

2017 SUSTAINABILITY REPORT



# About this report

The Yokogawa Group thoughts and initiatives concerning Sustainability are presented on this report. We hope that readers will gain a better understanding of the sustainability activities of the Yokogawa Group through this report.

## Period covered by this report

April 1, 2016 through March 31, 2017

Where appropriate, information on events occurring outside this period may be included.

## Scope of data

This report covers Yokogawa Electric and its Group companies. When data having a different scope is provided, that is noted.

## Intended readership

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

## Company names

In this report, "Yokogawa" and "Yokogawa Group" refer to Yokogawa Electric Corporation and its affiliates, "Yokogawa Electric" is only used with reference to Yokogawa Electric Corporation.

## Reference Guidelines

- Environmental Reporting Guidelines (Fiscal year 2012 Version), published by the Ministry of the Environment, Japan
- Environmental Accounting Guidelines (Fiscal year 2005 Version), published by the Ministry of the Environment, Japan
- Sustainability Reporting Guidelines, published by the Global Reporting Initiative

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# Sustainability Policy

## Long-term vision and commitment

With the adoption of the Paris Agreement at the 21st Framework Convention on Climate Change (COP21) and the Sustainable Development Goals at the United Nations Sustainable Development Summit, momentum is building in the global effort to achieve a sustainable society. In light of these developments, in August 2017 Yokogawa established sustainability goals (Three goals) for achieving sustainability. These aim to make the world a better place by means such as enabling the use of low-carbon energy sources and the recycling of materials. As described below, the Company is committed to transforming itself in several key ways to better position itself to achieve these goals.

### Statement on Yokogawa's aspiration for sustainability

Yokogawa will work to achieve net-zero emissions, make a transition to a circular economy, and ensure the well-being of all 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.

## Sustainability goals "Three goals"



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

### Achieve net-zero emissions; stopping climate change

Climate change is an urgent issue that requires a global response. We aim for net-zero emissions, which means that the greenhouse gas concentrations in the atmosphere do not rise due to the balance of emissions and the absorption of greenhouse gases, which can be accomplished through the introduction of renewable energy and efficient use of energy. We are also working to reduce the impact of natural disasters and respond to biodiversity issues.

**Make the transition to a circular economy; circulation of resources and efficiency**

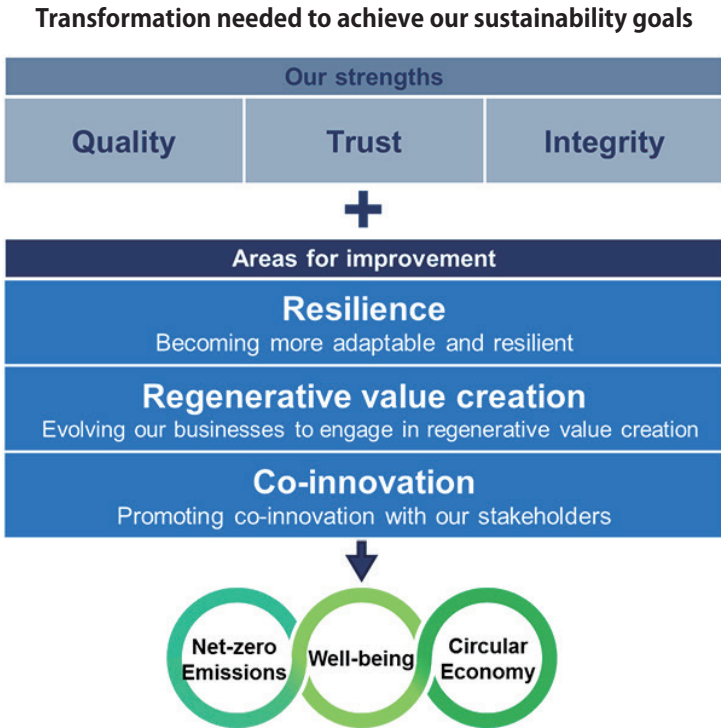
The transformation from a one-way economy based on the take, make, and dispose model to an economy where resources are circulated without waste, and the transition to businesses that emphasize services, are under way. We aim to realize a social framework and ecosystem in which various resources are circulated without waste and assets are utilized effectively. We also are contributing to the efficient use of water resources and the supply of safe drinking water.

**Ensure well-being; quality life for all**

With the aim of achieving the physical, mental, and social well-being described in the 2030 Agenda for Sustainable Development adopted by the United Nations in 2015, we support people's health and prosperity through the achievement of safe and comfortable workplaces and our pursuits in such areas as the life sciences and drug discovery. We promote human resource development and employment creation in local communities, and diversity and inclusion.

**Transformation to achieve sustainability goals**

While continuing to emphasize the quality, trust, and integrity that have long been a source of strength for Yokogawa, the Company will undergo the transformation needed to achieve its sustainability goals by becoming more adaptable and resilient, evolving its business to engage in regenerative value creation, and promoting co-innovation with its stakeholders.



**Becoming more adaptable and resilient**

While rooted firmly in an identity that is based on our corporate philosophy and vision, respond flexibly to and show resilience in the face of social change, and be determined to overcome the great challenges that this presents.

**Evolving our business to engage in regenerative value creation**

Reduce waste, recycle resources, and create robust and durable products by making the needed changes in design, production, logistics, and use. Together with customers and business partners, make maximum use of assets and increase resource efficiency.

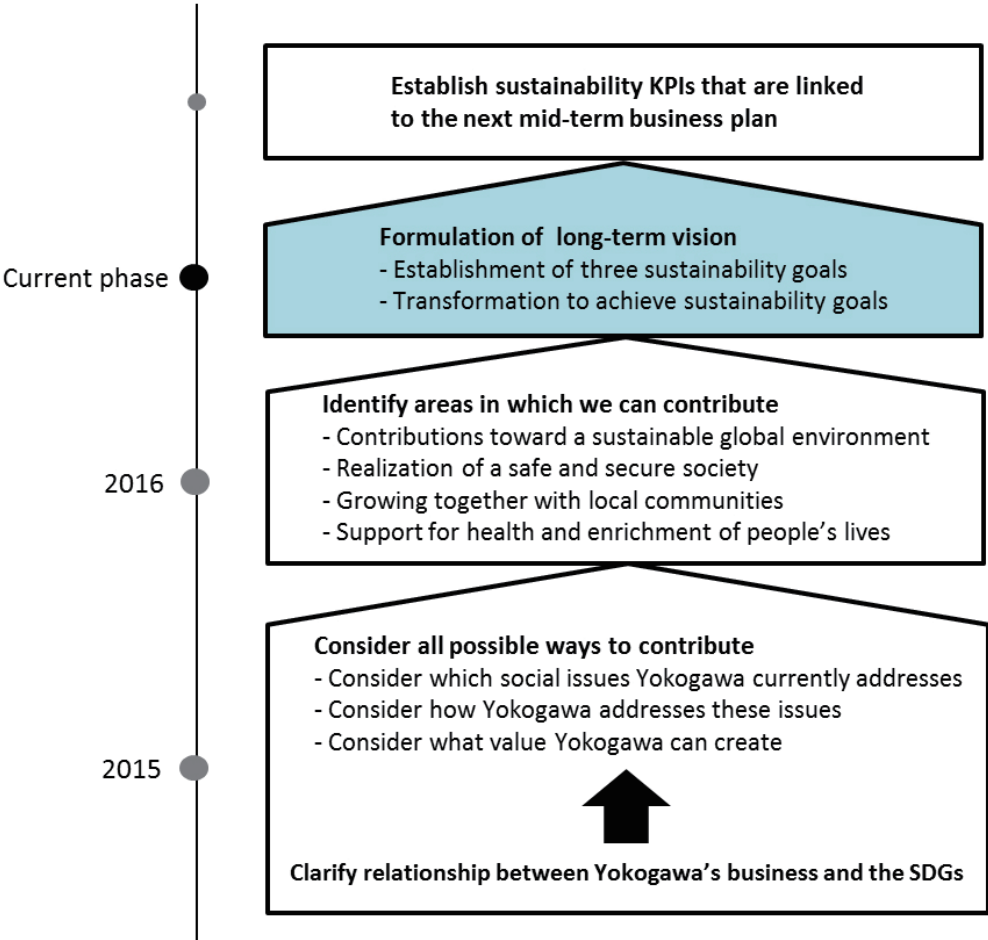
**Promoting co-innovation with our stakeholders**

Through engagement with our stakeholders, including customers, suppliers, partners, employees, shareholders, investors, and members of the local community, create the new value needed to realize a sustainable society.

**Incorporation of sustainability in business planning**

To remain a growing enterprise, we believe that Yokogawa must incorporate sustainability in the long-term vision for its business, and be guided by this vision as it prepares its next mid-term business plan. To make sure that we remain on track in carrying out this plan, we will establish sustainability key performance indicators (KPIs). In so doing, we aim to make steady progress toward our goal of achieving a sustainable society.

**Planning for sustainability**



## Sustainability case studies

Yokogawa has long provided measurement, control, and information technologies that have played vital roles in numerous industries, and has contributed to sustained economic growth. A great number of Yokogawa products and other solutions are at work right now in plants all over the world, in industries such as oil and gas, petrochemicals, chemicals, iron and steel, paper, power, pharmaceuticals, water, and foods. Based on its technologies, the Company is working to create a brighter future for all by providing solutions that make more efficient use of energy resources and support the creation of next-generation energy technologies.

Yokogawa will continue to create new value together with our customers and will contribute to achieving a sustainable society.

The contributions we make to society through our various solutions can be viewed on our website.



## Sustainability case studies

### First 2nd generation Bioethanol Plant in Southern Hemisphere: One of World's Largest (Brazil)



GranBio, a Brazilian industrial biotech company, started operation of the Sao Miguel dos Campos second-generation bioethanol\* plant, the first plant of its type in the southern hemisphere, in early 2014. This plant has a production capacity of 82 million liters of biofuel per year, which makes it one of the largest such facilities in the world. Materials such as sugarcane bagasse and straw are readily available in Brazil, and it is hoped that these materials can be a stable energy source.

#### Yokogawa's contribution

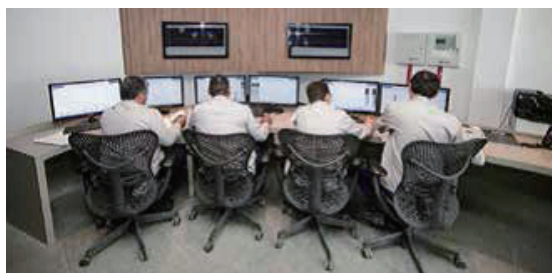
As the main automation contractor (MAC) for this plant, Yokogawa performed basic design and delivery of the control system and field instrumentation. Biofuel manufacturing involves step-by-step processes under appropriate temperature control, consisting of pretreatment of raw materials, enzymatic hydrolysis, fermentation, and distillation/separation. Yokogawa's CENTUM VP integrated production control system automatically controls a series of complex processes according to the preprogrammed conditions for each production process, such as temperature and pressure, thereby contributing to high-quality, stable production. Various Yokogawa field instruments are installed throughout the extensive plant site, including magnetic flowmeters and pressure/differential pressure transmitters. Although some of these instruments are exposed to high temperature processes and other harsh conditions and/or are mounted in high, narrow, and other difficult to access locations, Yokogawa's Plant Resource Manager (PRM) asset management package enables integrated monitoring of the health of all field instruments from the central control room. In this way, Yokogawa is supporting safe and efficient operation of the entire plant.

#### To a sustainable society

Based on its highly reliable products as well as its extensive experience and track record, Yokogawa will continue to contribute to the improvement of production efficiency and safe and reliable operation throughout the lifecycles of customers' plants. In the renewable energy field, the Company is committed to contributing to a stable supply of clean energy in order to realize a sustainable global environment in collaboration with customers.



Plant view



Central control room



\*Amid concerns about the correlation between greenhouse gases generated from burning fossil fuels, etc. and global warming, as well as food shortages worldwide, second-generation bioethanol made from non-food sources such as woodchips and straw, as opposed to the first-generation bioethanol made from edible resources such as corn, has been attracting attention in recent years as a renewable energy source.

## Contributing to society through Human Resources Development and Job Creation (Saudi Arabia)



Yokogawa concluded a distributor agreement with a local company in Saudi Arabia in 1970s to start cultivating the control system market. Having established Yokogawa Saudi Arabia in 2006 and Yokogawa Services Saudi Arabia in 2007, Yokogawa has accumulated a track record in the key oil and gas sector and has expanded business led by local employees. Yokogawa's customers in Saudi Arabia

are mainly state-owned enterprises. As well as contributing to Saudi Arabia's industrial development by helping customers resolve their issues, Yokogawa has been addressing the resolution of the nation's social issue since the inception of these companies.

In recent years, a high youth unemployment rate in line with the increase of foreign workers has become a pressing issue in Saudi Arabia. The Saudi government is implementing a policy to increase employment opportunities by promoting employment of Saudi nationals (Saudization). While expanding business in Saudi Arabia, Yokogawa is supporting human resources development in the country in cooperation with local universities and other educational institutions and providing employment opportunities.

### Contributing to human resources development

Based on a memorandum of understanding signed with the King Fahd University of Petroleum and Minerals (KFUPM) and three other universities in Saudi Arabia concerning human resources training programs, Yokogawa provides engineering training and short-term internships for students and new graduates. In the 10 years from 2007, of 275 people who completed the training program, 63 joined the Yokogawa Group.

### Contributing to creation of jobs

As of June 2017, Yokogawa's subsidiaries in Saudi Arabia had 300 employees of whom 135 were Saudi nationals (75 men and 60 women), with a Saudization percentage of 45%. According to the criteria for the ratio of Saudi nationals to the workforce of companies specified by the Ministry of Labor of Saudi Arabia, Yokogawa subsidiaries are in the top level in the six-level ranking.

### Supporting advancement of women in society

Yokogawa is vigorously supporting advancement of Saudi Arabian women and has hired some 150 local women since 2010. Of the current 60 female employees, 50 are engaged in engineering work. Initiatives to resolve social issues of Saudi Arabia have a great significance in the context of Yokogawa's sustainable development of business in the country. Yokogawa continues to address issues of customers in Saudi Arabia and national issues with devotion in order to contribute to the country's industrial development while enhancing Yokogawa's corporate value.



President Nishijima (left) had an audience with Custodian of the Two Holy Mosques King Salman Bin Abdulaziz Al-Saud, King of the Kingdom of Saudi Arabia, at Saudi-Japan Vision 2030 Business Forum in March 2017 during the King's visit to Japan.



At the Business Forum, Yokogawa concluded a MOU with Saudi Arabian Oil Company (Saudi Aramco) concerning cooperation in R&D and human resources development in the measuring and control fields of the oil, petrochemical, and gas sector.

## Evoiving durability and multi-aenerational design and promoting effective use of customer property(CENTUM VP)

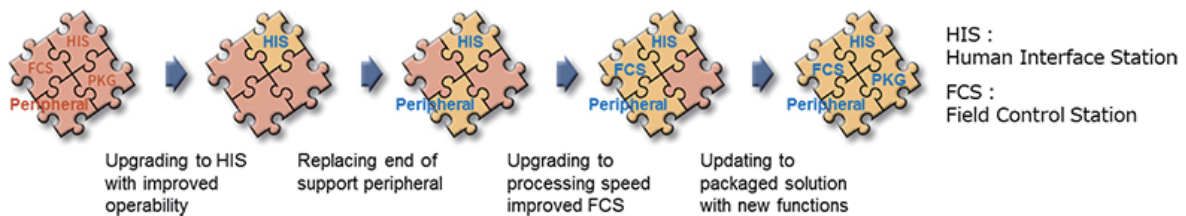


CENTUM VP, a distributed control system which provides customers with an optimized operation and engineering environment, has been developing its reliability and robustness through introducing the latest state-of-the-art technologies.

The CENTUM series have been offering a smooth upgrade path from an existing CENTUM system into the latest one. It provides customers with the benefits of using the existing system yet allows them to adopt the latest technologies.

### Supporting to stable operation of instrumentation systems

By updating obsolete components to maintain system functionality, transition can be achieved seamlessly.



### RIO (Remote I/O) system upgrade

Realize short turn-around, reliable update to the latest system by fully utilizing existing facility assets. New devices for the RIO system upgrade are compatible with existing RIO in both function and physical form. Existing cabinets and terminal blocks can be re-used as they are; it is not necessary to change the wiring between the I/O device and the sensor or valve.

## Corporate Philosophy

### The Yokogawa Philosophy

#### Introduction to Yokogawa's corporate symbol and standards of business conduct

As a company, our goal is to contribute to 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.

Published in January 1988

### Standards of Business Conduct for the Yokogawa Group

#### I . Basic Principles of the Yokogawa Group

##### 1.Realizing The Yokogawa Philosophy

This Company Code imparts the principles of good business for the Yokogawa Group members who aspire to fulfill the Yokogawa Philosophy. "As a group, our goal is to contribute to 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."

We, as members of the Yokogawa Group, conduct business activities according to the Yokogawa Philosophy and carry out duties with integrity.

We observe the Standards of Business Conduct.

##### 2.Customer Satisfaction

From the viewpoint of customer satisfaction, we provide valuable products and services that are useful to society.

Winning customer satisfaction is the start to gaining the trust of shareholders and all concerned people in the community and society.

##### 3.Observance of Laws and Regulations

We observe the laws, regulations, and other rules of society, and conduct business activities with ethical conscience.

We accept different cultures and respect the laws and social mores of the international community.

##### 4.Respect for Human Rights

We value and respect the dignity of each individual and all basic human rights.

##### 5.Order and Safety of Community and Society

We do not develop or foster any relationship with any people or groups that threaten the order and safety of the community and society.

#### II . Basic Attitude of the Yokogawa Group

##### 1.Customers

We conduct activities with integrity to gain the approval and trust of customers.

We provide accurate and ample information to customers so that they can use our products and services in safety and with satisfaction.

##### 2.Shareholders

We use, maintain and enhance corporate assets efficiently and effectively to win the trust of our shareholders.

We openly and accurately disclose corporate and management information to our shareholders.

We maintain a sound and clear relationship with our shareholders.

### **3.Community and Society**

We strive to achieve the common goals of the community and society, including protection of the global environment and the building of prosperous societies.

We endeavor to be a friendly and cooperating member of society and participate positively in the activities of society.

### **4.Suppliers and Vendors**

We work sincerely and soundly with suppliers and vendors and treat them fairly and equally.

We refrain from making any contacts with the suppliers or vendors that may be misinterpreted as abuse of a special relationship, and we maintain sound and open relationships.

### **5.Competitors**

We compete fairly, openly and freely with other suppliers.

### **6.Politicians and Governmental Agencies**

We maintain sound and open relationships with politicians, public servants and people related to them.

## **III. Guideline of Conduct for Yokogawa Group Members**

### **1.Workplace**

We maintain an active, bright, safe and sound company atmosphere that we can take pride in.

We pay careful attention so that none of us would suffer from harassment, unfair treatment, or infringement of privacy.

### **2.Group Assets**

We use the assets of the Yokogawa Group only for Group-related business activities.

### **3.Management of Information**

We fully recognize the value of the knowledge within the Yokogawa Group and that of business partners, and maintain strict records and guardianship of this information.

We use information obtained through business activities only for business purposes.

### **4.Avoidance of Conflict of Interest**

We conduct our business activities neither for personal gain nor to take advantages of business positions. Furthermore, we conduct our activities in such a way that the Yokogawa Group suffers no losses or damage.

### **5.Prudent Personal Activities**

We act responsibly, in private and on business, so as not to impair the Yokogawa Group's credibility or reputation or cause any losses or damage to the Group.

## Global Initiative

### UN Global Compact

The United Nations has put forward a set of ten principles, The UN Global Compact, relating to human rights, labor, the environment, and anti-corruption. On January 5, 2009, Yokogawa signed on as a participating company.

Kofi Annan, former Secretary-General of the UN, first proposed the Global Compact at the World Economic Forum in 1999; the UN officially launched it in 2000. Participating companies are expected to uphold and practice international standards relating to human rights, labor, the environment, and anti-corruption.

Today, Yokogawa does business around the world and its actions affect economies, societies, and the environment. Recognizing its role as a global company, it abides by international norms and actively works to address urgent international issues such as the environment and human rights.

The Standards of Business Conduct for the Yokogawa Group call for the realization of the Yokogawa Philosophy, enhancement of customer satisfaction, observance of laws and regulations, respect for human rights, and maintenance of the order and safety of communities and society. Yokogawa is committed to fulfilling its various fundamental responsibilities as a company, including maintaining compliance and contributing to society through its businesses.

Yokogawa has participated in the Global Compact Initiative, an international undertaking advocated by the United Nations, since 2009. Accordingly, the Company endeavors to support and practice the Compact's ten principles relating to human rights, labor, the environment, and anti-corruption. Yokogawa strives to ensure that its global network of Group companies and suppliers shares the same commitment to these principles.

Looking ahead, every effort will be made to fulfill our corporate responsibilities as a globally operating company.



