



2021 Yokogawa
Sustainability Report

Utilizing our ability to measure and connect, we fulfill our responsibilities for the future of our planet.

(Yokogawa's Purpose adopted in 2021)

Aspiring to address social issues, leveraging Yokogawa's ability to measure and connect, we adopted Yokogawa's Purpose. No single organization or system alone can solve the serious issues the world faces, such as climate change, plastic and waste, and COVID-19.

We need to look for ways to address issues by assessing situations, sharing a range of information, and organically connecting organizations and systems.

It is also important to respect the human rights of all people and build a world without discrimination as our basic premise. Yokogawa will continue to seek reform together with stakeholders around the world, striving to make the world a better place for future generations.

Statement on Yokogawa's Aspiration for Sustainability

Yokogawa will work to achieve net-zero emissions, ensure the well-being of all, and make a transition to a circular economy by 2050, thus making the world a better place for future generations.

We will undergo the necessary transformation to achieve these goals by 1. becoming more adaptable and resilient, 2. evolving our businesses to engage in regenerative value creation, and 3. promoting co-innovation with our stakeholders.

(Set in 2017)

The Yokogawa Philosophy

As a company, our goal is to contribute to the realization of a sustainable society through broad-ranging activities in the areas of measurement, control, and information.

Individually, we aim to combine good citizenship with the courage to innovate.





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Yokogawa Business Overview

Yokogawa contributes to society by providing customers with solutions.

We apply our power to measure and power to connect in the business areas of energy and sustainability, materials, and life to face and resolve the challenges of humanity, thereby fulfilling our responsibility to future generations.

Energy and Sustainability

The energy and sustainability business protects the Earth's environment through contributions to the efficient use of energy and building a sustainable society. We utilize our insights from the field and relationships of trust with customers who work in the areas of oil and gas, petrochemicals, renewable energy, electric power, energy management systems (EMS), and energy storage to support the safe and optimal operations of customers throughout the value chains of producing, supplying, using, disposing, and recycling diversifying energy types.

- Oil & gas
- Petrochemicals
- Renewable energy
- Electric power
- EMS
- Energy storage

Materials

The materials business contributes to building a convenient and pleasant material society as well as a new recycling-based society that can co-exist with the Earth's environment. We provide solutions for boosting productivity, decreasing the environmental impact, and efficient energy use to customers working in the areas of high-performance chemicals, biomass materials, paper and pulp, textiles, steel, non-steel, mining, mobility, and electricity and electronics.

- Functional chemicals
- Biomass materials
- Pulp & paper
- Textiles
- Steel
- Non-ferrous metals
- Mining
- Mobility
- Electrical/electronics

Life

The life business supports people's lives and protects their health and safety. Yokogawa contributes to supplying water and food products that are safe for anyone to consume, in addition to pharmaceuticals and healthcare. In the life business, we aim to apply our strengths to boost productivity throughout value chains from research to development, production, and distribution in the pharmaceutical and food industries, and in doing so to contribute to the well-being of all people. Moreover, in the water field, we use measurement technology that we have developed in genetic analysis and scientific instruments to realize digital transformation (DX).

- Pharmaceuticals
- Healthcare
- Food
- Water

Measuring equipment and new businesses

Our measuring equipment business contributes to industry by providing basic measuring instruments for electric power, voltage, electric current, light, and pressure as well as waveform and optic communications measuring equipment. Our new businesses include bio-related businesses as well as gauges for aircraft.

Measuring instruments

- Energy
- Info-comm
- Healthcare

New businesses and other

- Bio-related
- Aviation
- New business

Search areas

Disaster prevention, space, the oceans



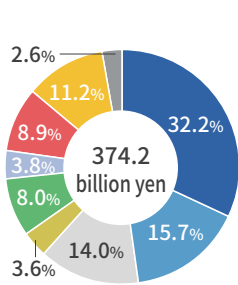
Global Business Expansion

Yokogawa conducts business in more than 80 countries around the world.

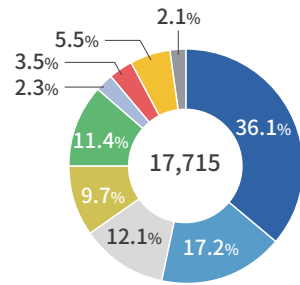
We are actively recruiting local human resources at each location and have built trust with customers and local communities over many years.

Moreover, based on our corporate philosophy, we are engaged in businesses for the realization of a sustainable society as good citizens.

Net Sales by Region



Employees by Region



Global Network



External Ratings

Yokogawa's ESG (environment, society, governance) management has received high external ratings.



2021 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX

2021 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)



Yokogawa in Topics

We steadily implemented measures contributing to sustainability also in FY2020. Here are examples of some of the efforts.

Management topics

- ▶ Measures to limit the spread of the COVID-19 pandemic implemented according to the circumstances of individual countries, including thorough teleworking and restrictions on going to work throughout the fiscal year (from April 2020)
- ▶ Continuously selected for major ESG indices (June-July 2020)
- ▶ Capital participation in, and signing of, a business collaboration agreement with JEPLAN with ground-breaking chemical recycling technology (June 2020)
- ▶ Established Yokogawa Innovation Switzerland as a bio business base in Switzerland (July 2020)
- ▶ Formulated the Yokogawa Group Human Rights Policy (September 2020)
- ▶ Selected for the Dow Jones Sustainability World Index for the first time (November 2020)
- ▶ Selected for the CDPA list, which is authoritative in climate change and water security measures (December 2020)
- ▶ Invested in and signed a business collaboration agreement with PeptiStar, a manufacturer of substances for peptide pharmaceuticals (December 2020)

- ▶ Yokogawa Electric and Hirotsu Bioscience signed a business collaboration agreement to spread the nematode cancer test N-NOSE (February 2021)
- ▶ Yokogawa Electric and ICQ Consultants signed a partnership agreement relating to the bio pharmaceutical business (February 2020)
- ▶ Established Yokogawa Bio Frontier Inc. to promote growth in the biomass materials business (March 2021)
- ▶ Selected by METI as a DX-certified operator (April 2021)



- ▶ Formulated the new mid-term business plan Accelerate Growth 2023 (May 2021)

Order and product topics

- ▶ Operations started at Japan's largest power-generating wind farm Tsugaru, which uses our control system (April 2020)
- ▶ Our confocal scanner unit CSU-W1 was used in experiments at the International Space Station (June 2020)
- ▶ Received an order for a surveillance system for large water supply pipeline facilities in Saudi Arabia (June 2020)
- ▶ Developed and are selling an environmental monitoring system for the pharmaceuticals and medical equipment industries (October 2020)
- ▶ Received an order for an integrated control system and service for the Lahendong Geothermal Power Plant in Indonesia (January 2021)
- ▶ Completed an energy-conservation demonstration project in China, for example introducing an energy management system (March 2021)
- ▶ Yokogawa Bio Frontier started providing high-performance nano cellulose materials (June 2021)

For more details about the topics, see "News & Events" on the company website. <https://www.yokogawa.com/news/>



Promoting Partnerships

We are collaborating with a variety of external organizations, for example by participating in the World Business Council for Sustainable Development (WBCSD).



WBCSD Plastics & Packaging Project

Plastics are a material indispensable to contemporary life, but it also poses major challenges, including the marine plastics issue. The plastics issue is something that should be solved on a global level, so the WBCSD set up the Plastics & Packaging Project in 2020. The group that Yokogawa is in consists of members that primarily cater to chemistry clients. It analyzes issues, considers new technologies and other solutions, collects and analyzes best practices, and prepares concrete suggestions for resource recycling.



WBCSD Low Carbon Hydrogen Project

Hydrogen utilization is an important task for expanding the use of renewable energy across the world. Yokogawa became a member of WBCSD's Low Carbon Hydrogen Project in 2021 and has been contributing to preparing a policy document for policymakers. The document proposes policies thought necessary to utilize hydrogen optimally for the realization of the 1.5°C scenario of the Paris Agreement. It consists of eight items, such as incorporating hydrogen in national decarbonization strategies. This document was issued in September 2021 in anticipation of COP26.

Collaboration for a Recycling-Oriented Society

Yokogawa has invested in JEPLAN, Inc., who promote the recycling of polyester in clothes and plastic bottles. We are collaborating to facilitate the world's most advanced resource recycling by using the latest recycling processes.

Inter-industry Collaboration for Carbon Neutrality

At the industrial complex in the Goi district of Ichihara City, Chiba, we have started a feasibility survey of a carbon recycling project that centers on the three axes of efficient use of materials and energy across the industrial complex, the CO2 capturing and conversion to valuable substances, and hydrogen management. We are working together with partner companies of different industries for the realization of carbon neutrality.

Activities with External Organizations

2009 Joined the Global Compact (United Nations)



2017 Joined the WBCSD*



*World Business Council for Sustainable Development

2019 Expressed support of the TCFD* recommendations



*Task Force on Climate-related Financial Disclosures



Our Goals

Yokogawa pursues three goals to fulfill our responsibility to the Earth's future and the people of the future.

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Message from the President

Utilizing our ability to measure and connect, we fulfill our responsibilities for the future of our planet.

Our raison d'etre in a changing world,

Yokogawa's business environment is undergoing rapid change. Our customers are adopting new business models and anticipating a sustainable future. In the energy sector, for example, an evolution is underway whereby energy companies are becoming integrated energy companies that handle both conventional energy sources such as oil and gas as well as renewable energy. In the mid- to long-term, we expect that environmental and other issues that impact everyone in our society will grow more serious and complicated.

In view of our changing business environment, and because we have formulated sustainability targets centering on our "Three goals"* and charted a path for their achievement, I sense that there has been a change in the mindset of the Yokogawa Group's employees and they are motivated to do more to make the world a better place.

Amidst such changes, we formulated Yokogawa's Purpose in May 2021 with the aspiration of leveraging our ability to measure and connect to address issues of broad social importance. Yokogawa's Purpose is a statement on our significance for customers and society that reads, Utilizing our ability to measure and connect, we fulfill our responsibilities for the future of our planet. With this statement, we make clear our aspirations to create a future where humanity will live in harmony with the environment.

No single organization or system can solve the serious issues that we currently face, such as the global environmental protection, resource circulation, and the spread of COVID-19. We need to look for ways to address these issues by first assessing the situation, then sharing information and organically connecting organizations and systems. Leveraging the knowledge, expertise, and technologies that we have acquired, Yokogawa will lead the way forward for society and our customers.

* (i) achieve net-zero emissions: stopping climate change, (ii) ensure well-being: quality life for all, and (iii) make transition to circular economy: circulation of resources and efficiency

A review of the previous mid-term business plan

For our previous mid-term business plan, Transformation 2020 (TF2020), which covered the period up to the end of fiscal year 2020, we decided on key areas and set sustainability targets for fiscal year 2030 (CO₂ emissions avoidance, safety and health value creation, and resource efficiency improvement) for each of Yokogawa's "Three goals." The entire Group focused on achieving those targets.

President and CEO





Message from the President

Despite the challenges posed by COVID-19 and the resulting decline in investments by our customers, orders grew for our renewable energy business and we made good progress in avoiding CO2 emissions. As for safety and health value creation and resource efficiency improvement, we steadily created value in new business areas such as pharmaceuticals, foods, remote services, and cybersecurity that experienced increased demand as a result of the business environmental changes.

Progress in sustainability targets

	Avoidance in CO2 emissions	Safety and health value creation	Resource efficiency improvement
Fiscal year 2030 target	1 billion tons of CO2	1 trillion yen	1 trillion yen
Fiscal year 2020 result	0.26 billion tons of CO2	109.3 billion yen	90.2 billion yen
Progress	26%	11%	9%

Sustainability strategy of mid-term business plan and structure for implementation

In consideration of our rapidly changing business environment, and in accordance with our vision for the future, in fiscal year 2021 we launched a new mid-term business plan: Accelerate Growth 2023 (AG2023). Under this new plan, our sustainability targets for fiscal year 2030 remain the same, but to make an even greater contribution toward the SDGs we have expanded to six the number of areas where we will contribute. And in addition to the business areas that we focused on under TF2020, we have added

business areas that will allow us to leverage our core competences: smart manufacturing and energy management.

We have also restructured our business execution system to focus more on the issues that are faced by our customers and society.

With the overall aim of achieving net-zero emissions, one of our “Three goals,” our energy & sustainability

Areas where Yokogawa contributes

<p>Achieving carbon neutrality</p> <p>Reducing GHG emissions and enabling the transition to affordable, reliable, and sustainable forms of energy</p>	<p>Improving efficiency in society & industry</p> <p>Optimizing production, enabling autonomy, and facilitating the efficient use of resources and energy through DX</p>	<p>Optimizing plant lifecycle & protecting environment</p> <p>Supporting both the long-term optimal operation of plant assets and the reduction of their environmental footprint</p>
<p>Improving health & safety</p> <p>Promoting life-related innovation and improving safety in plants and communities</p>	<p>Creating a resourcerecycling ecosystem</p> <p>Fostering the development of the bioeconomy and a circular economy</p>	<p>Creating workplaces where people can fulfill their potential</p> <p>Establishing an equal opportunity workplace where employees can be treated with dignity and fulfill their potential</p>

business segment will help to achieve a sustainable society by providing solutions that make it possible to use energy more efficiently. To address issues that impact the stable supply of renewable energy, which is an important asset in the achievement of net-zero emissions, we will seek to optimize the entire supply chain, leveraging our strengths and best practices. We will globally expand the use of solutions that have been developed to improve productivity for our oil & gas customers, and will cooperate with a variety of stakeholders to develop and offer new environmentally friendly technology solutions for use in applications such as carbon dioxide capture and storage (CCS) and carbon dioxide capture, utilization, and storage (CCUS).

Our materials business segment focuses on the achievement of a circular economy, which is also one of our “Three goals.” With a focus on fine chemicals and biomass materials, we will contribute to the achievement of a recycling-oriented society that offers both comfort and convenience. We will provide digital transformation solutions that help our customers address issues such as the need for improved energy efficiency, the recycling of resources, and the use of environmentally friendly resources.

Our life business segment focuses on the pharmaceutical, healthcare, water, and food industries for the enhancement of well-being, which is the third of our “Three goals.” A number of our products have recently contributed to research on COVID-19 vaccines and therapeutic agents. The life business segment has a direct bearing on broad issues such as aging, the depletion of resources, and food and water shortages. We will expand the activities of this business segment.

Yokogawa manages its businesses as set out in the Yokogawa's Purpose statement, which affirms our determination to fulfill our responsibilities for the future of the planet. Based on this, we address social issues by engaging in businesses that optimize operations, improve efficiency, and enhance sustainability, while expanding our business volume. We will also accelerate and undertake initiatives to address priority management issues such as the need to reduce greenhouse gas emissions for both our operations and our entire supply chain, and to safeguard human rights.

Paving the way forward with the strong determination of our employees

As president, I will steer a course in a changing business environment that leads to the achievement of our “Three goals.” And with this, our employees will be the driving force. The Yokogawa's Purpose statement is based on the views that the Group's employees expressed in surveys and the online roundtable sessions that I participated in. Listening to their opinions, I recognized that they want more than ever to contribute to society, that Yokogawa has the potential to do more, and that our employees are proud to work for such a company. Encouraged by their strong aspirations, I have resolved to voice a strong commitment to fulfilling our responsibilities for the future of our planet.

I take confidence in the firm determination shown by each of our employees, and know that this will move us forward. Backed by the will that they have expressed, we will come together and pursue with our stakeholders a sustainable society where no one is left behind.



Sustainability Goals

As there is a growing sense of crisis about society and the environment, our role and responsibility as a company is also growing. At Yokogawa, we consider it our raison d'être to resolve these challenges, so we created Yokogawa's Purpose, "Utilizing our ability to measure and connect, we fulfill our responsibilities for the future of our planet." Yokogawa's management has a strong conviction and uses leadership to implement sustainability management.

Yokogawa's Three Goals

In 2017, following the adoption of the Sustainable Development Goals (SDGs) and the Paris Agreement in 2015, we formulated sustainability goals for the Three goals for the society we want to see by 2050, to lay out the direction for Yokogawa's transformation.



Outline of Initiatives to Achieve "Three goals"

Net-zero emissions Stopping climate change	We aim for net-zero emissions—i.e., a state in which greenhouse gas (GHG) concentrations in the atmosphere do not rise due to the balance maintained between GHG emission and absorption—by introducing renewable energy and contributing to efficient use of energy.
Well-being Quality life for all	We support people's health and prosperous lives at safe and comfortable workplaces and in a wide range of fields such as life sciences and drug discovery. We promote human resources development and employment creation in local communities, as well as diversity and inclusion.
Circular economy Circulation of resources and efficiency	We aim to realize a social framework and ecosystem in which various resources are circulated without waste and assets are utilized effectively. We also help efficiently use water resources circulating the Earth and secure safe drinking water.

Yokogawa's strengths		
Quality	Trust	Integrity
+		
Direction of the transformation		
Resilience <small>Becoming more adaptable and resilient</small>		
Regenerative value creation <small>Evolving our businesses to engage in regenerative value creation</small>		
Co-innovation <small>Promoting co-innovation with our stakeholders</small>		



Sustainability Goals

Priority Sustainability Issues

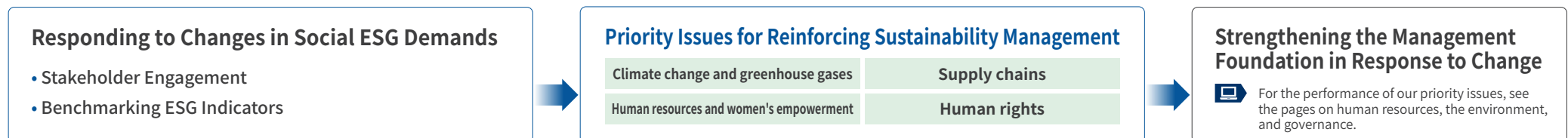
Yokogawa is having a major positive impact on society and the environment by resolving the challenges of customer businesses in the energy and sustainability, materials, and life areas. Increasing Yokogawa's contributions to society and the environment is closely connected to increasing Yokogawa's corporate value. As such, we identified businesses for making major contributions to the SDGs from the two perspectives of contributing to society and the environment and increasing corporate value and defined "priority issues for contributing toward the SDGs" in formulation of AG2023. Moreover, we defined "priority issues for reinforcing sustainability management" by analyzing demands from society and the importance of our own challenges with benchmarks from external ESG indicators.

Since these priority issues are though to change constantly, we will flexibly revise the challenges, the business needed to resolve them, and initiatives to strengthen our foundation of sustainability management.

■ Priority issues for contributing toward the SDGs to expand our contributions to society and the environment and to increase corporate value by increasing profit



■ Priority issues for reinforcing sustainability management responding to the increasingly severe demands from society, reducing risk, and improving corporate value





Sustainability Strategy

Selection of Priority Issues

Priority Issues for Contributing toward the SDGs

As stated on the previous page, we have identified Priority Issues for Contributing toward the SDGs from the two perspectives of contributing to society and the environment and increasing corporate value. Specifically, we selected the businesses for making major contributions to the SDGs according to the following process when formulating AG2023.

1. Review of the previous mid-term business plan (TF2020)

We concentrated on the renewable energy and life innovation businesses in TF2020. We confirmed that these businesses positively affected performance. We realized the need to expand the Operating Expenditure (OPEX) business, as customers' needs have drastically changed, partly influenced by the COVID-19 pandemic.

2. Megatrend and Market Analysis

Predicting the long-term business environment from political, economic, environmental, and technological viewpoints, we identified the mega trends that would affect Yokogawa's corporate value and business model, such as climate change, the transformation of the energy mix, and the advancement of digital transformation.



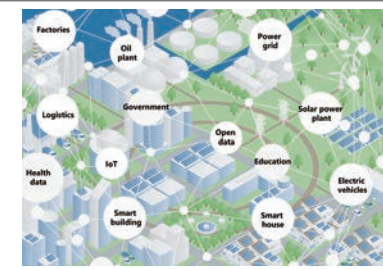
Changes in the Business Environment

3. Revision of Long-Term Business Framework

We adopted Yokogawa's Purpose and decided that, "Utilizing our ability to measure and connect, we fulfill our responsibilities for the future of our planet" would be our raison d'être. Additionally, we defined the field of reinforcement so that we could become an integrator who can lead the world in making society a System of Systems (SoS).

System of Systems

Everything is inter-connected in complicated ways, and the components function as independently operated and managed systems that work together to achieve a purpose that cannot be achieved by any single system.



4. Examination of Business Strategies

Based on the process above, we examined business strategies while considering both business development and contribution toward the SDGs in new key business domains, energy & sustainability, materials, and life. In our evaluation we analyzed climate change scenarios (1.5 °C and 4 °C).

5. Identification of Priority Issues

As a result of a survey of people involved in diverse businesses, we summarized the positive and negative impacts of the businesses on our contributions to the Three goals, the long-term vision, the SDGs to which we contribute, and the value chain. Based on the results, we narrowed down the themes that we would contribute to and selected the more important themes as priority issues for our contributions toward the SDGs (Six Areas of Contribution).

Priority Issues for Reinforcing Sustainability Management

Using external evaluation indices* that comprehensively evaluate corporations' ESG profiles, we compared and analyzed social demand and our initiatives. We then selected climate change and greenhouse gasses, supply chains, human resources and women's empowerment, and human rights as our four priority issues.

*Representative examples of these indices are the Dow Jones Sustainability Indices, the FTSE and the DCD.

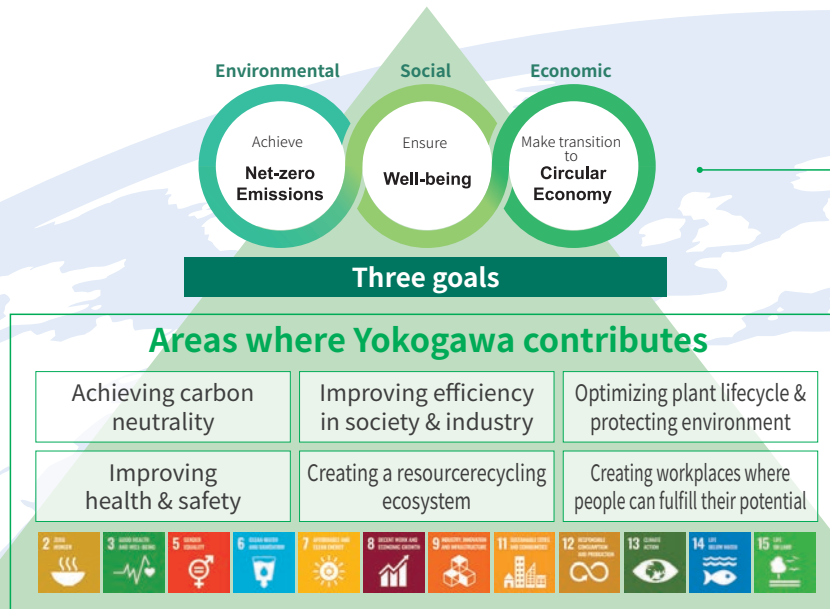


Sustainability Goals

Sustainability Indicators

With regard to our priority issues, we have set the Social Impact Indicators for 2030 and the Business Activity Indicators for 2023. We aim to achieve the Social Impact Indicators, which show contributions to society and the environment, by advancing the Business Activity Indicators.

The Business Activity Indicators concern important activities for accelerating growth while contributing to society in AG2023. The director-level persons in charge of implementation are tasking the members of the various Group organizations with activities to achieve the targets. We revise the indicators and targets as appropriate in response to changes in the external environment.



Vision for society in 2050

■ **Three goals (2050)**

Six focus areas for achievement of SDGs

■ **Social impact indicators (2030/2040)**

GHG emissions (Scope1,2)
50% reduction by FY2030 (base year FY2019)
100% reduction by FY2040

**Focusing efforts to achieve SDGs
Acceleration of growth**

■ **Business activity indicators (2023)**



Sustainability Goals

Six Areas of Contribution and Our Business Fields of Focus

We have established a focus area that straddles the six fields we contribute to in the areas of energy & sustainability, materials, life, and the measuring instrument businesses, and the Company's sectors supporting these businesses.

























	1. Achieving carbon neutrality Reducing GHG emissions and enabling the transition to affordable, reliable, and sustainable forms of energy	2. Improving efficiency in society & industry Optimizing production, enabling autonomy, and facilitating the efficient use of resources and energy through DX	3. Optimizing plant lifecycle & protecting environment Supporting both the long-term optimal operation of plant assets and the reduction of their environmental footprint	4. Creating a resource recycling ecosystem Establishing an equal opportunity workplace where employees can be treated with dignity and fulfill their potential	5. Creating workplaces where people can fulfill their potential Fostering the development of the bioeconomy and a circular economy	6. Creating workplaces where people can fulfill their potential Establishing an equal opportunity workplace where employees can be treated with dignity and fulfill their potential
Energy & Sustainability Business	Support renewable energy infrastructure 	Smart manufacturing business (Consultation, ERP, MES, EMS) 	Long-term optimal operation solutions of the plant Remote services/Asset management Environmental equipment and analyzers 	Plant safety instrument system Plant operator training simulator 		
Materials Business	Support storage battery manufacturing 				Contributing to functional chemical and biochemical industries, Supporting efficiency improvement of the recycling businesses 	
Life Business		Value chain optimization for pharmaceutical and food customers (Consultation, ERP, MES, EMS) 		Life science business pharmaceuticals and food Lifeline, water and sewage businesses 		
Measuring Instruments Business	Measuring instruments for renewable energy development 					
Yokogawa's business segments	GHG reduction at Yokogawa sites and in supply chain 	Internal DX promotion 	Reduction of Yokogawa's environmental footprint 	Occupational health and safety of workers at Yokogawa 	Creating a new ecosystem as a theme 	Employee well-being & engagement, people capability development for change, and promotion of diversity & inclusion



Sustainability Goals

Social Impact Indicators

In these six contribution fields, we have set indicators and goals to be achieved by 2030 from the perspective of social impact as shown in the following table.

