	573	511	571	650
Precision Equipment Business	21	22	25	30	52	51	41	37	49	55

Consolidated financial statements, etc.

Consolidated financial statements

(1) Consolidated balance sheet

(Unit: million yen)

	Previous fiscal year (March 31, 2021)	Current fiscal year (March 31, 2022)
Assets		
Current assets		
Cash and deposits	19,602	23,458
Notes receivable, accounts receivable from completed construction contracts, and other	80,118	78,337
Inventories	2,365	3,562
Other	2,547	4,011
Allowance for doubtful accounts	(0)	(7)
Total current assets	**104,632**	**109,363**
Fixed assets		
Property, plant, and equipment		
Buildings and structures, net	14,433	14,523
Machinery, equipment and vehicles, net	8,303	8,637
Land	15,145	15,143
Construction in progress	580	554
Other, net	609	596
Total property, plant, and equipment	**39,072**	**39,456**
Intangible fixed assets		
Software	1,417	2,091
Other	56	54
Total intangible fixed assets	**1,474**	**2,145**
Investments and other assets		
Investment securities	17,282	14,505
Shares of affiliates	398	474
Deferred tax assets	6,331	6,212
Other	503	391
Total investments and other assets	**24,516**	**21,583**
Total fixed assets	**65,062**	**63,186**
Total assets	**169,695**	**172,549**
Liabilities		
Current liabilities		
Notes payable, accounts payable for construction contracts, and other	16,330	21,827
Short-term borrowings	4,000	—
Current portion of bonds	—	2,300
Current portion of long-term borrowings	3,000	6,200
Income taxes payable, etc.	3,894	2,341
Advances received on uncompleted construction contracts	2,254	3,365
Provision for losses on construction contracts	4,176	3,848
Provision for bonuses	2,641	2,757
Other reserves	165	166
Other	4,325	3,107
Total current liabilities	**40,789**	**45,914**
Fixed liabilities		
Corporate bonds	2,600	300
Long-term borrowings	6,985	619
Deferred tax liabilities	2,471	1,603
Deferred tax liabilities for land revaluation	70	70
Allowance for executives' retirement benefits	386	74
Allowance for stock-based compensation	91	139
Retirement benefit liability	11,975	12,237
Other	381	798
Total fixed liabilities	**24,960**	**15,843**
Total liabilities	**65,749**	**61,758**
Net assets		
Shareholders' equity		
Capital stock	9,435	9,435
Capital surplus	10,185	10,299
Retained earnings	79,140	87,488
Treasury stock	(3,900)	(3,872)
Total shareholder's equity	**94,860**	**103,351**
Accumulated other comprehensive income		
Valuation difference on available-for-sale securities	6,110	4,273
Revaluation reserve for land	159	159
Total accumulated other comprehensive income	**6,269**	**4,432**
Non-controlling interests	**2,815**	**3,007**
Total net assets	**103,945**	**110,791**
Total liabilities and net assets	**169,695**	**172,549**

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

Consolidated statement of income

(Unit: million yen)

	Previous fiscal year (From April 1, 2020, to March 31, 2021)	Current fiscal year (From April 1, 2021, to March 31, 2022)
Net sales	136,091	136,931
Cost of sales	111,287	112,743
Gross profit	**24,803**	**24,188**
Selling, general, and administrative expenses	**8,837**	**9,435**
Operating income	**15,966**	**14,752**
Non-operating income		
Interest income	5	6
Dividends income	292	294
Insurance income and dividends received	55	49
Equity in investment revenue of affiliates	93	76
Other	66	148
Total non-operating income	**513**	**575**
Non-operating expenses		
Interest expense	102	73
Commitment fee	144	103
Group term insurance premiums	65	69
Prepayment of guarantee fee	36	60
Other	36	25
Total non-operating expenses	**385**	**332**
Ordinary income	**16,094**	**14,995**
Extraordinary income		
Income on selling property, plant, and equipment	0	1
Gain on sales of investment securities	502	1,310
Insurance income	33	—
Proceeds from subsidies	97	—
Total extraordinary income	**633**	**1,312**
Extraordinary loss		
Loss on disposal of non-current assets	92	38
Loss on valuation of investment securities	111	—
Total extraordinary loss	**204**	**38**
Net income before income taxes and non-controlling interests	**16,523**	**16,269**
Corporate, inhabitant, and enterprise taxes	**5,307**	**4,899**
Deferred income taxes	**(338)**	**63**
Total corporate tax	**4,969**	**4,962**
Net income	**11,554**	**11,306**
Net income attributable to non-controlling interests	**265**	**262**
Net income attributable to owners of the parent company	**11,289**	**11,043**