Network Japan  
**WE SUPPORT**

**Yokogawa Electric Corporation**  
**President and CEO**  
**Takashi Nishijima**

Below are the ten principles of the UN Global Compact, followed by Yokogawa's efforts in each area:

### Human Rights

#### Principle 1:

Businesses should support and respect the protection of internationally proclaimed human rights; and

#### Principle 2:

make sure that they are not complicit in human rights abuses.

#### Yokogawa's Efforts:

Human Rights  
Supply Chain Management  
Community Involvement

## Labor Standards

**Principle 3:**

Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

**Principle 4:**

the elimination of all forms of forced and compulsory labor;

**Principle 5:**

the effective abolition of child labor; and

**Principle 6:**

the elimination of discrimination in respect of employment and occupation.

### Yokogawa's Efforts:

Human Rights  
Occupational Safety and Health

## Environment

**Principle 7:**

Businesses should support a precautionary approach to environmental challenges;

**Principle 8:**

undertake initiatives to promote greater environmental responsibility; and

**Principle 9:**

encourage the development and diffusion of environmentally friendly technologies.

### Yokogawa's Efforts:

Environmental management  
Renewable energy

## Anti-Corruption

**Principle 10:**

Businesses should work against corruption in all its forms, including extortion and bribery

### Yokogawa's Efforts:

Anti-corruption and Compliance

## ISO 26000

ISO 26000, issued by the International Standardization Organization in November 2010, is an international standard for the social responsibilities of corporate entities, presenting seven core subjects including organizational governance, human rights, labor practices, environment and fair operating practices.

We at Yokogawa, as a company active in the global marketplace, adhere to ISO 26000 and uphold corporate governance as a key principle of Corporate Social Responsibility (CSR), which forms the foundation of corporate management. As such, we are committed to the implementation of socially responsible programs/activities designed to contribute to society through business operations, environmental conservation and the assurance of human rights in order to meet our shareholders' expectations.

The core subjects of ISO 26000 and our key efforts in regard to these subjects are explained below.

Core Subjects	Issues	References
6.2 Organizational governance	1. Organizational governance	<ul style="list-style-type: none"> <li>• Corporate Governance</li> <li>• Internal Control System</li> <li>• Risk Management</li> <li>• Sustainability Policy</li> </ul>
6.3 Human rights	<ol style="list-style-type: none"> <li>1. Due diligence</li> <li>2. Human rights risk situations</li> <li>3. Avoidance of complicity</li> <li>4. Resolving grievances</li> <li>5. Discrimination and vulnerable groups</li> <li>6. Civil and political rights</li> <li>7. Economic, social and cultural rights</li> <li>8. Fundamental principles and rights at work</li> </ol>	<ul style="list-style-type: none"> <li>• Human Rights</li> <li>• Diversity and Inclusion</li> <li>• Supply Chain Management</li> <li>• Corporate Philosophy</li> <li>• Anti-corruption and Compliance</li> </ul>
6.4 Labour practices	<ol style="list-style-type: none"> <li>1. Employment and employment relationships</li> <li>2. Conditions of work and social protection</li> <li>3. Social dialogue</li> <li>4. Health and safety at work</li> <li>5. Human development and training in the workplace</li> </ol>	<ul style="list-style-type: none"> <li>• Human Resources Development</li> <li>• Occupational Safety and Health</li> </ul>
6.5 The environment	<ol style="list-style-type: none"> <li>1. Prevention of pollution</li> <li>2. Sustainable resource use</li> <li>3. Climate change mitigation and adaptation</li> <li>4. Protection of the environment, biodiversity and restoration of natural habitats</li> </ol>	<ul style="list-style-type: none"> <li>• Environmental Management System</li> <li>• Environmental Impact</li> <li>• Environmentally Friendly Products</li> <li>• LCA label</li> <li>• Global Warming Prevention</li> <li>• Chemical Substance Reduction, Waste Reduction and Resource Conservation</li> <li>• Water Resource Conservation</li> <li>• Promoting Biodiversity</li> </ul>
6.6 Fair operating practices	<ol style="list-style-type: none"> <li>1. Anti-corruption</li> <li>2. Responsible political Involvement</li> <li>3. Fair competition</li> <li>4. Promoting social responsibility in the value chain</li> <li>5. Respect for property rights</li> </ol>	<ul style="list-style-type: none"> <li>• Corporate Philosophy</li> <li>• Anti-corruption and Compliance</li> <li>• Supply Chain Management</li> </ul>

<p>6.7 Consumer issues</p>	<ol style="list-style-type: none"> <li>1. Fair marketing, factual and unbiased information and fair contractual practices</li> <li>2. Protecting consumers' health and safety</li> <li>3. Sustainable consumption</li> <li>4. Consumer service, support, and complaint and dispute resolution</li> <li>5. Consumer data protection and privacy</li> <li>6. Access to essential services</li> <li>7. Education and awareness</li> </ol>	<ul style="list-style-type: none"> <li>• Quality Management</li> <li>• Risk Management</li> <li>• Information Security</li> <li>• LCA label</li> <li>• Corporate Philosophy</li> <li>• Contact Us</li> </ul>
<p>6.8 Community involvement and development</p>	<ol style="list-style-type: none"> <li>1. Community involvement</li> <li>2. Education and culture</li> <li>3. Employment creation and skills development</li> <li>4. Technology development and access</li> <li>5. Wealth and income creation</li> <li>6. Health</li> <li>7. Social investment</li> </ol>	<ul style="list-style-type: none"> <li>• Community Involvement</li> <li>• Japan</li> <li>• North and South Americas</li> <li>• Asia</li> <li>• Middle East and Africa</li> <li>• Europe</li> </ul>



## External Ratings and Recognitions

### Inclusion in stock indexes

#### Dow Jones Sustainability Asia Pacific Index

Yokogawa Electric Corporation has been selected for inclusion in the Dow Jones Sustainability Asia Pacific Index (DJSI Asia Pacific), one of the DJSI family of global stock indices that track stocks based on environmental, social, and governance (ESG) criteria. (September, 2017)

MEMBER OF

**Dow Jones  
Sustainability Indices**

In Collaboration with RobecoSAM

#### MSCI Japan ESG Select Leaders Index and MSCI Japan Empowering Women Index (WIN) (Japan)

MSCI



2017 Constituent  
MSCI Japan ESG  
Select Leaders Index

MSCI



2017 Constituent  
MSCI Japan Empowering  
Women Index (WIN)

Yokogawa Electric Corporation has been selected for inclusion in "MSCI Japan ESG Select Leaders Index" and "MSCI Japan Empowering Women Index (WIN)" developed by MSCI Inc. (June, 2017)

#### FTSE4Good Index Series and FTSE Blossom Japan Index (Japan)



FTSE4Good



FTSE Blossom  
Japan

Yokogawa Electric Corporation has been selected for inclusion in the FTSE4Good Index Series and the FTSE Blossom Japan Index developed by FTSE Russell. (June, 2017)

#### MSCI ESG Leaders Index

MSCI



2017 Constituent  
MSCI ESG  
Leaders Index

Yokogawa Electric Corporation has been selected for inclusion in "MSCI ESG Leaders Index" developed by MSCI Inc. (March, 2017)

## Socially Responsible Investment Stock Index by Morningstar (Japan)



Yokogawa Electric Corporation, as of January 2017, is one of 150 companies constituting the MS-SRI (Morningstar Socially Responsible Investment Index), which is an SRI stock index established by Morningstar (January, 2017).

## Constituent Stock of the JPX-Nikkei Index 400 (Japan)



Yokogawa Electric Corporation has been selected to the JPX-Nikkei Index 400, a stock price index jointly established by Nikkei Inc., Japan Exchange Group, Inc. (JPX), and Tokyo Stock Exchange, Inc. Stocks in this index are selected as companies that are attractive to investors for their return on investment (ROI), market capitalization, and other attributes.(August,2016)

## Ratings for products and business activities

### Frost & Sullivan 2017 Global Customer Value Leadership Award in the Industrial Automation Solutions and Services Industry



Yokogawa Electric Corporation has received the Frost & Sullivan Global Customer Value Leadership Award in the automation solutions and services category.

## Yokogawa Recognized as Excellent Health and Productivity Management Company (Japan)

Yokogawa Electric Corporation has been selected by the Ministry of Economy, Trade and Industry (METI) and Nippon Kenko Kaigi (NKK) to the "White 500" list of large companies with excellent health and productivity management practices.

## **Yokogawa's GC8000 Process Gas Chromatograph Receives CIS Science and Technology Award (China)**

GC8000 process gas chromatograph has received a Science and Technology Award in the Excellent Product category from the China Instrument and Control Society (CIS).

## **Yokogawa Receives SICE Award (China)**

Yokogawa Electric Corporation announces has received a Technology Award from the Society of Instrument and Control Engineers (SICE) for its achievements in the development of industrial wireless technology.

## **Awarded the Highest Rank of the Superior Enterprise Certification Logo - "Eruboshi" Based on the Act of Promotion of Women's Participation and Advancement in the Workplace (Japan)**

Yokogawa Electric Corporation was given the highest rank of the certification "Eruboshi" by the Ministry of Health, Labour and Welfare as an enterprise with a superior status of women's participation and advancement in the workplace. (July 2016)

## **Yokogawa's CENTUM® VP R6 Receives the Minister of Economy, Trade and Industry Prize of the 46th Machine Industry Design Awards (Japan)**

CENTUM®VP R6 integrated production control system has received the Minister of Economy, Trade and Industry Prize.

## **Ratings for employees**

### **"Award for Activities to Promote International Standards of the IEC/TC65 Domestic Committees" Was Granted (Japan)**

An employee of Yokogawa Electric Corporation received the "Award for Activities to Promote International Standards of the IEC/TC65 Domestic Committees" at the activity report meeting of the Japan Electric Measuring Instruments Manufacturers' Association (JEMIMA). This award is given to Committee members who contributed greatly to activities of the IEC/TC65 Domestic Committees and are expected to contribute to the activities from now on (June 2017).

### **"Award for Contribution to Energy Conservation Promotion" Awarded by the Energy Conservation Center, Japan (ECCJ) (Japan)**

An employee of Yokogawa Electric Corporation received an award for the contribution to energy conservation in fiscal 2016 from ECCJ. Their contributions to energy conservation promotion through the formulation of a local environmental basic plan, raising awareness of stakeholders including employees toward the environment were appreciated. (February, 2017)

## **"Award for Contribution to Creativeness" Awarded by the Minister of Education, Culture, Sports, Science and Technology in Science and Technology (Japan)**

An employee of Yokogawa Manufacturing Corporation received the "The Prize for Creativity" from the Minister of Education, Culture, Sports and Technology in science and technology in fiscal 2016. This award is given to individuals or groups who contributed to the advancement and improvement of technology in the workplace through excellent creativeness, in the science and technology field. (June 2016)

## Providing Value to Society together with Customers

Aspiring to realize a sustainable society, Yokogawa is helping to address a number of social and environmental issues through its business activities. In fiscal year 2015, we initiated a cross-organizational project and exchanged opinions with our shareholders. And in accordance with the Sustainable Development Goals (SDGs) adopted by the United Nations, we have classified our business activities and contributions as follows:

### Contributions toward a sustainable global environment

#### Social Issues

- Burgeoning energy demand in emerging countries
- Shift from non-renewable fossil fuels to renewable energy sources
- Soil and water pollution from domestic and industrial wastewater and industrial waste

Relevant SDGs



#### Yokogawa's Strengths

- Provision of highly reliable products and services and development of long-term relationships with a global customer base, mainly in downstream sectors of the energy supply chain such as oil refining and petrochemicals
- Engineering services that make operations more efficient and a wealth of expertise in diverse applications

#### Value Provided to Society

##### Boosting efficiency throughout the energy supply chain

- Support services that ensure stable and efficient operations and the efficient use of energy and other resources throughout the plant lifecycle
- Conservation of energy through the measurement and optimal control of production facilities and waste heat recovery facilities

##### Responding to the shift to renewable energy sources

- Highly reliable measurement and control equipment supporting clean power generation at renewable energy plants
- With customers and partners, the joint development and realization of efficient wide-area energy management systems that combine the use of Industrial Internet of Things (IIoT) and plant control technologies

## Ensuring a resource recycling society

- Robust systems with a low environmental-impact that can be kept in use for decades through the replacement of parts and other regular maintenance procedures
- Ensuring the supply of safe water through the implementation of seawater desalination, wastewater management, and water purification plant monitoring and control projects worldwide
- Helping to prevent air, soil, and water pollution through the real-time component analysis of gases and liquids
- CO2 emissions reduction and other environmental management activities at our offices and factories

## Realization of a safe and secure society

### Social Issues

- Plant accidents caused by aging facilities and the retirement of skilled operators
- Aging of public infrastructure such as roads, bridges, tunnels, and harbors
- The threat of cyber-attacks on vital infrastructure
- Social impact of earthquakes, tsunamis, typhoons, floods, and other natural disasters

Relevant SDGs



### Yokogawa's Strengths

- Utilization of long experience and extensive track record in industry sectors such as chemicals, iron and steel, and liquefied natural gas to provide support that ensures safe and secure operations
- Development of integrated process control and safety instrumented systems (as an alternative to the conventional approach of keeping these systems separate)
- Development and supply of operation training simulators that incorporate the expertise of skilled operators
- With security system vendors, provision of distributed control system (DCS) lifecycle security solutions

### Value Provided to Society

#### Development of safe and secure work environments

- Prevention of plant accidents through the rapid detection of plant abnormalities and the use of highly reliable and secure safety instrumented systems that perform emergency shutdowns, thus protecting people, the environment, plant assets, and company reputation
- Alleviation of operator stress through the integration of process control and safety instrumented systems, contributing to the overall improvement of operating efficiency
- Transfer of technical skills, knowledge about past plant problems, and knowledge about how to

- anticipate and prevent similar problems by using operation training simulators and virtual plant systems
- Helping to ensure the safe and secure operation of plant systems through the provision of secure products and cyber-security solutions

## Support for natural disaster preparation and mitigation measures

- Development of durable, compact, and reliable sensors that constantly monitor buildings and bridges and enable early detection of tilting, cracking, and other failures
- Provision of natural disaster preparation and mitigation solutions such as tide gate centralized monitoring systems, public information services, and underground reservoir water distribution systems

## Growing together with local communities

### Social Issues

- Labor shortages in emerging countries
- Discriminatory treatment of individuals based on gender, race, etc.

Relevant SDGs



### Yokogawa's Strengths

- Hiring, nurturing, and promotion of local workers to managerial positions
- Development of technical training programs in cooperation with customers and local educational institutions
- Efficient, change-responsive organizational operation through human resources strategies such as promotion of globalization and utilization of diversity

### Value Provided to Society

#### Local support for training of engineers

- Establishment of educational institutions and provision of scholarship support for students (Saudi Arabia, Tatarstan)
- Support for development of engineering students through internships in cooperation with local universities; subsequent contribution to local job creation (Middle East, Africa)

#### Promoting diversity

- Career training for leading female employees and diversity education for managers; preparation of development plans for female employees; reform of the corporate culture and workplace culture; provision of support to ensure the success of female employees; and correction of disparities between

men and women (Japan)

- Active utilization of diverse human resources, including women, foreign nationals, and disabled person

## Support for health and enrichment of people's lives

### Social Issues

- The enormous time and cost required for new drug development
- The burden of animal experimentation and clinical trials

Relevant SDGs



### Yokogawa's Strengths

- Establishment of confocal microscopes capable of observing the movements of live cells in real time as a de facto standard in leading-edge research
- Development and provision of advanced drug discovery support systems incorporating technologies such as confocal microscopes, precise positioning control, and cell image analysis

### Value Provided to Society

#### Life sciences and drug discovery

- Promotion of leading-edge life science research through the use of confocal microscopes for the observation of biological phenomena such as the movement of neurons in the brain and the flow of red blood cells
- Drug discovery support systems for the efficient development of safe pharmaceuticals that alleviate the burdens of conducting clinical trials on living subjects and conducting animal experiments

### Sustainable Development Goals (SDGs)

In September 2015, the United Nations adopted the 2030 Agenda for sustainable development, which includes a set of Sustainable Development Goals (SDGs). The SDGs, consisting of 17 goals and 169 targets, are universal development goals for ending poverty and hunger, protecting the planet, and ensuring prosperity that all countries and all stakeholders are encouraged to work toward.





## Communication with Our Stakeholders

Yokogawa will help solving the unique challenges such as energy conservation, the reduction of environmental impact and improved plant safety by utilizing our solutions. In addition, we are working to strengthen corporate governance, abide by compliance, and promote human resources strategy. In promoting all CSR activities, it is required to incorporate fully the expectations and demands of society as well as promote the business strategy of our mid-term business plan. We therefore value feedback, concerns and other input obtained through communication with our stakeholders.

Customer	<ul style="list-style-type: none"> <li>● Co-innovation through the plant lifecycle</li> <li>● Calls to our Global Response Center</li> <li>● Conversation/interaction with customers at trade shows and customer meetings</li> <li>● Provision of information via websites</li> </ul>
Shareholders and Investors	<ul style="list-style-type: none"> <li>● Interaction through IR activities such as the General Meeting of Shareholders and presentations to investors</li> <li>● Communication through financial reports and Yokogawa reports (integrated reports)</li> <li>● Response to research conducted by SRI rating agencies</li> </ul>
Supplier	<ul style="list-style-type: none"> <li>● Interaction through the procurement activities conforming to the sales policy</li> <li>● Organization of presentations on our procurement policy</li> </ul>
Employee	<ul style="list-style-type: none"> <li>● Interaction through labor-management consultations</li> <li>● Communication through the company newsletter and intranet</li> <li>● Employee-awareness surveys</li> </ul>
Communities	<ul style="list-style-type: none"> <li>● Conversation/interaction with nearby residents/communities</li> <li>● Participation in community activities</li> </ul>
Governments/ Industry organization	<ul style="list-style-type: none"> <li>● Participation in economics organizations and industry bodies</li> </ul>
NGOs/NPOs	<ul style="list-style-type: none"> <li>● Conversation/interaction through various cooperative activities</li> </ul>

# Governance, Risk Management

Yokogawa has prepared frameworks for corporate governance, risk management, internal control, and compliance, spanning the entire Group.

In major areas, including environment, health and safety, quality, labor management, corporate ethics, and risk management, we have prepared internal control systems and engage in risk management and compliance.

To enhance companies' sustainable growth and improve mid- to long-term corporate value, Japan's Corporate Governance Code has been applied to listed companies in Japan since June of 2015. YOKOGAWA systematized the commitment to the corporate governance once more and established the "YOKOGAWA Corporate Governance Guideline" in November of 2015 as a basic policy for enhancing the corporate governance continuously. We will continue to further enhance the corporate governance and tackle sustainability issues including environmental and social issues.

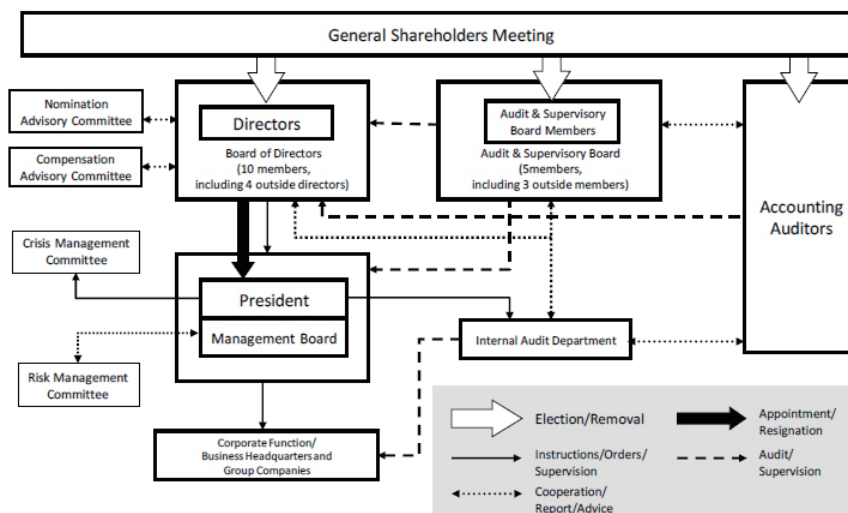
## Corporate Governance

The Group has established a corporate philosophy, the Yokogawa Philosophy, and Standards of Business Conduct for the Yokogawa Group that apply to the entire Group, and strives to have appropriate relationships with all stakeholders as well as aims sustainable corporate growth and increased corporate value over the medium to long term. In addition, based on the philosophy that "a company is a public entity of society," the Group positions answering the trust of all stakeholders, including shareholders, customers, business partners, society, and employees, via sound and sustainable growth, as the basic mission of corporate management.

In order to maximize its corporate value, the Group believes that efforts such as thorough compliance, appropriate risk management, and information disclosure in order to ensure constructive dialogue with shareholders and other stakeholders are important.

The Group formulates and discloses these Yokogawa Corporate Governance Guidelines which serve as the basic policy for continually working on corporate governance in line with the above views.

## Corporate Governance Structure



## Internal Control System

At Yokogawa, "internal control" is a management process in which business resources, such as human resources, financial resources, and other tangible or intangible assets, are allocated appropriately and used effectively to increase the corporate value.