Contribution area	SDGs	Indicator	FY30 (FY40) target
1.Achieving carbon neutrality	 	CO2 emissions control amount through customers (accum. from FY18) GHG emissions (Scope1,2) (base year FY19) GHG emissions (Scope3)	1 billion t-CO2 (50% or more from renewable energy and new technologies) 50% reduction by FY30 100% reduction by FY40 Targets that meet SBT requirements
2.Improving efficiency in society & industry	    	Economic value created by improving customer productivity efficiency	2 trillion yen
3.Optimizing plant lifecycle & protecting environment	   	Number of plants/factories where Yokogawa has contributed to sustainable operations	20,000 plants
4.Improving health & safety	   	Total number of people whose health & safety have been enhanced through solutions provided by Yokogawa's customers	100 million people
5.Creating a resourcerecycling ecosystem	    	Status of the new businesses launched that contribute to the resource recycling system	Establishment of two or more new resource recycling system business
6.Creating workplaces where people can fulfill their potential	 	Engagement to enhance employee well-being	At a level comparable to other leading companies
		Achievements in human resource development and capacity development for transformation	Advancing employee's future skill set
		Achievement level of diversity and inclusion	Proportion of women in managerial positions 20% Enhanced diversity at senior decision-making levels

























*1 SBT: Science Based Target *2 Employee' s future skill set: Skills to play active role in new businesses and ne w areas



Sustainability Goals

Social Impact Indicators

Regarding the business activities that contribute to the achievement of these social impact indicators, the following indicators and goals for 2023 have been set:

Contribution area	SDGs	Indicator	FY30 (FY40) target	FY23 target
1. Achieving carbon neutrality	Support renewable energy infrastructure	 	CO2 emissions control amount through customers (accum. from FY18)	500 million t-CO2
	Measuring instruments for renewable energy development	 	Sales growth rate of measurement instrument to renewable energy customers (base year FY20)	2.2 times
	Support storage battery manufacturing	 	Growth rate of number of units shipped of battery electrode thickness gauge (base year FY20)	1.5 times
	(within Yokogawa) GHG reduction at Yokogawa sites and in supply chain	 	GHG emissions (Scope1,2) (base year FY19) GHG emissions (Scope3)	10% reduction Targets that meet SBT requirements
2. Improving efficiency in society & industry	Smart manufacturing business (Consultation, ERP, MES, EMS)	  	Order intake growth rate of smart manufacturing business (base year FY20)	1.3 times
	Value chain optimization for pharmaceutical and food customers (Consultation, ERP, MES, EMS)	   	Order intake growth rate of pharmaceutical and food value chain optimization business (base year FY20)	1.3 times
	(within Yokogawa) Internal DX promotion		Reduction of business operation hours by automation (base year FY18)	300,000 hours reduction
3. Optimizing plant lifecycle & protecting environment	Long-term optimal operation solutions of the plant		Number of life cycle support contracted plants	6,000 plants
	Remote services/ Asset management	 	Order growth rate of number of wireless asset health monitoring sensor units (base year FY20)	3.2 times
			Number of equipment maintenance management system contract licenses	8,000 licenses
	Environmental equipment and analyzers	 	Order intake growth rate of process analyzer (base year FY20)	1.3 times
(within Yokogawa) Reduction of Yokogawa's environmental footprint	  	Water withdrawal amount at Yokogawa sites (base year FY19)	4% reduction	



Sustainability Goals

Business activity indicators (continued)

Contribution area	SDGs	Indicator	FY30 (FY40) target	FY23 target
4.Improving health & safety	Plant safety instrument system		Number of safety instrumented systems provided	157 systems
	Plant operator training simulator		Number of plant operator training systems provided	30 systems
	Life science business pharmaceuticals and food		Sales growth rate of drug discovery development support products (base year FY20)	2.5 times
	Lifeline, water and sewage businesses		Number of solutions provided for water environment improvement (excluding Japan)	90 solutions
	(within Yokogawa) Occupational health and safety of workers at Yokogawa		ISO45001 certification acquisition record	Acquisition at major companies (12 companies)
5.Creating a resourcerecycling ecosystem	Contributing to functional chemical and biochemical industries, Supporting efficiency improvement of the recycling businesses (within Yokogawa) Creating a new ecosystem as a theme		Order intake growth rate for specialty & fine chemical industry (base year FY20)	1.6 times
6.Creating workplaces where people can fulfill their potential	(within Yokogawa) Employee well-being & engagement		Engagement survey score	81%
	(within Yokogawa) People capability development for change		Training hour per person	40 hour per year per person
	(within Yokogawa) Promotion of diversity & inclusion		Female manager ratio Employment rate of disabled persons (Japan)	12.5% 2.5%

Please see our website for more information. <https://www.yokogawa.com/about/sustainability/>



Our Stories

Our Commitment to Addressing Priority Issues

Increasing Yokogawa's contributions to society and the environment is closely connected to increasing Yokogawa's corporate value. This chapter provides examples of Yokogawa's commitment to addressing the material issues to contribute to the SDGs that have been selected from two perspectives, a contribution to society and the environment and increasing corporate value. Examples of social contribution in diverse areas are also included.

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Achieving carbon neutrality

Reducing GHG emissions and enabling the transition to affordable, reliable, and sustainable forms of energy



Example 1 Contribution to geothermal power generation in Indonesia

The Lahendong geothermal power plant in North Sulawesi, Indonesia is one of the largest geothermal power plants in the country with six generation units (Nos. 1 to 6) that supply 120 MW of electricity. Yokogawa has received an order for control systems for steamfield above ground systems (SAGS) for generation units No. 1 to 4 for the renovation of existing systems. Through this project, Yokogawa will deliver a large quantity of radio transmitters, pressure transmitters and flowmeters, in addition to the CENTUM™ VP integrated production control system. The project also includes engineering, installation, trial operation, worker training, and system integration. Trial operation is planned for November 2021. Systems will be delivered to the customer in December. The project will enable monitoring control to be integrated into power generation equipment that is already operating based on Yokogawa's control system. It will increase the reliability of operations and contribute to the improvement of the customer's productivity and efficiency.

Geothermal power generation is less affected by the weather than wind and solar power, which is why geothermal power is capable of stably supplying electricity throughout the year as a form of renewable energy. Geothermal power generation's use of natural steam can help reduce carbon dioxide emissions. The Indonesian government has carried out an array of initiatives to support the development of geothermal power. Their goal is to increase the electricity generated domestically by geothermal power plants from 2100 MW to 8000 MW by FY2030.

Yokogawa has been involved in many geothermal power generation projects in the Asia-Pacific region. There is significant room to expand geothermal power generation in the region. Yokogawa will contribute to the development of renewable geothermal energy through these projects.



The Lahendong geothermal power plant

Example 2 Reduction of the environmental footprint of logistics through a modal shift

A modal shift is the shifting of the transportation of cargo from one mode, such as aircraft or automobiles, to another mode with a smaller environmental footprint, such as ships or railways.

Yokogawa, operating global businesses, delivers its products to customers around the world. In FY2019, about 80% of our logistics needs were fulfilled by air transportation. Since then, we have tried to shift to marine transportation which emits less CO2 as much as possible while achieving an optimal balance that considers delivery date and cost.

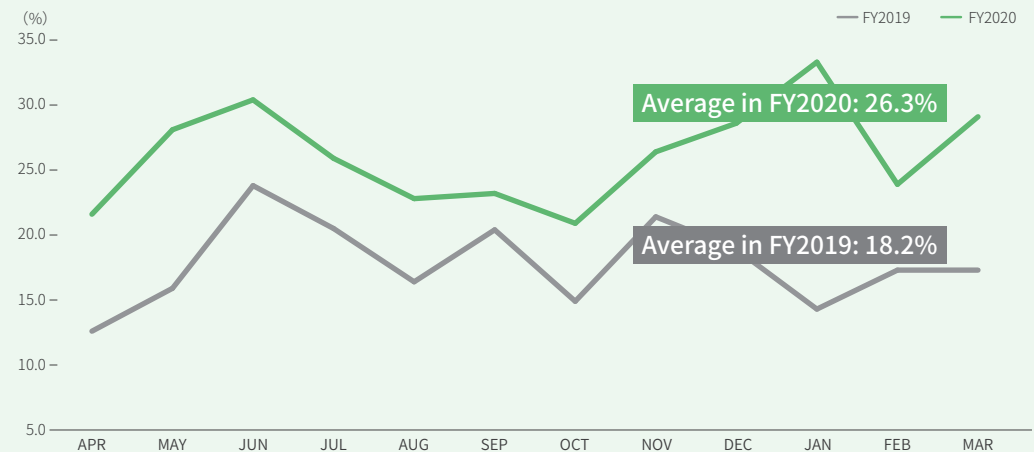
Generally, it is believed that CO2 emissions from marine transportation are 90% or more less than air transportation.

The use of marine transportation is increasing because we can now easily evaluate the optimal means of transportation, be it aircraft or ship, by visualizing lead time and cost according to the type and quantity of the products to be transported. Our usage of marine transportation increased about 8% in FY2020 from FY2019. This contributes to the reduction of CO2 emissions stemming from logistics.

We will continue to reduce CO2 emissions through the optimization of logistics including the use of marine transportation for more products and in more regions.



Change in the percentage of cargo shipped by sea





Improving efficiency in society & industry

Optimizing production, enabling autonomy, and facilitating the efficient use of resources and energy through DX



Example Solutions for optimizing cooperation

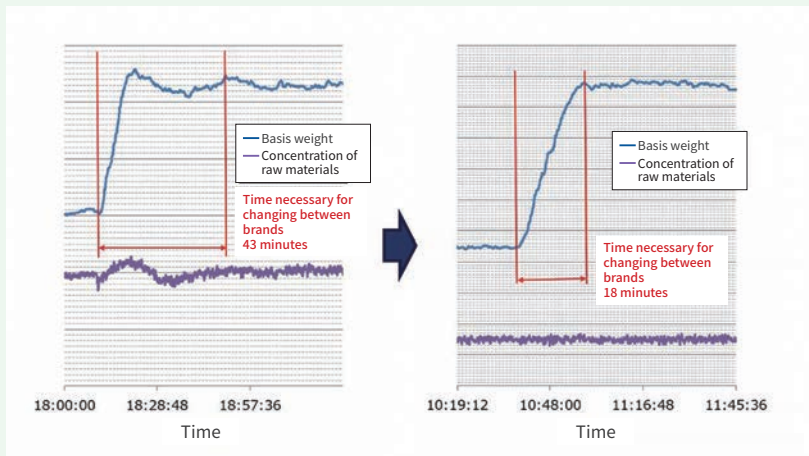
The manufacturing process is a series of contiguous processes in the materials industry such as chemicals, paper and pulp. Individual processes exist independently that cause various elements to fluctuate. As a result, processes mutually affect each other. We have achieved partial optimization through the improvement of processes. However, we still face the challenge of addressing the insufficient optimization of the connections between processes.

To resolve this challenge, we have provided solutions that optimize these connections. First, we collect DCS data in each of the plant's processes every second, statistically analyze data from past operations, and identify issues and their causes. Then, we calculate new tuning parameters applying a unique Yokogawa algorithm based on the latest control theory (the FRIT method) to the control loop to be improved. This approach enables the analysis of real-time data being controlled for the immediate calculation of optimal parameters.

In a paper mill, we discovered that fluctuations in basis weight (the weight of paper per square meter) arose from interprocess interference between the preparation process and the

Results of paper mill improvement	Economic effect for customer: 20 million yen/year	CO2 emissions reduction: 900 t/year
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We reduced steam and electric power consumption by resolving regular product quality fluctuations. We successfully reduced the time necessary for changing between brands or items of different thickness or color during continuous production by at least 50%.



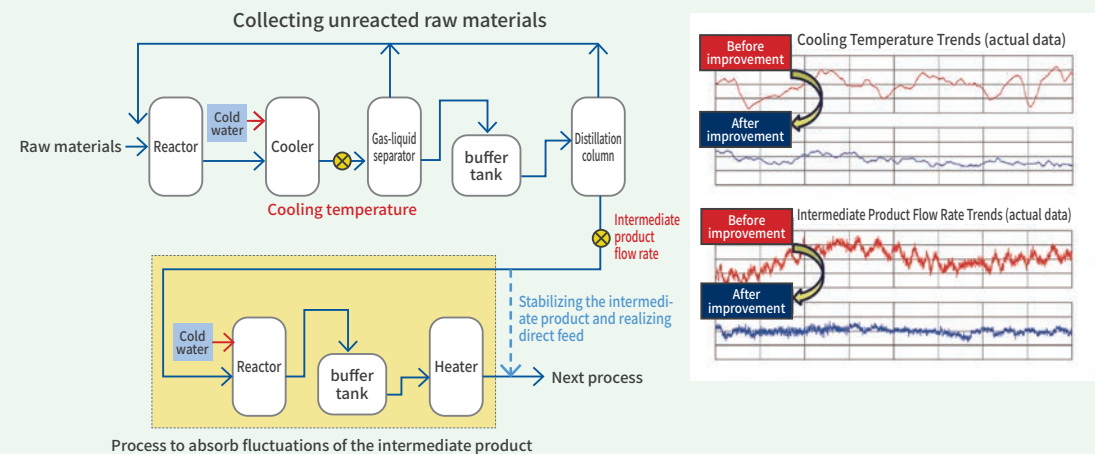
papermaking process. As a result, we identified a control loop to be improved. By improving control using parameters that are able to reduce fluctuations, we stabilized processes and successfully conserved energy.

In a chemical plant, we discovered that a disturbance in a reaction tank was passed on to following processes and associated with temperature fluctuations after a cooler and fluctuations of the flow rate of intermediate products. We successfully reduced the fluctuations by changing the parameters for temperature and level controls after the reaction tank. This conserved energy. This led to an energy conservation proposal that eliminated the need for steam and cold water by making a fluctuation-eliminating process unnecessary.

Yokogawa's approach helps to understand the details and identify issues of interprocess interference, which is difficult for operators working in conditions where labour is divided to address. This solution enables us to contribute to manufacturing sites' conservation of resources and energy by moving beyond previous short-sighted partial process optimizations to optimize operations between processes.

Predicted results for a chemical plant	Economic effect for customer: 10 million yen/year	CO2 emissions reduction: 140 t/year
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We resolved fluctuations in intermediate products resulting in the reduction of raw material waste and the amount of energy required before and after a buffer tank. Our proposal is to eliminate the storage, cooling and reheating processes using a buffer tank by reducing fluctuations in intermediate products by 80% or more.





Optimizing plant lifecycle & protecting environment

Supporting both the long-term optimal operation of plant assets and the reduction of their environmental footprint



Example 1 Monitoring the soundness of equipment throughout the plant

Efficiency Improvement and Cost Optimization using Sushi Sensor Equipment Monitoring

Sushi Sensor is an equipment monitoring solution intended to reform conventional equipment maintenance using the online wireless monitoring of a huge amount of data scattered throughout enormous plants. We prevent the waste of resources and energy and help prevent accidents by increasing the efficiency of equipment monitoring to ensure the soundness of equipment and optimize maintenance. Yokogawa will increase the plant management performance of its customers, support sound business continuity, and contribute to the reduction of customers' environmental footprints through the provision of Sushi Sensor.

Characteristics of Sushi Sensor

- Detection of failure risk
Now we are able to detect abnormalities at an early stage and identify equipment with a high risk of failure by monitoring the status of each piece of equipment over the long term. This contributes to efficient maintenance planning.
- Understanding of correlations associated with abnormalities
We can understand the spreading of abnormalities among the equipment units in addition to detecting abnormalities in a single piece of equipment unit by monitoring all of a plant's equipment from a higher perspective.
- Real-time feedback
We can provide feedback on the status of equipment to the operations department in real time to contribute to greater production efficiency and improved product quality maintenance. Equipment lifespans can be lengthened by accounting for the load on equipment in operation.

Monitoring the Status of Equipment and Improving Product Quality in the Manufacturing Process

Sudden failures used to occur in an agitator in a manufacturing process, even though it was tested regularly and there were regular walk-around inspections. We attached Sushi Sensor to the agitator. Now we can understand the correlation between the equipment's status and the process by constantly observing and understanding trends online. It allows us to add equipment data as a quality control indicator, resulting in increased product quality.

Industrial IoT data logging and dashboard

Collective Status Monitoring



Monitoring the status of equipment
Abnormal values are displayed with a warning. A detailed inspection of the equipment in question is scheduled.

Images are for illustrative purposes.

Overlapping Time



Comparison with past trends:
Comparison with trends at the time of failure to detect trends indicating failure

16 Pen Trend Chart



Comparison with a variety of operations data:
Operations and the quality of devices are managed by displaying operations data and vibration data on the same screen.

Example 2 Solutions Supporting On-site Work

There are many different restrictions that apply when inspecting or maintaining equipment in locations within a plant, including explosion-proof areas. We contribute to the digital-technology-driven reform of business through the combination of manufacturing site expertise and state-of-the-art IT technologies to provide technologies and solutions that support field work. We have achieved the following results with our digital-technology-based solutions at chemical plants in Japan.

Improvement of Efficiency and Safety in On-site Work

1. Utilization of explosion-proof tablets in loop checking

We conduct loop checking to ensure measuring instruments on site operate properly within control systems. Previously, site workers checked measuring instruments while talking on a PHS to an operator checking operations data at the central instrument room. We have We have constructed an environment enabling workers to check Distributed Control System (DCS) operations data on an explosion-proof tablet, having established a Wi-Fi environment that encompasses explosion-proof areas. Site workers carry an explosion-proof tablet with them to check data about the instruments at each site. This allows them to carry out loop checking themselves without being reliant on an operator in the instrument room every time. Site workers can visually check operations data themselves while working, which ensures safe and certain loop checking, including double-checking, in addition to reducing the time and personnel expenses necessary. It has led to other benefits including the early detection of abnormal statuses in standard operations.

2. Utilization of explosion-proof smart glasses for calibration

The installation of vibrometers must be precise. Previously, workers used a PHS or similar device to accomplish this task. Using an explosion-proof tablet with a headset and explosion-proof smart glasses, the hands-free real-time communication system has improved the efficiency and safety of calibration conducted by the maintenance department. Previously, it would take a whole day to set up instruments while using a PHS to check data managed remotely. Now, the work can be completed in approximately two hours.



Replacing smart glasses with explosion-proof smart glasses



Improving health & safety

Promoting life-related innovation and improving safety in plants and communities



Example 1 Contribution to the Development of New Therapies and Pharmaceuticals Based on Automatic Nano Drug Delivery

Single-cell analysis, which analyzes individual cells, is drawing attention as a new analytical method for understanding etiologies, pathologies, and other phenomena in fields such as cancer research and immunology. It is expected to contribute to drug discovery, individualized healthcare, and regenerative medicine.

As a topic of interest in the cell analysis field, the developer of CRISPR/Cas9, the novel genome editing tool, received the 2020 Nobel Prize in Chemistry. CRISPR/Cas9 is able to modify genetic information more efficiently than previous genome editing tools. It has already been used to improve crops, develop new cancer therapies, and research the COVID-19 coronavirus.

Varied methods are used to deliver CRISPR/Cas9 and other genome editing tools into cells. Previously, some issues had been encountered. For example, it was not possible to deliver tools to targeted cells, delivery efficiency was poor for some targeted cells, and manipulation for delivery was difficult.

To resolve these issues, Yokogawa has developed its new Single Cellome™ Unit SU10 ("SU10"), a device for delivering a variety of substances to targeted cells very efficiently without being overly invasive. SU10 directly delivers a genome editing tool into cells using a nanopipette with an outer diameter at the tip that can be as small as dozens of nanometers while mitigating damage. It significantly improves the survival rate of cells and the delivery efficiency of genome editing tools. In addition, automated delivery to cells drastically facilitates manipulation. Research using SU10 suggests that it is able to elevate the efficiency of genome editing

dramatically compared to previously reported methods.

Further, the direct delivery of drugs, including anticancer agents, to specific cells enables the efficient assessment of the efficacy and toxicity of the drugs. SU10 may be useful for the analysis of the mechanisms the COVID-19 coronavirus uses to spread by delivering virus RNA to infect specific cells.

Yokogawa will contribute to development of new therapies and pharmaceuticals through single-cell analysis solutions like this.



Single Cellome™ Unit SU10

Characteristics of SU10

• Minimization of Cell Damage using Nanopipettes

As the outer diameter of the tip is nanometer-sized and minuscule compared to the size of a cell, it causes minimum damage to cells and enables single-cell analysis while the cell is still alive.

• Contribution to Increased Manipulation Efficiency through the Automation of Work

For the first time in the industry, SU10 realizes the automatization of a range of steps previously manually performed by veteran researchers, including cell surface detection, cell delivery and suction*, which enables easy manipulation for delivery and suction* on living cells

*The sampling function collecting intracellular substances is being developed

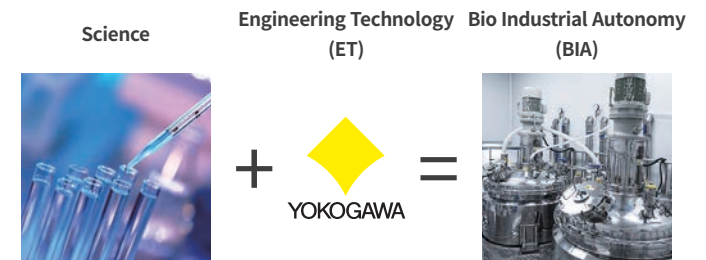
Biotechnology Challenges

The field of drug discovery research is mainly the purview of laboratories. It is believed within the pharmaceutical industry that the development of a new drug takes more than 10 years. After completing laboratory research, drug developers begin the process of researching mass production and move into production.

In drug discovery research, cutting-edge biomass technology is still at the level of science. It takes engineering technology (ET) to sublimate it to "industry."

Yokogawa has grown together with its customers' plants over the past 40 years, and the technologies, product solutions, and experience gained give Yokogawa engineering technology advantages.

In the biotechnology world, Yokogawa has launched this initiative with the goal of supporting the beginning of a new biotechnology industry through the combination of ET and science.





Improving health & safety Promoting life-related innovation and improving safety in plants and communities



Example 2 Support for COVID-19 Vaccine and Therapeutic Drug Research

New drugs and vaccines are being developed around the world to end the COVID-19 pandemic. Yokogawa contributes to the research and development of COVID-19 vaccines and therapeutic drugs at universities and research facilities in Japan and overseas through its CellVoyager series of high-content screening system.

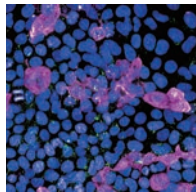
Example 1 — University of Michigan (US)



Dr. Jonathan Sexton, Ph.D.

Dr. Sexton at the University of Michigan has developed a method of screening in the process of drug discovery that uses AI to analyze the morphological profiles of cells using microscopic images. CQ1, which is equipped with Yokogawa's advanced imaging technology, is being used to capture these images. In 2020, to develop an urgently needed treatment method for COVID-19, 1,425 FDA-approved compounds were screened by CQ1 for drug repurposing, and several compounds with antiviral effects were identified.¹

The study has already been published as a pre-peer review paper. As research progresses, it is expected that the elucidation of the mechanism of action of drugs will advance and that the diversion of existing drugs will be efficiently promoted.²



SARS-CoV-2 infected Huh-7 cells
all nuclei (Blue)/neutral lipids (green)/SARS-CoV-2 NP protein (magenta).

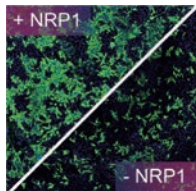
1 Drug repurposing: Using a known drug's effects and side effects to explore applications in other diseases
2 Mechanism of action: How a drug exerts a therapeutic effect

Example 2 University of Bristol (UK)



Yohei Yamauchi MD PhD

Dr. Yamauchi's laboratory uses CQ1 to identify the mechanism of essential steps such as the virus's entry into cells, infection, and replication. His international research team discovered that Neuropilin-1 (NRP1) acts as a second receptor when the SARS-CoV-2 virus infects human cells, and his science paper was published in the scientific journal Science in November 2020. Previously, it was known that ACE2 binds to SARS-CoV-2 virus, but he discovered that NRP1 also binds directly, and that blocking this binding reduces the number of infected cells. This indicates that NRP1 may be a target for COVID-19 treatment.



HeLa cells expressing ACE2 infected with SARS-CoV-2
all nuclei (blue)/virus infected cells (green)

Example 3 Demonstration Project with the Goal of Converting Recycled Sewage Water into Drinking Water in the U.S.A.

In the U.S.A., the Las Virgenes Municipal Water District in Los Angeles, California does not have access to underground water because of the hilly terrain. The Southern California Metropolitan District, which includes Los Angeles, is completely dependent on the water taken from the California Aqueduct in northern California and the Colorado River Aqueduct neighboring Arizona. While over 2 kWh of electricity is consumed for the transportation of water per cubic meter, the Las Virgenes Municipal Water District requires 3.7 kWh. Additionally, the state faces the challenge of maintaining water sources to ensure the sustainability of cities following the 2011 to 2017 drought in California. To resolve this challenge, the Las Virgenes Municipal Water District proposed the Pure Water Project to promote the use of treated wastewater for drinking to decrease dependency on external sources of water by 15% or more. The goals of the project are to reduce the electricity used in the treatment of wastewater treatment to 0.5 kWh/m³ and the electricity used to recycle water for drinking use to 1.0 kWh/m³. This reduction of the area's dependency on external sources of water will contribute to the reduction of energy consumption in California as a whole. Yokogawa is carrying out a demonstration project to provide technologies and services to the project.

In the demonstration project, Yokogawa's goal is to propose applied digital technologies for the optimization of equipment operations and water quality control. We also intend to increase the efficiency of treatment of recycled water for drinking use and to ensure safety and security. Specifically, we provide Data Driven Modeling for Optimization (DDMO) which automatically produces equipment models to optimize operations based on data from plant operations and the semi-automation of AI-assisted advanced membrane filtration to conserve energy and support operations. We have proposed and are developing a quick microorganism assay, which serves as a pathogen index at critical control points.

DDMO and AI enable modeling while taking into account energy usage and water quality, which will result in a significant reduction of the labour required for modeling to achieve optimization. In addition, the introduction of an operation optimization system can be implemented more quickly than before. Further, the quick microorganism assay enables the quick and easy detection of microorganisms which would normally takes several days to a few weeks using conventional technologies.