Consolidated statements of comprehensive income

(Unit: million yen)

	Previous fiscal year (From April 1, 2020, to March 31, 2021)	Current fiscal year (From April 1, 2021, to March 31, 2022)
Net income	11,554	11,306
Other comprehensive income		
Valuation difference on available-for-sale securities	2,459	(1,837)
Total other comprehensive income	**2,459**	**(1,837)**
Comprehensive income	**14,013**	**9,469**
Total comprehensive income attributable to:		
Comprehensive income attributable to owners of the parent company	13,748	9,206
Comprehensive income attributable to non-controlling interests	265	262

Consolidated financial statements, etc.

(3) Consolidated statement of changes in shareholders' equity

Previous 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 the current period	9,435	10,185	69,592	(3,612)	85,600
Changes of items during period					
Dividends of surplus			(1,741)		(1,741)
Net income attributable to owners of the parent company			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 the 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 the beginning of the current period	3,650	159	3,810	2,638	92,048
Changes of items during period					
Dividends of surplus					(1,741)
Net income attributable to owners of the parent company					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 the period	6,110	159	6,269	2,815	103,945

Current fiscal year (from April 1, 2021 to March 31, 2022) (Unit: million yen)

	Shareholders' equity				
	Share capital	Capital surplus	Retained earnings	Treasury shares	Total shareholder's equity
Balance at the beginning of the current period	9,435	10,185	79,140	(3,900)	94,860
Cumulative effects of changes in accounting policies			(1)		(1)
Restated balance	9,435	10,185	79,139	(3,900)	94,859
Changes of items during period					
Dividends of surplus			(2,694)		(2,694)
Net income attributable to owners of the parent company			11,043		11,043
Acquisition of treasury shares				(180)	(180)
Disposal of treasury stock		114		209	323
Net changes of items other than shareholders' equity					
Total changes during period	—	114	8,349	28	8,491
Balance at the end of the period	9,435	10,299	87,488	(3,872)	103,351

	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 the beginning of the current period	6,110	159	6,269	2,815	103,945
Cumulative effects of changes in accounting policies				(0)	(1)
Restated balance	6,110	159	6,269	2,815	103,944
Changes of items during period					
Dividends of surplus					(2,694)
Net income attributable to owners of the parent company					11,043
Acquisition of treasury shares					(180)
Disposal of treasury stock					323
Net changes of items other than shareholders' equity	(1,837)	—	(1,837)	191	(1,645)
Total changes during period	(1,837)	—	(1,837)	191	6,846
Balance at the end of the period	4,273	159	4,432	3,007	110,791

(4) Consolidated statement of cash flows

(Unit: million yen)

	Previous fiscal year (From April 1, 2020, to March 31, 2021)	Current fiscal year (From April 1, 2021, to March 31, 2022)
Cash flows from operating activities		
Income before income taxes	16,523	16,269
Depreciation and amortization	3,447	3,670
Increase (decrease) in retirement benefit liability	803	271
Increase (decrease) in allowance for executives' retirement benefits	(196)	139
Increase (decrease) in allowance for stock-based compensation	43	48
Increase (decrease) in provision for loss on construction contracts	(674)	(328)
Increase (decrease) in provision for bonuses	127	115
Increase (decrease) in other provisions	101	7
Interest and dividend income received	(298)	(301)
Interest expense	102	73
Loss (gain) on sales of investment securities	(502)	(1,310)
Loss (gain) on sales of property, plant, and equipment	20	(1)
Loss on disposal of fixed assets	47	18
Loss (gain) on valuation of investment securities	111	—
Non-cash portion of other income and expenses, etc. (net)	(78)	(66)
Decrease (increase) in notes receivable, accounts receivable from completed construction contracts and other	(14,451)	1,771
Decrease (increase) in costs on uncompleted construction contracts and work in process	(187)	(379)
Decrease (increase) in accounts receivable-other	(12)	(525)
Increase (decrease) in notes payable, accounts payable for construction contracts and other	(4,015)	5,496
Increase (decrease) in advances received on uncompleted construction contracts	(106)	1,111
Increase (decrease) in accounts payable-other	244	(46)
Increase (decrease) in deposits received	360	(573)
Increase (decrease) in accrued consumption tax, etc.	2,144	(411)
Increase (decrease) in other assets and liabilities	124	(1,790)
Subtotal	**3,679**	**23,259**
Interest and dividends received	299	302
Interest expenses paid	(102)	(72)
Income taxes, etc., paid	(3,682)	(6,415)
Cash flows from operating activities	**195**	**17,074**
Cash flows from investing activities		
Purchase of property, plant, and equipment	(5,577)	(3,738)
Proceeds from sales of property, plant, and equipment	36	3
Purchases of intangible fixed assets	(879)	(1,170)
Expenditures on the purchase of investment securities	(303)	(154)
Proceeds from sales of investment securities	770	1,590
Other expenditures	(100)	(31)
Other proceeds	67	27
Cash flows from investing activities	**(5,985)**	**(3,474)**
Cash flows from financing activities		
Net increase (decrease) in short-term loans payable	4,000	(4,000)
Proceeds from long-term borrowings	3,848	—
Repayments of long-term debt	(3,362)	(3,165)
Proceeds from the issuance of bonds	300	—
Payments for the redemption of bonds	(50)	—
Payments for the purchase of treasury stock	(348)	(180)
Proceeds from sales of treasury stock	60	323
Dividends paid	(1,740)	(2,685)
Dividends paid to non-controlling interests	(87)	(70)
Cash flows from financing activities	**2,619**	**(9,779)**
Foreign currency translation adjustments on cash and cash equivalents	**23**	**45**
Net increase (decrease) in cash and cash equivalents	**(3,147)**	**3,866**
Cash and cash equivalents at the beginning of the period	**22,739**	**19,592**
Cash and cash equivalents at the end of the period	**19,592**	**23,458**

