Initiatives to Ensure Safety and Quality

Building a system to ensure safety and quality

The number of occupational accidents, analysis results, and measures to prevent recurrence are compiled by the Group Safety and Quality Committee and reported each month by the Director in charge of overall safety and quality management to the Board of Directors, which then monitors and supervises the situation. The Safety and Quality Committee is responsible for making recommendations to the Board of Directors if any improvements regarding various safety and quality management measures are needed.



Health and Safety Policy and Quality Policy

To strengthen group-wide initiatives, the YBHD Group has formulated a new Health and Safety Policy and a Quality Policy to replace those previously established by individual operating companies. Operating companies will reflect these policies in their safety and quality measures implemented in each department and promote their efforts accordingly.

Reference Health and Safety Policy and Quality Policy

→ https://www.ybhd.co.jp/sustainability/policy.html

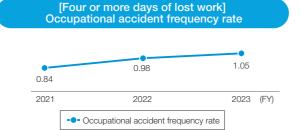
Support for disaster recovery

As full members of the Japan Bridge Association, an industry organization, the YBHD Group companies involved in the bridge business have established a system to provide disaster recovery support based on disaster agreements concluded with 46 organizations nationwide. In response to the Noto Peninsula Earthquake in January 2024, Yokogawa Bridge assisted in surveying the Mattogawa Bridge on the Nanao Line at the railway company's request and provided technical recommendations for restoration.

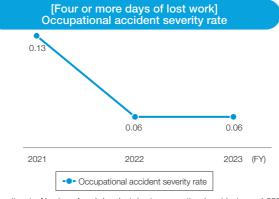
Safety record

The YBHD Group has set the following KPIs to eliminate the danger of serious accidents: Fatal accidents (target: 0), Number of accidents causing four or more days of lost worktime (target: 0), Frequency rate, and Severity rate.





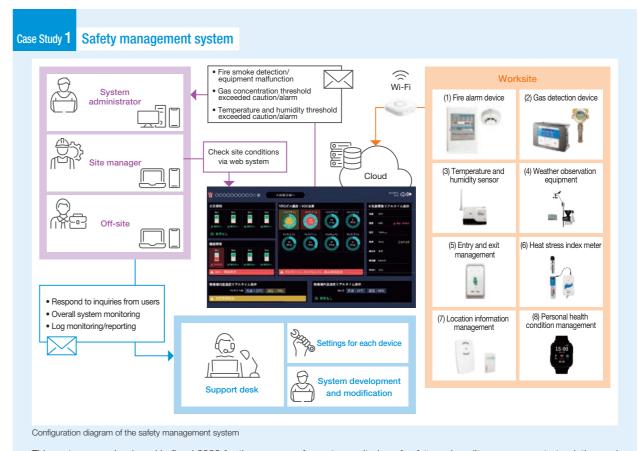
*Frequency rate: Number of casualties due to occupational accidents per 1 million actual working hours



*Severity rate: Number of workdays lost due to occupational accidents per 1,000 actual working hours

Enhancing safety through DX

The YBHD Group is working to "reinforce safety measures through DX" based on the DX strategy in its Sixth Medium-Term Management Plan. Here are three examples of this initiative.



This system was developed in fiscal 2023 for the purpose of remote monitoring of safety and quality management at painting and repainting sites. Specific monitoring contents include (1) Real-time monitoring of on-site environmental data (fire, gas, temperature and humidity, weather, WBGT), (2) Tracking workers' locations, and (3) Monitoring workers' vital information. In fiscal 2024, this system will be introduced and put into operation for major bridge upgrade projects.





Safety and Quality Committee members inspecting the safety management system

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Case Study 2 VR hazard experience training

We continually conduct safety education using VR to improve safety awareness among construction personnel. By faithfully recreating bridge construction site conditions in a VR space, we aim to raise awareness of potential hazards during actual work by having trainees experience simulated yet realistic dangers.

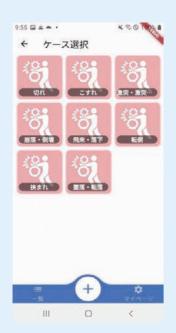


VR hazard experience training at a construction site

Case Study 3 Near-miss reporting app (under development)

It is believed that there are numerous hazardous factors behind occupational accidents. This concept is widely recognized, as exemplified by Heinrich's law. The YBHD Group aims to prevent occupational accidents by collecting and analyzing information on near misses (events that did not result in occupational accidents but caused alarm or surprise) and taking action based on the results. We are currently developing a smartphone app as a tool for this purpose.

*Heinrich's law, proposed by Herbert Heinrich, a safety engineer at an American insurance company, states that for every major accident, there are 29 minor accidents and 300 near misses.