We have a system for an effective internal control in place to improve management efficiency and ensure compliant operations. Groupwide rules have been established and responsible units have been designated for each of the following systems: business ethics, decision making, operations management, crisis management, and corporate auditing infrastructure. The persons responsible for each of the systems have system auditing functions, and work to ensure (maintain and improve) the effectiveness and efficiency of the systems of all Group companies. Important matters are reported to the Board of Directors and the Audit & Supervisory Board members. In each internal control system, the relevant key result indicators and action indicators are clearly defined and the PDCA cycle is applied according to the evaluations of the respective indicators achievement levels. In accordance with the Yokogawa Group Management Audit Code, the department in charge of internal audits shall audit the effectiveness of the internal control system.

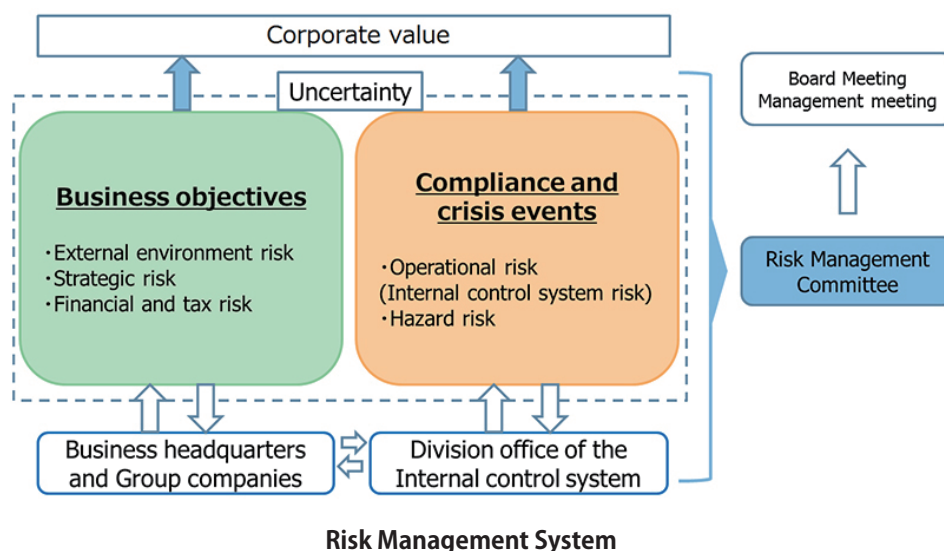
Yokogawa implements the internal control system to ensure the appropriateness of its business activities and expand the corporate value of the entire Group.

## Risk Management

The Yokogawa Group has in place a risk management system to control the uncertainty affecting the corporate value, as well as a crisis management system with which to respond promptly to any event that could have material impact on the company's operations.

### Risk Management System

We define uncertainty that might affect the group's corporate value as risk, and categorize and manage this in terms of business opportunities, and compliance and crisis events.



In order to realize effective risk management in the group, we have established the risk management committee with our CEO as Chairman, who is responsible for the supervision of risk management. The risk management committee selects critical risks (priority management risks) which should be managed as priorities, and regularly checks the progress of activities.

As part of independent risk management activities, each organization of the group clarifies and assesses risks, and plans and implements countermeasures. Each organization has a risk manager and has established a network for the group's global risk management.

We assess severity of "risks in business opportunities" such as external environment and strategies, and "risks in compliance and crisis events" such as quality, environment, safety and hygiene, labor, corporate ethics, and risk management from the viewpoint of influence levels and incidence. When we assess impacts of the risks, we take into account financial and human aspects as well as social and environmental impacts.

Internal Audit Department assesses the effectiveness of the group's risk management process and reports important matters to the board of directors and the Audit & Supervisory Board members.

## Escalation of Information

In the event of a disaster, accident, or incident that can seriously impact the Yokogawa Group companies' management and/or the lives of their officers and employees, the concerned organization must take prompt action to minimize the damage by gathering information and reporting back to the Group's top management.

To address this issue, we have created the "Guidelines for Reporting Disasters, Accidents, and Incidents". These guidelines have been prepared to advise all departments and affiliates in the Yokogawa Group on the reporting procedures to follow in the event of such disasters.

## Business Continuity Management (BCM)

Our control business, which is a core segment of the Company, is deeply tied to social infrastructures such as electricity, gas, water and sewerage. To continue with our business activities as much as possible in the event of a disaster and quickly help maintain and restore social infrastructure, we developed the "Yokogawa Group Business Continuity Plan (BCP)". We also have developed response plan and guideline which assume the specific risks such as huge earthquake or epidemic of contagious diseases. We have collaborated with each group company worldwide to improve the plans.

Moreover, in order to enhance the effectiveness of the formulated BCP, regular training is provided by members of the risk management organization, including upper management, to track down problems, and Business Continuity Management (BCM) activities, which are aimed for continuous improvement of BCP, are carried out. We have also introduced a system to promptly check employee safety and provide regular training to enhance the skill of workers in case of emergency. These activities were utilized for the initial response to the successive earthquakes in Kumamoto and central Tottori prefectures in 2016.

Our company will continue to review BCP contents to respond to disaster risks.



**BCP training**

## Quality Management

### Quality First Approach

Since the establishment, we have implemented our quality management system across all processes, as we are convinced that Quality First Approach is the basis of customer satisfaction. All the main Group companies have attained ISO9001 certification starting with Yokogawa Electric in 1992 and working on delivery of the same quality worldwide.

In addition, we always heed the voices of our customers to offer high-quality products and solutions, and aim to create new values with our customers.

### 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.

## Information Security

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

### People: Information Security Training

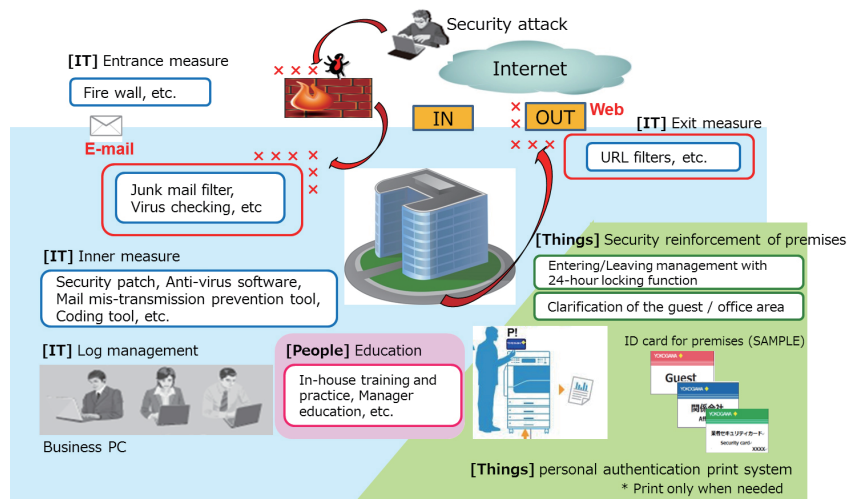
To protect information, every employee is required to raise awareness. YOKOGAWA provides education to all employees every year by utilizing an e-learning system to share and update their understanding and knowledge of information security so that they can decide how to handle the acquired information on their own. Moreover, we provide more practical education and training in handling targeted attacks and education for line managers incorporating work. Then, we check through information security audits that the results are applied to daily information security activities.

### Things: Clearly and Securely (Premises Security)

Information security is also required to be "clear." We have clarified the areas that each of the employees and visitors can enter. When a visitor enters other areas than the guest area, the visitor must wear a premise entry card. The office area is locked for 24 hours by access control, which will protect the property and information assets on the premises of the head office. Moreover, we have introduced the MPS (Managed Print Service) so that "those who require information can access the required one." This allows only the required one to be printed when personal authentication passes, preventing the printed matter from being left behind or mixed with others.

### Information Technology (IT): Protection Behind the Scenes

When we implement information security measures, "people" is more important than anything. We utilize the IT to protect against human error such as "leakage by mistake" and "misuse due to ignorance," and also adopt the concept of multi-layering to prepare against cyber-attacks from the outside.

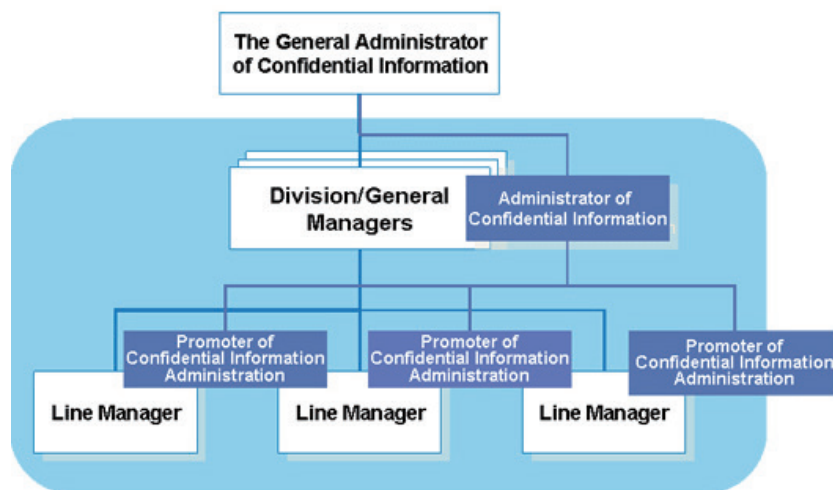


Security Management of Yokogawa

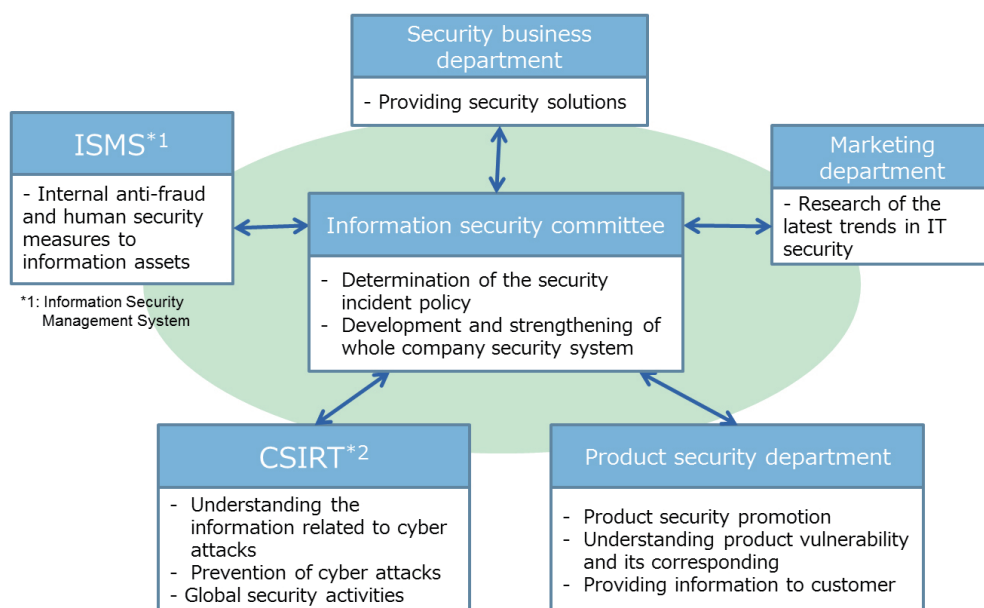
## Organization

In Yokogawa Group, information security activities have been developed based on the idea of ISO27001, and information security measures and policies are notified to the Group's headquarters, business headquarters and each Group company by the general administrator of confidential information. The head office checks the operations if they follow the rules and implements necessary reforms. In addition, there is an information security department or section for each of the Yokogawa Group's headquarters and business headquarters, as well as for each Group company. A PDCA, or Plan-Do-Check-Act, cycle is implemented to ensure information security activities are implemented smoothly.

In addition, we established the Information Security Committee to ensure that customers can safely continue business activities with peace of mind. This committee consists of the cyber security personnel in various fields. We are making an effort to share the information and to know the latest trends beyond the boundaries of the organization.



Information security organization of Yokogawa Electric Corporation



\*1: Information Security Management System

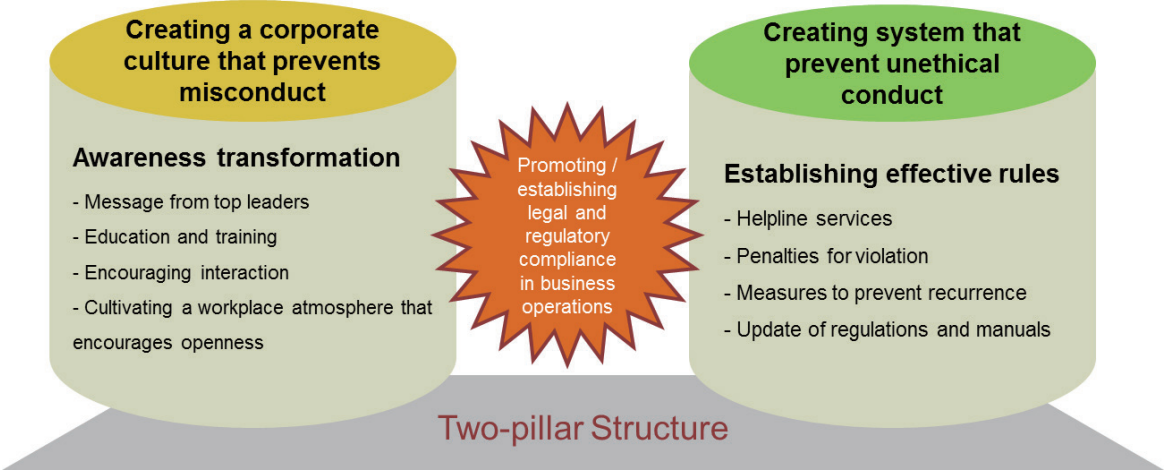
\*2: Computer Security Incident Response Team

Information Security Committee



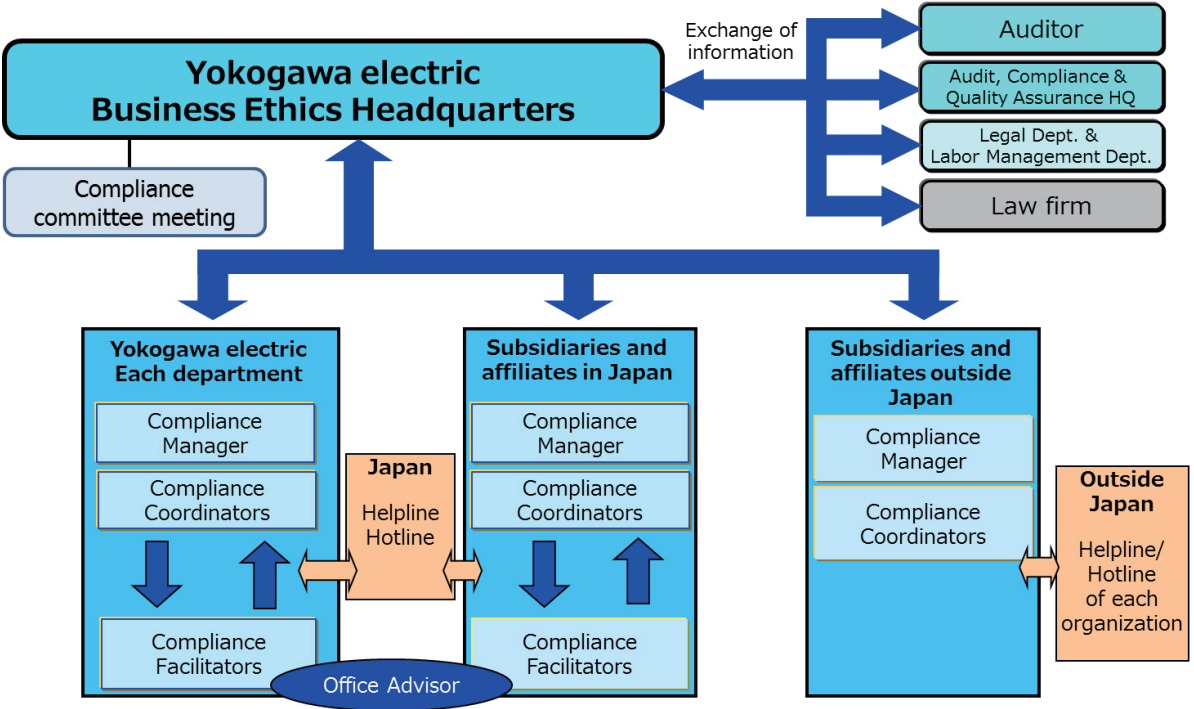
# Anti-corruption and Compliance

Yokogawa promotes compliance management strongly throughout its entire group, with the slogan, "compliance above everything else". It aims to be a healthy and open business with two pillar foundations: "corporate culture that prevents misconduct" and "systems that prevent unethical conduct."



## Provision of Compliance Promotion Structure

To build a "corporate culture that prevents misconduct" and "systems that prevent unethical conduct," a compliance promotion structure has been set in place globally. In Japan, compliance facilitators, who are advisors in the workplace, drive activities designed to communicate and entrench compliance awareness. Also, representatives from the compliance offices and key compliance facilitators in each organization are required to participate in the regular "Compliance Committee" meetings in order to share information and monitor the progress of activities.



## Anti-bribery Guideline

Yokogawa has established and managed a specific guideline, as an internal bylaw, on bribery prevention, not only with respect to public servants but also to private citizens inside and outside Japan. It is intended to ensure compliance with the anti-bribery law in each country where the Yokogawa Group conducts business and prevent bribery while engaging in corporate activities in a fair, appropriate manner.

## Enlightenment Activities

Yokogawa conducts compliance education and training to foster employees' awareness of compliance and a corporate culture that emphasizes fair, clear and open business conducts.

## Compliance Training/Education

Yokogawa conducted a number of training/education programs again in 2016 in order to imbue all group companies with the concept of compliance awareness. All employees of our group companies inside and outside Japan received compliance training, while Japanese associates were given opportunities to learn about compliance in different circumstances, such as when being promoted to a manager position, before starting a new post as expatriate or upon joining the company.

## Use of the Compliance Guidelines

Our Compliance Guidelines--which spell out the specific requirements for the Standards of Business Conduct and items the employees must observe in carrying out their duties--are currently published in English, Chinese and Portuguese. In 2016, compliance facilitators at our subsidiaries outside Japan again relied on these guidelines to step up their training programs.

## Compliance News Issued

The "Compliance News" is issued bimonthly to all Group employees. It raises awareness of compliance among all employees through timely discussions of topics such as work climate and recent corporate scandals.

## Revision of the Misconduct Case Studies

We have a handbook called "Misconduct Case Studies" for the purpose of preventing compliance violations. The handbook is updated each year with the addition of new examples that serve as real-life lessons collected from inside/outside the group. The revised editions are issued and made available to all employees.

## Compliance Week

Aimed at all employees of Group companies in Japan, "Compliance Week" was held for the purpose of further instilling awareness of compliance. Activities carried out during the week included e-learning programs and solicitation of compliance slogans.

Some companies used the Compliance Week to take extra steps toward greater compliance in addition to taking part in the group-wide programs. For example, Yokogawa Solution Service uploaded write-ups for better communications and a simple diagnostic check sheet on workplace openness to their intranet with the goal of "building an open workplace environment."

## Performing of Global Awareness Survey

An awareness survey regarding compliance is conducted for all Yokogawa Group employees every year. After analyzing the results by workplace and function in order to visually track how the compliance awareness of employees changes over time, the results are then used to facilitate the planning of the following year's activities.

## Use of Consultation and Reporting System

To quickly identify and address compliance issues, a channel for reporting and inquiries has been established. In Japan, two hotlines are available: the internal hotline and the external hotline, which is staffed with lawyers.

An employee can contact the internal hotline anonymously or with his/her real name in order to report or consult on a compliance issue. The personal information of the employee who has contacted the external hotline will not be made available to the company. Both the internal and external hotline can be contacted by e-mail, over the phone or in writing. Each case will be investigated by keeping the identity of the reporting employee in strict confidence and in an expedient manner, in compliance with the manual on investigation.

## Strict Prohibition of Insider Trading

To prevent insider trading, we have established the "Regulations on Prevention of Insider Trading" as an internal regulation and have included a section on prohibition of insider trading in our "Compliance Guidelines." Additionally, we have established a group-wide compliance structure and provided education, etc., to strictly prohibit insider trading.

The directors or employees in each YOKOGAWA Group company who buy and sell the stocks of Yokogawa Electric follow the prior confirmation procedure through the "insider trading prevention staff" in each company.

Moreover, the following people are uniformly prohibited from the buying and selling during the period from the end of a quarterly accounting term (the end of June, September, December, or March) to each date of the release of business results.

1. Directors and management in each company of Yokogawa Electric, Yokogawa Solution Service, Yokogawa Manufacturing, and Yokogawa Test & Measurement
2. Those who are directly engaged in the preparation and announcement of quarterly account settlement in Yokogawa Electric and its domestic subsidiaries

## Actions to be taken to counter anti-social forces

Yokogawa's policy is to conduct business in compliance with laws, ordinances, commercial and social practices and other social norms while maintaining high moral values in the spirit of the "Standards of Business Conduct for the Yokogawa Group." We are doing the following to achieve this objective:

- We state the specific "Dealing with anti-social forces that pose a threat to safety and order" in the "Yokogawa Group Compliance Guidelines."
- Through the use of compliance training and the company newsletter, we bring home to all employees our basic stance on unreasonable demands and how to deal with such demands.
- We incorporate the provision on exclusion of anti-social forces in the text of our "Master Transaction Agreement" in compliance with the Organized Crime Exclusion Ordinance of Tokyo, and also execute a "Memorandum on Exclusion of Anti-social Forces" with our existing suppliers, contractors and customers.