Through the demonstration project, we have made it possible to ensure the stable quality of treated water and increase efficiency at the Tapia Water Reclamation Facility in California through the optimization of the water treatment process. Simulation results show that it would be possible to reduce the amount of energy consumed by similar water treatment facilities by about 15% using these technologies.

Wastewater recycling is becoming a more important measure to address the increasing population and droughts. Yokogawa will continue to support the advancement of wastewater recycling and contribute to the recycling of finite water resources based on the results of the demonstration project.



The Tapia Water Reclamation Facility situated in the suburb of Los Angeles, California



The demonstration system at the Las Virgenes Municipal Water District



Creating a resource recycling ecosystem

Example Contribution to the ubiquitization of biomass materials and the creation of carbon recycling society

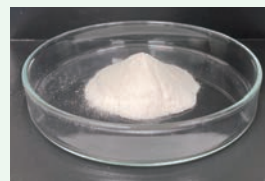
Biomass-derived materials are gaining attention as a clean technology to solve global environmental problems. We established Yokogawa Bio Frontier in January 2021 with the goal of spreading environmentally-friendly biomass-derived materials and creating a carbon cycle society.

Biomass is generally referred to as organic resources of renewable biological origin, and does not include fossil resources. Oil, natural gas, and other fossil resources were created over hundreds of millions of years, but with the high speed of energy consumption of human society, these resources are on course to be depleted within several hundred years. Additionally, the mining and processing of natural resources consumes large amounts of energy. Issues in emerging nations where future consumption is set to expand include environmental measures, effective use of energy, and recycling, and it is necessary to solve these issues globally.

Yokogawa Bio Frontier will solve these problems by offering both biomass materials, including cellulose nanofiber and lignin products taken from plants, and biostimulants*, agricultural resources that use microalgae.

Cellulose Nanofiber

In June 2021, we began offering samples of S-CNF™ cellulose nanofiber which has undergone sulfuric esterification and was developed with our own technology. Cellulose nanofiber is a material made from processing cellulose, the main component of plants. It is extracted from trees and other plants and can be produced by finely unraveling the fibers. Cellulose nanofiber has a low impact on the environment as it uses a renewable biomass as a material, and the fibers are both lightweight and strong. S-CNF™ allows the product to be offered in a previously-difficult powdered form through our own technology. By making it into powder, the blending quantity can be flexibly changed based on use, and utilization in a variety of fields can be expected. The volume and weight of the powdered form are about 1% of that of the liquid form, allowing for reductions in cost during transport and storage.



Powdered S-CNF™



S-CNF™ in film form

Lignin

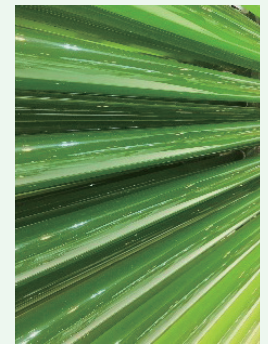
We began sales of lignin-derived products in March 2021, after signing a distribution contract with Swiss-based Bloom Biorenewables. Bloom Biorenewables is working to commercialize lignin-derived products with the latest technology in order to replace petrochemicals. Lignin has a complex chemical structure, meaning efficient production on a commercial scale was deemed difficult, but it is expected that Bloom Biorenewables technology will solve this problem.

Fostering the development of the bioeconomy and a circular economy



Biostimulants

We began sales of Panacea™, a biostimulant aimed at the domestic agricultural market, in June 2021. It was developed by Spain-based AlgaEnergy. Panacea™ uses microalgae grown under controlled conditions as a material. Combining different species of microalgae allows for a combination of essential nutrients for plant growth, including amino acids and antioxidants, at the optimal ratios. This allows balanced nutrients to be given to plants by diluting Panacea™ in water and spraying soil, seeds, and leaves. Photosynthesis is used in the production process of microalgae, leading to a reduction in CO₂ in the atmosphere.

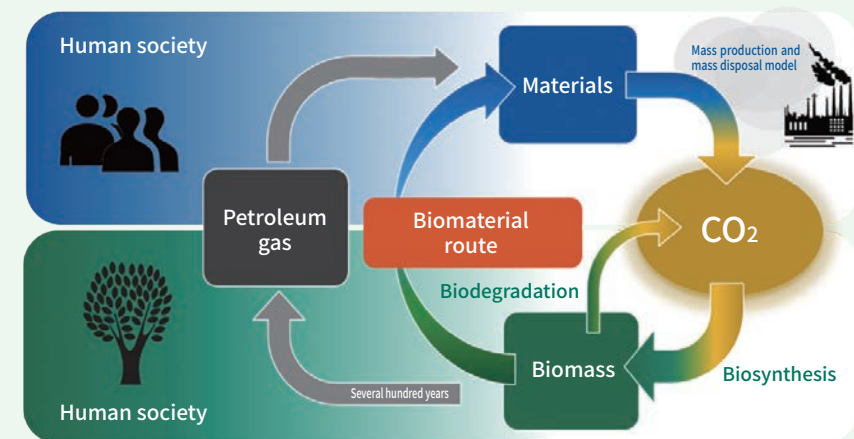


Microalgae, the raw material in Panacea

Yokogawa Bio Frontier will accelerate the development of its businesses, including commercial production of S-CNF™ and sales of biostimulants, and will contribute towards the realization of a sustainable society through offering materials with high added value to customers in the chemical, electronic materials, cosmetics, food products, agricultural, and pharmaceutical industries.

*Biological stimulants for agricultural use. The generic name for substances and microorganisms that increase a plant's vitality, improve cold tolerance, heat tolerance, and resistance to environmental stress, promote growth, and increase quality.

Yokogawa Bio Frontier's Vision





Creating workplaces where people can fulfill their potential

Establishing an equal opportunity workplace where employees can be treated with dignity and fulfill their potential



Example Changing workstyles to enable employees to choose the places they work

Yokogawa is moving forward with our internal digital transformation by setting up IT infrastructure and introducing digital working styles with the goal of improving productivity.

As a result of the COVID-19 Global Employee Attitude Survey carried out in July 2020, we learned that more than 80% of our employees want 50% or more of their working hours to be remote. Less than 10% of employees said they felt like their productivity had dropped due to working from home, and it became clear that most employees had no change or an increase in productivity when working from home as compared to working in the office. The achievement of diverse and flexible working styles that allow for a work-life balance and that are not time/location-bound is important from the perspective of improving employee engagement and securing superior human resources. We also believe that having employees consider and choose a location to effectively produce results will make the job process more efficient and contribute to an improvement in productivity. From this background, we established an overall Group policy to shift from a working style that considered being in the office a requirement to one where employees choose their work location on their own.

Yokogawa Electric then introduced the Distance Work System in April 2021, which does not place limits on where employees can live within Japan. If employees meet certain conditions, they can live further than commuting distance and can work remotely. As of October 2021, approximately 30 employees have been approved and have started working further away than commuting distance. One employee using this system commented that they have been very productive both at work and in personal life and can sense the value of working remotely. Another said that they had considered switching jobs to be at a company where they can work outside the city, but that they were extremely grateful that they didn't have to do so thanks to the Distance Work System and that they are currently able to do the job they want to be doing. We will continue to promote working styles that respond to the New Normal and will continue to aim to realize an environment where each employee can showcase their ability.



Employee using the Distance Work System

required for continued corporate growth. We opened Yokogawa University and have created a place where employees can actively learn. Likewise, having a physical place for learning like our learning center allows each employee to grow, both online and in reality, and we believe this has great meaning for a corporation. This facility is also used as a place to create co-innovation with a variety of people, including projects that include people outside the company.

The Yokogawa Campus design concept for the learning center aims for a place where employees can focus on study and communicate like on a university campus. We created both open spaces and relaxed spaces, employing designs that incorporate natural atmospheres with wood and greenery.

We create a space to welcome employees and people from outside the company on the first floor, assuming it would be used for employment activities and projects with people from outside the company. The second floor was built to allow for training and workshops in an open atmosphere, employing glass for walls to create an open space. The interior, with its bright tones that stimulate the brain, is perfect for use in training and workshops with content that requires the ability to be creative. As a relaxed space, the third floor is suitable for use in training and workshops where participants relax their minds and concentrate. In addition to an interior design with relaxing tones, walls that keep participants from being distracted by what is going on outside the room and lines of sight were employed to create an environment for easier concentration.

Yokogawa is aiming to be a resilient company that can sustain long-term growth. Training was previously held in closed-off meeting rooms, but in the future, we will make use of the internet and these physical open learning spaces. Learning together to solve overall social problems will lead to growth for each employee and for the company.

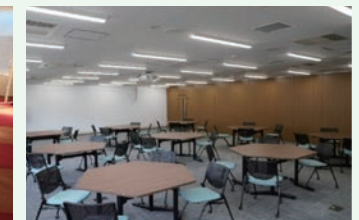
We will promote cross-departmental initiatives and make this learning center into a place that produces co-innovation with a variety of people, including with people outside the company.



Learning center first floor



Learning center second floor



Learning center third floor

Facilities dedicated to human resources development

We opened a "learning center" as a place for employee human resources development in 2021. At the Yokogawa Group, we believe that increasing the strength of our human resources is



Community Engagement

Yokogawa strives for harmonious co-existence with local communities as a good citizen, recognizing that companies are also members of society. We not only contribute to society through our businesses but also promote a wide range of local contribution activities and cooperate to achieve common regional and social goals in all of the countries and regions in which we do business, thereby contributing to their progress.

We also assist our employees in their own participation in local contribution activities as good citizens and provide volunteer programs in which employees are able to make the most of their diverse skills and capabilities, including local human resources development and environmental conservation activities in local communities.

Policy for Corporate Citizenship Activities

Based on the Yokogawa Philosophy and the Yokogawa Group Code of Conduct, we engage in corporate citizenship activities by prioritizing fields related to our core business.

- Focus areas**
- Regions in which we conduct business
 - Our business fields
 - Large-scale disasters
 - Contribution to social progress

Guidelines for Corporate Citizenship Activities

Yokogawa Group has established its Guidelines for Corporate Citizenship Activities and promotes its corporate citizenship activities accordingly. We ensure the transparency of our corporate citizenship activities that involve donations and expenditures by clarifying their resolution/approval procedures and standards.

Corporate Citizenship Activities

Yokogawa's corporate citizenship activities for FY2020 took the form of financial assistance (229.7 million yen), donations of goods and the opening of its facilities to the public (equivalent to 4.1 million yen), and support activities by its employees (equivalent to 18.7 million yen).

When classified according to SDGs, our activities related to Goal 4 (Quality Education) were the largest in number of all of the corporate citizenship activities in which we are engaged.

Our activities contribute to 14 of the 17 SDGs.

The 2020 Aegean Sea earthquake struck Izmir, Turkey, where we have a business site, in October 2020. Yokogawa donated relief money to the Izmir Metropolitan Municipality and Izmir Chamber of Commerce to support reconstruction.



Yokogawa Electric China (Suzhou, China) is continuously working on Green Partner environmental activities with Suzhou Industrial Park Xingwan School. Ninety-five students learned about product manufacturing and environmental conservation processes and planted trees along with our employees in March 2021.



Major Corporate Citizenship Activities and Contribution to SDGs in FY2020

Goal 1. No poverty

- Providing aid in the form of clothes, livelihood support and assistance for school supplies (Japan, Indonesia, Malaysia, China, UK, USA, and South Korea)

Goal 2. Zero hunger

- Providing meals and livelihood support (Philippines, India, and South Korea)

Goal 3. Good health and well-being

- Supporting activities of sports organizations and events (Japan)
- Supporting activities to enhance maternal and child health (Japan, Cambodia, and Myanmar)
- Giving support to low-income people and people with disabilities (Taiwan, Germany, and India)
- Visiting and supporting facilities for the elderly (Japan)
- Blood donation activities and donations to medical institutions (Japan, Singapore, Thailand, Australia, USA, and India)
- Disaster relief and support (flooding and typhoons) (Philippines and Vietnam)
- Contributions and donations to support COVID-19 control measures (Singapore, Indonesia, Philippines, Malaysia, Argentina, Bahrain, and India)

Goal 4. Quality education

- Supporting community education programs and education activities (Japan, Singapore, Indonesia, China, Australia, New Zealand, Netherlands, Austria, Czech Republic, Croatia, Italy, Spain, Portugal, Germany, UK, France, Poland, Norway, Russia, USA, Mexico, Brazil, Peru, UAE, Saudi Arabia, Qatar, Israel, India, and South Korea)

Goal 5. Gender equality

- Supporting the empowerment of women (Japan, Singapore, and Australia)

Goal 6. Clean water and sanitation

- Cleaning rivers and supporting water supply (Japan and China)

Goal 8. Decent work and economic growth

- Human resources development (Japan, Singapore, and the USA)

Goal 11. Sustainable cities and communities

- Supporting disaster-affected areas (Turkey)
- Local volunteer activities (Japan and India)

Goal 12. Responsible consumption and production

- Utilization of waste materials (Japan and Thailand)

Goal 13. Climate action

- Environmental education activities (Japan and Thailand)
- Afforestation activities (Germany)
- Participation in World Cleanup Day (Netherlands and Rumania)

Goal 14. Life below water

- Supporting biodiversity activities (Japan, Vietnam, and China)

Goal 15. Life on land

- Supporting biodiversity activities (Japan, Vietnam, and China)

Goal 16. Peace, justice and strong institutions

- Donating to military bereavement funds and sponsoring veterans' festivals (USA and India)

Goal 17. Partnerships for achieving the goals

- Cooperation with external organizations (Singapore, Vietnam, and South Korea)



Human Resources

Companies are supported by people and society.

Yokogawa seeks to provide all members of our diverse workforce with opportunities to thrive at work, fulfill their potential, and grow with society.

This chapter introduces our initiatives relating to human resources and occupational health and safety.

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Improvement of Employee Engagement

Area of Contribution
SDG Contributions

Creating workplaces where people can fulfill their potential


Focus Domain
Metric

Employee well-being & engagement
Engagement survey score
79% (FY2020 Performance)/81% (FY2023 Target)

Importance of Employee Engagement

Employee engagement is a consequence of the environment surrounding employees, including workplaces and the organizational climate. High-level employee engagement increases employee performance and the value provided to stakeholders. Employee engagement can increase when employees are independently and enthusiastically committed to their work and are able to feel, as part of the organization, that the results of their efforts contribute to achievement of the organization's goals.

Increasing employee engagement is key to Yokogawa's sustainable growth. Yokogawa helps its employees independently contribute with an understanding of Yokogawa's vision, mission and values and with pride as a member of the organization.

Global Employee Engagement Survey

To increase employee engagement, Yokogawa regularly conducts its global employee engagement survey. Conducting the survey enables us to comprehensively stay on top of issues such as employee awareness of our organizational climate and work environment and the level of employee engagement. Analyzing the results of the survey and reflecting the lessons learned in our strategies and implementing necessary measures will lead to Yokogawa's sustainable growth.

Sustainability Goal: Engagement Survey Scores

Yokogawa is committed to increasing employee engagement through the penetration of its vision and the development of an improved organizational culture in pursuit of a company that is more attractive to employees. To repay employees for their enthusiasm about their work and their contributions to the organization, we offer growth opportunities to individuals and properly evaluate their work so that the organization and employees are able to grow together.

In pursuit of the ideal Yokogawa, we have defined engagement survey scores as one of our sustainability goals. Engagement survey scores focus on employees' thoughts and feelings about the organization and their sense of belonging to measure their engagement from many different perspectives, including organizational climate, work environment, individuals'

opportunities for growth and physical and mental health.

Developing a better organizational climate and work environment and increasing engagement survey scores should have a significant positive effect on the value provided by Yokogawa. Based on this, we aim to achieve high-level employee engagement on the level of globally leading companies.

Implementation of Measures

We analyzed results of the survey conducted in 2019 and implement three measures involving the entire Yokogawa Group to increase employee engagement scores.

At the same time, measures are also being implemented in different Yokogawa Group organizations in accordance with the survey results.

Measures for the Group		
1. Understanding of vision and strategy	2. Enhance co-innovation	3. Self-fulfillment through work
The introduction of this new goal management system has enabled each employee to see all goals of their superiors, so that they can understand how their work contributes to the Group. The system clarifies the direction in which the company, teams, and individuals are supposed to head and what they should do, increasing understanding of our vision and strategy.	We have introduced measures for appropriately evaluating and giving feedback also for activities outside affiliated organizations, such as cross-organizational projects, thereby strengthening co-innovation that goes beyond the organization.	We are expanding the contents of Yokogawa University through network infrastructure to offer employees who want to challenge themselves with various educational and learning opportunities, so that they can have self-fulfillment through their work. Moreover, we utilize an internal open application system to give employees opportunities for career advancement and new challenges.
It was only introduced at a few locations in FY2020. It will be introduced at all company locations including the head office in FY2021.	As part of the new goal management system introduced in FY2020, we have created methods for regularly receiving feedback from superiors, subordinates, colleagues, and external parties to enhance co-innovation with people inside and outside the organization.	We considerably expanded the curriculum of Yokogawa University in FY2020. The internal open application system is Group-wide and it is increasingly being used.



Diversity and Inclusion

Our D&I Statement

Yokogawa believes in building a culture that accepts and values individual differences. Yokogawa is committed to creating an equitable and inclusive environment where everyone is able to belong, contribute, succeed and demonstrate their full potential without fear of harassment, verbal abuse, or other behaviors that inhibit people from fully contributing or harm their dignity.

To achieve this, Yokogawa will actively recruit, develop, and promote people from a variety of backgrounds differing in terms of experience, knowledge, thinking style, perspective, cultural background, and socioeconomic status. In doing so, Yokogawa will not discriminate based on ethnicity, nationality, gender, religion, age, social position, or disability. We will utilize digital technology and cultivate an inclusive working environment to make it possible for every employee to demonstrate his or her full potential and work comfortably leveraging flexible workstyles. Engaging communication and constructive collaboration based on mutual respect facilitate innovation and the co-creation of new value for our customers, partners, suppliers, which, in turn, improves our planet.

D&I Initiatives Over the World

The diversity of the people that make up Yokogawa is its strength, and a necessity for Yokogawa's global expansion of its businesses. To enable this, we have expanded the scope of the global job opportunity system to enable employees to apply for open job opportunities anywhere in the world.

In addition, during the past year, Yokogawa has conducted many of its D&I mindset training programs to deepen our understanding of the importance of diversity and inclusion within Yokogawa and increase our recognition of unconscious bias and how it affects our actions. Last year, more than 1,000 leaders from overseas participated in the training programs, and in July 2021, training was held for all executives.



Actively promoting human rights protection in the workplace



(D&I mindset trainings in India)

Area of Contribution	Creating workplaces where people can fulfill their potential	Focus Domain	Promotion of diversity and inclusion
SDG Contributions		Metric	Proportion of women in managerial positions 00% (FY2020 Performance) / 81% (FY2023 Target) Disability employment ratio (Japan) 00% (FY2020 Performance) / 81% (FY2023 Target)

A Human Rights training program was also developed and is being translated into multiple languages. Steps are being taken to ensure all employees attend both the D&I and the Human Rights training programs over the next year.

We expect that increasing Yokogawa's diversity and removing barriers will improve our ability to respond and innovate, and it will unite our employees diverse senses of value for the creation of new value.

Promoting Active Participation by Women

Yokogawa promotes the empowerment of women as a part of its diversity promotion activities based on the human asset strategy of the mid-term business plan. In April 2015 Yokogawa established a work section dedicated to the promotion of diversity. Yokogawa is pursuing its goal of women being 12.5% of managers globally by fiscal year 2023, and 20% globally by fiscal year 2030. Two women have been appointed as executive officers this year.

Inside the Yokogawa Electric Corporation, we are actively helping women in Japan achieve success in their jobs by providing assistance with the formulation of career development plans and career development training. In March 2021, a Career and Leadership panel discussion was held with the president and women managers that increased the motivation of participants.

In our recruitment activities, we have established the target of women making up 30% or more of the employees we hire, with the long-term goal of optimizing the gender composition of Yokogawa's workforce. In 2021, women were 52.5% of the new graduates hired by the company in Japan. In March 2016, we formulated a General Employer Action Plan based on the Act on the Promotion of Female Participation and Career Advancement in the Workplace and disclosed it on the Ministry of Health, Labor and Welfare's website.

障害者の活躍推進

横河電機では1992年にノーマライゼーションプロジェクトを発足させて以来、一貫して障害者の積極的な採用活動を継続しております。YOKOGAWAグループでは自立・自律性、向上心、チャレンジ精神をキーワードに、上肢・下肢障害、聴覚障害、視覚障害、内部障害、精神障害、発達障害、知的障害のある社員がそれぞれのスキルや経験を活かし、技術・製造・営業・事務などさまざまな分野で活躍しています。

グループ会社の1つである横河ファウンドリーは、障害者雇用促進法に基づく特例子会社に認定されています。今後も、労働関係機関と連携を図りながら、障害のある社員の活躍を積極的に推進していきます。



Human Resources Development

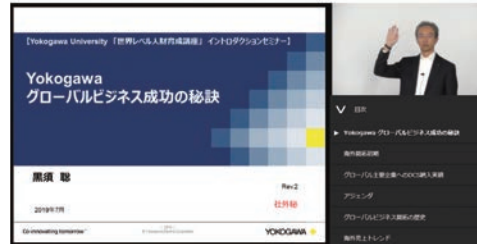
Area of Contribution	Realization of the Environment that Allows Employees to Fulfill Their Potential	Focus Domain	Training Human Resources and Developing Skills Suited for Reform
SDG Contributions		Metric	Training time per person

A diverse workforce is an indispensable management resource and a key driver for Yokogawa’s growth and creation of value. To achieve the targets of the AG2023 mid-term business plan, Yokogawa is pursuing a human resources strategy that is focused on transformation through accelerated strengthening of human resources, comprehensive promotion of diversity and inclusion, and management of health and productivity for creation of new value through co-innovation with our customers. Moreover, to be a trusted partner and a respectful citizen to our various stakeholders, we will advance group-wide efforts to cultivate a rewarding corporate culture by instilling Yokogawa’s mission and purpose in the hearts of each employee and establishing a framework that enables employees to pursue their career goals.

Fostering a Corporate Culture That Inspires Employees to Grow with the Company

Initiatives of Yokogawa University to Realize a “Learning Company”

With the goal of ensuring Yokogawa can continue to create greater value for our customers and society in a fast-changing world, in October 2018 we established Yokogawa University, an in-house institution, to provide our employees with an environment to acquire and increase their level of expertise and skills in a broad range of areas. E-learning is used as the primary method of training so that our employees around the globe have an equal opportunity to learn without time or location constraints. At the same time, we are developing instructors globally to ensure the availability of instructors at all our locations.



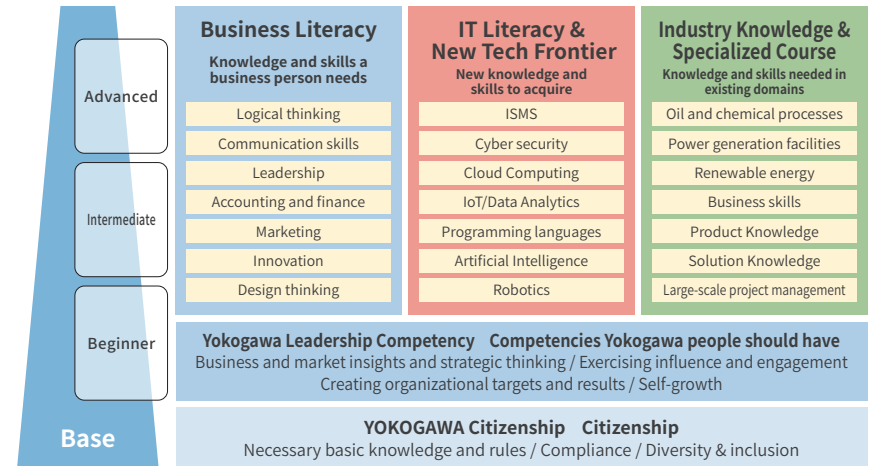
E-learning class with internal lecturer

Further, our officers serve as instructors to educate our employees.

By offering employees opportunities to take on new challenges and helping motivated employees grow faster while cultivating a corporate culture where employees can learn from one another (“Learning Company”), Yokogawa aims to transform itself into an enterprise that is able to achieve sustained growth through employee growth and development.

Expanding the Program Content to Contribute to AG2023

Education programs are divided into three major themes: Business literacy, which is a set of basic skills in leadership, finance, and other areas expected of a professional; themes based on functional areas of business such as sales and services needed to transform existing businesses and to impart knowledge; and themes based on new technologies and other resources needed to create new businesses and transform business models. External e-learning resources have also been incorporated to expand the programs. While the University started with some 120 programs when



Yokogawa University Learning Categories

it opened in October 2018, it was increased to about 2,280 by the end of March 2021. We intend to keep expanding hard and soft types of contents geared toward achieving our AG2023 targets. Employees will apply what they learned from the programs to work and generate more value, so as to realize growth for the Company.

Global Talent Management System

To sustain growth and enhance its corporate value over the medium to long term, Yokogawa is prioritizing the development of leaders who are capable of achieving success in the global business arena. To systematically recruit and develop global human resources and prepare them for managerial roles, in FY2018 Yokogawa established an organization to pursue a group-wide, strategic approach to human resources allocation and development.

Moving forward, we will further expand our efforts to develop more leaders at an early stage.



A Safe and Comfortable Work Environment

Promotion of Work-Life Management

The environment surrounding employees and their values are constantly changing as they go through different stages of life. We support employees to manage their work and family life by establishing new flexible work systems, including a flextime system without core time, a telecommuting system, and a time-unit leave system, so that they can focus on work with peace of mind as they adapt to various life changes. Yokogawa Electric offers programs that help its employees balance work and family, including an hourly childcare leave, which is available until the child enters elementary school, and a childcare leave for sick/injured children. In addition, the Company's next-generation childcare assistance program supplies ¥100,000 per child once a year. Many employees, both men and women, take advantage of these programs, and almost all of those who take childcare leave return to their former positions, thanks to the many programs supporting workers returning from leave and a workplace culture based on mutual understanding and support. To make it easier for employees to take childcare leave, the Company informs those with a new child and their superiors of the availability of its childcare programs. We have also developed related programs, including full pay for the first week of childcare leave.