Example screens of the app under development

Sharing and analyzing quality-related information

Each YBHD Group operating company has established

a quality management system with a dedicated department. The Group Safety and Quality Committee aggregates quality management information from each operating company and analyzes it based on unified Group standards.

As-built quality control using DX

The companies in the YBHD Group responsible for the design, manufacturing, erection, and maintenance of steel bridges actively promote DX in all production processes. As part of this effort, we are working to reduce labor in asbuilt management tasks at construction sites. Below are two examples of this initiative.

The purpose of introducing these systems is not only to reduce labor in as-built management tasks but also to position them as methods to ensure the accuracy of asbuilt quality control. This is because they can eliminate human errors (such as misreading measurements during surveying, calculation errors, and recording mistakes). We will continue to explore the use of DX to further improve the accuracy of as-built quality control.

Case Study 1 Superstructure One-Man Survey System "Auto-Repo"

This system enables one person to take bridge as-built measurements and create reports. Jointly developed by Yokogawa Bridge and SOOKI Co., Ltd., a patent application was filed for this system in January 2024. One person can now perform work that previously required at least two people using surveying equipment. Furthermore, the measurement results are automatically output to the as-built management report.





Measurement in progress

Operation in progress

Case Study 2 Al rebar inspection system

This system performs as-built inspections of rebar assembly (rebar inspection). Provided by Mitsubishi Electric Corporation, it uses Al imaging technology to automatically calculate the type, number, and spacing of rebar from images captured with a camera and output as-built reports. The YBHD Group adopted this system in fiscal 2020 and has been conducting field trials. We will continue to apply it to actual construction projects in the future.





Yokogawa Bridge Holdings Integrated Report 2024

Measurement in progress

Example of terminal screen

5 Yokogawa Bridge Holdings Integrated Report 2024

>>> Human Rights and Sustainable Procurement

Respect for human rights

Yokogawa Bridge Holdings Group Human Rights Policy

Based on our corporate philosophy of "Contribution to society and the public, and sound management" and our Code of Corporate Behavior, the YBHD Group recognizes respect for human rights as a vital issue. We have established and publicly announced the Yokogawa Bridge Holdings Group Human Rights Policy to fulfill our responsibility to respect human rights in our business activities. In the YBHD Group Human Rights Policy, we recognize the following nine items as essential elements in addressing human rights issues and will promote efforts to respect human rights:

- (1) Prohibition of discrimination and harassment
- (2) Prohibition of forced labor and child labor
- (3) Provision and maintenance of a safe, hygienic, and healthy work environment
- (4) Proper management of working hours
- (5) Payment of appropriate wages
- (6) Respect for freedom of association and the right to collective bargaining
- (7) Respect for privacy
- (8) Impact on local communities
- (9) Human rights of foreign workers



→ https://www.ybhd.co.jp/sustainability/policy.html

Human rights management system

The YBHD Group has established a Human Rights Due Diligence (DD) Working Group to continuously improve our human rights management system in line with the Human Rights Policy. Respecting the human rights of stakeholders involved in our business activities is fundamental to our operations, and we report on our activities to the Board of Directors.



Sustainable procurement

Basic procurement policy and procurement guidelines

To realize our Sustainability Policy, which outlines our approach to sustainability initiatives, the YBHD Group must work with suppliers to build a sustainable supply chain. Therefore, we have established and publicly announced a Sustainable Procurement Basic Policy to practice sustainable procurement and Sustainable Procurement Guidelines that outline what we expect from our suppliers in implementing initiatives in line with this basic policy.

| Reference | Sustainable Procurement Basic Policy |
|---|--------------------------------------|
| → https://www.ybhd.co.jp/sustainability/policy.html | |
| Reference | Sustainable Procurement Guidelines |

→ https://www.ybhd.co.jp/sustainability/policy.html

In creating this basic procurement policy and procurement guidelines for sustainable procurement,

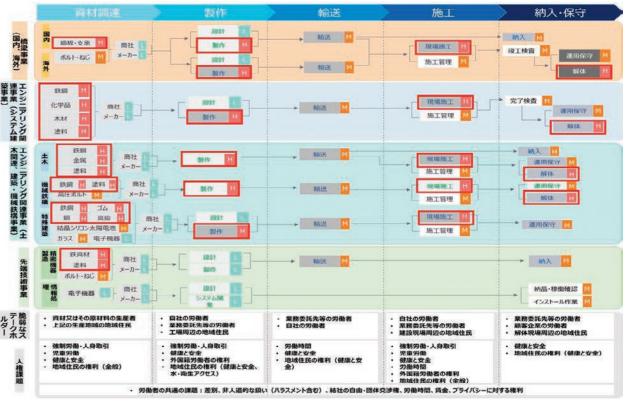
which consider environmental, human rights, and other social requirements, we have developed them in line with international guidelines, such as JEITA's Responsible Business Conduct Guidelines, under the advice of an external expert (Ernst & Young ShinNihon LLC).