## Tax Compliance

Yokogawa, due to globalization of our business, shall abide by the following promises in taking tax-related actions in order to satisfy the tax liabilities of the countries and regions where Yokogawa operates, and execute appropriate tax risk management.

1. Making tax payment properly in accordance with tax laws and its related regulations of each country.
2. Taking appropriate actions in executing tax-related accounting treatment and measures.
3. Establishing tax governance structure and raising tax compliance awareness.
4. Taking actions in compliance with the international tax standards such as OECD (Organization for Economic Cooperation and Development) Transfer Pricing Guideline, BEPS (Base Erosion and Profit Shifting) Action Plan.
5. Building, maintaining and developing sincere and good cooperative relationships with the tax authority in each country.

# Supply Chain Management

## Improvement of the Management Structure as Part of Internal Control

As part of the Yokogawa Group's internal control, Yokogawa's management structure governs the overall business processes, including its relationship with customers and suppliers. For the procurement processes in the supply chain, Yokogawa Group's "Group Procurement Code" has been defined based on its Corporate Philosophy and Standards of Business Conduct, to ensure fair and equitable transactions. Yokogawa observes the local ordinances of the country and regions with whom we do business, began working on the issue of conflict minerals, and focuses on establishing a supply chain that considers environmental protection.

The Yokogawa Group Supply Chain CSR Guideline, which is compliant with JEITA\*, was created and published. In addition, Yokogawa's basic procurement policy, which is summarized in three points, is used as a set of principles to guide its every day operations. A network of responsible parties of Yokogawa Group's sales and procurement processes was built as a foundation for all supply chain CSR activities.

## Three Basic Procurement Principles

1. Create an ethical, clear, and open corporate culture and establish ourselves as a company that can be trusted by society.
2. Promote socially responsible procurement activities throughout the supply chain, including not only the Yokogawa Group, but also the suppliers of Yokogawa.
3. Comprehensively evaluate and select suppliers, giving priority to our commitment to being a good corporate citizen.

## Strengthening of Partnerships with the Suppliers

Yokogawa Electric, in order to reinforce its partnerships, is actively organizing events on a regular basis to promote discussion and deepen trust with key suppliers and their management teams.

For example, each year we host the "Supplier Policy Presentation Meeting", in which we explain our management policy, business plan, purchasing strategy, etc., to the suppliers.

Additionally, we organize "Component Exhibitions" and "Technical Seminars" through the Purchasing Department in order to introduce the products of suppliers, along with market trends, component trends and other relevant information, to the product development teams of companies within the Yokogawa Group.



Supplier Policy Presentation Meeting

## Reinforcement of Compliant Procurement

Yokogawa regularly organizes education programs for group companies in Japan so that they can learn about the "Act Against Delay in Payment of Subcontract Proceeds, Etc., to Subcontractors" as it applies to purchasing processes. Furthermore, we have a chapter on compliance to the Master Transaction Agreement in order to reinforce compliant procurement. As part of this effort, we are working to build greater ties/partnerships with the suppliers and prevent the establishment of ties with antisocial forces in order to

eliminate such forces from society.

We have set up a "help line" as a channel for reporting and inquiry that can be contacted by suppliers, should they find an actual or potential violation of compliance.

## Promotion of Green Procurement

Under the philosophy to contribute to building a sustainable society in various areas of business activities, Yokogawa has created the "Green Procurement Guidelines" to promote green procurement activities. Specifically, we have established a system for promoting the control of chemical substances contained in our products and are also investigating/controlling chemical substances in materials/components.

## Execution of Procurement BCP

We are executing the procurement BCP with the understanding that the stable supply of products that customers need is important social responsibility. We can provide support promptly in case of emergency because, with the cooperation of our business associates, we investigate and manage the information on the areas producing the components to be used for products. For the important parts of major products, we are making efforts to reduce the procurement risk by confirming that the BCP is executed in our business associates and securing the safety stock.

## Initiatives on Conflict Minerals

Certain minerals (tin, tantalum, tungsten and gold) produced in the Democratic Republic of the Congo and nearby nations, and distributed via supply chains might be used to fund armed forces engaged in illicit activities involving human-rights violations, acts of violence, etc., and consequently such materials are referred to as conflict minerals.

Recognizing that cutting off these armed forces' money source is a challenge that the whole supply chain should tackle, the YOKOGAWA Group aims to become conflict-free by using no conflict minerals for our products. However, not all the minerals are prohibited from procurement even if they are produced from the above countries. We will continue procuring the minerals that are considered to have been traded after refined by the refinery recognized as unrelated to such armed forces by the independent organization, and the proper products derived from such minerals.

To meet the aforementioned challenge, the Yokogawa Group is promoting out the following efforts:

- Since 2011, we have organized our internal structure and have taken continuously appropriate action.
- As a member of the vResponsible Minerals Trade Working Group" run by the JEITA (Japan Electronics and Information Technology Industries Association) we coordinate our efforts with those of other corporations and obtain the latest information.
- We have been cooperating with our suppliers to investigate the use of conflict minerals in certain products based on customer's requests etc.
- If the findings of an investigation raise a concern about the investigated mineral as a possible funding source for armed forces, we will immediately take steps to avoid using the mineral.

The Yokogawa Group will continue its utmost efforts to ensure the responsible procurement of minerals.

\*JEITA: Japan Electronics and Information Technology Industries Association

## Slavery and Human Trafficking

Yokogawa Electric Corporation (Yokogawa) is the ultimate parent company of the Yokogawa Group, active in the businesses of industrial automation, control and test & measurement and related consultancy and solution providing. Yokogawa is active globally, through more than 85 subsidiaries and affiliates.

Our supply chains include the sourcing of raw materials, electronic parts, software development, engineering, installation, etc. related to the products and solutions in the above business fields.

Yokogawa's supply chains are organized locally; each organization has its own. The largest group of suppliers is related to manufacturing activities in Japan; these suppliers are practically all located in Japan.

Yokogawa has established Supply Chain Management as part of its Fair Operation Practices. For the procurement processes in the supply chain, Yokogawa has defined its Group Purchasing Procurement Code based on its Corporate Philosophy and Standards of Business Conduct. Its three Basic Procurement Principles are the creation of an ethical, clear and open corporate culture, the promotion of socially responsible procurement activities both in- and outside Yokogawa and comprehensive evaluation and selection of suppliers giving priority to Yokogawa's commitment to being a good corporate citizen.

Yokogawa has issued its Supply Chain CSR Guideline to which all its suppliers are expected to comply, touching upon subjects such as human rights and labor, occupational health and safety, environment, fair trading, product quality and safety, information security and contribution to society. Yokogawa evaluates and selects its suppliers by requesting their agreement with the Yokogawa Group Supply Chain CSR Guideline and business ethics, laws and regulations.

In addition, Yokogawa has specifically defined respect for human rights as part of the Group's overall goals in its Corporate Philosophy, Standards of Business Conduct and Yokogawa Group Compliance Guidelines; Yokogawa Group Compliance Guidelines contain specific statements relating to respect for fundamental human rights, equal opportunity, prohibition of child labor and forced labor, ensuring health and safety and the prohibition of harassment.

We provide business ethics training including human slavery every year to all the employees working for our company.

Yokogawa plans to strengthen its procedures by including human rights risk investigation throughout the Yokogawa group in order to verify compliance.

Until then, Yokogawa will address non-compliances with the above policies whenever they are identified and will take appropriate remedial action on a case-by-case basis.

## Human Rights

Yokogawa has explicitly defined respect for human rights as part of the group's overall goals, in its Philosophy, Standards of Business Conduct, and Group Management Standards. The company has also set up compliance hotlines for everyone working at Yokogawa as a way to avoid human-rights violations before they happen.

### Yokogawa Group Management Standards

The Yokogawa Group Management Standards, which states in writing the basic policies required of group management, applies to every branch of the Yokogawa group. It gives clear rules and guidelines relating to human rights, obedience to the law, workplace safety, hygiene, etc.

The Yokogawa Group Compliance Guidelines make the following statement regarding human rights.

#### **03 Respect for basic human rights**

The Yokogawa Group always respects the basic human rights and personal dignity of every person with whom we are involved.

#### **27 Equal Opportunity**

Thanks to our fair and impartial personnel system operating under the basic policy of the Yokogawa Group, each employee is afforded equal opportunities in hiring, placement, promotion, pay rises, training, etc. An employee in a position of management or leadership must have a basic knowledge of the labor laws of the country in question, and must have a thorough knowledge of labor contracts and work regulations. It is important that he or she work on the basis of this knowledge to maintain a workplace free of unfair discrimination, engaging in ample communication with his or her subordinates and ensuring that day-to-day personnel management goes smoothly.

#### **28 Prohibition of forced labor/child labor**

Forced labor in any form whatsoever is not to be allowed; nor is any person to be made to work against their will; nor is it acceptable for children below the minimum working age of each country to be employed.

Care must be taken to ensure that we do not support inhumane conduct even indirectly, for example through the actions of business partners.

#### **29 Ensuring health and safety**

In addition to observing the laws relating to occupational safety and health, we have established our own independent standards and are striving to improve safety and health. We are working on a program of improvements to ensure the safety of every employee working for the Yokogawa Group, promote better health, and create a pleasant working environment. Each and every employee must act to cooperate with the safety and health measures that have been decided upon.



## **30 Prohibition of harassment**

No form of harassment whatsoever is acceptable, whether it be sexual harassment, stalking, or power harassment. We respect each other as individual human beings, and have built up a corporate atmosphere in which harassment is not accepted.

## **Philosophy**

Yokogawa's corporate philosophy defines "contributing to society" as a corporate mission, and calls for its employees to be good citizens.

Based on this philosophy, Yokogawa uses measurement, control and information as tools to contribute to social infrastructures that support people's daily living such as energy, communications, waterworks, etc, and to contribute to industry infrastructures, to make them run more efficiently and to help people work more safely. This philosophy is practiced by every employee and in all of the countries where Yokogawa operates, its employees have been willing volunteers, helping out when natural disasters occur.

## **Standards of Business Conduct**

One of the five pillars in our Standards of Business Conduct explicitly states that the company will uphold respect for human rights and respect the dignity of all. Some of the particular courses of action that follow from this are preventing harassment, discrimination, privacy intrusions and maintaining an overall healthy workplace.

## **UN Global Compact**

Yokogawa has declared its support for the UN Global Compact. The company respects the human-rights guidelines proclaimed in the Global Compact, and upholds international human-rights standards.

## **ISO 26000**

ISO 26000 is an international standard for an organization's social responsibility which the International Organization for Standardization (ISO) published in November 2010. It provides seven core subjects, such as Organizational Governance, Human Rights, Labor Practices or The Environment.

Yokogawa respects the ISO 26000 guidance in our CSR actions as a global company and pay attention to the human rights in our all business conduct.

## Initiatives on Human Rights

### Yokogawa Engineering Asia (Singapore)

Yokogawa Engineering Asia (YEA) has signed the employer's pledge for the Tripartite Alliance for Fair Employment Practices (TAFEP). YEA strives to eliminate discrimination in employment and endeavors to maintain fair employment practices, such as hiring and providing appropriate terms and conditions of employment based on individuals' skills and experiences regardless of their age, race, sex, religion and family status, and offering equal training opportunities.

### Yokogawa South Africa (South Africa)

South Africa has adopted Black Economic Empowerment (BEE) as a program to put racial equality into practice, thus encouraging the employment of blacks and other historically disadvantaged South Africans (HDSAs). Yokogawa South Africa (YMA-SA) is compliant in this regard and has striven to promote the employment of blacks and other peoples of color. Yokogawa South Africa (YMA-SA) has received a Level 4 certification in the new code of BEE executed in May 2015.

## Attention to human rights in the supply chain

Following its Group Management Standards, Yokogawa upholds their philosophy for human rights throughout its supply chain. The Supply Chain CSR Guidelines include guidelines prohibiting forced labor, inhumane treatment and infringements of human rights, child labor, and discrimination, while ensuring appropriate wages, regulated working hours, and the right to freedom of association, and vendors are asked to follow these guidelines.

## Diversity and Inclusion

We are required to respond quickly and flexibly to a changing business environment and a wide range of needs of customers. For the purpose of the enhancement of business competitiveness including the creation of new values, we promote diversity & inclusion to actively employ, train, and assign the human resources with diverse experiences, knowledge, sensibilities, viewpoints, cultures, and sense of values.

### The diversification of human resources

One of the strengths - actually a requirement - of Yokogawa is the ability to maintain and utilize a pool of diverse talents as we carry forth our global expansion. We make use of human resources of diverse ethnic backgrounds and nationalities, not only overseas but also in Japan.

The Yokogawa Electric head office is accepting more overseas Group employees into Japan so as to promote globalization and form their careers. We have prepared the intra-company infrastructures providing company regulations, business communications, cafeteria menus, and internal broadcasts in both Japanese and English, and appropriately offering information to support their livelihood in Japan on the intranet. Since 2013, we have been implementing the training programs "Cross Culture & Communication" and "Japanese Culture & Communication" to understand cultures and customs from both Japanese and overseas viewpoints. We expect that advancing the diversification and improving the ability to respond will fuse diverse sense of values to create new values.

Moreover, by employing more foreign students who graduated from Japanese universities and those who from overseas universities, we will continue to actively diversify our human resources mainly in the Yokogawa Electric head office.

### Promoting active participation by women

Following the human resources strategy of the mid-term business plan "Transformation 2017," we are actively promoting female employees' activities as part of diversity promotion. We established the full-time organization promoting diversity in April of 2015 to aim to increase the rate of female managers to 5%, which is twice the rate in fiscal year 2014. In addition, we are actively training every candidate for the leader by making training plans for each of them. Furthermore, we conduct the career development training for female employees and the training and seminar aiming to develop awareness as managers.

Further, we introduced a telecommuting system and an hourly leave system in April of 2016 for the purpose of creating the environment that allows female employees to feel comfortable to work and tackle challenges to grow. We will continue to reform systems and climates in cooperation with the activities to reform work styles. In the long term, we will improve the male-to-female ratio in all the employees aiming to increase the rate of female employees to 30%. In March of 2016, we formulated the "Action Agenda of General Business Proprietor" based on the Act to Advance Women's Success in Their Working Life, and announced it on the website of the Ministry of Health, Labor and Welfare. Moreover, in July of 2016, we acquired an authorization from the Minister of Health, Labor and Welfare (authorization level 3 (three stars) showing that all the five criteria were fulfilled), as a company superior in the commitment to the promotion of women's activities.

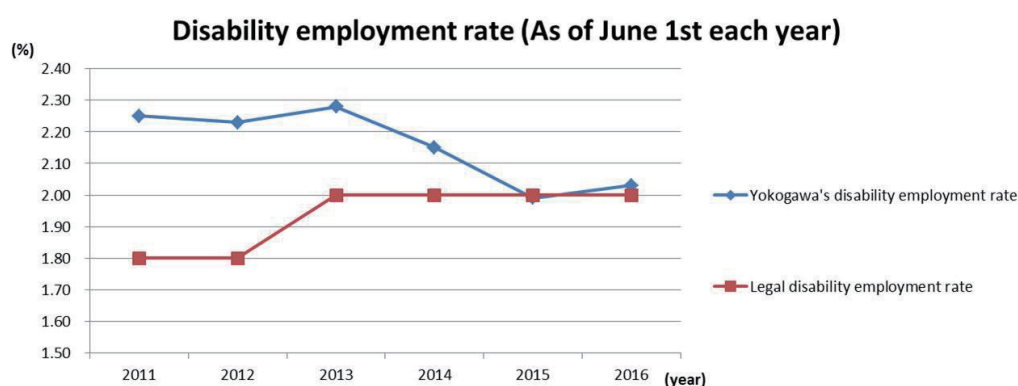
## Employment of People with Disabilities

### Employing and developing people with disabilities

Yokogawa has hired persons with disabilities since the establishment of its Normalization Project in 1992 and our skilled employees with disabilities are engaged in all areas of our business, from engineering and manufacturing to administration.

The Yokogawa Group promotes the employment of disabled persons, with each company hiring and promoting active participation by people facing different physical and mental challenges who can better contribute to the specific business of the company.

Yokogawa will continue to provide employment and career opportunities for people with disabilities.



## Supporting Work-Life Balance and Raising the Awareness of Employees

The environment and sense of values surrounding employees are always changing with various life stages etc. We are supporting the work-life balance of our employees by building flexible work systems, such as a flextime system, telecommuting system, hourly leave system, and flexible holidays, so that they can concentrate on work with no worries in spite of such changes. For balancing child care and work especially, we have introduced such work systems as the child-care time that can be used before entrance into elementary school and the nursing leave for children, and such financial supports as the next generation development grant system providing 100,000 yen annually per child.

Many of our employees, both male and female, are utilizing these systems. In April 2016, we also introduced the telecommuting system and hourly leave system. Thanks to such enhanced systems as allow them to feel comfortable to work after coming back from leave, by kind understanding of people in their workplaces, and corporate culture where people support each other, almost all the employees who got child-care leave have actually returned to work. Moreover, we invited the Tokyo authorized nursery "Poppins Nursery Musashino" on the premises of the head office, which aids not only our employees but also people in this area in balancing child care and work." Since these activities were appreciated, we received an authorization in 2007 from the Tokyo Labor Bureau chief as a company supporting child care.

Mainly, more and more employees who are engaged in childcare or nursing care are using our work-at-home system and hourly leave system as a work style free from time and local restrictions, which were introduced in Yokogawa Electric Corporation in April 2016.

As part of our efforts to create an environment which everyone can use when required, we published work

styles of our employees who use these systems effectively, as well as the messages from our president in the company newsletter. We have promoted the use of these systems using various media, including HataLabo (work style laboratory) which opened in our intranet system and introduces examples and systems of diverse work styles.

To promote the use of the work-at-home system, we implemented HataLabo campaign for a month for all employees. After the introduction of the system, the number of employees who used the system increased from around 30 to 340 per month. The number has remained around 100 per month (about 4% of total employees) after the campaign.

The number of employees who used the hourly leave system was 682 in 2016 and more than 30% employees used a total of 3,069 hours for the leave. We will provide an environment which allows each of our diverse employees to tackle challenges to grow with a work-life balance and promote reforms in work styles so that we can create new values.

## **Environmental Improvement to Promote the Success of Diverse Human Resources: Harassment Prevention**

In order to promote diversity and improve the environment in which diverse human resources can participate, we created the “corporate policy for harassment” and developed the “harassment prevention guidelines” in December 2016. We encourage employees of Yokogawa Electric Corporation and domestic group companies to be respectful of one another and inform of the disallowing of any harassment behavior, including sexual harassment, power harassment, and harassment behavior that interfere with the use of childcare and nursing care leave, stalking, discriminative acts against LGBTs, and are making efforts for their compliance and implementation.

We have also established the “Yokogawa Group General Counseling Counter” in Yokogawa Electric Corporation, where employees of Yokogawa Electric and group companies can receive consultations about various matters including harassment. When consulted, we conduct necessary hearings and investigations on workplace conditions based on consulters’ intentions, taking their privacy into consideration. If any harassment case is detected, we will take strict actions on the person who committed the harassment and give appropriate guidance such as requesting measures to prevent reoccurrence. We will not provide disadvantageous treatment to consulters and employees who contribute to the verification of facts.

## Human Resources Development

Under the concepts of "our employees are our most valuable assets" and "the growth of employees means growth for the company," we make efforts toward long-term human resources development and offer a variety of opportunities for career development. In addition, with the aim of creating environments more conducive to work, we support employees through a variety of programs.

### Human Resource Development to Enable Employees and the Company to Grow Together

#### Human resources development structure

Yokogawa Electric conducts its human resources development with a focus on three activities: character and values training to build relationships of trust with customers; development of engineers who can lead to customers'-value creation through providing them with high technology; and development of human resources who can take action in a global business environment.

In terms of programs, we conduct training for not only new employees but also managers: common education on topics such as compliance and information security; global education and general skill education on topics such as management skill; and expert skill education designed for the contents of business dealt with at each workplace.

Through these education programs, we are developing human resources full of expertise, global adaptability, and a spirit of challenge. By focusing our efforts toward the growth of employees, we enable employees and the company to grow together.

Furthermore, through regular interviews between employees and superiors, we are readying mechanisms by which employees can commit themselves to their short-term and their mid- to long-term career plans and declare them to superiors. By promoting good communication between employees and superiors to create mutual understanding, we foster a challenge-oriented mindset and support their career development.

#### Cultivating Human Resources Capable of Value-Creation

Yokogawa conducts Management Of Technology (MOT) education for young and middle ranking engineers so that they may acquire the broad knowledge and way of thinking that enable them to take responsibilities of the management in the future and can promote the creation of superior values for customers. They learn strategy, critical thinking, concept work, etc.; at the end of training, the participants will propose new businesses.