As a consequence, the percentage of male workers who take childcare leave increased from the 1% range to 16.2% (FY2020). Further, the Company was successful in attracting Poppins Nursery School Musashino, a nursery certified by the Tokyo metropolitan government, to the premises of our head office to help not just employees but local residents balance childcare and work. As a result of these efforts, the Company received Platinum Kurumin Certification by the director-general of the Tokyo Labor Bureau as a company supporting childcare in February 2021. The telecommuting system and time-unit leave system introduced by Yokogawa Electric in FY2016 are used by many employees, including those who need childcare and nursing support, as a work style unconstrained by time or location. In an effort to create a corporate culture that encourages employees to use these systems, our in-house newsletter features the work styles of employees who are using the programs effectively and a message from the president. We have also opened an information site on the intranet to introduce various examples of work styles and programs. In this way, we have employed many different media channels to encourage the use of the programs. As a response to the COVID-19 pandemic, we have transitioned to remote work for the most part and maintained our business operations even after the state of emergency was declared, which has been functioning well from the perspective of business continuity plans (BCP).

Moreover, we have made it a global policy in this new normal era to switch from the assumption

that work is carried out at the office to a work style of independently selecting where to work to create output most efficiently in accordance with work contents, goals, and lifestyle. As such, we are promoting new work styles centered around telecommuting. Yokogawa Electric introduced a remote work system that allows work from any location in April 2021, and we are trying out new work style reforms not only to acquire excellent human resources and improve engagement but also to enable sustainable growth of Yokogawa.

■ See the initiatives for resolving material issues on page 25.



The Kurumin mark

Harassment Prevention

Yokogawa works to prevent harassment and prescribes that “harassment is not allowed” in the Yokogawa Group Code of Conduct. In order to promote diversity and develop an environment where all employees can thrive, we revised the “Corporate Policy for Harassment” and established the “Harassment Prevention Guidelines” in FY2016. We encourage the employees of Yokogawa Electric and its group companies in Japan to be respectful of one another and inform them that we do not tolerate any acts of harassment, including sexual harassment, abuse of authority, harassment that interferes with the use of childcare and nursing care leave, stalking, and discriminatory acts against members of the LGBT community, and are making efforts to ensure compliance and implementation.

Further, Yokogawa Electric has established the “Yokogawa Group General Hotline,” where the employees of Yokogawa Electric Corporation and its group companies in Japan can receive consultations on various issues including harassment. When consulted, we conduct necessary interviews and investigations on workplace conditions based on the intentions of employees seeking advice while taking their privacy into consideration. If harassment is found to have occurred, we take strict disciplinary actions against the person who committed the harassment and give appropriate guidance such as requesting measures to prevent reoccurrence. We ensure that employees seeking consultation and employees who contribute to fact-finding investigations will not be treated disadvantageously.



A Safe and Comfortable Work Environment

Management of Health and Productivity

We aim to create a corporate culture that allows everyone to challenge themselves in health and with peace of mind in the new normal era. For this, we are building an environment where it is easy to work, such as workspaces that are kind and safe for everyone, thereby helping each and every employee to be in best mental and physical condition as well as maximize their performance. As such, we are supporting our employees to independently take care of their health, promoting good mental and physical health, boosting motivation and sense of happiness, and contributing to the realization of “well-being” as a spiritually rich lifestyle for everyone.

Yokogawa formulated a Health Declaration in 2016. We have then been certified as an outstanding health and productivity management organization (White 500)* since 2017. The Group company Yokogawa Solution Service Corporation was also certified as White 500 in 2018 and 2019, and we intend to expand our activities to other Group companies and make health and productivity management an important part of the Group’s management.

*Excluding 2020

Health Declaration

Yokogawa aims to be a company that supports its employees in their efforts to improve their physical and mental health, encourages the development of lively and stimulating workplaces, and contributes to society.



Health Development Program

Yokogawa Electric started the Health Development Program as a new measure to promote health in FY2015. In this, employees independently check their condition and are encouraged to provide self-care and improve their health. The program includes counting the number of steps in a one-week period, an interview with a physician on the day of the program (about exercise, diet, drinking, smoking, sleep, and cognitive habits, etc.), and the measurement of body composition and physical fitness. In addition, occupational physicians refer to findings from previous checkups and give each employee tips to improve lifestyle. In particular, moderate exercise helps to prevent lifestyle-related illness and mental diseases, serves as a stress relief, and improves job performance. Amid changes to telework-centered work styles during the COVID-19 pandemic, we are engaging in this Health Development Program that can accommodate diverse work styles.



Yokogawa’s senior executives are also taking part in the program (body composition measurement).

Utilizing Data on Health

We started tallying and analyzing data from health examinations, stress checks, the Health Development Program, and work attendance in FY2020. . In the future, we will visualize those analytical results to develop the program to raise workplace and employee awareness about health and promote better health action. We also aim to energize the organization and increase employees’ work engagement and performance (productivity).

Providing Learning Opportunities to Promote Mental and Physical Health

We are working to raise our employees’ health awareness by implementing e-learning, managerial training, health education in various seminars, and a range of events on exercise and smoking, thereby hoping to encourage them to take health action from themselves.

EAP for a Healthy, Fulfilling Company Life

We offer an Employee Assistance Program, which is designed to help employees maintain high performance and avoid a situation in which they are unable to demonstrate their full potential due to health problems and life changes. Under EAP, we establish a comfortable working environment while improving the program to adapt to the current situation and support employees to manage both their mental health (e.g. stress care) and careers (e.g. reinstatement support). It is our goal to ensure that all our employees stay in good health and enjoy a fulfilling company life.

Employee Assistance Program (EAP)

Education/PR	Utilize e-mail and web pages to provide relevant information that will help employees gain a better understanding of mental health.
Mental health training	Implement training for new employees and managers in an effort to prevent or early detect mental health problems.
Stress check	Based on the results of the stress check, identify causes of stress in the workplace. Implement programs and activities involving the entire workplace to prevent, contain, and eliminate these causes so as to ensure a more comfortable workplace.
Assistance for returning to work	To care for employees who suffer from mental health problems or take a leave of absence, and to ensure the smooth reinstatement of those who return to work after recovery so as to prevent recurrence, we have a system to provide proper support for each individual and workplace in all stages of mental health response.
Health development (health improvement measures)	To promote employees’ physical and mental health, we offer health development programs centered around improving lifestyle habits, particularly exercise habits. Physical exercise is effective in the prevention of mental disorders as well as physical illness. As such, we support our employees to improve their health by checking their health condition and providing self-care.
Consultation	We have a system to help our employees seek consultation within or outside the Company regarding not only mental health but also various areas of human relationships, career issues, sexual harassment, abuse of authority, and discrimination against individuals including LGBTs.



A Safe and Comfortable Work Environment

Workplace Reform

We are working on the introduction and improvement of free work spaces to allow employees to independently choose where they work. These spaces are intended for many different purposes. For example, Concentration Space is for individuals to concentrate on their respective tasks; Collaboration Space is designed to facilitate internal collaboration; and Relaxation Space helps staff members come up with ingenious new ideas. We have also incorporated COVID-19 measures to flexibly adapt them for safe and secure use by employees.

Trying Workplace Reform at Development Workplaces Too

Our development workplace offices used to be difficult in terms of workplace reform because of the work conducted there. However, as employees at development workplaces increasingly expressed their desire to try new work styles, we started work to renew the offices by having the employees there set up projects.

Introducing the Shared Office as a Third Place

It used to be taken for granted that you work at the office, but working from home has now become part of our daily lives. It has now become possible to use shared offices where you can choose to work according to your personal situation, outside the office and the home.



We can change how the free workspaces are used depending on the situation. Changing from collaboration-oriented (top photo) to solo work-oriented (bottom photo) is also possible



Renewed development workplace



Shared offices where employees can independently choose to work

Facilities Dedicated to Human Resources Development

We opened a “learning center” as a place for employee human resources development in 2021. We have prepared an environment for comfortable training, both in person and online, with rooms that can be changed into different sizes and layouts according to number of participants and training contents.

Details are available on page 25 of the contribution examples.



Learning center YOKOGAWA Campus

Building an Environment That Accepts Diversity

As our employees become more diverse, we are working hard to create an environment where everyone’s “differences” are understood and everyone feels comfortable working.

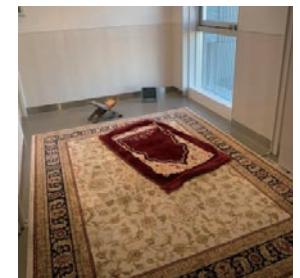
• Prayer rooms

We have set up facilities for employees who need to pray during working hours for religious reasons.

• Break rooms for women

When communicating with employees in the middle of child-rearing, they said things like “there’s nowhere I can comfortably pump my breast milk,” “I’d like somewhere to relax during pregnancy,” and “it would be good to have somewhere to lie down a while.” It is an important task to create a working environment where everyone is respected and equal, so it was urgent for us to create a workplace environment where pregnant and child-rearing women can also feel comfortable. This is why Yokogawa Electric created the “break rooms for women” as spaces where women can pump milk, manage their health, and relax comfortably.

We have prepared the required environment by including a fridge and freezer for storing breast milk and a microwave oven to sterilize the milk pump, thereby making it easier for women to choose to raise toddlers while working. Feedback from female employees using the rooms has been things like “I use it when I go to work and it’s a great help” and pregnant employees commenting that “I generally telework, but just having the break room is an assurance when I do go to the office.”



Prayer rooms



Break rooms for women



A Safe and Comfortable Work Environment

Area of Contribution Improvement of Safety and Health

SDG Contributions

Focus Domain Occupational Health and Safety Management

Metric ISO45001 certification (FY2020) principal locations certified (4)/ (FY2023 target) principal locations certified (12)

Occupational Health and Safety Initiatives

The Yokogawa Group has introduced an Occupational Health and Safety Management System (OHSMS) and seeks to continuously enhance the levels of activities related to occupational health and safety and promote risk reduction. With the goal of improving the levels of occupational health and safety in phases, the Group is undertaking initiatives to eliminate and reduce potential risks identified through risk assessment and is regularly conducting internal audits of the Group companies to evaluate and review the initiatives. Yokogawa is also enhancing the effectiveness of the system by combining these initiatives with its existing activities, including analysis of and countermeasures against near-misses and health and safety patrol. We have introduced telework (working from home) as a measure to stop the spread of the COVID-19 pandemic. As with the environment at the workplace, we are implementing measures to prevent occupational hazards in the telework environment too.

*Occupational Health and Safety Management System

Occupational Health and Safety Policy

- In recognition that occupational health and safety are a basis for the management of the Yokogawa Group, Yokogawa shall pursue the following initiatives to promote, create and maintain health and safety for all of its personnel involved.
- Establish an occupational health and safety management system, clarify roles, authorities, and responsibilities, and promote occupational health and safety management activities.
 - Work to improve occupational health and safety by observing relevant laws and regulations as well as establishing the necessary independent standards.
 - Seek to eliminate or lessen risks to occupational health and safety by first assessing their danger level.
 - Promote open communications with Yokogawa Group personnel, customers, shareholders, members of the local community, and contractors.
 - Provide the education and training to all Yokogawa Group personnel to ensure occupational health and safety.
 - Perform audits on a regular basis and make continual improvements in our occupational health and safety system.

Operation of the Occupational Health and Safety Management System (OHSMS)

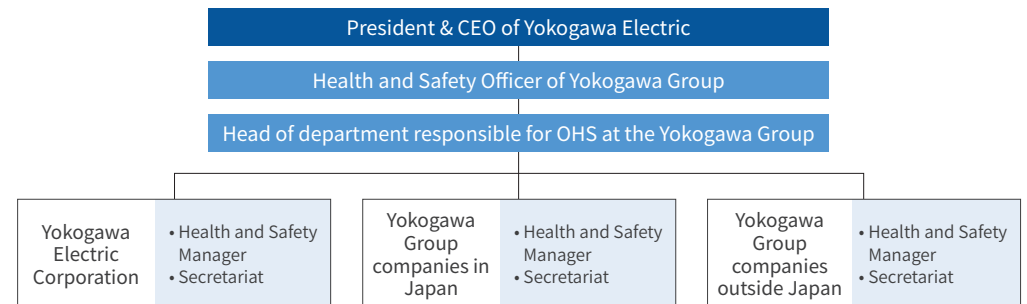
With the goal of improving the levels of occupational health and safety in phases, the Group is undertaking initiatives to eliminate and reduce potential risks identified through periodic risk assessment and is conducting internal audits of the Group companies to evaluate and review

the initiatives. Yokogawa is also enhancing the effectiveness of the system by combining these initiatives with its existing activities, including analysis of and countermeasures against near-misses and health and safety patrol. As of FY2020, four of our twelve principal locations have been ISO 45001 certified. We aim to have all principal locations certified by FY2023.

Yokogawa Group Occupational Health and Safety Objectives

- Elimination or reduction of occupational accidents
Secure safety and promote health of all personnel working for the Yokogawa Group.
- Establishment, maintenance, and improvement of the Occupational Health and Safety Management System (OHSMS)
 - (1) Make continual improvements in OHS activities, through implementation of PDCA cycle and sharing OHS activity information.
 - (2) Conduct risk assessments in all Yokogawa Group companies, for eliminating or reducing risks.
 - (3) Maintain and improve the current OHS level by carrying out internal audits.
- Observing laws and regulations
Observe OHS-related laws and regulations.
- Conducting OHS activities
 - (1) Activities to ensure safety as well as to maintain and improve health
 - (2) Activities to build awareness of traffic safety
 - (3) OHS training
 - (4) Fire and evacuation drills
- Disclosure of OHS information
Communicate openly with Group personnel and the local community about OHS activities and results.

OHSMS Structure





A Safe and Comfortable Work Environment

Occupational Health and Safety Education and Training

To maintain and improve the standards of activities throughout the entire Yokogawa Group and eliminate occupational accidents, we are committed to providing awareness activities for all group employees. We offer an educational program to reiterate the importance of preventing “slips, trips, and falls,” as well as “Yokogawa QHSE Month,” an awareness program related to quality, occupational health and safety and the environment. We also provide education targeting newly-appointed personnel in charge of occupational health and safety activities, etc., hold workshops in the Health and Safety Committee, conduct training sessions for ensuring safety while performing tasks at our customers’ plants, factories, etc., and give lectures on traffic safety, among others.

We have introduced telework (working from home) as a measure to stop the spread of the COVID-19 pandemic. We provide training for ensuring safety and maintaining health during telework (working from home) as well as education and training at the workplace during telework periods.



Evacuation drill (Yokogawa Electric)

Yokogawa Safety Handbook

As part of our measures to reduce and eliminate occupational accidents, we published the Yokogawa Safety Handbook in FY2019. Shared by the entire Yokogawa Group, the handbook is intended as a guide to help employees ensure safety and behave in a safe manner. It comprises nine safety principles and three tips on occupational



Yokogawa Safety Handbook

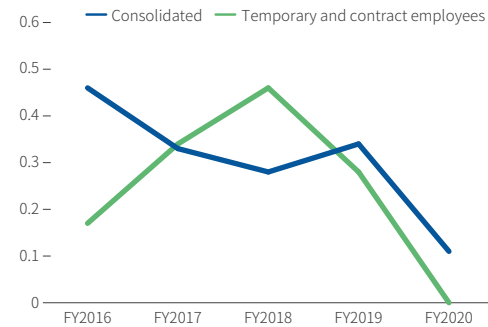
health and safety. The nine safety principles focus on reducing the risk of occupational accidents. The three tips introduce topics helpful in building and maintaining a safe workplace environment. The handbook was translated into multiple languages and distributed to all staff members of the Yokogawa Group.

Elimination and Reduction of Occupational Accidents

To eliminate and reduce occupational accidents and improve the quality of health and safety activities, the Yokogawa Group aggregates and analyzes data and information on occupational accidents on a quarterly basis. The information is provided throughout the Group on the intranet to prevent recurrence of the same or similar accidents.

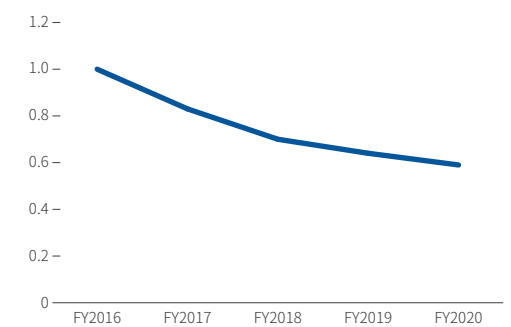
Frequency rate of lost time accidents

$$\text{Frequency rate of lost time accidents} = \frac{\text{Number of lost time accidents}}{\text{Aggregate number of work-hours} \times 1,000,000}$$



Frequency rate of occupational accidents

$$\text{Frequency rate of occupational accidents} = \frac{\text{Number of lost time accidents} + \text{Number of no lost time accidents}}{\text{Aggregate number of work-hours} \times 1,000,000}$$





Respect for Human Rights

Yokogawa Group Human Rights Policy

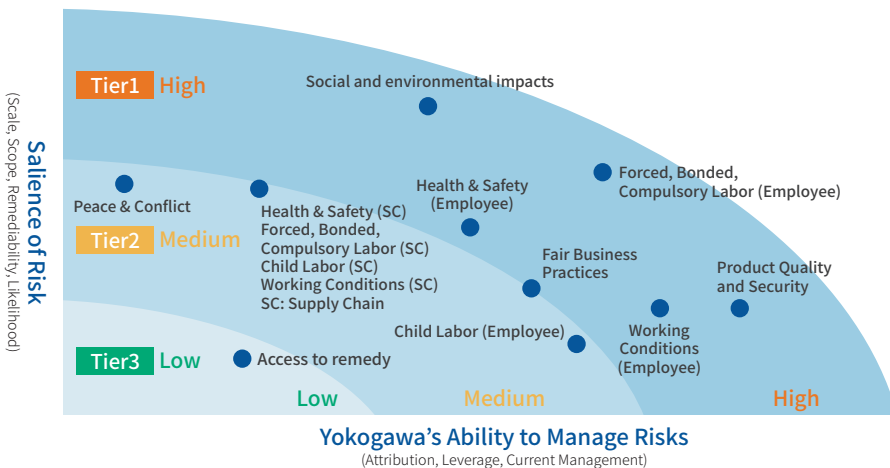
Yokogawa Group's corporate philosophy is "As a company, our goal is to contribute to society through broad-ranging activities in the area of measurement, control, and information." and "Individually, we aim to combine good citizenship with the courage to innovate." Based on this philosophy, the Group has supported industry and society by providing a range of solutions that help our customers improve productivity and transform their businesses. Together with our customers and partners, we continue to create new value for the future under our corporate brand slogan, "Co-innovating tomorrow".

All of our business activities are based on respect for human rights. By deepening our understanding of the various human rights issues in the countries and regions where we conduct our business, and by being actively involved in resolving them, we must strive to ensure that people's dignity is protected and respected. We have established the Yokogawa Group Human Rights Policy as a commitment to fulfill this responsibility. The Policy is disclosed on the Group's website.

Human Rights Management

Yokogawa Group Human Rights Policy was established with the approval of the Board of Directors. We have established an internal system in which the President and CEO has the highest responsibility for human rights in the Group, and we are implementing ongoing efforts. The Human Rights Working Group, whose members are selected from the departments related to human rights, is working on specific human rights initiatives.

Human Rights Risk of the Yokogawa Group



Human Rights Due Diligence

Yokogawa is committed to implementing human rights due diligence to identify, prevent, and mitigate any potential negative impacts on human rights throughout our business and the supply chain and to achieve accountability for our activities.

We have built internal control systems for the entire Group for occupational safety and health, labor management, and purchasing and sales management, and are working to reduce risks, taking corrective actions when we identify problems.

In addition, we have set up whistleblowing hotlines for everyone working at Yokogawa as a means to prevent human rights violations. We accept reports from and listen to the problems of our customers, business partners, community members, and all stakeholders about human rights violations through the inquiry function (Contact Us) of our website. We have a system that allows the department in charge of business ethics to solve any reported issues regarding human rights in cooperation with human resources, procurement, legal and other departments.

Human Rights Risk Assessment

The human rights risk assessment identifies human rights issues of high priority by confirming company policies, business activities and the operating status of the internal control systems, and interviewing relevant parties in the Group as well. The priority is determined by two perspectives: salience of the risk of creating an adverse impact through our business activities and business relationships, and Yokogawa's ability to manage the risks.

As a results of risk assessments, the following six items were identified as human rights risks with highest priority; social and environmental impacts, forced, bonded or compulsory labor (employee), health and safety (employee), fair business practices, product quality and security, and working conditions (employee). Regarding high priority human rights risks, we will continue striving to reduce the risks, taking into account the characteristics of each country and region. If we identify a problem, we will take appropriate measures.

Major Human Rights Initiatives in FY2020

- Establishment and announcement of the Human Rights Policy
Aiming to expand our corporate activities respecting human rights in cooperation with employees, business partners, and suppliers around the world, we have established the Yokogawa Group Human Rights Policy.
- Human Rights Due Diligence for priority suppliers
We have selected business facilities of our business partners based on experts' knowledge and industry assessment and introduced Human Rights Due Diligence using the self-assessment questionnaire (SAQ) by business partners.
- External disclosure of sustainable procurement activity report
We have disclosed our activities in the supply chain, aiming to achieve the sustainability goals "Three goals".
- Human rights education and awareness raising for the Group employees
We have provided education and awareness raising regarding respect for human rights for all people working at Yokogawa to understand and comply with the Human Rights Policy.
- Improvement of the whistleblowing hotlines for external stakeholders
We have improved the inquiry form regarding compliance for better understanding.



Environment

Climate change and environmental problems are feared to affect not only business but the very survival of humanity.

Yokogawa is proactively working to protect the Earth's environment.

This chapter introduces our initiatives for environmental protection.

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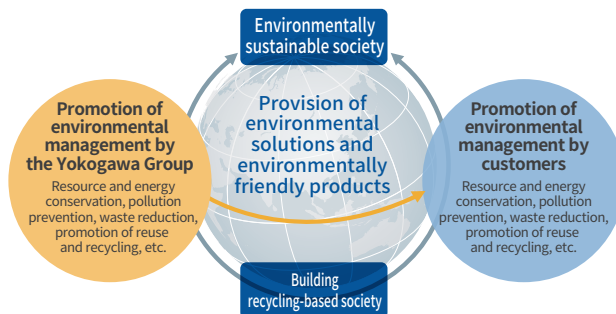
Environmental Management

Environmental Policy

In accordance with Yokogawa's corporate philosophy contribute to the realization of a sustainable society through broad-ranging activities in the areas of measurement, control, and information, we will promote environmental preservation activities to help realize a sustainable society and try to achieve our three goals for 2050.

- We will: Establish an environment management system, clarify roles, authorities and responsibilities, and promote environmental preservation activities.
- Prevent pollution by observing laws and regulations and, if necessary, setting voluntary standards.
- Promote environmental conservation by tackling environmental issues such as climate change, biodiversity, and use of resources and by setting environmental targets.
 - (1) Pursue resource recycling management by endeavoring to save, reuse, and recycle resources, conserve energy, and prevent global warming, while reducing the risks of environmental pollution by minimizing the substances having a negative impact on the environment in all operations.
 - (2) Develop and produce environmentally friendly products by evaluating the environmental impact throughout the product lifecycle from material procurement, manufacturing, distribution, and use to disposal.
 - (3) Provide society with higher-value-added solutions and services that contribute to global environmental conservation through measurement, control, and information technologies.
 - (4) Strive to co-exist with society as a good corporate citizen by participating in environmental conservation activities and encouraging employees to take part in voluntary activities.

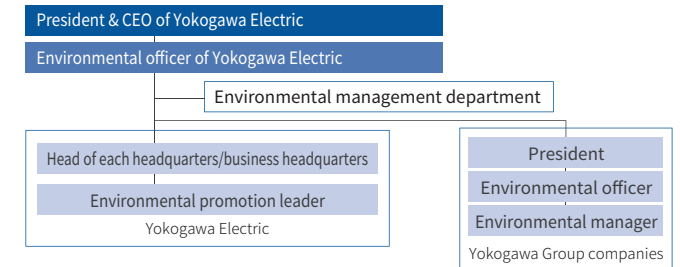
- Provide all Yokogawa Group personnel with the education and training necessary to pursue environmental conservation activities.
- Disclose relevant information and promote open communications with Yokogawa Group personnel, customers, shareholders, members of the local community, and business partners to deepen and co-create environmental conservation actions and initiatives.
- Make continual improvements on the Yokogawa Group environmental management system by evaluating environmental performance and conducting audits on a regular basis.



Promotion Structure

The Yokogawa Group's promotion structure for environmental activities is managed by the environmental officer of Yokogawa Electric. The structure promotes the Group's environmental conservation activities and preventive measures against global warming.

Environmental promotion structure



Environmental Management System

The Yokogawa Group is implementing an environmental management system in the Group companies to ensure full compliance with the laws, regulations, and agreements for the prevention of environmental pollution. Moreover, we are working to reduce the impact on the environment by means such as saving energy and transitioning to alternative technologies with smaller environmental footprint.

Yokogawa has acquired ISO 14001 certification at its major offices and manufacturing sites as part of its effort to improve the environmental management system.

Internal Audits

Internal audits for ISO 14001 are conducted at least once a year.

Annual Audits

Regular audits (renewal audit or surveillance) are conducted once a year at each ISO 14001-certified Group company by a certifying organization in order to maintain ISO 14001 certification.

ISO 14001 Certification at Yokogawa Group

The Yokogawa Group has achieved ISO 14001 certification primarily at its major offices and manufacturing sites in and outside Japan.

See our website for our certification status.a



Environmental Management

Environmentally Friendly Design

Yokogawa actively develops environmentally friendly products through the implementation of its own strict standards of design and assessment for long-term usability, energy-saving performance and other aspects. New products are evaluated for energy consumption as well as the emission of carbon dioxide (CO₂), nitrogen oxide (NO_x) and sulfur oxide (SO_x) based on our "Lifecycle Assessment (LCA) standards". Some of the evaluated products bear the LCA label, which shows the LCA results.