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 networks.

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
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

The Philippines
Pasig City
Yokogawa Techno Philippines, Inc.

Vietnam
Hanoi City
Hanoi Office

Myanmar
Yangon City
Yangon Branch

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.
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”) buildings, which make effective use of Yokogawa’s unique steel structure technology, hold the highest share of the engineered structure market.

Yokogawa System Buildings Corp. was launched around a core business of engineered structures based on a new style of building. Under the brand name Yokogawa Engineered Structure System (“yess”), 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 1,300 sales and construction agents (builders) throughout Japan, thus 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., thereby providing total integrated solutions 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 the 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 acquired 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 infrastructures 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.


Ship-lifting equipment


Water treatment and environmental products

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, and continued 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. The company's series of information systems for use in the design and manufacture of steel structures, with a specific focus on bridges, are favored by many users.

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 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 infrastructures to one in which the focus will be on managing and upgrading existing infrastructures, 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.

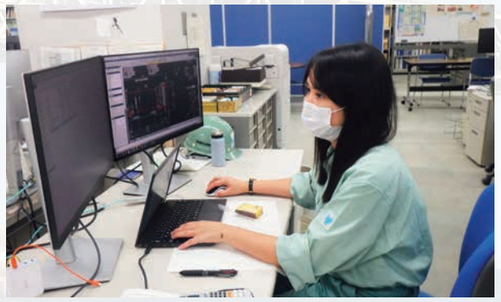
Testing and measurement operations

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. 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 supports 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, 2022

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	1,940 (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, 2022

Total number of authorized shares	180,000,000
Total number of issued shares	45,564,802
Number of shareholders	6,663

Major shareholders (top 10)

Shareholder	Shares (thousands)	Stake (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	6,962	16.76
Custody Bank of Japan, Ltd. (Trust Account)	4,526	10.89
Yokogawa Electric Corporation	2,234	5.38
Nippon Steel Corporation	1,987	4.78
SSBTC CLIENT OMNIBUS ACCOUNT	898	2.16
Sumitomo Realty & Development Co., Ltd.	674	1.62
Yokogawa Bridge Holdings Employee Shareholding Association	648	1.56
Nippon Life Insurance Company	543	1.30
Mitsui Sumitomo Insurance Co., Ltd.	514	1.23
Mizuho Bank, Ltd.	445	1.07

(Notes) 1. The Company, which holds 4,032,094 treasury shares, is excluded from the above major shareholders. Treasury shares (4,032,094 shares) do not include company shares owned by the Employee Stock Ownership Plan Trust (75,400 shares) and company shares owned by the Stock Granting Trust for Officers (137,600 shares).

2. Stakes are calculated, excluding treasury shares.

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http://www.en.ybhd.co.jp/

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/

Yokogawa Techno-Information Service Inc.

4-4-44 Shibaura, Minato-ku, Tokyo 108-0023, Japan
Tel: 03-5442-1701 Fax: 03-5442-1702
https://www.yti.co.jp/

Yokogawa New Life Corp.

4-4-44 Shibaura, Minato-ku, Tokyo 108-0023, Japan
Tel: 03-3453-4113 Fax: 03-3453-4117
https://www.ynl.jp/

YCE Corp.

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