#### Global Human Resources Development

In the active performance of global business development, Yokogawa Electric places a particular focus on the development and enhancement of global human resources. We have been conducted "Global Talent Development Program" aimed at young human resources since 2011. In addition to mastering skills in logical communication, presentation, and negotiation in English, we also offer training on values participants should have as Yokogawa employees, as well as training to acquire the ability to understand differences in history and culture from a global perspective.

Furthermore, we increase opportunities to acquire broader experiences in the global business, for instance, expanding overseas practical training sites for all new recruits in order to realize the wider horizons of global human resources development by encouraging employees who positively challenge themselves.

## Occupational Safety and Health

In 2006, the Yokogawa Group established the "Yokogawa Group Safety and Health Policy" and began implementing the Occupational Safety and Health Management System (OSHMS). Since 2007, the Yokogawa Group has implemented the OSHMS in each of its companies to promote a higher level of safety and health by making continual improvements through risk assessment and other methods.

### **FY2017 Yokogawa Group OSH Policy**

In recognition that occupational safety and health are a basis for the management of the Yokogawa Group, the Group shall pursue the following initiatives to promote, create and maintain safety and health for its personnel involved.

- Establish and promote an occupational safety and health management system
- Observe the laws and regulations relating to occupational safety and health
- Seek to eliminate or lessen risks to occupational safety and health by first assessing their danger level
- Promote open communications with Yokogawa Group personnel, customers, shareholders, members of the local community, and contractors to maintain occupational safety and health system
- Provide the education and training to Yokogawa Group personnel
- Invest management resources appropriately, perform audits on a regular basis and make continual improvements in the Yokogawa Group occupational safety and health system.

### **Operation of the Occupational Safety and Health Management System (OSHMS)**

Recognizing that "occupational safety and health are a basic responsibility of the management," the Yokogawa Group implements OSHMS to ensure the occupational safety and health of all of its employees and its contractors. Improvements are made in phases, with constant assessments to eliminate or minimize potential risks. Regular evaluations and reviews of the activities are also done through audits. The effectiveness of the system has improved by combining conventional activities, such as safety patrols, and countermeasures against occupational incidences and near misses.

The Yokogawa Group companies globally share the same occupational safety and health objectives for all workers, including contractors. Moreover, 35 Yokogawa Group companies have acquired certifications in compliance with OHSAS18001\*1, which is internationally recognized.

\*1. Occupational Health and Safety Assessment Series. A certification standard for Occupational Safety and Health Management System.

### **FY2017 Yokogawa Group OSH Objectives**

#### **1. Elimination or reduction of occupational accidents**

Secure safety and promote health for personnel involved

#### **2. Establishment, Maintenance and Improvement of occupational safety and health management system (OSHMS) is;**

(1) To make continual improvements in OSH activities, through implementation of PDCA cycle and sharing OSH activities information



- (2) To conduct risk assessments in all Yokogawa Group Companies, for eliminating or reducing risks
- (3) To maintain OSH at its current level or improve it by carrying out OSHMS audits

### 3.Observation of laws and regulations

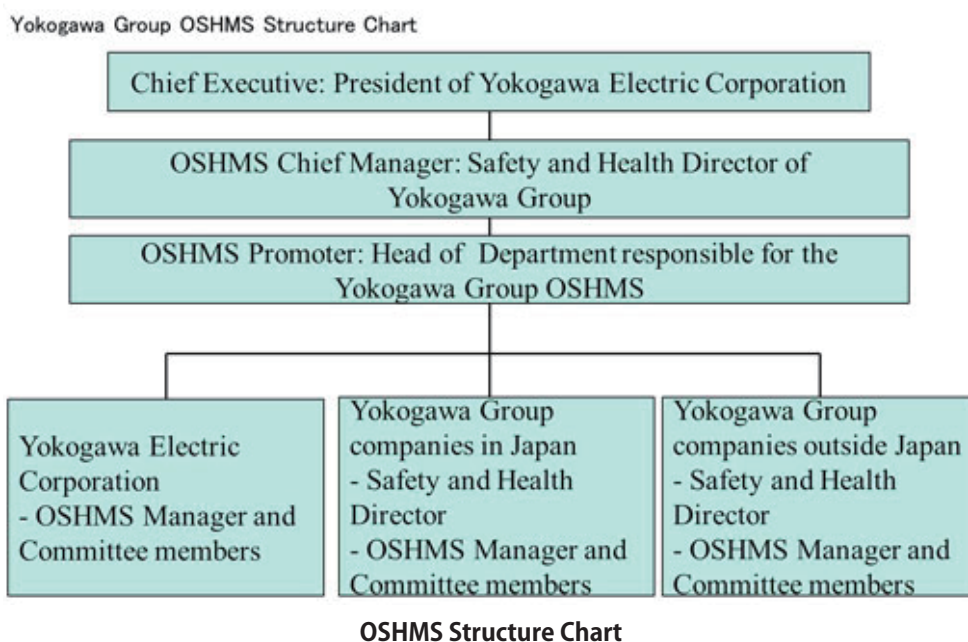
Observe all OSH related laws and regulations

### 4.Conduct of OSH activities is;

- (1) To maintain and/or improve OSH control level
- (2) To build awareness of traffic safety
- (3) To provide OSH training
- (4) To conduct fire and evacuation drills

### 5.Disclosure of OSH information

Communicate openly with Group personnel and the local community about OSH activities and results



## Yokogawa Global QHS (Quality, Health & Safety) Meeting

Yokogawa Global OSH Meeting is basically organized with participants from Yokogawa group companies as a part of Global QHSE Meeting.

In the meeting kinds of themes are shared and discussed in order to promote safety awareness to employees and to improve OSH quality level in Yokogawa Group: Risk Assessment, Training/Education and their material, Case Study, etc.



Discussion at the meeting

## Occupational Safety and Health Education and Training

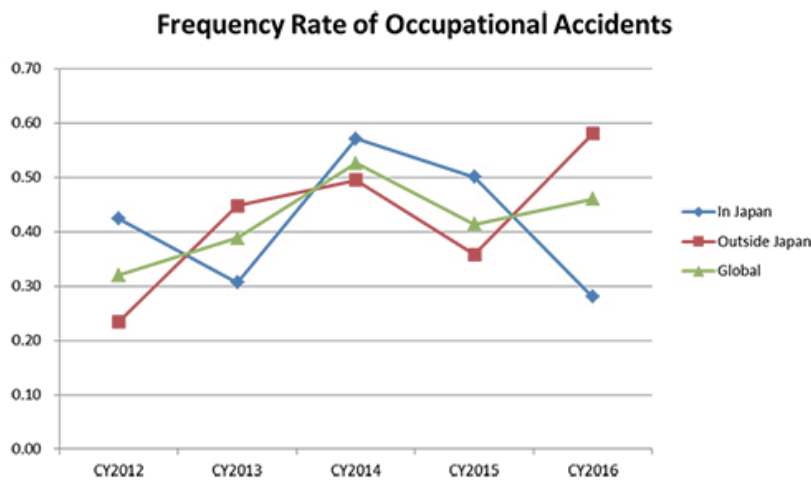
To maintain and improve all levels of activities throughout and eliminate occupational accidents, persons in charge, committee members and newly appointed personnel are educated through safety and health committee workshops, as well as on-site safety training at customer plants and factories. The group companies also conduct first-aid/lifesaving training courses, commuter-accident response drills, etc.



Evacuation drill carried out in HSE Week (Yokogawa Middle East & Africa)

## Occupational Incident and Accident Data

The Yokogawa Group has been globally gathering and analyzing information on occupational accidents experienced by Group companies on a quarterly basis since 2007, when it introduced OSHMS, as part of an effort to eliminate/reduce occupational accidents and improve the quality of activities thus implemented. A few major account customers, globally active, require their vendor OSH monitoring. Yokogawa provides Occupational Incident Index of Yokogawa group companies quarterly for their analysis. Yokogawa group companies being responsible for their projects, conduct project safety program including Risk Assessments at various milestones of project engineering and services.



Frequency Rate of Occupational Accident=(No. of occupational accidents with lost days / total working hours) × 1,000,000

## Health Management

As a policy to maintain and promote the health of our employees, Yokogawa Electric has been working on work styles that are free from time and local restrictions, improvement for a comfortable office environment,

management of working hours and health development programs.

In September 2016, we established the "health declaration" as a common basic policy of the group on health management in order to further accelerate various efforts on employee health from the viewpoint of health management.

Our efforts of existing health maintenance and promotion measures accompanied by the pillar of "health declaration" received a certification of "2017 Certified Health and Productivity Management Organization Recognition Program (White 500)," which was given to large-scale corporations that practice excellent health management by the Ministry of Economy, Trade and Industry and Nippon Kenko Kaigi in coordination with health insurance societies.

We will develop a promotion system for health management and strive for its improvement by evaluating it in a quantitative and qualitative manner. We will also aim to increase the productivity of the whole group, enhance employees' motivation and reduce healthcare expenses by conducting activities throughout group companies.

## Employee Assistance Program (EAP)

### Promotion of EAP for a healthy, rewarding company life

We introduced "the Employee Assistance Program (EAP)" which is designed to help employees who can avoid a state that cannot be fully exhibited the original capacities due to health problems and change of life stage so that they can exhibit continuously high performance.

In Yokogawa's EAP, we establish a comfortable working environment while performing a review of the system to suit the current situation and support the employees from both sides of the mental-health and the career. It is our goal to ensure a healthy, fulfilling work environment for all our employees.

### Key activities under EAP

Education/PR	Utilize e-mail and web pages to provide relevant information that will help employees gain a better understanding of mental health.
Group training	Training for all employees (voluntary participation) and hierarchy-based training to strive for mental health prevention and early detection of stress.
Stress check	Based on the results of the stress check, identify causes of stress in the workplace. Implement employee-led programs and activities, with the Company's support, in order to prevent, contain and remove these causes so as to ensure a more comfortable workplace.
Assistance for returning to work	To care for the employee who suffers from mental health problems or takes a leave of absence for recuperation, and to ensure the smooth reinstatement of those who return to work after recovery so as to prevent them from falling into the same problems again, we have implemented a system to provide proper support for each individual or workplace depending on the seriousness of the condition or situation.

Health Development (Health Promotion)	For the purpose of physical and mental health promotion of employees, it has been implementing the "health development (health promotion)" by improving the living habits and exercise habits. Physical exercise is also effective in the prevention of mental disorders as well as physical illness, we are supporting the health promotion of employees so that the employees themselves to check their health status and care the body.
Consultation	We have a system to help our employees seek consultation within the company or from external institutions specialized not only in mental health but also in various areas of human relationships, career issues, sexual harassment, power harassment, and the discrimination including LGBT.

# Environmental Management

At Yokogawa, we take seriously our responsibility to protect the environment and, mindful of our responsibility to future generations, practice environmental management from a medium- to long-term perspective. We promote efficient use of resources and significant reductions in greenhouse gas emissions together with our customers and actively work to develop environmentally friendly products and further reduce environmental impacts of the Yokogawa Group's business operations.



Environmental Management

## Environmental Policy

Based on the Yokogawa philosophy which states, "Our goal is to contribute to society through broad-ranging activities in the areas of measurement, control, and information," and recognizing that environmental conservation of the precious earth is a critical issue for the whole of humanity, the Yokogawa Group shall pursue the following environmental activities for realizing sustainable world.

- Establish its environmental management system, clarify its roles, authorities and responsibilities and pursue the environmental activities
- Observe the laws and regulations, set voluntary standard if needed and strive to prevent pollution.
- Promote the prevention of environment by setting environmental objectives about environmental issues such as climate change, biodiversity and use of resources.

- (1) Carry out resource recycling management by endeavoring to reduce, reuse and recycle of resources, conserve energy use and prevent global warming, and minimizing the risks of environmental pollution in all of the operations.
- (2) Develop and produce environmentally friendly "green" products in consideration of the environmental burden throughout the products' lifecycle, from material purchase, manufacturing and distribution, to use and disposal of the products.
- (3) Supply society with value-added solutions and services for conserving the earth's environment through measurement, control, and information technologies.

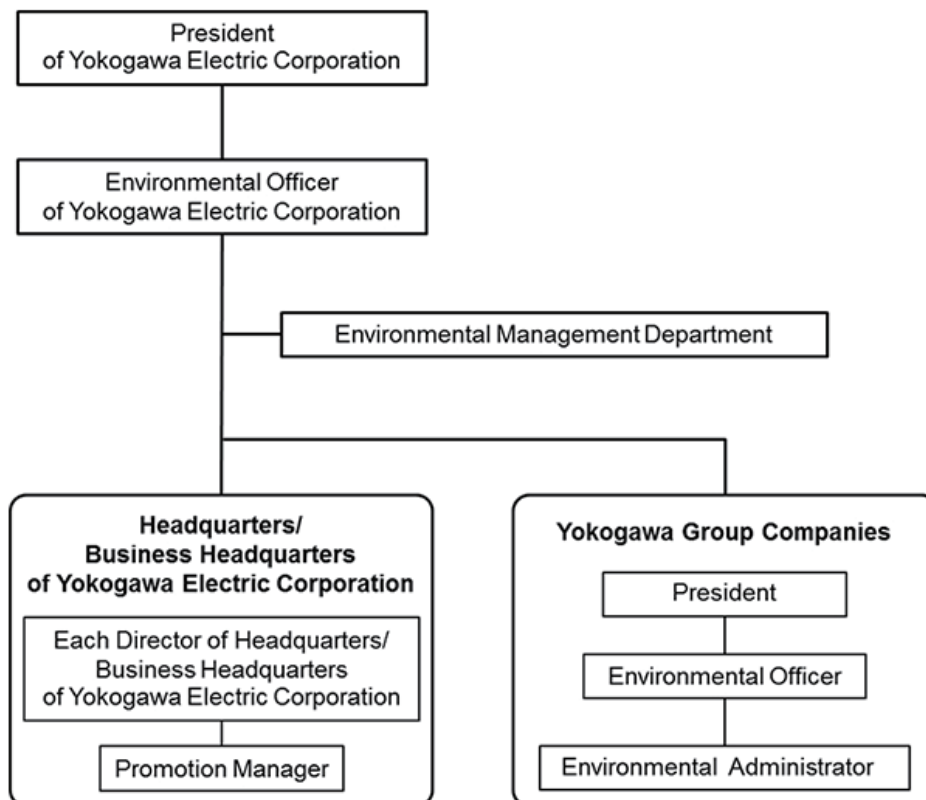
(4) Encourage its employees to participate in environmental conservation activities under their own initiative as good corporate citizens.

- Provide all working people in the Yokogawa Group the education and training necessary for promoting environmental conservation activities.
- Disclose information and promote open communications with all working people in the Yokogawa Group, customers, shareholders, members of the local communities and contractors to deepen and co-create environmental conservation actions and initiatives.
- Evaluate environmental performance, conduct audits on a regular basis, and make continual improvements in the Yokogawa Group environmental management system.

## Organization

The environment promotion system of Yokogawa Group is managed by the directors of the environment in Yokogawa Electric. The system promotes the group's global environmental conservation activities and preventive measures against global warming.

### Organization of Environmental Management Promotion



## Environmental Management System

The Yokogawa Group is implementing an Environmental Management System in its group companies in an effort to ensure full compliance with the laws, regulations, agreements, etc., that are designed for the prevention of environmental pollution. Moreover, to conserve energy and reduce environmentally hazardous substances, the Group is encouraging a shift to alternative technologies to the greatest extent possible and is leading an effort to mitigate its environmental impact.

Yokogawa achieved ISO 14001 certification at its major offices and manufacturing sites as part of its effort to improve the Environmental Management System.

### Compliance with laws

In 2016 we again endeavored to ensure full compliance with the environmental laws, regulations, agreements, etc., and had no major violations.

### Conserving Water and Soil

The Yokogawa Group has conducted soil and water studies at former production sites in accordance with its proprietary control standards, starting before the enactment of Japan's Soil Contamination Countermeasures Law.

### Environmental Auditing

#### Internal Audits

The environmental internal audits for ISO14001 were conducted at least once a year.

#### Annual Surveillance

Regular inspections (renewal inspection or surveillance) were conducted at each of Yokogawa's ISO14001-certified group companies by an ISO14001 certifying organization in order to maintain ISO14001 certification.

### ISO 14001 Certification at Yokogawa Group

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

## ISO14001

As of the end of August 2017

Company name	Countries	Certified Year
Yokogawa Electric Corporation	Japan	1997
Yokogawa Manufacturing Corporation	Japan	1997
Yokogawa Test & Measurement Corporation	Japan	1997
Yokogawa Solution Service Corporation	Japan	2000
Yokogawa Denshikiki Co., Ltd.	Japan	2000
Yokogawa Shanghai Instrumentation Co., Ltd.	China	2003
Yokogawa Sichuan Instrument Co., Ltd.	China	2000
Yokogawa Electric China Co., Ltd.	China	2004
Yokogawa Electronics Manufacturing Korea Co., Ltd.	South Korea	2004
Yokogawa Engineering Asia Pte. Ltd.	Singapore	2001
Yokogawa Philippines, Incorporated	Philippines	2007
Yokogawa Electric Asia Pte. Ltd.	Singapore	1998
P.T. Yokogawa Manufacturing Batam	Indonesia	2000
Yokogawa (Thailand) Ltd.	Thai	2015
Rota Yokogawa GmbH & Co.KG	Germany	2011
Yokogawa Corporation of America	USA	2005
Yokogawa Canada, Inc.	Canada	2015
Yokogawa de Mexico, S.A. de C.V.	Mexico	2015
Yokogawa America do Sul Ltda.	Chile	2015
Yokogawa Colombia S.A.S.	Columbia	2015
Yokogawa Middle East & Africa B.S.C.(c)	Bahrain	2013
Yokogawa Engineering Bahrain SPC	Bahrain	2013
Yokogawa Engineering Middle East & Africa FZE	UAE	2013
Yokogawa Saudi Arabia Ltd.	Saudi Arabia	2013
Yokogawa Services Saudi Arabia Ltd.	Saudi Arabia	2013

Yokogawa Electric Corporation and Yokogawa Manufacturing (covered branches: Headquarters, Kofu Factory, Komagane Factory, Kanazawa Factory and Komine Factory) has integrated the ISO14001 certification.



## Environmental Week

### Yokogawa Electric Corporation

For the purpose of increasing our employee's awareness of environment, there is a YOKOGAWA Environmental Week every year, during which environmental events are held. In fiscal 2016, we called for participants who will join a lecture on the environment by Sakana-kun (Japanese ichthyologist and TV celebrity), environmental quiz competition, and "Environmental Housekeeping Books" that reveals electricity and gas usage in home as CO2.

## Environmentally Friendly Products

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 (CO<sub>2</sub>), nitrogen oxide (NO<sub>x</sub>) and sulfur oxide (SO<sub>x</sub>) based on our "Lifecycle Assessment (LCA) standards".



LCA Label

## Guidelines for Environmentally Friendly Design

### (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, CO<sub>2</sub> emissions, NO<sub>x</sub> emissions, SO<sub>x</sub> 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, recycling-disposal design and processing as well as the design considered processing and assembly and the guideline for selecting materials and parts.

### (4) Criteria for hazardous substances contained in products

The following criteria are provided to ensure that environmentally friendly parts and materials are selected during the design phase. Controlled substances are classified into five different levels:

Banned Substance 1:	Any substance that is banned from inclusion in a product
Banned Substance 2:	Any RoHS command regulated substance
Controlled Substance 1:	Any SVHC (substance of very high concern) under the REACH regulation
Controlled Substance 2:	Any substance that is banned at certain concentrations, bound by the limited purposes of use or restricted in any way
Controlled Substance 3:	Any substance for which the amount contained in a product must be identified

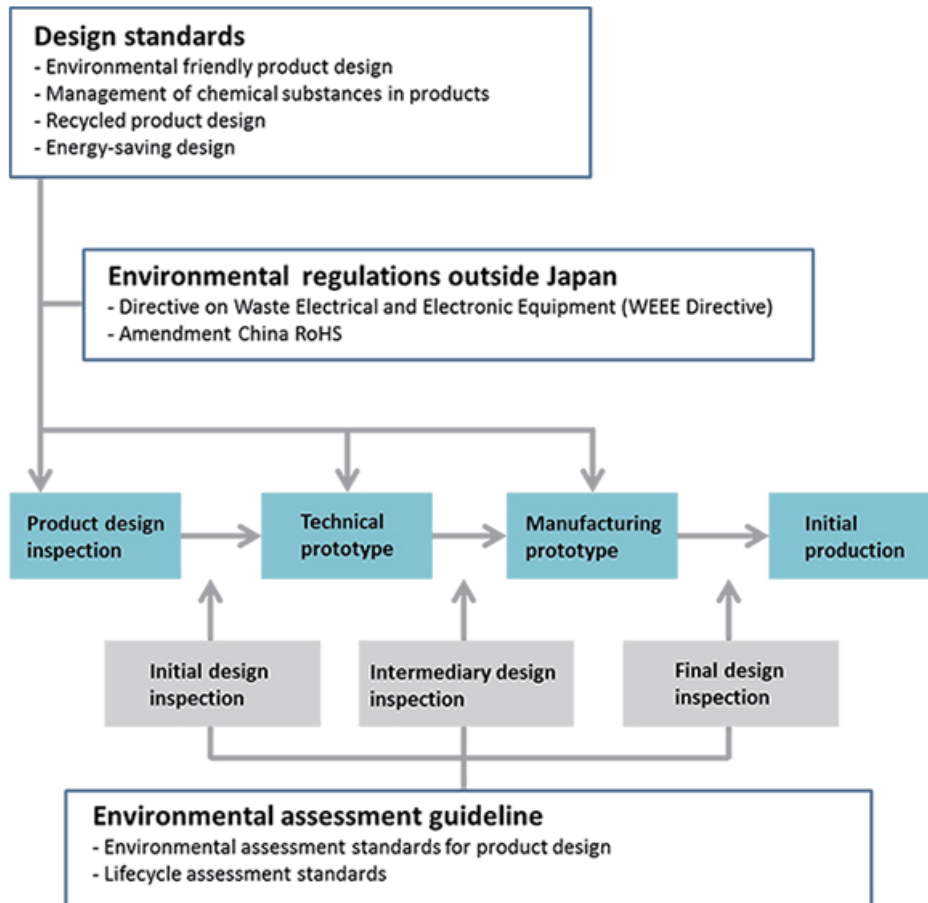
### (5) Recycled Product Design Standards

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

## (6) Energy-saving Design Guidelines

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

## Environmentally Friendly Design and Assessment Standards



## Green Procurement

Various laws and regulations have been put in place, such as the Home Appliance Recycling Law and Law for Promotion of Effective Utilization of Resources in Japan, as well as the Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances in EEE (RoHS) Directives outside Japan. With this background, Yokogawa aims at building a sustainable society in various areas of its business activities.