(1) Environmental Assessment Standards for Product Design

We have established assessment standards in eight areas: ease of recycling and treatment, resource conservation, energy conservation, long-term usability, ease of collection and transport, safety and environmental protectiveness, information disclosure, and packaging. These standards are used in conducting assessments during each inspection (initial design, intermediate design, and final design).

(2) Lifecycle Assessment (LCA) Standards

The LCA standards are used for preliminary assessments of energy use, CO₂ emissions, NO_x emissions, SO_x emissions, and the like throughout the lifecycle of a product. These standards are used in conducting assessments during each inspection (initial design, intermediary design, and final design).

(3) Environmentally Friendly Product Design Guidelines

These guidelines state for long-life design, energy-saving design, resource-saving design, design considering recycling and disposal, design considering processing and assembly, and the guideline for selecting materials and components.

(4) Management criteria for hazardous substances contained in products

Yokogawa has established chemical substance management categories to be the criteria for

selecting environmentally friendly components and materials in the design stage.

Banned Substance 1: Substances globally prohibited for use in products

Banned Substance 2: Substances nationally/regionally prohibited for use in products

Banned Substance 3: Substances prohibited for use in products for specific uses

Controlled substance: Substances whose content should be known and notified

(5) Recycled Product Design Standards

These standards encourage the three Rs: the reduction of waste, the reuse, and recycling of used products.

(6) Energy-Saving Design Guidelines

These guidelines state the matters to be ensured in energy-saving design in product use and manufacturing processes.

LCA Label

Yokogawa began to conduct the lifecycle assessment (LCA) in 1999 in the design phase of all new products as part of efforts to minimize our products' environmental impact. Some of the results of the LCA are disclosed on our website. When LCA data is disclosed for a product, the applicable product is "LCA labeled" in the product webpage and/or sales brochure. This corresponds to Type 2 environmental labelling as stipulated by ISO 14021.

Concept/Implementation of the LCA

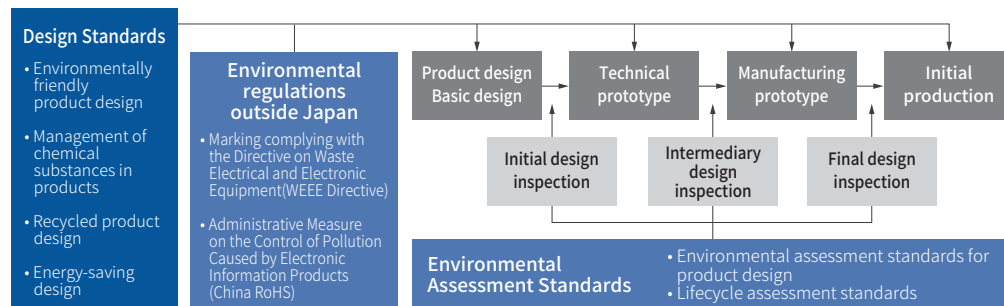
Yokogawa has set its unique LCA standards based on JIS Q 14040 "Environmental management - Life cycle assessment - Principles and framework." We compare a new product with our previous product for assessment purposes. The results of the LCA of the previous product are multiplied by the "functional factor" to compare the environmental impacts based on the equivalent functionality of the new product. When the results of the LCA on the previous products clearly suggest how these products would impact the environment, we may only conduct LCA on the elements significantly affecting the environmental impact.

Requirements for LCA Labeling

A product will be LCA-labeled if it meets all the requirements described below:

1. Lifecycle assessment has been conducted according to Yokogawa's engineering specifications.
2. The results of lifecycle assessment are disclosed on the Yokogawa website according to the company's internal rules.

Environmentally Friendly Design and Environmental Assessment Standards



See our website for LCA-labeled products.



Environmental Practices

Data of Environmental Practices

Overview of Environmental Impact

Yokogawa calculates the eco-balance of its overall business activities, or the annual volume of the energy and material inputs for its business activities (including manufacturing, sales, and service) as well as their annual output of waste and other substances into the air and water. Analysis of the eco-balance helps us effectively use resources, raise energy efficiency, and improve the waste recycling rate.

Compliance

In FY2020 Yokogawa continued its efforts to ensure full compliance with environmental laws, regulations, agreements, and other requirements. As a result, Yokogawa committed no major violations and faced no fines or other penalties resulting from such violations.

Conserving Water and Soil

Yokogawa has been conducting soil and water surveys at former plant sites in accordance with its proprietary control standards since before the Japan's Soil Contamination Countermeasures Act came into effect.

Awareness Programs

To raise employee awareness about the environment, awareness programs are offered to all employees of the Yokogawa Group, including e-learning courses on quality, the environment, and safety, films with environmental themes, and lectures.

Eco-Balance (Annual Input and Output)

	Type of Environmental Footprint		FY2020	
INPUT	Energy	Total Energy	1,382TJ	
		Power	Purchased power	120,588MWh
			Renewable energy	113MWh
		Petroleum	Light oil	343KL
	Gasoline		1,889KL	
	Gas	Kerosene	10KL	
		City gas	2,022k Nm ³	
Heat	LPG	333t		
			104GJ	
Water	Utility water	311km ³		
	Ground water	177km ³		
Substances	Paper	184t		
	Hydrogen fluoride and its water-soluble salts	2t		
	Ferric chloride	10t		
	Xylene	1t		
	Hydrazine	2t		
OUTPUT	Type of Environmental Footprint		FY2020	
	Atmosphere	Greenhouse gas (GHG)	71,727t-CO ₂ e	
		NOx	3.8t	
		SOx	0.2t	
	Water	Industrial wastewater	89km ³	
		General wastewater	374km ³	
Waste	Non-hazardous	Recycling	2,851t	
		Incineration	481t	
	Hazardous	Landfilling	524t	
				527t

Environmental Accounting

In accordance with the Ministry of the Environment's Environmental Accounting Guidelines 2005, Yokogawa calculates the costs of its environmental activities and their economic impact.

Environmental Conservation Costs (FY2020)

(Unit: millions of yen)

Category	Item	Main Initiative	Capital Investment	Related Costs
Costs for reducing environmental impact of factories (areas of operation)	Pollution prevention costs	Monitoring and measurement	26.7	53.6
	Environmental conservation costs	Energy savings	284.5	645.9
	Resource recycling costs	Waste reduction, water conservation	0.0	108.2
Costs for reducing environmental impact of procurement and logistics (upstream and downstream costs)		Green procurement	0.0	72.8
EMS maintenance costs		EMS updates, education	0.0	145.6
Environmental conservation costs in community activities		Environmental events	0.0	41.5
Costs for correcting damage to the environment		Soil recovery	40.0	1.4
Total			351.2	1,069.0

*Data covers ISO 14001-certified manufacturing sites.

Effects of Environmental Conservation Measures

Category	Description of Effect	FY2019	FY2020	Increase/Decrease
Inputs	Total amount of energy consumed (TJ)	1,021	996	-25
	Total amount of water withdrawal (km ³)	402	405	3
Global warming prevention	CO ₂ emissions (t)	51,493	49,541	-1,952
Outputs	Total amount of waste generated (t)	3,812	3,409	-403

*Data covers ISO 14001-certified manufacturing sites.

Economic Effects of Environmental Conservation Measures (FY2020)

(Unit: millions of yen)



Segment	Amount
Revenue from recycling (sale of valuable resources, etc.)	60.3
Reduction in expenditures due to resource and energy savings (power, water, paper, etc.)	143.4
Total	203.7

*Data covers ISO 14001-certified manufacturing sites.



Environmental Initiatives at Business Facilities

Area of Contribution Achieving carbon neutrality

SDG Contributions  

Focus Domain GHG reduction at Yokogawa sites and in supply chain

Metric GHG emissions (Scope1,2) (base year FY2019)
8% reduction (FY2020 Performance)/10% reduction (FY2023 Target)

Reduction of GHG Emissions

Now, the entire world faces the critical challenge of controlling global warming. Having formulated a climate change strategy aligned with the TCFD recommendations, one of Yokogawa's metrics for assessing and managing climate-related risks and opportunities is the reduction of greenhouse gas (GHG) emissions.

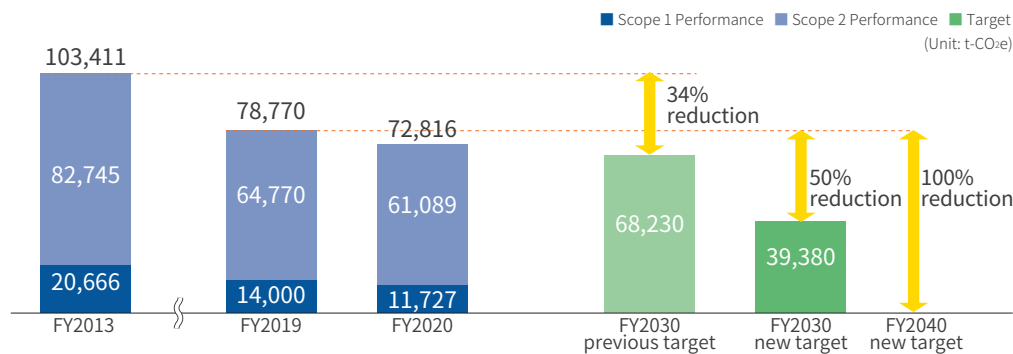
In our day-to-day operations, one of Yokogawa's key performance indicators (KPIs) is the reduction of CO₂ emissions by 1 billion tons (from FY2018 to FY2030) through the supplying of our products and solutions to infrastructure that enables renewable and low-carbon energy solutions. We will continue to reduce GHG emissions stemming from the Yokogawa Group's actions.

First, we ambitiously redefined our goal: Achieve carbon neutrality by FY2040. To achieve this goal, we will plan and implement initiatives that use electricity from renewable energy resources and replace the gasoline vehicles we own with EVs and FCVs, including at our overseas sites.

We will discuss the configuration and operation of an internal carbon pricing (ICP) system to accelerate the introduction of energy reducing equipment.

Additionally, we are planning to become SBT certified as a part of our efforts to reduce GHG emissions in our supply chain. Alongside global goals, we will work to more proactively carry out our GHG emission reduction activities.

GHG Emission Reduction Performance and Targets for FY2030



Achievement of Carbon Neutrality by FY2040

Aiming to reduce GHG emissions 34% from FY2013 by FY2030, Yokogawa has reduced its GHG emissions more than planned every year.

Yokogawa has just set the ambitious goal of achieving carbon neutrality by FY2040 to further promote our measures to address climate change, which is a critical global challenge. As an interim goal, we have decided to reduce GHG emissions 50% from FY2019 by FY2030. The goal is in consideration of a GHG emission reduction level that strives to limit the global temperature rise to 1.5°C over the pre-industrial level, which is one of the goals of the Paris Agreement.

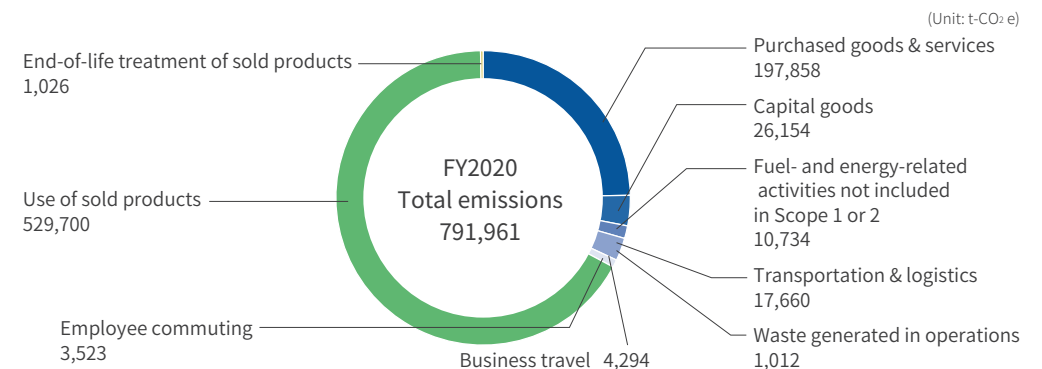
FY2020 Performance

While performance in FY2020 was impacted by the COVID-19 pandemic, the Yokogawa Group reduced its GHG emissions¹ about 8% by reducing energy consumption and replacing equipment with equipment that emits less GHGs. Compared to FY2013, we have already reduced our GHG emissions about 30% while working toward achieving our goal of reducing emissions 34% by FY2030.

We also monitor and calculate indirect GHG emissions in our supply chain (Scope 3). In FY2020, we reduced indirect GHG emissions by 791,961 tons, which is an approximately 12% reduction year on year.

¹ Direct emissions from our fuel use (Scope 1) and indirect emissions from purchased energy (Scope 2).

GHG Emissions in Our Supply Chain (Scope 3)





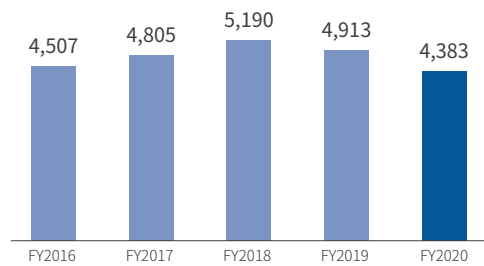
Environmental Initiatives at Business Facilities

Reduction of Waste

The Yokogawa Group is working to reduce waste by reducing, reusing, and recycling resources in our factories, offices, for example, product packaging.

Total Waste Generation

(Unit: t)



Waste sorting at the recycling center

Chemical Substance Reduction

The Yokogawa Group places strict controls on chemicals that are harmful to humans and the global environment. In addition, Yokogawa is developing and introducing alternative processes in an effort to reduce chemical use and waste. Further, to comply with RoHS Directive restricting the use of certain chemicals in electrical and electronic equipment in Europe, as well as with the REACH Regulation (Registration, Evaluation, Authorization and Restriction of Chemicals), we are implementing initiatives for the reduction and proper management of such chemical substances.

PRTR Substances

The amount of substances reported under PRTR* requirements (1,000 kg/year or more handled) is shown in the table below.

*PRTR: Pollutant Release and Transfer Register. The PRTR was established to enable society as a whole to manage chemical substances through the disclosure of toxic chemical emissions data and other information.

PRTR Data (FY2020)

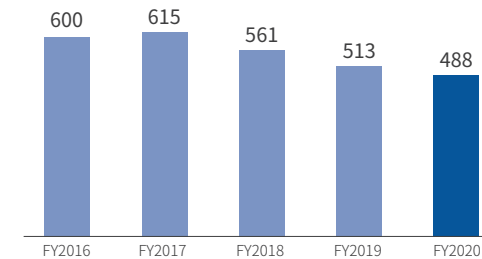
Factory	Substance	Amount used (kg)	Amount emitted (kg)				Amount transported (kg)	
			Air	Public water area	Soil	Landfill	Sewage system	External site
Yokogawa Manufacturing Komagane Factory	Hydrogen fluoride and its water-soluble salt	1,611	3.4	110	0	0	0	0.1
	Hydrazine	2,074	0	0	0	0	0	0
	Xylene	1,334	960	0	0	0	0	380
	Ferric chloride	5,868	0	0	0	0	0	0
Yokogawa Manufacturing Kofu Factory	Ferric chloride	3,770	0	0	0	0	0	0

Water Resource Conservation

Yokogawa is working to reduce the amount of water usage by improving our production processes and introducing water-saving systems to our office water supplies.

Water Withdrawals

(Unit: Kk m³)



Reduction of liquid waste and chemical substances by changing the raw water of pure water production systems

Highly pure water is necessary in the surface treatment lines required in gold plating processes. Yokogawa Manufacturing's Kofu Factory had used ground water as the raw water for its pure water production system. They began using the water used in its production lines instead of ground water in 2020.

Using recycled water (electric conductivity: 20 μS/cm or less) which has higher purity than ground water (electric conductivity: 160 μS/cm) reduced the ion exchange load, the amount of recycling ion exchange resin, and the amount of liquid waste.

The factory reduced the amount of the treatment chemical (consumption of ferric chloride) it uses by changing the liquid waste disposal system from loading a fixed quantity of chemical to adjusting the quantity according to the amount of liquid waste.

Improvement effect:

- Ground water intake: Reduced 30 m³/month
- Number of times the pure water production system is regenerated per month: Reduced from 12 to 2
- Quantity of liquid waste: Reduced from 36 m³/month to 6 m³/month
- Ferric chloride consumption: Reduced from 410 kg/month to 315 kg/month



Environmental Initiatives at Business Facilities

Response to Water Risks

In regions where securing water resource is a serious challenge, Yokogawa is promoting efforts related to water resource through measures such as monitoring water usage and securing alternative water resources.

Yokogawa Electric Asia, Yokogawa Engineering Asia, Yokogawa Electric International (Singapore)

While Singapore has continued its efforts to ensure water self-sufficiency, it is expected that its total water needs will increase going forward. Yokogawa's business site in Singapore is carrying out the following initiatives to maintain water resources and utilize alternatives:

- Comply with the guidelines set by PUB (Public Utilities Board) to avoid excess use of water.
- Use NEWater, a recycled water resource, for air conditioning systems.
- Install water-saving devices to washbasins and plumbing systems.
- Regularly check water consumption to find water leakage early

Yokogawa Middle East & Africa (Bahrain)

In Middle Eastern countries, water shortage is a serious problem. Yokogawa Middle East & Africa carries out the following initiatives:

- Set annual targets for reduction in water consumption per employee and manage the progress.
- Use normal tap water for non-drinking purposes
- Comply with local regulations on water protection including conservation and contamination prevention.
- Increase employee awareness of water protection.
- Inspect any water leakages during the HSE (Health, Safety, and Environment) inspection tour at all facilities and take immediate corrective and preventive measures on any detected abnormality in the water supply system.

Conserving Biodiversity

In its environmental policy, Yokogawa pledges its commitment to biodiversity issues. Based on the Aichi Goal,* we also promote activities to conserve biodiversity.

*An individual goal established by COP10 (10th Conference of Parties to the Convention on Biological Diversity) in 2010 to be achieved by the global community in the field of biodiversity by 2020

Area of Contribution	Optimizing plant lifecycle & protecting environment	Focus Domain	Reduction of Yokogawa's environmental footprint
SDG Contributions	  	Metric	5% Reduction (FY2020 Performance)/4% Reduction (FY2023 Target)

Biodiversity Policy

Biodiversity is a foundation of sustainability in society. Together with our stakeholders, Yokogawa engages in action to conserve biodiversity while taking regional characteristics into account. We will spare no effort to reduce any negative impacts resulting from our various business activities to improve biodiversity and to contribute to creating a better environment in local communities.

Biodiversity Action Guidelines

- **Cooperation with the local community to enhance local value**
Take action in cooperation with government agencies and NPOs to acknowledge and enhance local value.
- **Providing employees with educational opportunities and raising awareness**
Raise awareness of biodiversity among employees by offering them relevant seminars and event.
- **Considering biodiversity conservation within business facilities**
Operate business facilities while giving consideration to the ecosystem by, for example, managing their green areas.

Our biodiversity conservation activities in Europe

Yokogawa Europe participated in World Cleanup Day in the Netherlands and Romania on September 19, 2020. The goal of the event is to clean the earth together as a planet once a year. Over 20 million people from 180 countries participate in the activity.

In 2020, employees and their families picked up garbage near the office and their homes while following COVID-19 infection control guidelines and taking extra care to ensure safety. Garbage and trash will flow into the sea at some later time if it is littered. Consequently, cleaning activities to reduce marine trash protect marine creatures.





Governance

Yokogawa conducts business based on our corporate philosophy and aims to achieve sustainable growth and improve medium- to long-term corporate value.

This chapter introduces our governance and risk management system which are essential foundations of our corporate activities as well as our initiatives for compliance and respect for human rights.

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Sustainability Governance

Yokogawa regards sustainability as one of its key management issues and is continuously working on the improvement of governance. Moreover, with the goals of achieving sustainable growth and earning the trust of every stakeholder through continuing contributions to society and the environment in accordance with the AG2023 mid-term business plan, we monitor sustainability indicators and high-priority risks.

Corporate Governance Promoting Sustainability

Basic Policy on Corporate Governance

Yokogawa established Yokogawa's Purpose and its corporate philosophy as the basic policies related to its sustainability initiatives and strives to achieve sustainable growth for the company and to increase medium and long-term corporate value. To maximize its corporate value, the Group has formulated the Yokogawa Corporate Governance Guidelines which serve as the basic policy for continually working on corporate governance and has disclosed them on its website. Following the revision of Corporate Governance Code which came into effect in June 2021, we will continue to strengthen our efforts to improve corporate governance.

Board of Directors

The Board of Directors meets once a month in principle with the goals of achieving sustainable growth and increasing the corporate value of the Group over the medium and long terms as a decision-making body related to management. To achieve these goals, the Board of Directors strives to improve profit-earning capability and capital efficiency, and sets the general direction of the Group, including its corporate strategies. In addition to monitoring and supervising the execution of business by management, including the Directors and officers, the Board of Directors develops provisions related to Directors' execution of their duties, and it has established a framework to ensure it fulfills its responsibility to supervise the execution of business.

Main Sustainability-Related Agenda of the Board of Directors

- Revision of the long-term business framework, formulation of the mid-term business plan and related sustainability strategies
- Disclosure of sustainability information based on TCFD.
- Yokogawa Group's high-priority risks
- Efforts to address human rights issues

Management Board

The Board of Directors delegates decision-making related to the execution of business to the Management Board to promote swift decision-making. The Management Board, which meets once a month in principle, is required to report its resolutions and other matters to the Board of Directors.

Audit & Supervisory Board

To ensure the Group's sustainable growth and corporate soundness, the Audit & Supervisory Board, which meets once a month in principle, makes appropriate decisions and expresses its opinions from an independent and objective standpoint. Moreover, based on laws and regulations as well as the Auditing Standards for Audit & Supervisory Board Members and the Rules Governing the Audit & Supervisory Board, the Audit & Supervisory Board receives reports from each Audit & Supervisory Board Member on important matters related to audits, deliberates, and passes resolutions as necessary.

Risk Management Committee

The Risk Management Committee selects significant risks whose management should be prioritized, decides the methods for monitoring them, and reports them to the Board of Directors. Respective organizational units of the Yokogawa Group perform the identification and assessment of risks, followed by the preparation and implementation of countermeasures against them. The department in charge of internal audits evaluates the effectiveness of the Yokogawa Group's risk management process and reports important findings to the Board of Directors and the Audit & Supervisory Board Members.

Sustainability Management Cycle

	April to September	October to March
Stakeholders	Communication with stakeholders	
	ESG assessment responses	ESG assessment feedback
Monitoring and supervision (Board of Directors)	ESG risk report Sustainability activity report	ESG risk assessment Internal control assessment
Business execution (Management Board)	Management of mid-term business plan	
	Review of sustainability indicators and measures	Review of sustainability indicators and measures
	Implementation of internal control system	



Sustainability Governance

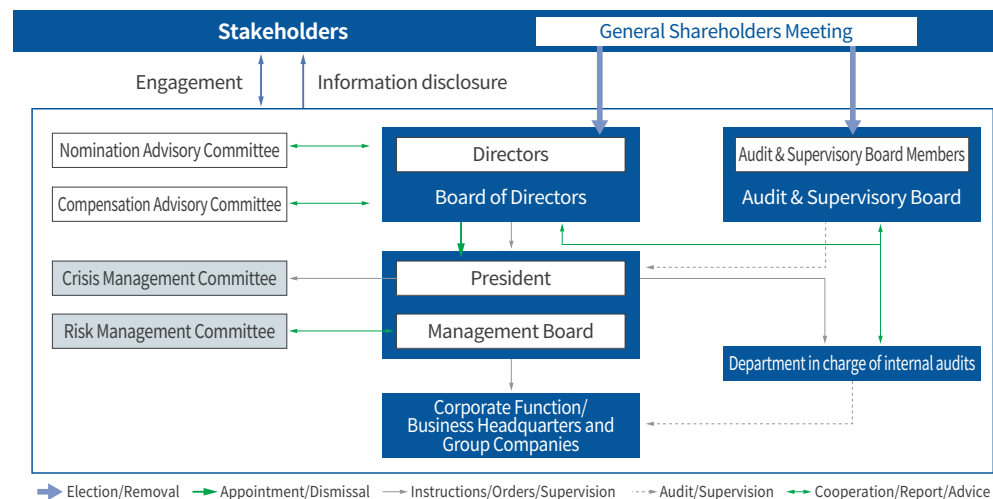
Internal Control System

Yokogawa has put an internal control system in place to ensure the appropriate operation of its businesses by allocating business resources such as human resources, assets, and budgets appropriately and functionally moving these resources to increase corporate value.

To control two aspects, namely, improvement of management efficiency and prevention of scandals, the Group Management Standards (GMS), the Yokogawa Group's most important regulations, were established to clarify the roles and responsibilities of the Group's operational processes and develop an internal control system. Group-wide rules have been established and departments have been designated to oversee each of the following systems: business ethics, decision-making, operations management, crisis management and corporate auditing infrastructure. The individuals responsible for internal control systems work in their system auditing capacity to ensure (i.e. maintain and improve) the effectiveness and efficiency of all Group company systems and the soundness of financial reports.

Important matters are reported to the Board of Directors and the Audit & Supervisory Board Members. Relevant result indicators and action indicators are clearly defined for the implementation of the internal control system and a PDCA cycle is ongoing based on the extent to which indicators have been achieved. In accordance with the Yokogawa Group Management Internal Audit Code, the effectiveness of the internal control system is audited by the department in charge of internal audits. These activities are undertaken to ensure the appropriateness of its operations and increase the corporate value of the entire Group.