Human rights risk survey

Using a value chain map, we identified high-risk suppliers from departments deemed to have high-risk value chains with numerous suppliers (procurement,

design, factory, construction, and overseas business). We conducted a human rights risk survey on these identified suppliers (about 130 companies).



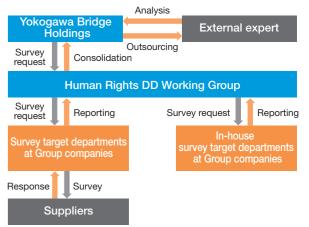
Value chain map

In addition to suppliers, we also conducted a human rights risk survey on the plants of Group companies that employ technical interns, as we identified the human rights of foreign workers (item (9) in the YBHD Group Human Rights Policy's initiatives for human rights issues) as a relatively high-risk human rights issue within the YBHD Group.

Future initiatives

Based on the surveys conducted on suppliers and within the YBHD Group, we will work with an external expert to analyze the results and identify human rights issues in the Group. We will then develop and implement improvement measures.

Flow of human rights risk survey



Human rights risk survey conceptual diagram

Social contribution activities

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.

Case Study 1 Site visits

Yokogawa Bridge held a site visit event for the "FY2021-2023 Tsuda Viaduct Superstructure (P3-P7) Construction Project on the Shikoku Odan Expressway," ordered by the Shikoku Regional Development Bureau. The event offered a tour of the construction site and an opportunity to experience infrastructure DX (digital transformation) technologies. Local elementary and junior high school students and their parents were invited to the site. In addition to touring the bridge construction site, the children experienced DX technologies, showcasing the appeal of the construction industry and the DX that will support future construction sites.

The site visit included experiences like riding in an aerial work platform and virtual tours of the company's bridge manufacturing plant and construction sites.







Experience riding in an aerial work platform

VR space experience

Quadruped robot operation experience

Case Study 2 Supporting Fujikawaguchiko Town's Music Town Development Project

Since 2021, we have supported the Mt. Fuji Kawaguchiko Piano Festival held in Fujikawaguchiko Town, Yamanashi Prefecture. At this music festival, performances by many musicians, including worldrenowned pianist Nobuyuki Tsujii, can be enjoyed in the midst of nature.

In 2023, the festival was held from September 15 to 18 and included free concerts at the town park (Photo 1). We participated as volunteer staff alongside local residents, contributing to the promotion of culture, education, and the arts while closely engaging with the local community. A music class was held at a local elementary school (Photo 2), giving children the opportunity to interact with Mr. Tsujii and experience music directly. The event has grown into one that now draws classical music fans from across the country, benefiting the local economy.

We support this project through a corporate hometown tax payment (a donation), which was inspired by our construction of a retractable roof for Kawaguchiko Stellar Theater (Photo 3), the festival's main venue.

Mt. Fuji Kawaguchiko Piano Festival 2024, the fourth festival, will be held September 20-23, 2024.

https://pianofes.stellartheater.jp/







Chiha Jets official mascot characte Jumbo-kur

Japanese Red Cross Society Gold Merit Award received at the 59th National Awards Ceremony for the Promotion of Blood Donation

The YBHD Group conducts blood donation drives for employees about twice a year.

On July 26, 2023, the 59th National Awards Ceremony for the Promotion of Blood Donation was held at Chiba Port Arena. Yokogawa Bridge received a Japanese Red Cross Society Gold Merit Award, an honor bestowed on 17 organizations in Chiba Prefecture. The award recognized our long-standing dedication to blood donation drives, which we continued even during the COVID-19 pandemic.

We will continue to cooperate with blood donation drives in the future as part of our social contribution efforts.





The received Japanese Red Cross Society Gold Merit Award

Case Study 4 Traffic safety promotion in Funabashi City, Chiba Prefecture

On March 30, 2023, Yokogawa System Buildings participated in a Spring Rally at the Funabashi Police Station to prevent traffic accidents involving new schoolchildren.

Yokogawa System Buildings is an official partner of the men's professional basketball team Chiba Jets. Sharing the Chiba Jets' desire to "create a city free of traffic accidents together with people involved in the community," we participated in a program to donate Original Chiba Jets Traffic Safety Flags to elementary schools. A total of 2,240 traffic safety flags were produced, and donated to all 56 public elementary schools in Funabashi City, 40 flags each.

Furthermore, during school commuting hours on the morning of April 14, 2023, we helped to monitor traffic safety along the school route of Funabashi City Tsukada Minami Elementary School in collaboration with the Funabashi Police Station and the Chiba Jets.

We will continue to engage in community contribution activities in the future.







Scenes from the Spring Rally

The traffic safety flags feature an illustration of Jumbo-kun and the Yokogawa System Buildings company logo.