Based on the principle "Resource procurement with less environmental load = Offering environmentally friendly products", Yokogawa proactively promotes green procurement activities that are environmentally friendly.

## Green Procurement Guidelines

Under the philosophy to contribute to building a sustainable society in various areas of business activities, Yokogawa has created the "Green Procurement Guidelines" to promote green procurement activities.

## LCA Label

Yokogawa began to conduct the life cycle 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 .



LCA Label

## Requirements for LCA Labeling

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

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

## 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 its 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.

## List of LCA-Labeled Products

Model	Products
CENTUM CS3000 Model System	Integrated Production Control System Compared to the reference product CENTUM CS, CO2 emission was reduced by about 11%.
Prosafe-RS Model System	Safety Instrumented System Compared to the reference product ProSafe-PLC, CO2 emission was reduced by about 23%.
STARDOM Model System	Network-based Control Systems Compared to the reference product CENTUM CS1000, CO2 emission was reduced by about 55%.
EJA110E	Pressure Transmitter (DPharp EJA-E Series) Compared to the reference product EJA, CO2 emission was reduced by about 30%.
CSU-X1	Confocal scanner unit Compared to the reference product CSU22+Filter Wheel, CO2 emission was reduced by about 40%.

2553A	Precision DC Calibrator Compared to the reference product 2553, CO2 emission was reduced by about 66%.
2558A	AC Voltage Current Standard Compared to the reference product 2558, CO2 emission was reduced by about 50%.
2560A	Precision DC Calibrator Compared to the reference product 2560, CO2 emission was reduced by about 67%.
AQ 1200A/B/C	AQ1200 MFT-OTDR Optical Time Domain Reflectometer Compared to the reference product OTDR AQ7270 series, CO2 emission was reduced by about 40%.
AQ2200-131	AQ2200-131 Grid TLS Module Compared to the reference product AQ2200-111, CO2 emission was reduced by about 10%.
AQ2200-342	AQ2200-342 DUAL ATTN Module Compared to the reference product AQ2200-331, CO2 emission was reduced by about 45%.
AQ6370D	AQ6370D OPTICAL SPECTRUM ANALYZER Compared to the reference product AQ6370C, CO2 emission was reduced by about 17%.
AQ6374	AQ6374 Optical Spectrum Analyzer Compared to the reference product AQ6315A, CO2 emission was reduced by about 26% .
AQ6375B	AQ6375B OPTICAL SPECTRUM ANALYZER Compared to the reference product AQ6375, CO2 emission was reduced by about 24%.
AQ7280	AQ7280 series OTDR Compared to the reference product AQ7270, CO2 emission was reduced by about 25%.
DLM4038/ DLM4058	Mixed Signal Oscilloscope DLM4000 Series Compared to the reference product DL7480, CO2 emission was reduced by about 25%.
WT310E/WT310EH	Digital Power Meter WT300E Series
WT332E/WT333E	Compared to the reference product WT210, CO2 emission was reduced by about 18%.
WT3000E	WT3000E Precision Power Analyzer Compared to the reference product WT1600, CO2 emission was reduced by about 20%.

## Environmental Practices

### Goals and Achievements in Fiscal Year 2016

Environmental Policy of the Yokogawa Group	Fiscal Year 2016 (main sites)		Self
	Target/Goal	Results	
EMS establishment, maintenance, and improvement	Confirm and achieve the environmental conservation action targets that are closely integrated with our business practices. *1	<ul style="list-style-type: none"> <li>● themes closely integrated with business operations</li> <li>● An internal audits conducted and effective environmental system confirmed</li> </ul>	Good
	Promote 48 useful environmental activities in line with existing business. *2	48 useful environmental activities promoted	
Implementation of environmental education	<ul style="list-style-type: none"> <li>● Provide all employees with basic environmental education that can be applied to activities undertaken on their own initiative.</li> <li>● Provide specialized environmental education to those who are engaged in business activities that have a particularly significant impact on the environment.</li> </ul>	100% achieved	Good
Legal compliance	Conduct inspection of wastewater treatment facilities as scheduled. *2	Inspections of the particular facilities and accessory equipment and water quality measurement, it was within the reference value.	Good
Promotion of resource recycling-based management	<b>Reduce energy consumption and CO2 emissions (domestic group companies).</b> Total CO2 emissions from 2015 to 2019: 46,379 t-CO2/year (Reduce emissions by 18% from the average of reference years from 2005 to 2007.)	<b>Reduced energy consumption and CO2 emissions (domestic group companies).</b> Total CO2 emissions: 37,224 t-CO2/year	Good
	<b>Reduce total waste</b> <ul style="list-style-type: none"> <li>● by 47% compared to fiscal year 2003 (403 t/year in total generation) *1</li> </ul>	<b>Reduce total waste</b> <ul style="list-style-type: none"> <li>● 56% reduction compared to fiscal year 2003 (335 t/year in total generation)</li> </ul>	No Good
	<b>Reduce total waste</b> <ul style="list-style-type: none"> <li>● Reduced to 1,300 t/year *2</li> </ul>	<b>Reduce total waste</b> <ul style="list-style-type: none"> <li>● Reduced to 1,231 t/year</li> </ul>	Good
	<b>Resource saving</b> Achieve 3 resource-saving improvements, including on manufacturing lines and for equipment *2	<b>Resource saving</b> Achieved 3 resource-saving improvements, including on manufacturing lines and for equipment (Waste reduction by improving manufacturing process, Reduction of chemical substance.)	Good

# Environmental Management

Minimization of environmental pollutants	Reduce toluene and xylene by 3,335 kg. *2	4,636 kg reduction (Expansion of thinner alternatives)	Good
Development of environmentally friendly products	Apply the assessment standards to reduce CO2 emissions of developed products by more than 25%. *1	Registered 12 product models to which the assessment standards are applied, and conducted their design reviews according to the respective schedules.	
Provision of environmental solutions	Increase sales of environmentally friendly products *1	Achieved	Good
Contribution to society through environmental conservation	Promote contributions to society through participation in nature conservation and social and community activities. *1	Participated in community clean-up activities etc.	Good
	Carry out at least 10 social contribution activities. *2	A total of 11 social contribution activities carried out by each factory.	
Disclosure of environmental conservation information	Promote information disclosure and enhance efforts to communicate with communities. *1	Published sustainability report, Web edition	Good
	Improve the corporate website and intranet. *2	Updated information posted on the corporate website and intranet.	

Main sites: Yokogawa Electric Corporation Headquarters & Main Factory and Yokogawa Manufacturing Corporation

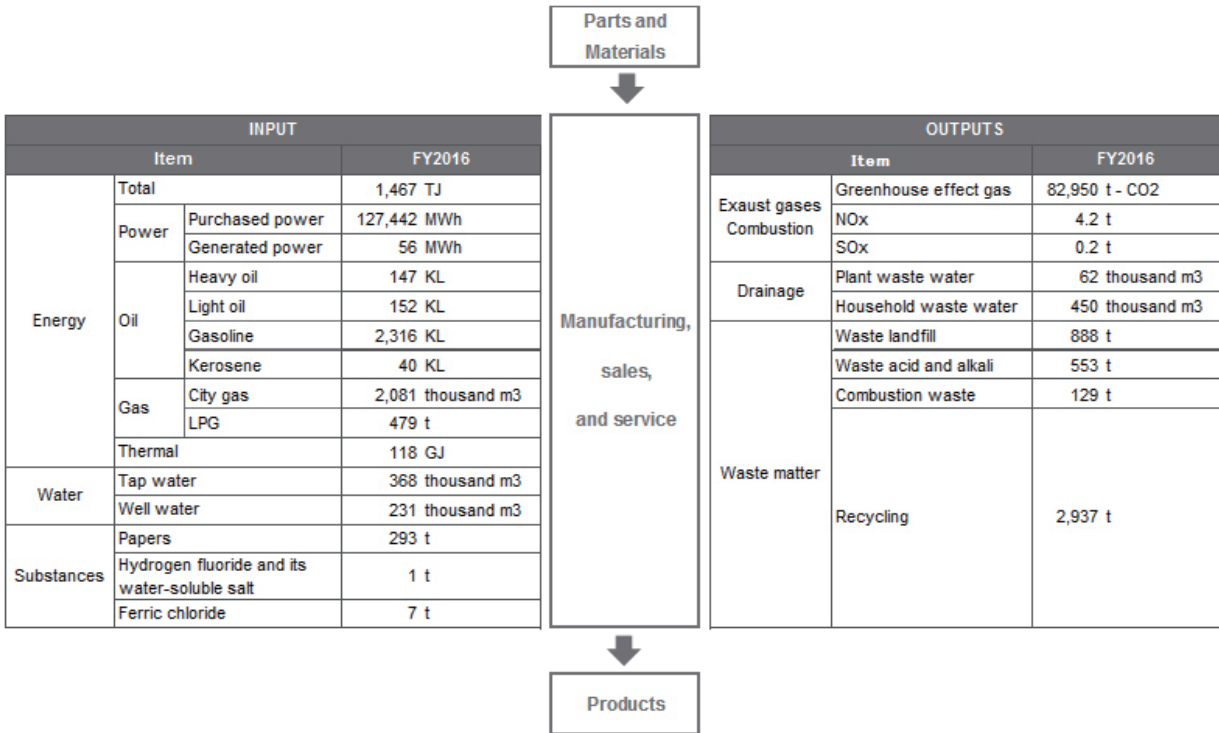
\*1: Goals of Yokogawa Electric Corporation Headquarters & Main Factory

\*2: Yokogawa Manufacturing Corporation

## Environmental Impact

The Yokogawa Group calculates 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 matter into the air and water. This analysis helps the Group effectively use resources, improve energy efficiency, and improve the waste recycling rate.

### Overview of Environmental Impact (FY2016)





## Environmental Accounting

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

### Environmental Conservation Costs (FY2016)

Category	Item	Main Initiatives	Capital Investment	Related Costs
Costs for reducing environmental impact of factories (areas of operation)	Pollution prevention costs	Monitoring and measurement	31.5	108.3
	Global environmental conservation costs	Energy savings	686.1	430.0
	Resource recycling costs	Minimize generation of waste matter	0.0	92.0
Costs for reducing environmental impact of procurement and logistics		Green procurement	0.0	27.4
Environmental conservation costs in EMS activities		EMS updates, education	0.3	197.4
Environmental conservation costs in community activities		Environmental events	0.0	33.2
Costs for correcting damage to the environment		Soil recovery	0.0	0.0
Total			717.9	888.3

\* Data was taken from ISO14001-certified manufacturing sites.

(Millions of yen)

### Environmental Conservation Effects

Category	Description of Effect (unit)	FY2015	FY2016	Effect
Expenditures	Total amount of energy consumed (TJ)	1,101	1,049	-52
	Total amount of water resources consumed (km3)	467	471	+4
Global warming prevention	CO2 emissions (t)	59,092	57,150	-1,942
Emissions	Total amount of waste emissions (t)	2,587	3,048	+461

\* Data was taken from ISO14001-certified manufacturing sites.

## Economic Effects of Environmental Conservation Measures - Intrinsic Effect (FY2016)

Description of Effect	Amount
Reduction in expenditure due to recycling (sale of valuable resources, etc.)	67.4
Reduction in expenditures due to energy savings (power, etc.)	11.3
Total	78.7

\* Data was taken from ISO14001-certified manufacturing sites.

(Millions of yen)

## Global Warming Prevention

We have set CO<sub>2</sub> emission reduction targets for the Yokogawa Group (Japan) for the phases 2010-2014, 2015-2019 and 2020, and are implementing emission reduction programs to achieve those targets. Our ongoing CO<sub>2</sub> emission reduction programs include the improvement of production lines, the introduction of high-efficiency heating/cooling equipment, the installation of inverter-driven lights, LED lights and the use of green power.

For our offices and factories, we have employed "InfoEnergy," Yokogawa's proprietary energy conservation support system designed to visualize energy data, in order to reduce CO<sub>2</sub> emissions.

Moreover, in order to optimize global distribution, we are making efforts to improve transportation efficiency by changing the design of container boxes to reduce the weight, downsizing them, and revising transportation methods and routes for product shipment.

Yokogawa Electric and Yokogawa Manufacturing participate in the Keidanren's Commitment to a Low-Carbon Society (an industry action policy established subsequent to the first commitment period of the Kyoto Protocol). Specifically, the companies are working on improving their production processes in order to realize greater energy efficiency in production processes, such efficiency being a common goal of the electrical and electronics industry. (Our target is to improve the average annual energy consumption rate by 1% by 2020.)

## CO<sub>2</sub> Emission Reduction Targets and Performance for Yokogawa Group (Japan)

The Yokogawa Group (Japan) has set its CO<sub>2</sub> emission reduction targets toward 2020, and is directing its efforts to achieve the targets. By using the annual average of emissions measured over the 2005 to 2007 period as the baseline (56,560 tons of CO<sub>2</sub>), we have set different reduction targets for three phases with the ultimate objective of achieving the goal set for 2020 and are promoting activities for the targets. Specifically, we are implementing a range of activities to achieve the reduction targets described below:

**2010 to 2014 period: A 7% reduction in total emissions**

(263,005 tons of CO<sub>2</sub>, with an annual average of 52,601 tons of CO<sub>2</sub>)

**2015 to 2019 period: An 18% reduction in total emissions**

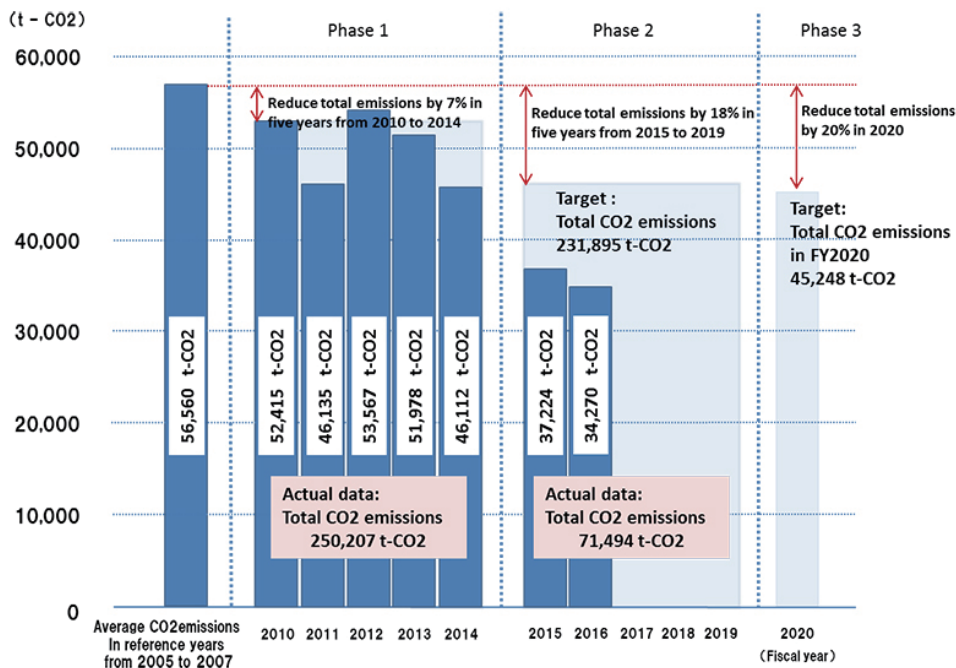
(231,895 tons of CO<sub>2</sub>, with an annual average of 46,379 tons of CO<sub>2</sub>)

**2020: 20% reduction**

(45,248 tons of CO<sub>2</sub>)

The Yokogawa Group (Japan) produced 34,270t-CO<sub>2</sub> of carbon dioxide emissions in 2016, achieving its CO<sub>2</sub> emission reduction target. The average reduction rate in the second phase was 39% against the target of 18%, achieving the target level evaluation in a single year for the second consecutive year. The target level was achieved as the evaluation of a single year. Overseas, each of our group companies overseas sets its voluntary reduction target and is working to achieve the target.

Graph of CO2 Emission Reduction Targets and Performance for Yokogawa Group (Japan)



## Scope 3 CO2 Emissions

In addition to the direct CO2 emissions generated from our use of fuels and manufacturing processes (Scope 1) and indirect CO2 emissions generated through the use of purchased electricity, heat and other sources of energy (Scope 2), we also track and calculate other indirect CO2 emissions (Scope 3).

Category			Emissions (t-CO2)
Upstream	1	Purchased Goods & Services	—
	2	Capital Goods	19,517
	3	Fuel- and Energy Related Activities Not Included in Scope 1 or 2	4,511
	4	Transportation & Distribution	—
	5	Waste Generated in Operations	849
	6	Business Travel	5,903
	7	Employee Commuting	2,896
	8	Leased Assets	—
Downstream	9	Transportation & Distribution	—
	10	Processing of Sold Products	—
	11	Use of Sold Products	—
	12	End-of-Life Treatment of Sold Products	—
	13	Leased Assets	—
	14	Franchises	—
	15	Investments	—
Total			33,677

The scope of category 2, 3, and 5: whole YOKOGAWA Group

The scope of category 6 and 7: Yokogawa Solution Service and Yokogawa Manufacturing (-) indicates that the calculation method is still being examined or the figure is not included.

General Guidelines on Supply Chain GHG Emission Accounting  
(Ministry of Economy, Trade and Industry and the Ministry of the Environment)

## Expansion of Waste Heat Management

### Yokogawa Manufacturing Komagane Factory

Komagane Factory promotes energy saving using waste heat management in an effective manner. Heat is collected from heated water generated in the factory with a heat pump and is used for various other purposes. From 2015, we collect heat from air-conditioned cooling water and use it to heat raw water for producing ultrapure water. In 2016, we started to collect heat from heated water after cooling manufacturing equipment for air heaters.

With these heat management methods, the amount of LPG used decreased significantly compared to that before using waste heat management. The annual reduction is expected to be equivalent of 130 kiloliter oil.

- Use collected heat in the reheating process that requires heat throughout the year.
- Store heat in a duct between outside air conditioners and air conditioners.
- Use temperature controllers of Yokogawa Electric to control temperatures.

## Introduction of the "Green Power Certificate" System

### Yokogawa Electric

A portion of the electricity used by the headquarters building of Yokogawa Electric come from "Green Power" harnessed through "biomass power generation"(300,000 kWh/year).



Biomass  
power generation

## My Bottle, My Cup Campaign

### Yokogawa Electric

As a part of the "My Bottle, My Cup Campaign" that has been promoted by the Ministry of the Environment, we held an Eco Event for employees at our company cafeteria on March 6, 2017 in cooperation with the Center for Environmental Information Science and Musashino City. We provided a free "My Bottle" to 50 people who applied to participate in the event in advance. The first 100 employees who brought their own "My Bottle" or "My Cup" received a cup of freshly-brewed coffee from Mihoshi Coffee Roaster.



Serving freshly-brewed coffee

## Service maintenance for EU RoHS products

Industrial monitoring and control instruments will be subject to the EU RoHS Directive (2011/65/EU) after July 22, 2017.

Yokogawa Electric Group companies will provide industrial monitoring and control instruments conforming to the RoHS Directive that are to be placed on the market with CE marking. Accordingly, Yokogawa Electric Group companies have already started selling the products complying with this directive, and are expanding the RoHS compliant products as appropriate.

At the same time, regarding service maintenance by Yokogawa Electric Group companies, in principle, we are going to use RoHS compliant service parts for the RoHS compliant products. Specifically, we will handle this in the following ways.