Sustainability Governance Structure



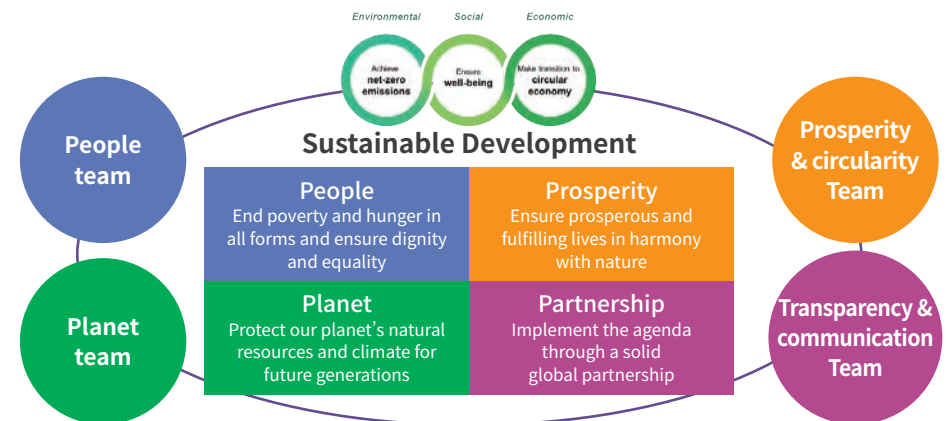
Sustainability Management

Sustainability management is conducted as a part of the company-wide management cycle that includes the mid-term business plan, risk management and the internal control system. From the viewpoint of contributing to society and the environment and increasing corporate value, the Yokogawa Group identifies priority issues relating to sustainability, sets sustainability indicators to address these issues, and defines management cycles, which are subject to monitoring and supervision by the Board of Directors. Non-financial items are reported to the Board of Directors as a part of reports on important matters and the implementation of each management cycle, and the status of sustainability activities is also regularly reported. The Board of Directors monitors and supervises sustainability initiatives based on factors such as changes in social conditions, progress in sustainability indicators, feedback from stakeholders including ESG evaluation organizations, and ESG risk assessment results, while incorporating independent views from outside the company.

Sustainability Promotion Task Force

Yokogawa established a Group-wide task force in FY2020 to promote the Group employees' awareness of our sustainability initiatives. Under the themes of People, Planet, Prosperity, Partnerships, and other elements of the philosophy behind the SDGs, motivated members from all of our global locations determined by an open application process, presented issues from various perspectives and proposed goals that should be achieved. The results of this activity were reflected in the sustainability goals included in the AG2023 mid-term business plan.

In FY2021, we will advance this activity and develop measures which will involve more Group employees.





Risk Management

The Yokogawa Group has in place within its organizational units a risk management structure to control uncertainty affecting its corporate value, an internal control system to ensure appropriateness of the businesses and a crisis management system to respond promptly to any event that could seriously impact its operations.

Risk Management Structure

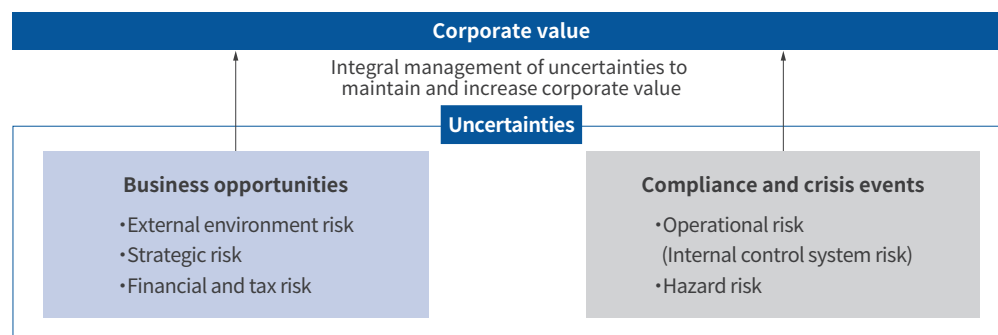
We define uncertainties that might affect the Group's corporate value (e.g. our external environment, strategies, product quality, environmental impact, crisis management, and corporate ethics) as risk. Under the basic policy of integrally managing internal and external uncertainties relating to the business to maintain and increase the corporate value of the Yokogawa Group, we categorize and manage these uncertainties in terms of business opportunities, compliance, and crisis events.

We also identify, assess and prioritize risks and establish and implement countermeasures and targets while improving and confirming the effectiveness of our countermeasures. Alongside these efforts, to realize effective risk management within the Group, we have established the Risk Management Committee chaired by the president and CEO, who is responsible for supervising all matters related to risk management.

Promoting Risk Assessment and Management

As part of their independent risk management activities, each organizational unit of the Group identifies and assesses risks, establishes countermeasures and targets, and implements these countermeasures. Moreover, each organizational unit has a risk manager and a network for the Group's risk management. Based on risk assessments, the Risk Management Committee selects high-priority risks whose management should be prioritized at the Group level and decides the methods for monitoring them while regularly checking countermeasures, targets, and the

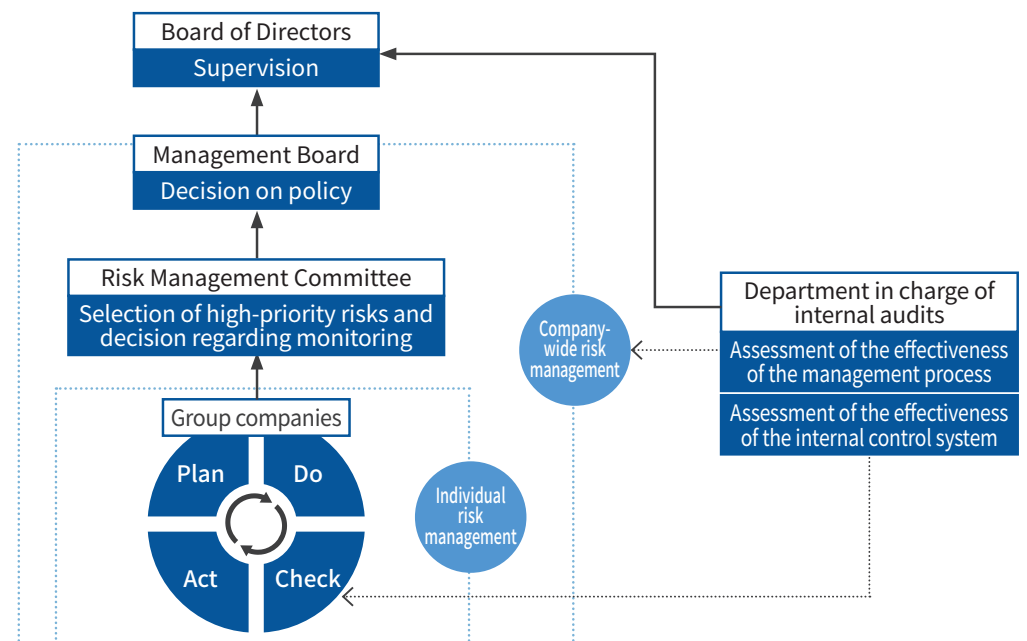
Basic Policy on Risk Management



progress of activities and reporting to the Board of Directors.

In risk assessment, we assess the severity of risks from the perspectives of impact and likelihood of occurrence: The risks assessed include business opportunity risks, e.g. external environment and strategies including climate change, compliance and crisis event risks, such as product quality, environmental impact, health and safety, information security, crisis management, and corporate ethics (embezzlement, accounting fraud, data falsification, bribery, harassment, etc.). When we assess the impact of risks, we also take into account the social and environmental impact of risks such as human rights risks and responses to climate change, as well as financial and human aspects. We take a comprehensive approach to assessment considering both bottom-up and top-down perspectives, including changes in our management environment.

Risk Management Structure





Escalation of the Information and Crisis Management System

In the event of a disaster, accident, or incident that could seriously impact the Yokogawa Group companies' management or endanger the lives of their employees, each Group employee must minimize the damage by taking prompt initial action and reporting to senior management. To address this issue, we have established the Yokogawa Group Crisis Reporting Guidelines, which stipulate details such as the information to be reported, as well as reporting routes and processes, and ensure that all Group employees are made aware of them. We regularly revise these guidelines and take steps to improve the escalation of information. In addition to these, we have established a Crisis Management Committee chaired by the president and CEO to ensure human safety, minimize economic losses, and fulfill our corporate social responsibilities in the event of a crisis.

Business Continuity Management (BCM)

Yokogawa's business is closely tied to social infrastructure including electricity, gas, water, and sewerage infrastructure. To continue our business activities in the event of a natural disaster such as an earthquake, windstorm and flood, or anthropogenic disaster including accidents and take action as quickly as possible to help maintain and restore social infrastructure, we developed the Business Continuity Plan (BCP).

We developed response plans and action guidelines assuming risks that could seriously impact the Group's management, such as a huge earthquake or an epidemic of contagious disease. We have been collaborating with Group companies worldwide to improve these plans and guidelines. Further, to increase the effectiveness and workability of our BCP, regular training for the identification of problems is provided by members of the risk management organization, including senior management, and business continuity management activities are undertaken to continuously improve the BCP. We have also introduced a system to promptly check employee safety and provide regular training to enhance proficiency in using the system in case of an emergency. These activities were utilized to provide a prompt initial response to disasters including the February 2021 earthquake offshore of Fukushima Prefecture. Yokogawa will continue to review its BCP to respond to risks that may threaten our business continuity.

Protecting Employees Working Outside Japan from Crisis

Recently we have seen crime, terrorism, and violence occurring all over the world, including international travelers falling victim to crimes. In these circumstances, employees who are transferred to an international post or who travel abroad on business need to do more to prepare and take appropriate safety measures. To protect its employees working all over the world from crises (such as terrorism, riots, and crime), Yokogawa issues alerts. In addition, we hold seminars and provide education to help employees keep themselves safe when they are transferred to an international post or when travelling abroad on business. Yokogawa will continuously consider a variety of new measures and improve existing measures to ensure the safety of its employees.

Training for Protection from Terrorism and Crime

Yokogawa holds seminars on self-protection, including specific steps to take to minimize harm in the event of a terrorist attack, violence, or crime. In the seminars, we invite outside security experts to provide instruction and demonstrations both in English and Japanese, and conduct practical training involving the participation of the attendees.



Training in FY2019



Climate Risks and Opportunities (Response to TCFD)

Environment Surrounding Yokogawa

Given that the energy, chemical and other manufacturing industries that significantly impact global greenhouse gas (GHG) emissions are the clientele of Yokogawa's businesses, climate change heavily impacts its business activities in terms of both risk and opportunity. Much of Yokogawa's sales are from customers that are energy-related. These companies have been accelerating their transformation into renewable energy companies and also expanding their investments for the establishment of a low-carbon society. Based on this market shift, Yokogawa has reviewed its long-term business framework and developed the AG2023 mid-term business plan.

In Yokogawa's long-term business framework, we focus on the System of Systems (SoS) with the goal of providing value to customers 10 years into the future and are advancing IA2IA and smart manufacturing efforts. Through IA2IA, we will enable our plant operations to evolve from automation to autonomy, and through smart manufacturing, we will innovate to improve productivity by expanding our scope from production sites to supply chains and increasing the interconnectedness of systems through the value chain.

Based on the changes in business environment, Yokogawa has restructured its organization from an organization based on products and functions into an industry-based organization and separated our control business into three industry segments: Energy & Sustainability, Materials, and Life. In the Energy & Sustainability segment, our businesses involved in renewable energy, including measurement instruments for wind power generation, are expanding. We predict that the need for the stable and efficient supply of energy will increase in the future in complicated supply chains, which will include the utilization of batteries, hydrogen and other energy storage solutions. As such, we will also focus on the energy management business. In Materials, based on our experience we have accumulated to date in the field of high-functional chemicals, we will support the improvement of the efficiency of the biochemical industry and plastic and other recycling businesses and also work to reduce CO₂ emissions through the ubiquitization of biomass raw materials.

In the Life segment, we achieved record-high sales in pharmaceutical and food production solutions last year (FY2020). In the future, we will continue to expand our business in the areas of pharmaceuticals, food, and water which are sensitive to climate change.

In the AG2023 plan, we have expanded the mid-term sustainability targets set out in the previous mid-term business plan, TF2020, and set new sustainability targets to expand our contributions to the achievement of the SDGs in the focus areas of the three industry segments. We have also set multiple targets regarding climate change issues that we will prioritize.

Formulation of a Climate Change Strategy and Disclosure of Information in Line with the TCFD's Recommendations

Yokogawa is determined to proactively address climate change and prepare itself for the future, and it has expressed its support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), which was established by the Financial Stability Board (FSB) to promote the disclosure of climate-related financial information (February 2019).

Based on the TCFD's recommendations, Yokogawa analyzes risks related to climate change and assesses their financial impact as shown in the following table, incorporates its findings into its management strategies and discloses related information.

Formulation of a Climate Change Strategy and Disclosure of Information in Line with the TCFD's Recommendations

FY2019	Organize climate-related information according to the TCFD's recommendations
FY2020	Incorporate the medium- and long-term risks and opportunities of climate change into strategies
FY2021	Begin executing management strategies and incorporating them into financial impact assessments
FY2022	Expand climate change governance at the Board of Directors

Climate-related Financial Information

Governance Governance regarding climate-related risks and opportunities

Recommended disclosures: a) Board of Directors' monitoring structure
b) The role of management

The Role of the Board of Directors

The Board of Directors formulates basic policies for addressing climate change and basic policies regarding the improvement of the system for managing risks and opportunities, monitors and supervises the effective operation of the system, sets sustainability targets and monitors their implementation. The Board considers the climate-related impacts during its discussion of business strategies and plans.

The Role of Management

Management, whose top decision-making body is the Management Board, takes into account the the impact of climate change in terms of both risks and opportunities when formulating business strategies and plans. Management works to achieve the sustainability targets linked to the mid-term business plan, including the targets related to climate change, and reports progress regularly to the Board of Directors.

For Group-wide risks including climate change risks, management has established the Risk Management Committee which selects the high-priority risks that should be managed preferentially at the Group level, monitors the management of these risks, and reports to the Board of Directors. As the chair of the Risk Management Committee, the President and CEO is responsible for overseeing all matters related to risk management.



Climate Risks and Opportunities (Response to TCFD)

Strategy Impact of climate-related risks and opportunities on businesses, strategy and financial planning

Recommended disclosures: a) Medium- and long-term risks
b) Impact on businesses, strategy and financial planning
c) Resilience of climate scenario strategies

Strategy Overview

Energy, chemical and other manufacturing industries that greatly influence global GHG emissions are the clientele of Yokogawa's businesses. Yokogawa helps its customers reduce GHG emissions through its solutions that achieve stable operations, the conservation of energy and greater comprehensive business efficiency.

Medium- and Long-term Changes of the Business Environment

Yokogawa analyzed the changes in the business environment around 10 years later regarding climate change from the perspectives of politics, economics, society, and technology. From the perspective of politics, we predict that laws and regulations will become more strict to respond to climate change and increased geopolitical risk caused by energy shortages due to a larger population. From the perspective of economics, we predict a diversification of energy sources assuming the ubiquitization of renewable energy, a shortage of food and water, and resource depletion. From the perspective of society, we predict that global warming will continue and that environment pollution will be aggravated because of consumption rise along with economic growth. Also, from the perspective of technology, we predict that the structure of society will drastically change due to AI, IoT, and other digital technologies and that biomass materials contributing to resource recirculation will widely spread. Against the background of those environmental changes, our customers are transforming into companies that operate low-carbon businesses including renewable energy or that produce materials with little environmental impact such as bio materials. We are also expanding our investments in these businesses and companies.

Long-term Business Framework and Mid-term Business Plan

Based on the drastically accelerating change in business environment, we will aim for growth through the provision of shared value through actions such as our response to climate change in the long-term business framework and work to expand business by positioning the transformation of our customers' business strategies based on renewable energy-related market growth and climate-related issues as big business opportunities in the AG2023 plan. More specifically, we have determined six medium- and long-term contribution fields and established focus areas and sustainability targets (for FY2023 and FY2030) for each contribution field. In one of the contribution fields, the achievement of carbon neutrality, where our goal is to reduce GHG emissions and shift to inexpensive and reliable sustainable energy sources, we have set renewable energy infrastructure support, storage battery production support, and GHG reduction in our business

facilities and the supply chain as focus areas. We have also set the improvement of customers' efficiency and new businesses that will contribute to the reduction of GHG emissions, such as smart manufacturing business which improves efficiency in society and industry, and the support of new businesses, which aims to create a resource-recycling ecosystem, as focus areas.

To achieve the sustainability targets, we will expand our main business, the control business, in three segments, Energy & Sustainability, Materials, and Life. In the Energy & Sustainability segment focusing on businesses for a carbon-free society, we will expand businesses throughout the supply chain while utilizing our strengths and best practices for renewable energy including wind, solar, and geothermal power in addition to the conventional sources of energy. Especially in businesses for renewable energy, we will aim to grow to twice or three times our size in FY2020, including through mergers, acquisitions and alliances, in FY2023. In addition, in the Materials segment we have established our ideal business as a business that contributes to a recycling-oriented society that is able to coexist with the global environment. In the Life segment, that ideal is a business that contributes to medical services that protect human life and health and supply safe water and foods that everyone is able to consume to respond to the increased damage (physical risk) due to climate change.

Resilience of Climate Scenario Strategies

When developing the long-term business framework and the AG2023 plan, we evaluated risks and opportunities and planned measures to address them in the 1.5 °C and 4 °C scenarios that we had established internally. In the 1.5 °C scenario, along with acceleration of the transition in energy caused by the increasingly strict carbon-free policies of each country, we predict the need for renewable energy and energy conserving businesses, etc. will grow while fossil fuel business will shrink. In the 4 °C scenario, we predict the expansion of disaster prevention solutions and pharmaceutical and food production-related businesses due to physical risks such as damage to business facilities and supply chains in conjunction with increased flooding and other natural disasters and reduced yields of agricultural products and increase of diseases resulting from an abnormal climate. We have incorporated measures based on these risks and opportunities in our business strategies.

Category	Climate-related risks and opportunities	Direction of actions
Damage caused by climate change (physical risks)	Damage to business facilities and confusion in supply chains due to increased flooding and other natural disasters	Build a risk management structure and develop an action plan that assumes risks that significantly impact the Group's management
Changes caused by climate change (transition risks)	Change of customers' strategies due to increased social demand for climate change initiatives	Focus on the System of Systems (SoS) and advance initiatives for IA2IA and smart manufacturing to innovatively improve customers' productivity
Climate-related business opportunities	Increased need for solutions to social issues such as the transition in energy	Support the construction and development of renewable energy infrastructure, provide systems used to produce storage batteries and provide energy optimization management solutions



Climate Risks and Opportunities (Response to TCFD)

Risk Management Processes for the identification, assessment and management of climate-related risks

Recommended disclosures: a) Risk identification and assessment processes
b) Risk management process
c) Process for integrating climate-related risks into overall risk management

Risk Management Structure

We define uncertainties that might affect the Group's corporate value (e.g. our external environment, strategies, product quality, environmental impact, crisis management, and corporate ethics) as risk. Under the basic policy of integrally managing internal and external uncertainties relating to the business to maintain and increase the corporate value of the Yokogawa Group, we categorize and manage these uncertainties in terms of business opportunities, compliance, and crisis events.

We also identify, assess and prioritize risks and establish and implement countermeasures and targets while improving and confirming the effectiveness of our countermeasures. Alongside these efforts, to realize effective risk management within the Group, we have established the Risk Management Committee chaired by the president and CEO, who is responsible for supervising all matters related to risk management.

Promoting Risk Assessment and Management

As part of their independent risk management activities, each organizational unit of the Group identifies and assesses risks, establishes countermeasures and targets, and implements these countermeasures. Moreover, each organizational unit has a risk manager and a network for the Group's risk management. Based on risk assessments, the Risk Management Committee selects high-priority risks whose management should be prioritized at the Group level and decides the methods for monitoring them while regularly checking countermeasures, targets, and the progress of activities and reporting to the Board of Directors.

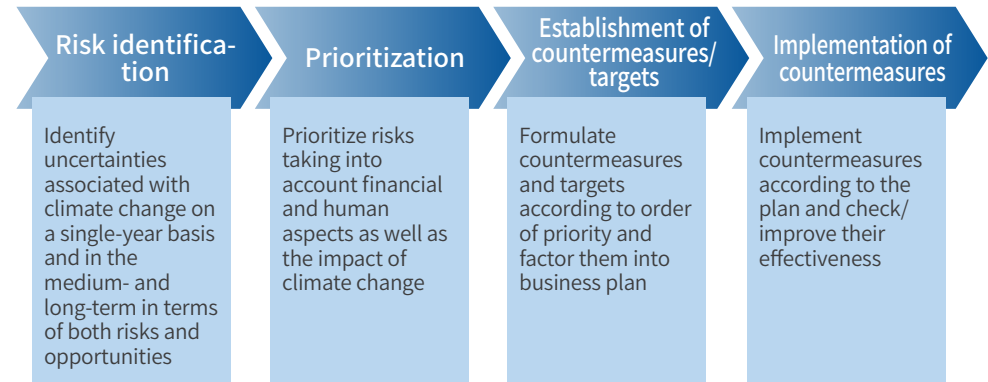
In risk assessment, we assess the severity of risks from the perspectives of impact and likelihood of occurrence: The risks assessed include business opportunity risks, e.g. external environment and strategies including climate change, compliance and crisis event risks, such as product quality, environmental impact, health and safety, information security, crisis management, and corporate ethics (embezzlement, accounting fraud, data falsification, bribery, harassment, etc.). When we assess the impact of risks, we also take into account the social and environmental impact of risks such as human rights risks and responses to climate change, as well as financial and human aspects. We take a comprehensive approach to assessment considering both bottom-up and top-down perspectives, including changes in our management environment.

In addition, we have established the Crisis Management Committee chaired by the President to respond to crises such as events, affairs, disasters and accidents that may seriously impact management. When a crisis occurs, we will collect information, give instructions for quick and appropriate action, secure human safety, minimize economic loss, and fulfill the social responsibilities of the company.

The department in charge of internal audits evaluates the effectiveness of Yokogawa Group's risk management process and reports important findings to the Board of Directors and the Audit & Supervisory Board Members.

High-priority Risks

In FY2020, the Group selected and managed the risk of rapid changes in market requirements due to the SDGs including responses to climate change as a high-priority risk. This risk was again selected as a high-priority risk in FY2021. ▶ P.47 for Risk Management





Climate Risks and Opportunities (Response to TCFD)

Metrics and Targets Metrics and targets for assessing and managing climate-related risks and opportunities

Recommended disclosures: a) Metrics for assessment
b) GHG emissions and related risks
c) Targets and performance

Metrics and Targets

In its AG2023 plan, Yokogawa set the achievement of carbon neutrality through the reduction of GHG emissions and the transition to inexpensive, reliable, and sustainable energy as a contribution area with the goal of achieving it by 2030.

We have set the target of reducing the CO₂ emissions from our customers' businesses by 1 billion tons (FY2018 to FY2030). It is a target we will work together with customers to achieve.

The amount of renewable energy and low-carbon electricity customers generate is calculated through a comparison with the average CO₂ emissions from electricity generated using fossil fuels. Further, we have set and been working on metrics and targets (FY2023) for our support of the development of renewable energy technology and the provision of systems used in storage battery production.

We also aim to achieve the carbon neutrality of our business facilities by 2040 including a targeted 50% reduction by FY2030 when compared to FY2019. In describing our GHG emissions performance, we have calculated emissions in Scopes 1, 2 and 3 based on the GHG protocol methodologies and disclosed them in this report.

(For details of Scopes 1, 2 and 3 emissions, see page 41)

Review of the previous mid-term business plan, TF2020 (FY2020 targets)

Focus area	Renewable and low-carbon energy	Environmental management	
		Reduction of energy consumption	Reduction of greenhouse gas emissions
Value creation theme	Renewable energy and low-carbon energy	Reduction of energy consumption	Reduction of greenhouse gas emissions
KPI	CO ₂ emissions avoided (cumulative total since FY2018)	Energy consumption (compared to FY2013)	Greenhouse gas emissions (compared to FY2013)
FY2020 target	60 million tons of CO ₂	13% reduction	20% reduction
FY2020 result	225.93 million tons of CO ₂	20.1% reduction	29.6% reduction
Achievement rate	377%		

FY2030 (FY2040 target)

Contribution area	SDG	Indicator	FY2030 (FY2040) target
Achieving carbon neutrality		CO ₂ emissions control amount through customers	1 billion t-CO ₂ (50% or more from renewable energy and new technologies)
		GHG emissions (Scope1,2)	50% reduction by FY2030 (base year: FY2019) 100% reduction by FY2040
		GHG emissions (Scope3)	Targets that meet SBT* requirements

FY2023 target

Contribution area	Focus area	SDG	Indicator	FY2023 target
Achieving carbon neutrality	Support renewable energy infrastructure		CO ₂ emissions control amount through customers (accum. from FY18)	500 million t-CO ₂
	Measuring instruments for renewable energy development		Sales growth rate of measurement instrument to renewable energy customers (base year FY20)	2.2 times
	Support storage battery manufacturing		Growth rate of number of units shipped of battery electrode thickness gauge (base year FY20)	1.5 times
	(within Yokogawa) GHG reduction at Yokogawa sites and in supply chain		GHG emissions (Scope1,2) (base year FY19) GHG emissions (Scope3)	10% reduction Targets that meet SBT requirements

*Science Based Targets



Code of Conduct and Compliance

Yokogawa’s top priority is compliance and it conducts its business activities in compliance with the relevant laws, regulations, and ordinances. We respect social norms and international guidelines, and act with high ethical standards. The Yokogawa Group Code of Conduct sets out the guidelines that its employees should observe in their actions for the realization of Yokogawa’s corporate philosophy, while the Yokogawa Group Compliance Guidelines prescribe specific actions that each and every employee should take.

The Yokogawa Group Code of Conduct

The Yokogawa Group Code of Conduct sets forth guidelines for all employees of the Yokogawa Group to observe in their actions. Chapter 1 describes the Yokogawa Group’s basic policies, including the realization of its corporate philosophy, compliance with laws and regulations, respect for human rights, and contribution to the realization of a sustainable society. Chapter 2 specifies the Yokogawa Group’s ethical standards concerning the Group’s relationship with stakeholders, workers’ rights, and the responsibilities of the management team, among other things.

The full text of the Yokogawa Group Code of Conduct is on our website.

Yokogawa Group Compliance Guidelines

The Yokogawa Group Compliance Guidelines are practical guidelines that provide an easy-to-follow explanation of the Yokogawa Group Code of Conduct and describe specific actions that employees should take. The Guidelines have been prepared to educate employees and set forth the specific rules and standards that all Yokogawa Group employees should observe when they encounter ethical and legal issues in the course of their day-to-day business activities. The Guidelines have been translated into 14 languages and distributed in a booklet to the members of the manufacturing departments. Informing all Group employees of the content of the Guidelines enables Yokogawa to ensure that its corporate philosophy are embraced and upheld by each and every employee.



Yokogawa Group Compliance Guidelines

Supporting International Guidelines

The United Nations Global Compact

Yokogawa signed the United Nations Global Compact in 2009 and expressed its support for the Compact’s ten principles addressing human rights, labour, the environment, and anti-corruption. We are working with our stakeholders to uphold the ten principles through efforts such as participation in Global Compact Network Japan, a local network in Japan. The Global Compact was first proposed by former Secretary-General of the UN Kofi Annan at the World Economic Forum in 1999 and was officially adopted in 2000. Participating companies are expected to practice and uphold international standards for human rights, labour, the environment, and the prevention of corruption.

President’s Commitment

The Yokogawa Group Code of Conduct sets out six basic Group policies: the realization of the Yokogawa Philosophy, compliance with laws and regulations and cooperation with society, respect for human rights, fair business practices, contribution to society and the environment, and trust-based relationships with stakeholders. Yokogawa is committed to fulfilling its fundamental corporate responsibilities, including contributing to society through its business activities and ensuring compliance. In 2009, Yokogawa approved and signed the Global Compact, an international initiative proposed by the United Nations and has been endorsing and putting into practice its ten universal principles in the areas of human rights, labour, the environment, and the prevention of corruption. The Company shares these principles with its Group companies and business partners around the world. We will continue to strive to fulfill our responsibilities as a global company that conducts business around the world.



Hitoshi Nara
President and CEO

ISO 26000

The ISO 26000 standard published by the International Standardization Organization in November 2010 is an international standard relating to the social responsibilities of organizations that presents seven core subjects including organizational governance, human rights, labour practices, environmental responsibility, and fair operating practices.

Yokogawa is a company active in the global marketplace, and it adheres to the ISO 26000 standard and regards corporate governance as a foundation for corporate management. As such, we are committed to the implementation of socially responsible activities to meet our stakeholders’ expectations, including contributing to communities through our business operations, environmental conservation, and respecting human rights.



Code of Conduct and Compliance

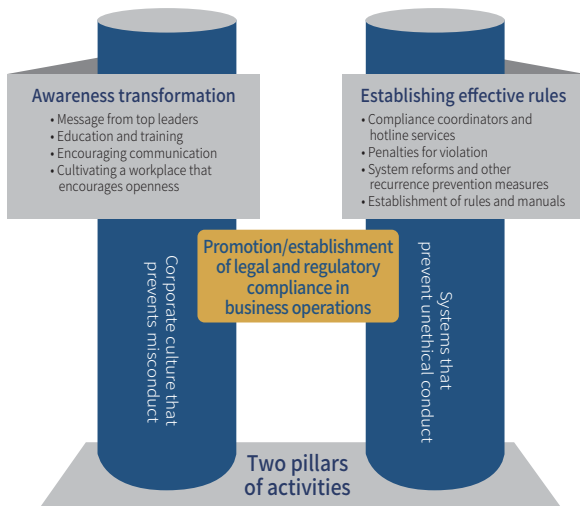
Compliance Promotion Structure

To prevent wrongdoing and scandal, Yokogawa promotes sound and transparent business activities with a corporate culture that prevents misconduct and systems that prevent unethical conduct as the pillars of our compliance activities. The Yokogawa Group aggressively promotes management practices built upon a foundation of compliance through the establishment of a business ethics department that is responsible for developing a compliance promotion structure and identifying and addressing issues pertaining to it. We have established a workplace-based compliance promotion structure in our global offices. In Japan, Yokogawa's compliance coordinators, who concurrently serve as workplace counselors, are pursuing compliance initiatives with the goal of establishing and increasing employee compliance awareness. Further, the compliance secretariat and representatives of the compliance coordinators of the individual organizations attend the regular meetings of the Compliance Committee to share information and monitor progress in compliance activities.

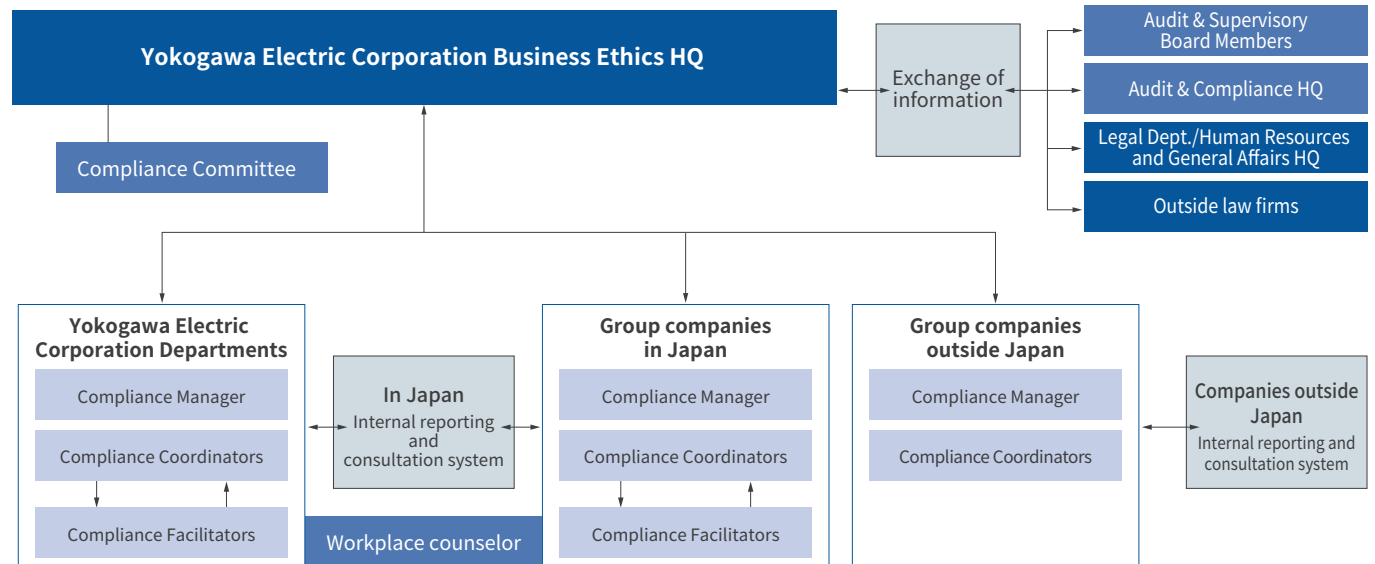
PDCA Cycle for Promoting Compliance



Approach to Compliance



Compliance Promotion Structure





Code of Conduct and Compliance

Anti-corruption Initiatives

Yokogawa is working to prevent all forms of corruption, including the abuse of power for personal gain, coercion and bribery, by prescribing within the Yokogawa Group Code of Conduct appropriate relationships with business partners, politicians, and government officials and prohibiting conflicts of interest. Specifically, we develop and implement rules such as the Yokogawa Group Compliance Guidelines and Yokogawa Group Anti-bribery and Anti-corruption Code and conduct awareness programs and compliance awareness surveys as part of our compliance initiatives to spread and entrench compliance awareness.

Anti-bribery Initiatives

Yokogawa observes the bribery prevention laws and regulations of all of the countries where its Group companies conduct business activities to prevent bribery involving public servants and private citizens both at home and abroad. The Group assesses and controls bribery-related risks, and the Group companies manage these risks. In FY2020, the Group reviewed the Anti-bribery Guidelines to reshape them as the Yokogawa Group Anti-bribery and Anti-corruption Code. We prevent bribery and ensure that business activities are fair and appropriate, by fully informing all employees of these rules. In addition, about 13,000 employees of the Group companies have watched the training video on the prevention of bribery. Further, we have established the Yokogawa Group Sustainable Procurement Guidelines to support the prevention of bribery and are working to implement the guidelines in cooperation with our business partners. No bribery-related violations or penalties were reported in FY2020.

Measures to Prevent Anti-competitive Practices

Yokogawa considers that the observance of competition law is essential for ensuring the proper management of the Group and has set out its basic policy of fair, transparent, and free competition with competitors in the Yokogawa Group Code of Conduct. To further ensure compliance with competition law, we prescribe specific rules in the Yokogawa Group Compliance Guidelines and the Competition Compliance Code and provide in-house training about the competition law to increase employee awareness. No legal measures were taken against Yokogawa due to any anti-competitive acts, anti-trust law violations or monopolistic practices in FY2020.

Preventing Insider Trading

To prevent insider trading, we have established the Code of Conduct for the Prevention of Insider Trading in the Group Management Standards (GMS) and have included a section on the prohibition of insider trading in the Yokogawa Group Compliance Guidelines. Further, we have established a Group-wide compliance structure and provide education to thoroughly prevent insider trading. The officers or employees of the Group companies who intend to buy and sell Yokogawa Electric stock must follow the prior approval procedure through the person in charge of insider trading prevention at their company. In addition, the following individuals are subject to a blanket prohibition regarding the buying and selling of the Company's stock from the last day of each quarter to the date of the announcement of the financial results for the quarter.

1. Officers and managers of Yokogawa Electric Corporation, Yokogawa Solution Service, Yokogawa Manufacturing, and Yokogawa Test & Measurement
2. People directly involved in the preparation and announcement of quarterly results in Yokogawa Electric Corporation and the Group companies in Japan

Tax Compliance Initiatives

In light of the globalization of its business operations, Yokogawa believes it can fulfill its corporate social responsibilities and help realize a sustainable economy by properly meeting its tax obligations in the countries and regions where Yokogawa conducts business activities. Yokogawa takes the following actions in its tax accounting practices to ensure appropriate tax risk management:

1. Making tax payments properly in accordance with the relevant tax laws and regulations of respective countries.
2. Implementing appropriate tax-related accounting processes and other related measures
3. Establishing a tax governance structure and striving to increase tax compliance awareness
4. Responsibly performing tax duties in compliance with international tax standards such as the OECD Transfer Pricing Guidelines and the Action Plan on Base Erosion and Profit Shifting (BEPS*)
5. Conducting transactions with non-Japanese affiliates on an arm's length basis by properly allocating profit for their contributions in accordance with the roles and risk analysis of the affiliate
6. Not engaging in tax planning or using tax havens for the purpose of tax avoidance
7. Optimizing tax expenses by means such as avoiding double taxation and utilizing appropriate tax incentives
8. Reducing tax risk by obtaining advice from external professionals when there is uncertainty regarding the application or interpretation of tax laws and regulations
9. Building, maintaining, and developing sincere, sound, and cooperative relationships with the tax authorities of respective countries.

* BEPS (Base Erosion and Profit Shifting)



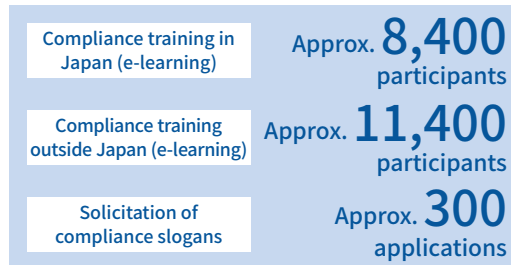
Code of Conduct and Compliance

Measures to Counter Anti-social Forces

The entire Yokogawa Group is taking steps to eliminate antisocial forces and describes in the Yokogawa Group Compliance Guidelines its responses to anti-social forces that threaten social order and safety. In compliance with the Tokyo Metropolitan Ordinance for Eliminating the Organized Crime Groups, we include in our business contracts clauses concerning the elimination of anti-social forces and sign a memorandum on the elimination of anti-social forces with business partners, contractors, and customers.

Awareness Activities

Yokogawa offers a broad range of awareness programs such as compliance education and training, with the aim of fostering employees' awareness and understanding of compliance and a corporate culture that promotes fair, transparent, and open business practices with high ethical standards.



Compliance Training and Education

Compliance training was conducted again in FY2020 to spread and establish compliance awareness in all Group companies. In Japan, employees have an array of opportunities to receive role-specific training, including at the time they join the company, when they are promoted to a managerial position, and when they are transferred to an international post. Due to the COVID-19 pandemic, we have been providing training in the form of e-learning or webinars. Overseas Group companies carry out necessary training by e-learning according to the issues and challenges faced by the individual company.

Compliance Newsletter

We published Compliance Newsletter four times during FY2020 to communicate information about our corporate culture, recent business scandals, and other timely topics. The Compliance Newsletter helps improve employee compliance awareness through the internal publication of information for the entire Group.

Compliance Week

The Compliance Week campaign is conducted to ensure that the compliance mindset is embraced and upheld by all of the employees of the Group companies in Japan. In FY2020, we shared specific example actions that reflect the Yokogawa Philosophy, founding principles, and our core values, solicited compliance slogans, and showcased them. We share them with overseas Group companies as awareness-raising content.

Compliance Awareness Survey

Yokogawa conducted a compliance awareness survey of all of the employees of its Group companies in FY2020. Survey results were presented in ways that enabled the visualization of changes in compliance awareness from the previous survey for each workplace/job position. The results were provided to the Group companies to enhance their activities in the next fiscal year.

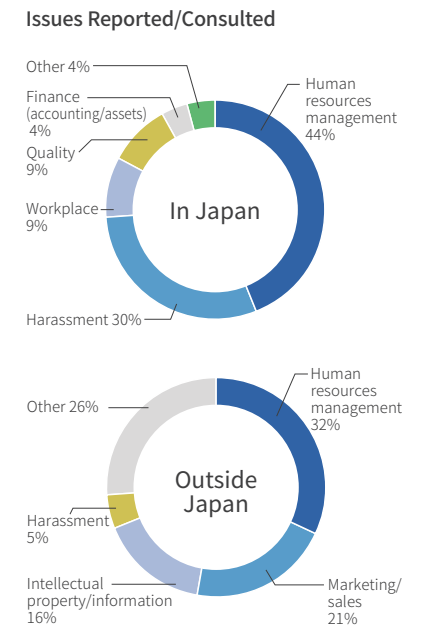
Contact for Whistleblowing and Consulting

Yokogawa has a contact for whistleblowing and consulting for the early detection and prevention of compliance issues. Employees can blow the whistle or consult on compliance issues anonymously or by telling their name by email, over the telephone, in writing or by any other means in their own language.

If any issue is reported and is likely to violate the Yokogawa Group Code of Conduct and/or be a compliance issue, then, the department in charge will investigate and try to resolve the situation in cooperation with a person in charge of the investigation appointed under the internal reporting and consultation rules, the human resources department, the legal affairs department, and the external lawyer in accordance with the investigation manual. We protect the privacy of whistleblowers and do not ever tolerate retaliation or any disadvantageous treatment of them.

In FY2020, about 70% of the issues that were reported or people sought consultation about pertained to human resources management and harassments at domestic sites. At overseas Group companies, about a half of the issues were related to human resources management and unjust sales tasks. Having reviewed the existing internal reporting and consultation rules, we formulated the Rules on Whistle-Blowing and Consultation (For general use) for the global use and the Rules on Whistle-Blowing and Consultation (For Japan) for our domestic Group companies in FY2020. We are trying to fully communicate information about the internal reporting and consultation system and establish an environment that allows whistleblowers to report without anxiety.

We accept reports from and listen to the problems of our customers, business partners, community members, and all stakeholders about compliance through the inquiry function (Contact Us) of our website.





Supply Chain Management

Enhancement of Internal Control and Communications, and Promotion of Sustainability in the Supply Chain

Yokogawa has formulated the Procurement Process Standards for the entire Group as part of the Yokogawa Group’s internal control. The members of the Group are working together to ensure fair and equitable transactions while taking account of sustainability. These initiatives are to apply to all processes involving our customers and business partners. Yokogawa observes the local laws and regulations of the countries and regions in which it does business, is taking account of environmental conservation and human rights throughout its supply chain, and is working on the issue of conflict minerals in transactions. These initiatives are carried out in cooperation with the people in charge of procurement at affiliates of the Group under the leadership of the members of the procurement control function at the head office.

We contribute to the promotion of sustainability in the industry’s supply chain as well as our own, through participation in industry group committees such as the CSR Committee and the Materials Committee of the Japan Electronics and Information Technology Industries Association (JEITA).

※ JEITA (Japan Electronics and Information Technology Industries Association)

Sustainable Procurement Activities

Yokogawa promotes sustainable procurement activities with reference to ISO 20400:2017 - Sustainable procurement - Guideline. We ask our business partners in and outside Japan to observe the Yokogawa Group Sustainable Procurement Guidelines we created based on Version 6.0 of the RBA* Code of Conduct.



We are working with our business partners to identify risks that impede sustainable procurement, focusing on understanding the current state of the following four issues defined in the Yokogawa Group Sustainable Procurement Guidelines for business partners: human rights and labor, health and safety, the environment, and ethics. In case a risk materializes, we work with our business partners to make improvements. We also provide educational programs on sustainable procurement both inside and outside the Company. We set key performance indicators (KPIs) to manage and monitor the progress of these activities.

*RBA: The Responsible Business Alliance is a coalition of businesses that promote corporate social responsibility in global supply chains

The Yokogawa Group Sustainable Procurement Guidelines are on our website.

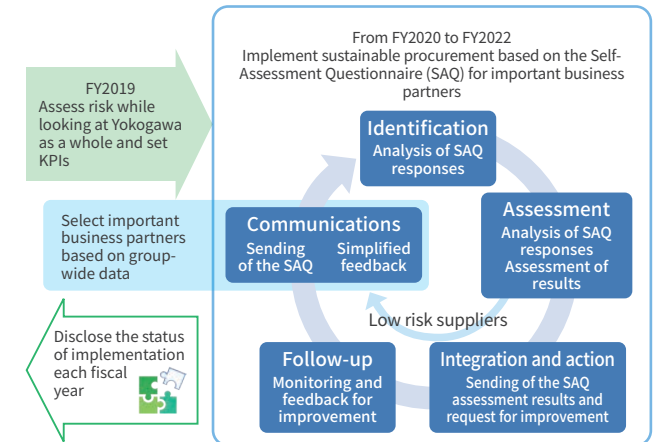
Planned and Underway Activities

We reduced risk in the supply chain based on due diligence regarding the protection of human rights, positioning FY2020 as the year for commencing sustainable procurement. With the support of experts, we identify high risk business facilities through the Self-Assessment

Questionnaire (SAQ) about environmental conservation and human rights that is sent to the facilities of our business partners and by assessing responses to the SAQ. We give feedback in writing to the high risk facilities and monitor field sites.

1 PDCA Cycle for Activities

Based on KPIs formulated in FY2019, we work to mitigate CSR risk in the supply chain by communicating with our business partners and perform the PDCA cycle shown in the following figure.



2 Plan and history of the Self-Assessment Questionnaire (SAQ)



Based on expert insight, we conducted risk assessments of 1,070 companies that make up the top 80% (by total purchase amount) of the approximately 10,000 companies from which the Yokogawa Group has made purchases. We selected 600 of these companies for the SAQ. We are planning assessment and improvement activities for the 600 companies in the coming three years. In 2020, we selected 200 high risk companies, sent the SAQ to them, and assessed the results.

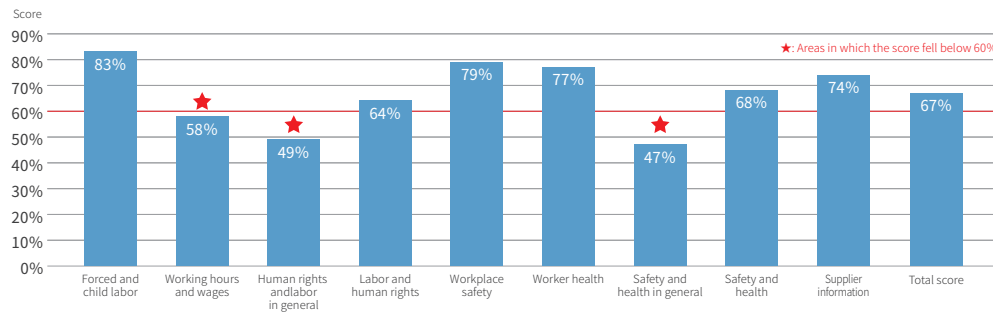
KPIs	Total number of companies to which Yokogawa plans to send the SAQ	Companies to which the SAQ was sent	Total number of facilities that returned the filled-in SAQ	Fiscal year
Number of business partners' facilities selected for the SAQ	200	191	166	FY2020
	400			FY2021
	600			FY2022



Supply Chain Management

The SAQ is divided into three categories, each of which has multiple questions. The average score is shown in the figure below.

FY2020 Self-Assessment Questionnaire (SAQ) results analysis



3 Improvement initiatives

To improve our activities together with business partners, we ask them to agree to our sustainable procurement activities in the Group’s supply chain. To date, we have established agreements with 80% of them.

We will give feedback on the results of the SAQ and areas for improvement to the facilities that returned the filled-in SAQ. If a facility falls below a specified level identified through the analysis of their SAQ score, we will communicate with them using an improvement sheet.

In FY2020, we interviewed some business facilities that could not be visited due to the COVID-19 pandemic based on their responses to the SAQ to communicate with them for improvements.

Sustainable Procurement Education

We have established a system that enables employees engaged in procurement activities to participate in on-demand e-learning classes about sustainable procurement.

A lecture on conflict minerals was held at an internal event for engineers in January 2021. Additionally, Yokogawa has contributed articles about sustainable procurement to the media outlets of the Institution of Professional Engineers, Japan.

Promotion of Green Procurement

Taking into account the entire lifecycle of products/solutions to be provided to customers, Yokogawa encourages the purchasing of products and services with a small environmental footprint and promotes transactions with the business partners who are proactively involved in environmental action for the reduction of their environmental footprint and the increase of added value. For this, we present the Yokogawa Group Green Procurement Guidelines when concluding transaction contracts. Having established a system to promote management of the chemical substances contained in our products, we investigate and manage the chemical substances contained in the materials and components we use for full compliance with the laws and regulations concerning chemical substances.

We work to raise awareness of this issue by holding briefings for new business partners.



The Yokogawa Group Green Procurement Guidelines are on our website.

Strengthening of Partnerships with Business Partners

Yokogawa Electric Corporation is reinforcing its partnerships by regularly interacting with the management teams at key business partners. We participate in JEITA task force activities for the preparation of educational materials about responsible procurement to business partners to build a relationships of mutual trust beyond those of mere trading partners, such as extending invitations to seminars. Additionally, the production subsidiaries organize component exhibitions and technical seminars for each business partner in order to introduce business partners’ products - along with market trends, component trends, and other relevant information - to the product development departments of the Yokogawa Group.

Reinforcement of Compliant Procurement

Yokogawa strives to reinforce compliant procurement across the Group by establishing standards for compliance in procurement to serve as group-wide management rules while maintaining close communication with those responsible at the Group companies.

We also specify provisions concerning compliance in the business contracts. A helpline is available for business partners to report actual or suspected compliance violations. This fiscal year, we established a new helpline for reporting violations overseas.



Supply Chain Management

Compliance with the Subcontract Act

To ensure compliance with the Act against Delay in Payment of Subcontract Proceeds, Etc., to Subcontractors (the "Subcontract Act"), Yokogawa strives to raise awareness by having employees attend outside workshops. In addition, we offer regular opportunities for purchasers to study the Group's original teaching materials via e-learning, as well as short tests to confirm their level of understanding. We also appoint compliance officers in each department to share information regarding the Subcontract Act and build a compliance framework.

Procurement BCP

Recognizing that ensuring a stable supply of the products our customers need is an important social responsibility, we are taking action in line with our procurement business continuity plan (BCP). With the cooperation of our business partners, we research and manage information on the areas producing the components used in our products to ensure that we can act promptly in case of emergency. For key components used in major products, we are making efforts to reduce procurement risk by confirming that our business partners have BCPs and securing safety stock.

Initiatives on Conflict Minerals

1 Basic Policy

There are huge global issues stemming from conflict and the accompanying serious infringements upon human rights and environmental destruction in the Democratic Republic of the Congo and nearby nations. Resource mining in these areas may financially support armed groups, possibly fomenting conflict.

The Yokogawa Group has constructed a group-wide promotion structure for the control of conflict minerals involving the members of the sales, production design and procurement departments to avoid the Group's involvement in conflict via supply chains.

2 Structure

The structure encourages the departments to play the roles suited to their function in the Yokogawa Group's addressing the conflict mineral issue.

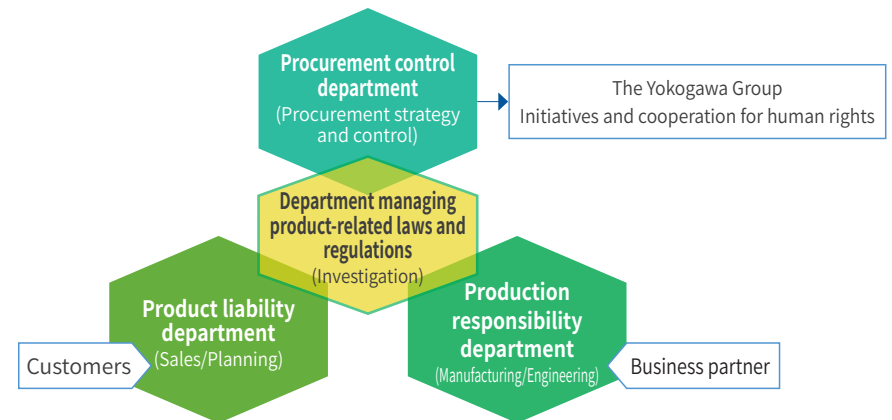
We have been cooperating with our suppliers to investigate the use of conflict minerals in certain products based on customers' requests.

If an investigation reveals that a mineral procured by Yokogawa is a source of funds for armed groups, we immediately take measures to avoid use of the mineral in question.