- Regarding the parts/products which are used/exchanged for local services (maintenance on site, inspection and maintenance, etc.), we will use RoHS compliant parts/products for the RoHS compliant products.
- We will manage and lend alternative products, separated into RoHS compliant products and non-RoHS compliant products.
- If we have to deal with anything other than the items mentioned above for local service and lending of alternatives, we will do so after obtaining approval based on prior consultation with the customer
- Regarding factory rework, separate lines will be used to repair the RoHS compliant products and the non-RoHS compliant products.

Additionally, if non-RoHS compliant maintenance parts (including those owned by customers) are used for the maintenance of RoHS compliant products in the future, please note that RoHS product conformity will be lost. Moreover, you can identify RoHS conformity on the CE marking affixed to the products by serial number, manufacturing date, or others. For instructions, see the product's users' manuals or general specification sheets. If there are any questions about the above, please contact salespersons or servicepersons.

(Reference)

Overview of the EU RoHS Directive (2011/65/EU)

1.Enforcement date (Category 9 = Monitoring and control instruments) General monitoring and control instruments (already enforced): July 22, 2014 (Example of Yokogawa products: Measuring instruments, recorders, PLC, etc.(Note 1.))

Industrial monitoring and control instruments: July 22, 2017 (Example of Yokogawa products: Distributed control systems, safety instrumented systems, flow-meters, transmitters, analytical products, etc.(Note 1.))

(Note 1.)except some products to be applied exclusion, etc.

2.Contents

Electric and electronic equipment to be placed on the EU market should not contain hazardous substances specified in 2011/65 / EU Annex II beyond the permissible value.

## Chemical Substance Reduction, Waste Reduction and Resource Conservation

The Yokogawa Group is thorough in managing chemicals that are harmful to humans and the global environment. Also, Yokogawa is developing and introducing alternative processes in an effort to reduce chemical use and waste as well as to conserve resources. Furthermore, to comply with RoHS directives 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 Chemical substances), we are implementing efforts for the reduction and 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.

\*PRTR System:

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

### Fiscal Year 2016 PRTR Data

Factory	Factory substance	Amount used (kg)	Amount emitted (kg)				Amount transferred (kg)	
			Air	Public water area	Soil	Landfill	Sewage system	Outside site
Yokogawa Manufacturing Komagane Factory	Hydrogen fluoride and its water-soluble salt	1,088	0	88	0	0	0	0
	Ferric chloride	2,410	0	0	0	0	0	0
Yokogawa Manufacturing Kofu Factory	Ferric chloride	4,756	0	0	0	0	0	0



## Reduction of Silicon Oil Waste Volume Through the Introduction of New Encapsulation Device for Differential Pressure/Pressure Transmitters

### Yokogawa Manufacturing Kofu Factory

One of the manufacturing processes of differential pressure/pressure transmitters manufactured in the Kofu Factory is the encapsulation of silicon oil (into pressure receiver capsules). Previously, in order to prevent the contamination of air and water in oil enclosed in capsules in different volumes, it was necessary to use oil by allowing excess amount. As we have worked on multiple capsules at a time to prioritize the operational efficiency in the process changeover of encapsulation devices, we had to dispose of excess oil that is left in the forked pipe lines.

In the Kofu Factory, we established a new underlying technology and developed an automatic encapsulation device which allow individual encapsulation. The factory also streamlined pipe lines of enclosed oil and optimized the different volumes of capsules and waste fluid to eliminate redundant.

We had previously asked a waste-disposal service vendor to dispose of 198 liters of silicon oil waste per month on average. After the introduction of the new encapsulation device in June 2016, the volume of waste oil was reduced by 183 liters (92% reduction), to 15 liters per month. On a yearly basis, 2,196 liters of oil has been reduced.



Differential pressure transmitter

## Water Resource Conservation

The Yokogawa Group implements resource-saving/energy-saving measures and initiatives designed. Specifically, we are working to reduce the amount of water usage by improving our production processes and by introducing water-saving systems to our office water supplies.

### Efforts in the Middle East and Southeast Asia

In regions where securing water resource is a serious challenge, the companies of YOKOGAWA group are promoting efforts regarding water resource through measures such as monitoring water usage and securing alternative water resource.

#### Yokogawa Middle East & Africa (Bahrain)

In Middle Eastern countries, shortage of water is a serious problem. Yokogawa Middle East & Africa contributes to the government's water protection measures through efforts as follows:

- Sets the target for reduction in water consumption per employee per year, and manages the progress.
- Use normal tap water for non-drinking purposes.
- Complying with local regulations on water protection including conservation and contamination.
- Imparting awareness on water protection amongst employees.
- Inspecting any water leakages during the HSE(Health, Safety and Environment) inspection tour at all facilities and taking immediate corrective and preventive measures on any detected abnormality in the water supply system.

#### Yokogawa Electric Asia / Yokogawa Engineering Asia / Yokogawa Electric International

To support the measures by the Singaporean government such as maintaining drinking water resource and utilizing alternative water resource, Yokogawa group companies in Singapore implement the following measures:

- Strictly comply with the guideline set by PUB (Public Utilities Board) to avoid excess use of water.
- Use NEWater (recycled water produced from treated used water) for air conditioning systems instead of normal tap water.
- Install water-saving devices to lavatories and water utilities.
- Regularly check water consumption to find water leakage early.

### Adopting Water-Saving Systems for Office Water Supplies

#### Yokogawa Electric Corporation (Japan)

Water-saving systems have been introduced at Yokogawa Electric head office to reduce the amount of water usage.

## Promoting Biodiversity

Diverse links of living organisms can be found on earth, which are maintained with a close balance. Every life has a character, and all lives live by supporting one another both directly and indirectly. Biodiversity is an index that represents the abundance of life on earth. At the same time, it provides various benefits to us humans. Our life, economy and industries are sustained by these blessings of biodiversity.

In 2010, the 10th meeting of the Conference of the Parties (COP10) of the Biodiversity Convention established an individual goal (Aichi Goal\*1) of international society to be achieved in the biodiversity field by 2020. Not only the national government, but also local governments, research institutions, companies and citizen groups are required to take action in order to achieve this goal.

Yokogawa stipulated that the company tackles biodiversity issues in its Group's environmental policy. Based on the Aichi Goal, we also promote activities to conserve biodiversity. In April 2016, a campaign on biodiversity, "Yokogawa Green Volunteer," started at Yokogawa Electric Headquarters, which is operated by volunteers from group employees. Their activities include raising employees' awareness of the biodiversity conservation and holding events for citizens in cooperation with local governments and NPOs. In August 2017, the following policy on biodiversity and action guidelines in Yokogawa Group were formulated. We will expand and promote efforts for the conservation of biodiversity across group companies.

### Biodiversity Policy

Biodiversity is a foundation of sustainability in society. Together with our stakeholders, Yokogawa promotes activities for the conservation of biodiversity taking regional characters into account. We will spare no effort to reduce negative impacts generated in our various business activities, to improve biodiversity and contribute to creating a better environment in local communities.

### Action Guidelines

- **Cooperation with the local community to enhance local values.**  
Cooperation with the government and NPOs to acknowledge and enhance local values through efforts.
- **Providing employees with educational opportunities and conducting awareness building.**  
Try to build awareness of employees through holding seminars and events on biodiversity for employees.
- **Taking biodiversity conservation in business facilities into consideration.**  
Operate business facilities taking ecosystem into consideration, such as the management of green areas in facilities.

### Yokogawa Green Volunteer

As an activity for biodiversity conservation, Yokogawa Electric started "Yokogawa Green Volunteer" activities in April 2016, which are operated by volunteers from our group employees. In fiscal 2016, we held a local wildlife observation tour, a seminar for tips about familiar plants, etc. in the company as activities for awareness building and conservation of biodiversity.

We also focus on cooperation with local communities. In cooperation with Musashino City and NPOs, we held a nature observation tour for elementary school students and their parents from the neighborhood at

the Tamagawa Waterworks near Yokogawa Electric Headquarters. We held a total of 13 seminars and events in the year, which had a total of about 200 participants.

The headquarters of Yokogawa Electric is located in the heart of Musashino City and is surrounded by an abundant natural environment such as Inogashira Onshi Park, Tamagawa Waterworks and Koganei Park. The Basic Policy on Biodiversity that was formulated in Musashino City in 2017 states that the ecosystem network including these large-scale parks and proactive environmental activities of businesses are the strength of Musashino City for biodiversity. We will promote activities that encourage the rediscovery of local values such as abundant nature, history and culture and local biodiversity conservation activities.



Wildlife observation in Inokashira onshi Park  
(Wildlife observation tour at night)



Tree name board placed near trees in the headquarters site  
(Event for setting up tree name boards)



Observation of autumn leaves along Tamagawa Waterworks  
(Event for creating fallen leaf albums)



Picture frame workshop for children and parents  
(Event for residents of Musashino City)

## Protecting Large Trees in the City of Musashino

### Yokogawa Electric

In the city of Musashino, where Yokogawa Electric's headquarters is located, there are approximately 2,000 large trees in the city designated as "environmentally protected." It is under a program called "2000 Large Trees/Symbolic Trees Plan", which has been in place since 1994. Fifty large trees within the premise of Yokogawa Electric's headquarters have been designated under this program and are protected as such.



Protected Large Trees

## Participation in the Tenryu River Eco Picnic

### Yokogawa Electric

A total of thirteen employees of Yokogawa's Komagane Factory and their families participated in the cleanup activities along the Tenryu River in Nagano Prefecture, as hosted by the Nagano Techno Foundation.(May,2017)

This event is organized as part of an "environmental beautification campaign" intended to teach the significance and importance of waste sorting, encourage a first-hand view of the current state of the Tenryu River and help achieve a recycling-based society.



Tenryu River Eco Picnic

## Installing vending machine to assist Borneo

### Yokogawa Solution Service Corporation, Semiconductor Service Center in Tachikawa Office

Vending machines are installed in Tachikawa Office to assist Borneo. A part of the money raised through sales from these vending machines are donated to the specified non-profit corporation Borneo Conservation Trust Japan and used for activities to conserve the rain forest and wild animals in Borneo.



Vending machine to assist Borneo

## Cleanup at the Uchikawa dam

### Yokogawa Electric

The employees of Yokogawa's Kanazawa Office participated in the cleanup activities around the Uchikawa Dam, which were sponsored by the Kanawaza Water and Energy Center. This cleanup event is designed to "preserve water environments" through the cleanup of the Uchikawa Dam, which is an important local water supply and an "area designated for preservation of water source."(May,2016)



Cleanup at the Uchikawa dam

# Community Involvement

The Yokogawa Group is tackling challenges that affect the global environment and society to contribute toward the realization of a thriving global society.

## Yokogawa's corporate citizenship

Yokogawa, with awareness of its responsibilities as a "good citizen", strives for harmonious coexistence with the communities it serves. We not only contribute to society as a whole through business activities but also implement wide-ranging community programs. We at Yokogawa are committed to cooperating with the communities and governments in all countries and regions in which we do business, to thereby achieve their goals and contribute to growth.

We also encourage our employees to participate in community programs as "good citizens".

Specifically, we drive and participate in skill-development programs and environmental conservation activities in local communities. We also provide volunteer programs designed to let our employees make use of their various skills and competences for the community.



Finding solutions to social issues,  
Helping build a sustainable society

## Japan

### Supporting to Develop Next-Generation Talent

Yokogawa Science workshops addressing the fundamental technologies that are the basis for Yokogawa's business-optics, electrics, radio, etc.

As members of their community, our employees are engaged in various programs designed to support school education as well as to help children with disabilities and students to be self-supporting and participate in society.

#### Yokogawa Science Workshops

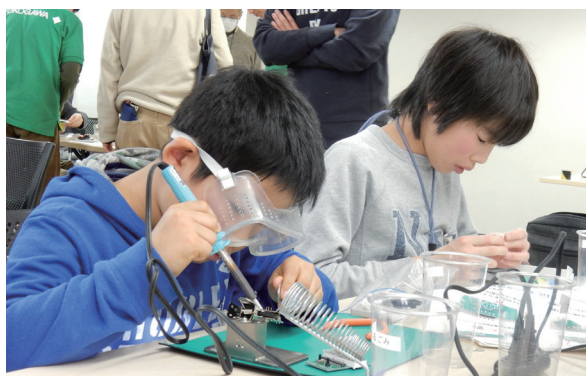
As a company engaging in business on the strength of its technology in the areas of measurement, control, and information, Yokogawa holds the Yokogawa Science Workshops to support science education for elementary school students.

Yokogawa launched the Yokogawa Science Workshops in 2006. We now conduct the workshops several times a year, primarily in Tokyo.

The themes of the workshop are related to light, electricity, radio waves, and other topics related to the basic technologies that support Yokogawa. Employee volunteers act as instructors and provide personal instruction during hands-on construction projects. After the employee volunteers have explained the mechanisms of light or electricity according to the theme, the participating children begin the construction tasks, including soldering. Afterward, the employees provide an introduction to technology jobs. Drawing on the children's interest in technology, they teach the children the importance of thinking and making improvements. This interaction with children leads to the growth of the employees as well.

Through such activities, Yokogawa deepens its interactions with communities and contributes to the development of human resources that have an interest in science and technology. Our wish is to nurture these people who will support the earth in the future.

Date	Venue	Program	Content
July 9, 2016	Musashino City, Tokyo	Capturing Radio Waves	Construct a germanium radio that requires no batteries and listen to radio broadcasts
August 24, 2016	Kanazawa City, Ishikawa	Forming a Temperature Investigation Team	Constructing a radiation thermometer and measure temperatures without contact
February 4, 2016	Musashino City, Tokyo	Same as above	Same as above
March 18, 2017	Sendai city, Miyagi	Same as above	Same as above



Yokogawa Science Workshop

## Participation in Musashino Science Festa

Each year Yokogawa participates in the "Musashino Science Festa," an annual event held by the city of Musashino. It's a comprehensive event for scientific experimentation in which elementary and junior high school teachers, businesses, volunteer organizations, etc., in the city set up booths to exhibit their experimentation. There were approximately 1,700 visitors to the event this time.



Observing child's own voice on the oscilloscope

The theme of Yokogawa's booth was "Discovering the Secrets of Voice." Visitors to our booth observed what their voices looked like, using a hand-made microphone amplifier and oscilloscope. A Booth for making string telephones using paper cups and strings was set up for young children. They learned that their voice can be transmitted via string. The children seemed really interested as they watched the waveform change according to the loudness of their voices and the frequency, or pitch, of the sound. Yokogawa staff, who participated in the event as volunteer staff, enjoyed themselves as they instructed the visitors how to observe their voices using the oscilloscope.

## Support for Events at a nursery and Elementary School

### Concerts at a Nursery and Elementary School

Upon request from a nursery and elementary school, the "Ensemble Yokogawa" orchestra club held concerts for the children and students.





Concert at the Tokyo Metropolitan Akiruno Gakuen

Date	Venue	Subject
October 7, 2016	Tokyo Metropolitan Akiruno Gakuen School, Akiruno city	The children of the crippled sector and the intellectual disability sector in
February 18, 2017	Poppins nursery school Musashino,	Children and their families

## Interacting with Children through Basketball

On October 5, 2016, Yokogawa's basketball team had a basketball event with the elementary school children from the Kyuden Shooting Stars, a children's basketball team in Setagaya, Tokyo. The two basketball teams have been jointly doing volunteer activities at a nursery home for the elderly in Musashino, Tokyo.



Interacting with Children through Basketball

## Support for Classes, Events and Recreational Activities at Special Schools

As a member of the "Tokyo Metropolitan Council for Community Education Promotion Network," Yokogawa supports classes provided at special schools and is contracted under the Tokyo Metropolitan Government's "After School Children's Class" program to support recreational activities at special schools, including the "Akiruno Club," which is organized mainly by the PTA of the Tokyo Metropolitan Akiruno Gakuen Special School. The Yokogawa employees work as volunteers and interact with children with disabilities, increasing their awareness as "good citizens."

Date	Organization to support	Program	Participant
June 18, 2016	Akiruno Club	Let's Play with a Foreign Language!	Volunteer employee

# Community Involvement

Total of four days in July and August 2016	Tokyo Metropolitan Nanao Special School	Support for the "Opening of school's swimming pool to the Public"	Swimming club members
August 27, 2016	Akiruno Club	Tea Ceremony Workshop	Tea ceremony club members
		Let's play with musical instruments!	Orchestra club members
Official game in 2016 season	Tokyo Metropolitan Special Schools	Invitation to the official games of Japan Football League	Tokyo Musashino-city Football Club
October 15, 2016	Akiruno Club	Hiking in Tama Animal Park	Mountaineering club members and Musashino-city rugby football association
December 17, 2016	Akiruno Club	Kick target & speed gun	Tokyo Musashino-city Football Club
January 21, 2017	Akiruno Club	Let's Play with a Soccer Ball!	Tokyo Musashino-city Football Club
		Let's Decorate with Flowers!	Flower arrangement club members



Foreign language workshop



Flower arranging workshop



Tea ceremony workshop



Swimming lessons



Zoo hiking



Playing musical instruments



Kick target game



Soccer ball game

## "Akiruno Club"

The "Akiruno Club" is an organization that plans and organizes community and recreational activities designed to help children with disabilities live rich, fulfilling lives and to promote their lifelong learning, and thereby supports such children and their families. The club and its activities were launched in June 2004, primarily by the parents and families of students of Tokyo Metropolitan Akiruno Gakuen School.

The Akiruno Club has, since 2004, been contracted by the Ministry of Education, Culture, Sports, Science and Technology of Japan and the Tokyo Metropolitan Government to sponsor a variety of projects, which are implemented with focus on "providing many programs to choose from," offering programs not just to the current Akiruno students but also to other.

## Collaborative Efforts with External Organizations

Yokogawa is committed to fulfilling its responsibilities as a global company by finding solutions to various social issues.

## Collaborating with the Community on Disaster Preparedness

Yokogawa and Musashino City, where Yokogawa's head office is located, signed a memorandum in 1996 on cooperation in the event of a major disaster, spelling out the terms under which Yokogawa would cooperate

with Musashino City to ensure the safety of citizens. Therefore, in the event of a disaster, Yokogawa will open some areas of its premises to provide water and supplies, among others. In January 2014, Yokogawa Solution Service also signed an agreement with Musashino City on cooperation in the event of a disaster.

In 2006, Yokogawa also signed an agreement with the Musashino Fire Department on support operations in the event of an earthquake. Should an earthquake hit, Yokogawa will cooperate with the Musashino Fire Department to the greatest possible extent in order to help extinguish the fire and rescue the injured. We are also conducting disaster drills with the department on a regular basis.

## **Groundwater Pumping Facility in the Musashino Headquarters Was Accredited As an Emergency Drinking Water Supply Facility for Citizens**

On November 16, 2016, a disaster drill was carried out at the Yokogawa headquarters, where we pumped groundwater and purified it to supply as drinking water for emergency. The Disaster Prevention and Public Safety Department of Musashino City was at the site and accredited our groundwater pumping facility as an emergency drinking water supply facility for citizens. This drill was carried out in cooperation with Musashino City that tries to improve emergency water supply systems within the city as a measure to minimize damage from disasters such as earthquakes that directly hits Tokyo area. Our company plays an important role as Nakamachi district is the only district in Musashino City with no water reservoirs. Yokogawa Electric will appear on the disaster prevention map published by Musashino City as an emergency water supply facility.

## **Participating in Local Cleanup Drives near Factories**

To practice our corporate philosophy of "good corporate citizen," our group companies are regularly participating in the cleanup drives organized by local municipalities and are making voluntary efforts to clean up the areas around their factories. At Yokogawa, we are contributing to the beautification and environmental conservation of the regions in which we operate while fostering deeper friendships and understanding of the communities we serve.

### **● Yokogawa Electric Corporation**

Twice per year, the city of Musashino conducts cleanup activities around major train stations in the municipality. Each time, a total of about 50 Yokogawa employees and family members take part in the work.

### **● Yokogawa Solution Service Corporation**

This company takes part in cleanup activities throughout the country in areas around its worksites. In fiscal 2016, a total of 106 employees participated in 8 bases.

### **● Yokogawa Manufacturing Corporation**

This company took part in cleanup activities around its work places in Japan and around nearby train stations.

## **Promoting the employment of the people with disabilities**

Yokogawa, in addition to promoting the employment of the people with disabilities by its group companies, collaborates with NPO Japan SELP Center to engage in the following activities to provide more work opportunities in local communities.

## Purchasing Waste Cloths from an Employment Support Service Hiring the People with Disabilities

Yokogawa Manufacturing's Kofu Factory has, since April 2010, purchased 150kg of waste cloths (used to wipe off oil, impurities and other dirt from factory machines) every month from an employment support service that hires disabled persons.

The waste cloths thus purchased consist of material recycled from old clothes and fabrics, which means that their production does not require any resource or energy and does not produce CO2 emissions.

By purchasing reused waste cloths from this service provider, we help people with disabilities to obtain work. Thus, our purchases contribute to the conservation of the global environment.