As a member of the Responsible Minerals Trade Working Group run by the industry group Japan Electronics and Information Technology Industries Association (JEITA), we coordinate our efforts with those of other corporations and obtain the latest information (e.g., OECD Due Diligence Guidance* and Conflict Minerals Reporting Template/Cobalt Reporting Template (CMRT/CRT)).

Yokogawa will continue making the utmost effort to ensure responsible procurement of minerals.

*The OECD Due Diligence Guidance's full name is the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas
CMRT/CRT※2: Conflict Minerals Reporting Template/ Cobalt Reporting Template





Information Security

Yokogawa works together with customers to provide solutions. To protect important information entrusted to us by our stakeholders, we implement information security measures from three perspectives: people, equipment, and information technology (IT).

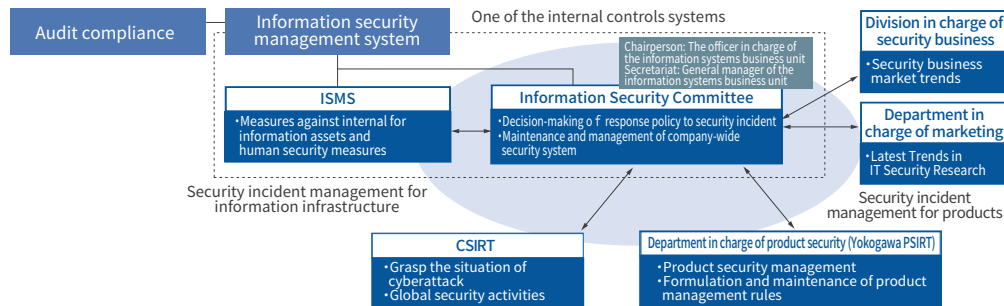
Information Security

Yokogawa conducts information security activities based on the concept of the ISO 27001 standard. Information security managers notify each business unit, headquarters, and affiliated company of policies and measures. A secretariat conducts on-site inspections to monitor operations to ensure they are performed in line with rules and takes necessary improvement measures.

To ensure information security, Yokogawa has developed an information security structure at each of its business units, headquarters, and affiliated companies. In addition, it implements a PDCA cycle, which is the key to smooth information security promotion activities.

In conjunction with the above, Yokogawa also has an information security committee to improve its responses to cyberattacks and ensure that customers are able to continue their business activities safely and securely. This committee comprises cybersecurity experts on products and other fields that Yokogawa operates within and works to share information within the Group and understand the latest trends.

Information Security Committee



People: Information Security Training

To protect information, every individual employee should be aware of information security. Yokogawa provides training using e-learning to all its employees every year to enable employees to think for themselves about the handling of information they receive and appropriately act. We share up-to-date knowledge regarding information security, and publish internal bulletins whenever necessary to keep our employees informed of responses to security incidents and recurrence prevention measures based on actual events. Further, we provide more practical information in the form of lectures on information security featuring expert lecturers, as well as education and training on responses to targeted attacks and education for line managers. Information security audits check whether the results of this training are reflected in day-to-day information security activities.

Equipment: Easy-to-understand and Secure (Security of Office Premises)

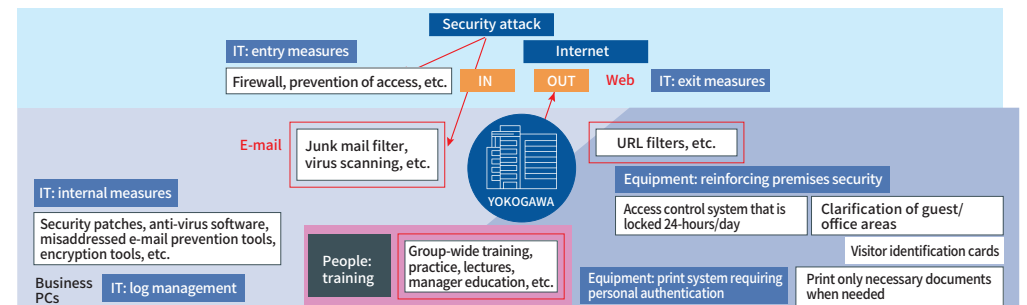
Information security must be easy to understand. We have clarified the areas that employees and visitors are permitted to enter. When a visitor enters an area other than a guest area, the visitor must wear a visitor identification card. We protect property and information assets on the premises of the head office using an access control system that keeps the office area locked 24 hours a day.

Moreover, we have introduced a managed print service (MPS) that requires personal authentication for the printing of only the necessary documents at the time they are required, preventing documents from being left behind on printers or mixed in with other documents.

IT: Protection Behind the Scenes

We use IT to prevent human error such as accidental leaks and the inappropriate use of information due to a lack of knowledge, and also adopt a multi-tiered approach to preparing for cyberattacks from the outside.

Yokogawa's Security Management



Protection of Customer Privacy

Yokogawa has developed the Privacy Guidelines and rules that its Group companies should follow for the proper management and use of the personal information entrusted to them by customers. In addition, Yokogawa is making efforts to reduce risks in response to global demand for personal information protection that varies from one country to another.

In FY2020, no complaints were filed about breaches of customers' privacy or loss of customer data with Yokogawa's system that aggregates reports from the Group companies.



Information Security Management Promotion Structure

Security Management for Products and Services

Yokogawa recognizes that the ongoing provision of measures to address cyber threats is important to its customers and society and Yokogawa is committed to addressing security together with its customers through the provision of its products and services. Since the Stuxnet malware attack, cyberattacks targeting important infrastructure have become a common occurrence. In modern society, which is built upon key infrastructure, these types of cyberattacks may profoundly affect our daily lives and socio-economic activities. Attacks can even cause social unrest or imperil the environment and human life. Additionally, as the example of the Triton malware showed, there are no signs of any stall in the technological advancement of attacks. In response to these circumstances, Yokogawa has pursued a variety of activities to reduce the risks faced by important infrastructure that originate in cyberspace.

Key Initiatives

At Yokogawa, we see the process from product development to system installation and operation as the system lifecycle. By supporting customers' security activities throughout that lifecycle, we work to reduce the risks to important infrastructure that originate in cyberspace.

Product Development

- We have established a basic policy and standards for security measures. These are incorporated into our development process to eliminate vulnerabilities from products and enhance security.
- To ensure security quality, our main products, CENTUM VP and ProSafe-RS, have obtained ISASecure EDSA certification from the ISCI, an international organization promoting security certification.
- The product development department in charge of our control systems has obtained ISASecure SDLA (Security Development Lifecycle Assurance) certification. This certification is given when the development process of control system products is found to meet the requirements for the secure development of products based on evaluations conducted by an independent organization. The review process determines that development processes comply with IEC 62443-4-1, an international standard governing product development security. Yokogawa is the first supplier of control system products in Japan to obtain this certification.



ISASecure SDLA Certificate

System Installation

- Yokogawa established the Security Competence Laboratory (SCL) at the regional HQ in Singapore for the research and study of security technology. SCL demonstrates the effectiveness of Yokogawa's security measures and supports the introduction of security measures for our customers. Yokogawa has also provided security education for engineers at offices in each country. Through these initiatives, we will realize a uniform implementation of security and safer system integration.

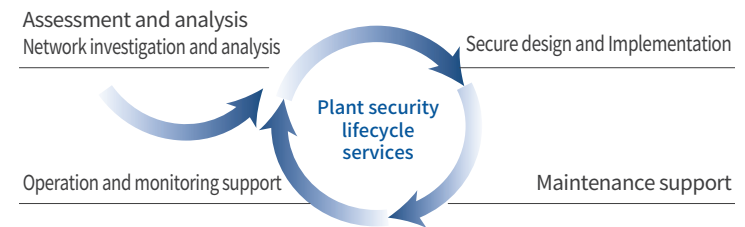


Security Competence Laboratory (SCL)

System Operation

- We have developed a security lifecycle approach in accordance with industry security standards such as IEC 62443 and provided security solutions to mitigate the cyberspace risks to customers using services such as controls system security status monitoring services, SOC services specific to control systems, and back-up services.

Security Lifecycle



PSIRT (Product Security Incident Response Team)

- We extensively gather information about vulnerabilities related to our products and disseminate the information we obtain throughout the Yokogawa Group, to investigate any potential influence on products. Regarding vulnerabilities that have been confirmed to influence products, we disclose information about the influence and countermeasures to customers to support customers in their security activities.



Quality Assurance

The Basic Quality Policy

- 1 Quality management is carried out in order to implement customer focus based on "Quality First," which is the spirit of foundation, and "Healthy and Profitable Management" through improvements in management quality.
- 2 Products that meet statutory and regulatory requirements as well as customer requirements are supplied.
- 3 Appropriate quality management systems conforming to the International Standard ISO 9001 requirements are established and implemented. In addition, the effectiveness of those systems is continually improved.
- 4 Customer requirements are fulfilled and customer satisfaction is increased through the results of quality activities in all organizations and personnel. For this purpose, each employee must feel that the quality of his or her work has a direct bearing on product quality, and that the company believes in "Quality First."
- 5 The head of each organization is responsible for the quality of the relevant businesses. The responsibilities include ensuring that adequate resources are made available.

Customer Satisfaction and Quality

Yokogawa provides quality products and solutions that satisfy our customers. This is built upon the Quality First founding spirit that we have preserved for over 100 years. Our quality management consists of three basic elements: Quality Assurance (QA), Quality Improvement (QI), and Quality mind (the quality-first mindset) (Qm).

Quality Assurance (QA)

Continually seeking to provide better products to customers based on the philosophy of quality being the highest priority

Quality Improvement (QI)

Establishing a system to provide quality products and services

Quality mind (the quality-first mindset) (Qm)

Each and every employee having the quality-first mindset that is the Yokogawa Group's founding spirit.

Three Elements of Quality Management



We believe that we can satisfy our customers' expectations and build long-lasting relationships of trust only when all of these elements are engaged. Yokogawa believes the quality-first mindset is particularly important for maintaining high levels of quality. All Yokogawa Group employees are aware of the importance of having the quality-first mindset, and quality is built into each operation based on Group-wide rules and approaches.

Quality Assurance Activities

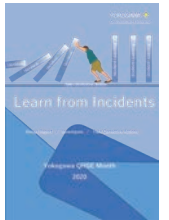
Since its founding, Yokogawa has built quality management systems into each process from development, planning, design, and manufacturing to sales and service, in order to deliver products and solutions that satisfy its customers. Yokogawa first obtained ISO 9001 certification in 1992, and its major Group companies in and outside Japan have also obtained the certification. Specialists deal with the issues and problems with products that are encountered by customers. Yokogawa has a service system featuring its Global Response Center that continually watches over customer equipment globally to ensure the equipment's safety. Yokogawa also ensures the traceability of measurement instruments as part of its quality assurance system. Yokogawa was the first company in Japan to obtain Japan Calibration Service System (JCSS) certification for flow meter calibrators.

Yokogawa QHSE* Month

In 1960 in Japan, November was set as Quality Month by the Union of Japanese Scientists and Engineers, the Japanese Standards Association, the Japan Productivity Center, and the Japan Management Association. Yokogawa has continuously engaged in related activities during November.

Starting in 2018, we engage in an array of activities within the Group in November every year, having added occupational health and safety and environmental conservation, which are the foundation of management, to quality and renamed the month Yokogawa QHSE Month.

To instill the importance of quality, occupational safety and health, and environmental conservation in the minds of all employees, we have put up QHSE Month posters designed by an employee of a Group company. In addition to the quality-first mindset, we convey the thoughts of senior management regarding occupational safety and health, and environmental conservation to the employees of the Group in a QHSE Month message.



QHSE Month poster

*QHSE: Quality, Health, Safety and Environmental Management

Yokogawa QA Booklet

To maintain and improve quality, Yokogawa has prepared a QA Booklet that explains the attitude that is necessary during work every day in easy-to-understand terms. The booklet has been translated into five languages to facilitate implementation across the Group. Workers carry it at all times to ensure they maintain a quality-first mindset.



QA Booklet for manufacturing workers



Information

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Mid-Term Sustainability Targets Review

In the previous mid-term business plan, Transformation 2020 ("TF2020"), which covered the period up to FY2020, we decided on key areas for 2030 and set mid-term sustainability targets (FY2020 targets) that accord with the TF2020 business plan, the entire Group seeking to achieve the targets while running PDCA cycles (plan-do-check-act).

Everything was going smoothly until FY2019 when the COVID-19 pandemic (hereinafter, "COVID-19") decreased our customers' motivation to invest, which resulted in many targets not being achieved. At the same time, orders have been growing for renewable energy and water business amid this severe environment, so we were able to reach our FY2020 goals regarding the reduction of CO₂ emissions and improving the water environment.

Focus area	Renewable and low-carbon energy	Life Innovation and Safety				Energy saving and resources		
Value creation themes	<ul style="list-style-type: none"> Renewable energy Low-carbon energy 	<ul style="list-style-type: none"> Improved productivity in manufacturing/processing of pharmaceuticals/foods 	<ul style="list-style-type: none"> Support development of drugs and biopharmaceuticals 	<ul style="list-style-type: none"> Improvement of safety 	<ul style="list-style-type: none"> On-site maintenance solutions 	<ul style="list-style-type: none"> Improvement of water environment 	<ul style="list-style-type: none"> Advanced solutions Consulting to improve productivity 	<ul style="list-style-type: none"> Long-term stable operation of plant 
KPI	CO ₂ emissions avoided (cumulative from FY2018)	Drug discovery systems provided (compared to FY2017)	Drug discovery systems provided (compared to FY2017)	Safety instrumented systems provided to date	On-site maintenance solutions provided to date	Water environment improvement solutions provided	Customer improvement effect (compared to FY2017)	Maintenance service sales (compared to FY2017)
Targets for FY2020	60 Mt-CO₂	Doubled	20 times	3,200 systems	850 solutions	190 solutions	Doubled	+30%
FY2020 results	225 Mt-CO₂	+90%	+270%	2,885 systems	462 solutions	253 solutions	+10%	+10%

Targets for the Group's resources	Common foundation	Human resources management				Environmental management		
Value creation themes	Transformation of business model through infrastructures and tools utilizing IIoT 	Diversity and inclusion		Talent attraction and engagement	Elimination of occupational accidents	Promotion of efficient use of water resources	Reduction of energy consumption	Reduction of greenhouse gas emissions
KPI	co-creation environment users	Female ratio out of total number of managers	Disability employment ratio (Japan)	Engagement survey score	Occurrence of accidents accompanied by lost work time	Water consumption	Energy consumption (compared to FY2013)	Greenhouse gas emissions (compared to FY2013)
Targets for FY2020	1,500 users	12.0%	2.3%	Implementation of measures to improve employee engagement	Reduction	Strengthening of measures to efficiently utilize water resources	13% reduction	20% reduction
FY2020 results	1,078 users	11.7%	2.4% (June 1, 2021)	79%	0.11 case per million work hours	4880m³	20.1% reduction	29.6% reduction



Sustainability Data

Social Data

Item		2016	2017	2018	2019	2020
Number of employees (persons)	Consolidated	18,329	18,290	17,848	18,107	17,715
	Non-consolidated	2,537	2,590	2,574	2,496	2,536
Ratio of female managers (%)	Consolidated	—	9.9	9.4	10.2	11.7
	Non-consolidated	3.5	4.3	5.4	6.3	8.5
Ratio of female employees (%)	Consolidated	—	21.2	21.9	21.7	21.9
	Non-consolidated	14.3	14.7	15.5	16.5	17.4
Employment rate of disabled persons (%)	In Japan	2.10	2.31	2.27	2.27	2.40
		(2017/6)	(2018/6)	(2019/6)	(2020/6)	(2021/6)
Collective agreement coverage (%)	Non-consolidated	74.7	74.8	73.7	73.1	73.7

Environmental Data

Item		2016	2017	2018	2019	2020
Energy consumption (GJ)	In Japan	684,692	676,375	684,085	632,217	623,618
	Outside Japan	810,126	829,572	854,898	831,180	758,685
	Total	1,494,818	1,505,947	1,538,983	1,463,397	1,382,303
Renewable energy (kWh)	Intensity (GJ/100 million yen)	382	370	381	362	369
	Solar power generation	55,726	83,288	130,915	111,948	174,629
Greenhouse gas (GHG) emissions (t-CO ₂ e)	In Japan	36,119	35,185	34,447	30,745	29,850
	Outside Japan	48,251	49,697	49,439	48,025	42,966
	Total	84,370	84,882	83,886	78,770	72,816
	Intensity (-CO ₂ e/100 million yen)	21.56	20.88	20.78	19.48	19.46
Scope 1		12,580	15,412	15,015	14,000	11,727
	Scope 2	71,790	69,470	68,871	64,770	61,089

Item	Classification	Category	2019	2020
Supply chain GHG emissions Scope 3 (t-CO ₂ e) A dash (—) indicates "not applicable."	Upstream 1	Purchased goods & services	204,683	197,858
	Upstream 2	Capital goods	29,874	26,154
	Upstream 3	Fuel- and energy-related activities not included in Scope 1 or 2	7,178	10,734
	Upstream 4	Transportation & logistics	17,325	17,660
	Upstream 5	Waste generated in operations	947	1,012
	Upstream 6	Business travel	17,750	4,294
	Upstream 7	Employee commuting	7,385	3,523
	Upstream 8	Leased assets	—	—
	Downstream 9	Transportation & deliveries	—	—
	Downstream 10	Processing of sold products	—	—
	Downstream 11	Use of sold products	617,473	529,700
	Downstream 12	End-of-life treatment of sold products	1,131	1,026
	Downstream 13	Leased assets	—	—
	Downstream 14	Franchises	—	—
	Downstream 15	Investments	—	—
Total			903,747	791,961


Item		2016	2017	2018	2019	2020
Frequency rate of occupational accidents (Number of accidents resulting in lost workdays / aggregate number of workhours × 1 million)	Consolidated	0.46	0.33	0.28	0.34	0.11
	Temporary and contract employees	0.17	0.34	0.46	0.28	0.00
Fatal accidents (cases)	Consolidated	0	0	0	0	0
	Temporary and contract employees	0	0	0	0	0
Donations and community investments (million yen)	Cash contributions	127.8	127.1	194.3	184.4	229.7
	Employee participation and dispatch	5.6	1.4	1.7	1.0	0.6
	In-kind giving and use of company facilities	12.2	14.3	7.4	45.9	4.1
	Management overheads	18.0	18.0	18.0	18.0	18.0
	In Japan	110.7	106.4	178.9	175.6	180.7
	Outside Japan	52.9	54.4	42.5	73.7	71.7
Total		163.6	160.8	221.4	249.3	252.4

Item		2016	2017	2018	2019	2020
Water withdrawals (km ³)	In Japan	314	319	316	247	240
	Outside Japan	285	296	245	266	248
	Total	600	615	561	513	488
Water discharges (km ³)	Intensity (km ³ /100 million yen)	0.15	0.15	0.14	0.13	0.13
	In Japan	235	236	267	246	236
	Outside Japan	277	282	232	228	227
Waste generated (t)	Total	512	518	499	474	463
	In Japan	2,321	2,350	2,566	2,414	1,977
	Outside Japan	2,186	2,455	2,624	2,499	2,406
Non-hazardous waste (t)	Total	4,507	4,805	5,190	4,913	4,383
	Intensity (t/100 million yen)	1.15	1.18	1.29	1.22	1.17
	Waste recycled	2,937	3,224	3,528	3,333	2,851
	Waste incinerated	129	138	126	393	481
Hazardous waste (t)	Waste landfilled	888	720	784	613	524
	Total	3,954	4,082	4,438	4,339	3,856
		553	723	752	574	527



Third-party Verification

To assure the reliability of sustainability information, Yokogawa has received an assurance for social and environmental data by a third-party organization (Lloyd's Register Quality Assurance Limited)



LR Independent Assurance Statement

Relating to Yokogawa Electric Corporation's Environmental and Social Data within its Sustainability Report 2020 for the fiscal year 2019

This Assurance Statement has been prepared for Yokogawa Electric Corporation in accordance with our contract but is intended for the readers of this Report.

Terms of engagement
Lloyd's Register Quality Assurance Limited (LR) was commissioned by Yokogawa Electric Corporation ("the Company") to provide independent assurance on its environmental and social data within its Sustainability Report 2020 ("the Report") for the fiscal year 2019, that is, from 1 April 2019 to 31 March 2020, against the assurance criteria below to a limited level of assurance and professional judgement of the verifier using ISAE 3000 and ISO 14064-3 for greenhouse gas ("GHG") data.

Our assurance engagement covered the Company's operations and activities in Japan and overseas and specifically the following requirements:

- Verifying conformance with the Company's reporting methodologies
- Evaluating the accuracy and reliability of data for only the selected indicators listed below:

Environmental indicators:

- Energy consumption (GJ)
- Renewable energy usage(kWh)
- GHG emissions¹ (Scope 1 and Scope 2 [Market-based]) (tonnes CO₂)
- Water consumption (m³) and Wastewater effluent volume (m³)
- Total waste generated (tonnes) and Total waste landfilled (tonnes)

Social indicators:

- Frequency rate of occupational accidents²
- Number of employees in the Industrial Automation and Control, Test and Measurement, Aviation, and other businesses
- The female managers ratio to all managers (%)
- The ratio of the overseas to total employees (%)
- Number of registered and pending patents (in Japan and overseas countries)
- Number of registered and pending designs (in Japan and overseas countries)
- Number of registered and pending trademarks (in Japan and overseas countries)

Our assurance engagement excluded the data and information of the Company's suppliers, contractors and any third-parties mentioned in the Report.

LR's responsibility is only to the Company. LR disclaims any liability or responsibility to others as explained in the end footnote. The Company's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Report and for maintaining effective internal controls over the systems from which the Report is derived. Ultimately, the Report has been approved by, and remains the responsibility of the Company.


LR's Opinion
Based on LR's approach nothing has come to our attention that would cause us to believe the Company has not, in all material respects:

- Met the requirements above
- Disclosed accurate and reliable environmental and social data

The opinion expressed is formed on the basis of a limited level of assurance and at the materiality of the professional judgement of the verifier.

¹ GHG quantification is subject to inherent uncertainty. LR also reviewed the Organisation's 2019 fiscal year against its 2018 to confirm the year-on-year change in Scope 1 and 2 GHG emissions data.
² The number of occupational accidents in the boundary divided by total working hours (in the unit of million hours).

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The opinion expressed is formed on the basis of a limited level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

LR's approach
LR's assurance engagements are carried out in accordance with ISAE3000 and ISO 14064-3. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:


- Auditing the Company's data management systems to confirm that there were no significant errors, omissions or mis-statements in the Report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the Report.
- Sampling datasets and tracing activity data back to aggregated levels;
- Implementing the Company's "No Visitor" Policy due to the global COVID-19 situation. Interviewing and verification of Musashino plant and Kanazawa plant of Yokogawa Electric Corporation in Japan were therefore conducted remotely via Cisco Webex.

Observations
The company has demonstrated improvement in its data management system compared to that of last fiscal year. However, the Company should maintain the reliability of its future environmental and social performance data.

LR's standards, competence and independence
LR implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 Greenhouse gases - Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and ISO/IEC 17021-1 Conformity assessment - Requirements for bodies providing audit and certification of management systems - Part 1: Requirements that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LR ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

LR is the Company's certification body for ISO9001. The verification and certification assessments are the only work undertaken by LR for the Company and as such do not compromise our independence or impartiality.

Signed  Dated: 29 June 2020

Yoshinori Shibata
LR Lead Verifier
On behalf of Lloyd's Register Quality Assurance Limited
Queen's Tower A, 10th Floor, 2-3-1, Minatomirai, Nishi-ku, Yokohama 220-6010, Japan
LR reference: YKA4005469

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Company Profile

- ▶ **Corporate Name:** Yokogawa Electric Corporation
- ▶ **President and CEO** Hitoshi Nara
- ▶ **Headquarters:** 2-9-32 Nakacho, Musashino-shi, Tokyo
180-8750, Japan
- ▶ **Founded:** September 1, 1915
- ▶ **Incorporated:** December 1, 1920
- ▶ **Paid-in Capital:** 43,401 million yen
- ▶ **Number of Employees:** 17,715 (consolidated)
2,536 (non-consolidated)
- ▶ **Subsidiaries and Affiliates:** 107 outside Japan, 11 in Japan
(as of March 31, 2021)

Editorial Policy

This report discloses information about the sustainability of the Yokogawa Group. This information is based on the core option of the GRI Standards, the global guidelines for the disclosure of sustainability information, and includes the disclosure of Yokogawa's priority issues in view of the opinions of its stakeholders. Further, Yokogawa has obtained external assurance to increase the reliability of the information.

This fiscal year, we enhanced the explanation of the sustainability strategy advocated in our AG2023 mid-term business plan, and clearly indicated the process for determining the priority issues concerning sustainability that Yokogawa will address. We also shared specific examples that highlight our contributions to these priority issues through our businesses. These disclosures have been expanded regarding initiatives for the reduction of greenhouse gas, respect for human rights, the advancement of women, and supply chain management as social demands for initiatives for them are increasing in recent years.

Please see the Yokogawa Report (Annual Report) for financial information and ESG information closely related to our business strategies. The GRI Standards Index is shown on our website.

▶ Period Covered by Report

FY2020 (April 1, 2020 to March 31, 2021)

This Report also includes some information on major activities in prior years and some of the latest information in FY2021.

▶ Scope of Report

Yokogawa Electric Corporation and its consolidated subsidiaries in Japan and overseas

Where the scope is different, a note is added to the relevant data.

▶ Timing of Publication

November 2021 (published annually)

▶ Intended Readership

This Report is intended for a wide range of stakeholders, including customers, shareholders, investors, business partners, employees, local communities, NPOs, NGOs, and governments.

▶ Company Names

In this Report, "Yokogawa," "Yokogawa Group" and "consolidated" refer to Yokogawa Electric Corporation and its consolidated subsidiaries in Japan and overseas.

"Yokogawa Electric," "non-consolidated" and "Yokogawa Electric Corporation" refer to Yokogawa Electric Corporation.

▶ Reference Guidelines

- GRI Standards (Global Reporting Initiative)
- Environmental Reporting Guidelines 2018 (Ministry of the Environment, Japan)

Yokogawa Electric Corporation

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