## Outsourcing the Production of Envelopes

Beginning with the 2010 Annual General Meeting of Shareholders, we have outsourced the production of envelopes for meeting notices and other share-related documents to a sheltered workshop that hires disabled persons.

From the 2012 Annual General Meeting of Shareholders, we initiated the distribution of cookies produced by the "A Box of Cookies Makes You Fall in Love with Miyagi" Project--a group formed by ten factories employing disabled persons in Miyagi Prefecture, which was hit by the Great East Japan Earthquake--to the attending shareholders as take-home gifts.

## Installing Welfare Vending Machines

Yokogawa, in September 2008, installed one SELP (Support of Employment, Living and Participation) on the premises of its Musashino City Facility in Tokyo. When one purchases a drink from one of these vending machines, a portion of the money goes to NPO Japan SELP Center to help persons with disabilities obtain employment.

Regular vending machines and SELP vending machine are positioned side by side on the premises of the head-office factory. Receipts from the SELP vending machine have increased by approximately 30% compared to the regular vending machines that previously operated in the same place. This is proof that many employees act consciously to contribute to society.

SELP vending machines are currently located in Musashino-shi and Akiruno-shi, Tokyo and Kofu-shi, Yamanashi Prefecture. Cumulatively, the donation from the SELP vending machines between 2008 and 2016 amounts to 2,381,541 yen.



Welfare vending machine

## Providing Educational Support for Developing Countries through the Recycling of Used Books and CDs

In November 2009, we joined "Book Magic", a social program designed to utilize books, CDs and DVDs collecting dust for the educational support projects in Afghanistan, Sudan, etc. From the collection boxes installed at 50 locations within the factories in Musashino City, Tokyo and Kofu City, Yamanashi, we have collected 16,213 items and donated 315,436 yen as of March 2017.



Children learned at elementary school built with donation (Afghanistan)

## Sending School Bags across the Sea

Yokogawa has, since 2008, contributed to the "Sending School Bags across the Sea" campaign sponsored by Kuraray Co., Ltd. In fiscal 2016, too, we collected unneeded stationery and used school bags packed with the memories of the donating employees, and sent these overseas to support children's education in Afghanistan and Mongolia where literacy rates are notably low. The number of school bags donated by employees over the past 9 years has reached 526.



Picture provider: International Cooperation in Family Planning (JOICFP)

## Blood Donation

Yokogawa Electric Corporation has held blood donation campaigns in its premises to cooperate with Japanese Red Cross Tokyo Metropolitan Blood Center. Since 1966, total of 40,000 volunteer employees have participated in the campaigns actively.



Blood donation at Yokogawa Clinical Center

## Efforts towards Maternal and Child Health Improvement in Indonesia

From 2008 to 2015, Yokogawa supported activities for maternal and child health improvement in Serang, Indonesia through People's Hope Japan, an authorized NPO. Through these activities, a local health center was established in 2009 which enabled safe child birth with full-time midwives at work. Deep wells were installed to provide safe water in areas without water supply system. In these areas, birth assistance rates of midwives, birth rates in health facilities, birth rates at home, and malnutrition rates of young children have significantly improved. The management authority of maternity centers, health centers, nutrition centers/clinics that had been established in the areas through Yokogawa's support has now been transferred to the local government.



Midwifery education (Indonesia)

## North and South Americas

### Education(United States)

In the autumn of 2016 and the spring of 2017, employee volunteers of Yokogawa Corporation of America Sugar Land Office (Texas) participated in a Junior Achievement program which is organized by an economic and social education group for children, and gave a lecture on how to be successful in the world economy. In the lecture, fourth and fifth graders of local elementary schools learned about free economy systems, how it has developed the economy and how it has been useful for career development of individuals and businesses in the U.S.



### Health(United States)

Yokogawa Corporation of America supports a non-profit foundation "B.I.G. Love Cancer Care" as part of support for children suffering from cancer. December 2016 marked the third year of the support activity. We send many presents to children in cancer clinics in November every year.



### Helping Socially Vulnerable People (United States)

- In November 2016, employee volunteers of Yokogawa Corporation of America Sugar Land Office (Texas) provided food aid as a way to support households in low-income areas and for elderly people.





# Community Involvement

- Employee volunteers of Yokogawa Corporation at the America Newnan Office (Georgia) participate in local Joy Project events every holiday season. These events are held by the Division of Family and Children Services, Coweta County to give hundreds of orphans Christmas presents. From November to December 2016, they created a list, collected and managed presents and sent Christmas gifts to many children.



## Asia

### Human Resources Development, Education

#### Lecture and Demonstration : National University of Singapore (Singapore)

The expert team of Yokogawa Engineering Asia Pte. Ltd. and Yokogawa Electric International Pte. Ltd. provides education on safety instrumentation engineering and advanced control/instrumentation technique to students of the Master of Science at the National University of Singapore. Many students are adult students who are working in related industries and gained knowledge on functions/performance of Yokogawa products and our services. This also helped develop a pipe line between Yokogawa and engineers who have a detailed knowledge in the petroleum and gas industry, as well as attracting interest in working for Yokogawa.

#### Training Programs : Bandung Institute of Technology, Sepuluh Nopember Institute of Technology Surabaya, University of Indonesia and Gadjah Mada University (Indonesia)

As a way to develop next generation human resources, PT Yokogawa Indonesia provides postgraduate students of famous universities and engineering colleges in Indonesia with an opportunity to acquire skills in an actual instrumentation environment. It provides educational support for automatic control techniques and other skills using two education programs (Engineering Trainee Program, Junior System Engineer) and business ethics.

#### Training programs: Chulalongkorn University, King Mongkut's Institute of Technology North Bangkok, King Mongkut's Institute of Technology Thonburi, and King Mongkut's Institute of Technology Ladkrabang (Thailand)

Yokogawa (Thailand) Co., Ltd. proactively support various universities.

- It regularly donates industrial equipment to universities for students who try to acquire a degree in engineering in industrial automation and smart factory areas.
- Training and on-the-job training for young engineers who have detailed knowledge in Yokogawa's products and systems.
- Donated model plant to the Faculty of Engineering, King Mongkut's Institute of Technology North Bangkok.



Donated model plant  
(King Mongkut's Institute of Technology North Bangkok)



Research activity using the model plant  
(King Mongkut's Institute of Technology North Bangkok)

## Middle East and Africa

### Human Resources Development, Job Creation(Middle East, Africa)

Yokogawa Middle East & Africa B.S.C.(C) believes the most meaningful activity under CSR is to make a difference at the grassroots level and has collaborated very closely with universities/institutes in the regions in which they operate. The activities range from participating in career days, symposia, workshops, seminars and supplementing university curriculum through practical courses. Internship programs are offered every year.

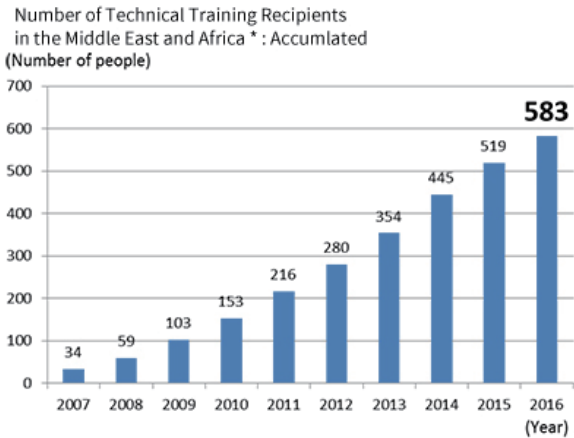
Yokogawa is involved in many large-scale energy development projects in the oil, gas and other sectors in the Middle East and Africa. As we expand our business, we support human resources development in these regions in cooperation with local universities and other educational institutions and provide employment opportunities for local people.

Since 2007, Yokogawa has provided training in measurement and control technologies and engineering for local students. Through this initiative we are contributing to the development of local communities by employing approximately 30% of the students who have taken the course in the Yokogawa Group and helping the others find employment with local customers.

Yokogawa will further expand such initiatives and contribute to human resources development and job creation wherever we operate worldwide.



Technical training using Yokogawa products



\*Bahrain, Saudi Arabia, UAE, Oman, South Africa, Nigeria, etc.

## Europe

### Human Resources Development, Education, Job Assistance (Germany)

Yokogawa Deutschland GmbH (Germany) introduced YOKOGAWA's automatic control technique to female students on International Girl's Day. It also provided an introduction to companies and universities in the science and engineering field as a way to support females in choosing their future careers.



### Helping Socially Vulnerable People(Netherlands)

Employees of Yokogawa Europe B.V. (Netherlands) bring presents to the company at the end of year and hold a Christmas market and a lottery. Every year, the company pays the same amount of money collected from employees and the total amount is donated to a selected organization. In 2016, a donation was made to the Red Cross with the aim of decreasing the rate of child deaths from pneumonia.



Christmas fund-raiser

### Health, Medicine(Germany, UK, Netherlands)

- Yokogawa Deutschland GmbH (Germany) made a monetary donation to Hospice St. Raphael, a health-care facility for the terminally ill.



Check handed over to Hospice St. Raphael

- Yokogawa United Kingdom Ltd. (UK) held a breakfast event with home-made cakes and coffee. The profits from this event were donated to Macmillan Cancer Support, one of the largest charity organizations in the UK to protect cancer patients



# Community Involvement

- Yokogawa Europe B.V. (Netherlands) donated cash as a sponsor of a Students Union, Association Industrial Automation (VIA)

## Sports(Netherlands, Poland)

- Yokogawa Europe B.V. (Netherlands) donated cash as a main sponsor of Businessloop Amersfoort. Eighteen employees participated in a charity running event in Amersfoort City.



- Yokogawa Polska Sp. z o.o. (Poland) participated in a marathon relay race held by a nonprofit organization, the Convention on the Rights of the Child and donated cash.



# Social & Environmental Data

YOKOGAWA has received a guarantee for social and environmental data by a third-party organization (Lloyd's Register Quality Assurance Limited) to improve the reliability of that.

## Personnel-related data

### Number of employees

	2012	2013	2014	2015	2016
Consolidated	19,685	19,837	19,601	18,646	18,329
Non-consolidated	4,298	2,958	2,871	2,502	2,537

(Unit:People)

As of the end of each fiscal year

### Female managers ratio

	2012	2013	2014	2015	2016
Non-consolidated	1.7	2.0	2.4	3.2	3.5

(Unit:%)

As of the end of each fiscal year

### Disability employment rate

	2012	2013	2014	2015	2016
Yokogawa's disability employment rate	2.23	2.28	2.15	1.99	2.03
Legal disability rate	1.80	2.00	2.00	2.00	2.00

(Unit:%)

As of June 1st each year

### Frequency rate of occupational accidents

	2012	2013	2014	2015	2016
In Japan	0.42	0.31	0.57	0.50	0.28
Outside Japan	0.23	0.45	0.49	0.36	0.58
Total	0.32	0.39	0.53	0.41	0.46

Frequency rate of occupational accidents = Number of accidents resulting in lost workdays / aggregate number of work-hours × 1,000,000

## Social data

### Yokogawa Science Workshops

	2012	2013	2014	2015	2016
Number of Workshops	6	4	3	4	4
Number of children	129	73	70	69	64

### Visitors for Yokogawa Foundry (special subsidiary for the employment of disabled persons)

	2012	2013	2014	2015	2016
Number of visitors	272 ppl 64 org	259 ppl 42 org	108 ppl 26 org	129 ppl 25 org	133 ppl 28 org

### Welfare vending machine

By purchasing a drink in this vending machine, a part of proceeds is utilized to support employment of people with disabilities through SELP, a Non-profit organization.

	2012	2013	2014	2015	2016
Number of drinks sold from welfare vending machine (bottles)	115,775	97,489	73,782	41,808	38,528
Amounts contributed by welfare vending machine (Yen)	430,304	357,952	265,932	143,514	132,275

In cooperation with Japan SELP center, specified non-profit corporation

### Donation by "Book Magic"

Book Magic is a program that JEN, a non-profit organization, operates. JEN sells book, CD, DVD, etc., donated by companies' employees, to a used book shop and utilize the sales fund to support the education in developing countries.

	2012	2013	2014	2015	2016
Number of CD and book contributed	23,467	30,910	9,831	8,753	412
Donation from selling of CD and books (Yen)	28,193	23,467	30,910	9,831	8,753

In cooperation with JEN, specified non-profit corporation

## Donation to "Sending School Bags across the Sea"

"Sending School Bags across the Sea" is a program of international cooperation under which Kuraray Co.,Ltd. send school bags once used by Japanese elementary school students along with letters to children in Afghanistan and other countries.

	2012	2013	2014	2015	2016
Number of donated school bags	39	27	120	39	33

Promoted by Kuraray Co.,Ltd.

## Environmental Data

### Energy consumption

Energy consumption and sales-unit-basis energy consumption for Yokogawa group

#### Energy consumption

	2012	2013	2014	2015	2016
In Japan	1,017,210	899,674	849,594	705,944	656,485
Outside Japan	833,647	832,367	840,724	818,109	810,126
Total	1,850,857	1,732,042	1,690,318	1,524,053	1,466,611

(Unit:GJ)

#### Unit basis (Unit-sales-basis energy consumption)

	2012	2013	2014	2015	2016
In Japan	759	697	681	555	513
Outside Japan	390	321	299	285	307
Total	532	446	417	368	375

(unit: GJ/100MYen)



## Total Greenhouse gas(GHG) emissions

Total GHG Emission and unit-sales-basis GHG emissions for Yokogawa Group  
Data coverage: Yokogawa companies in Japan and outside Japan

### Total GHG emissions

	2012	2013	2014	2015	2016
In Japan	53,567	51,978	46,112	37,224	34,699
Outside Japan	48,745	51,433	51,981	50,784	48,251
Total	102,312	103,411	98,093	88,008	82,950

(unit: t-CO<sub>2</sub>)

### Unit basis (Unit-sales-basis GHG emissions)

	2012	2013	2014	2015	2016
In Japan	39.98	40.26	36.98	29.29	27.13
Outside Japan	22.79	19.83	18.49	17.72	18.31
Total	29.41	26.62	24.17	21.27	21.19

(unit: t-CO<sub>2</sub>/100MYen)

## Water consumption volume

Water consumption volume and sales-unit-basis water consumption for Yokogawa group

### Amount consumed and Total emissions

		2012	2013	2014	2015	2016
In Japan	Amount consumed	541	444	439	342	314
	Total emissions	355	382	342	256	235
Outside Japan	Amount consumed	305	293	284	275	285
	Total emissions	294	284	274	268	277
Total	Amount consumed	846	737	723	617	600
	Total emissions	649	666	616	525	512

(unit: thousand m<sup>3</sup>)

## Unit basis (Unit-sales-basis water consumption volume)

	2012	2013	2014	2015	2016
In Japan	0.40	0.34	0.35	0.27	0.25
Outside Japan	0.14	0.11	0.10	0.10	0.11
Total	0.24	0.19	0.18	0.15	0.15

(unit: thousand m<sup>3</sup>/100MYen)

## Waste emissions

Total waste emissions and unit-sales-basis waste emissions for Yokogawa group

### Total waste emissions and final waste volume

		2012	2013	2014	2015	2016
In Japan	Total emissions	3,796	3,355	3,607	1,926	2,321
	Final waste volume	166	159	109	91	78
Outside Japan	Total emissions	2,547	1,788	2,416	2,278	2,186
	Final waste volume	851	782	1,139	941	810
Total	Total emissions	6,343	5,143	6,023	4,204	4,507
	Final waste volume	1,017	941	1,248	1,032	888

(unit: ton)

### Unit basis (Unit-sales-basis water consumption volume)

	2012	2013	2014	2015	2016
In Japan	2.83	2.60	2.89	1.52	1.81
Outside Japan	1.19	0.69	0.86	0.79	0.83
Total	1.82	1.32	1.48	1.02	1.15

(unit: ton/100MYen)

## Natural energy

Natural energy consumption for Yokogawa group

	2012	2013	2014	2015	2016
Solar power generation	96,856	86,442	85,480	68,817	55,726
Green electricity certificates	300,000	300,000	300,000	300,000	300,000

(unit: kWh)

## Third-Party Verification

YOKOGAWA has received a guarantee for social and environmental data by a third-party organization (Lloyd's Register Quality Assurance Limited) to improve the reliability of that.



### LRQA Independent Assurance Statement Relating to Yokogawa Electric Corporation's Environmental and Social Indicators within the CSR report 2017

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 (LRQA) was commissioned by Yokogawa Electric Corporation to provide independent assurance on its CSR report 2017 ("the report") against the assurance criteria below to a limited level of assurance and professional judgement of the verifier using "LRQA's verification procedure / ISO 14064 - Part 3 for greenhouse gas data. LRQA's verification procedure is based on current best practise, is in accordance with ISAE 3000.

Our assurance engagement covered Yokogawa Electric Corporation and its subsidiaries' global operations and activities in fiscal year 2016 (1<sup>st</sup> April 2016 ~ 31<sup>st</sup> March 2017) and specifically the following requirements:

- Verifying conformance with:
  - Yokogawa Electric Corporation's reporting methodologies
- Evaluating the accuracy and reliability of data and for only the selected indicators listed below :
  - Environmental indicators
    - Energy consumption
    - Solar power generation
    - Amount of GHG emissions Scope1, Scope 2 and comparison against the last fiscal year's total CO2 emissions
    - Water consumption
    - Discharged water
    - Total waste emissions
    - Final waste volume
  - Social indicators
    - Frequency rate of occupational accidents<sup>1</sup>
    - Number of employees (Number by; Industrial Automation and Control Business, Test and Measurement Business, Aviation and Other Businesses)
    - Female managers ratio<sup>2</sup>
    - Oversea employees ratio
    - Registered and pending patents (Number in Japan and oversea countries)
    - Registered and pending designs (Number in Japan and oversea countries)
    - Registered and pending trademarks (Number in Japan and oversea countries)

Note 1: Calendar year 2016 that is 1 January 2016 to 31 December 2016  
Note 2: The inventory covers Yokogawa Electric Corporation.

LRQA's responsibility is only to Yokogawa Electric Corporation. LRQA disclaims any liability or responsibility to others as explained in the end footnote. Yokogawa Electric Corporation'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 Yokogawa Electric Corporation.

#### LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe Yokogawa Electric Corporation has not, in all material respects:

- Met the requirements above
- Disclosed accurate and reliable performance data and information

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.

### LRQA's approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Auditing Yokogawa Electric Corporation'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.
- Visiting the Hadano Plant, Yokogawa Denshikiki Co., Ltd. and the headquarters, Yokogawa Electric Corporation to confirm the data collection processes and record management practices.

### Observations

Further observations and findings, made during the assurance engagement, are as follows:

- There were unreported sites about water consumption, waste water, and waste emission. Currently, they estimate these indicators from the result of similar business sites. LRQA confirmed that the unreported amount is small and the influence on the final result is extremely small.

### LRQA's standards, competence and independence

LRQA 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 Conformity assessment – Requirements for bodies providing audit and certification of management systems 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.

LRQA 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.

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

Signed

Dated: 22 June 2017

A handwritten signature in black ink, appearing to read 'N. Kinoshita', is written over a horizontal line.

Norihiko Kinoshita  
LRQA Lead Verifier  
On behalf of Lloyd's Register Quality Assurance Limited  
Queen's Tower A, 10<sup>th</sup> Floor, 2-3-1, Minatomirai, Nishi-ku, Yokohama 220-6010, Japan  
LRQA reference: YKA4005469

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## History of Sustainability Practices

Yokogawa Group has implemented various activities based on the spirit of the company's foundation, "Contribution to the Society." Here, we will introduce our previous main activities related to sustainability focusing on recent topics.

2017	August	Yokogawa establishes sustainability goals for the year 2050
	May	Yokogawa joins World Business Council for Sustainable Development (WBCSD)
	February	Yokogawa Recognized as Excellent Health and Productivity Management Company
2015	November	Yokogawa establishes Corporate Governance Guidelines
	September	Yokogawa celebrates its 100th anniversary
2009	January	Yokogawa participates in the United Nations Global Compact
2008	April	Yokogawa establishes Corporate Social Responsibility (CSR) department
2007	June	Yokogawa publishes Yokogawa Group Corporate Social Responsibility Report 2006
2006	September	Yokogawa publishes Yokogawa Group Sustainability Report 2006
2002	June	Yokogawa establishes Standards of Business Conduct for Yokogawa Group
2001	March	Yokogawa establishes The principles of Yokogawa Group Environmental Management Standards
1999	November	Yokogawa introduces environmental labeling (Type II )
	September	Yokogawa publishes Yokogawa Environmental Report 1999. Also the company introduces environmental accounting and makes data available to public
1998	February	Yokogawa Electric Headquarters & Main Factory and the Komine Factory (current Yokogawa
1997	July	The Kofu Office (current Yokogawa Manufacturing Kofu Factory) obtains ISO14001
1994	January	Yokogawa establishes Standards of Business Conduct for Yokogawa Electric Headquarters
1993	July	Yokogawa establishes a voluntary environmental activities plan
	February	Yokogawa appoints a Vice President of Environmental Management and forms a Global Environment Committee
1991	April	Yokogawa sets up an organization to promote an Environment management
1971		Yokogawa establishes a pollution prevention organization