



2023 Yokogawa Report

For the year ended March 31, 2023

Yokogawa's Purpose

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

“The ability to measure and connect” is a core competence that Yokogawa must never lose. We wish to make a difference for the better in the world and set ourselves on the path to a future, where humanity and planet Earth can live together in symbiotic harmony. Our firm aspirations are expressed with this on Yokogawa's Purpose.

The Ability to Measure

The origins and starting point for Yokogawa's business lie in measurement. We seek value in the information that is derived by measuring things, grasping their current state, and making predictions.

Based on its ability to measure things, Yokogawa continues to provide value and support industries by offering oscilloscopes, power analyzers, optical test equipment, and other high-precision measuring instruments that are commonly referred to as “the mother tools of industry.” For use in plant facilities, the company also provides a full range of field instruments, including flowmeters, pressure and temperature transmitters, and process analyzers.

The Ability to Connect

By connecting, Yokogawa not only combines valuable information, but also builds trusted relationships with customers from multiple industries and brings together companies and industries, giving resonance to the value that the company creates.

Yokogawa has cultivated its ability to connect by offering control systems and solutions that provide a solid footing for highly efficient and safe plant operations and the production of high-quality products. The company has broadened its offering of solutions to cover entire value chains and supply chains, and aims to expand its collaboration to take the creation of value even further.

For Future Generations

Aiming at Realizing a Sustainable Society Yokogawa's Three goals

Our world today is undergoing changes that are global in scale. As a result, the achievement of sustainability is a critically important environmental, societal, and economic issue. As made clear with its "Three goals," Yokogawa will capitalize on the technologies, long track record, and strong trust-based relationships that it has built up over the years to take on difficult challenges, and thereby help to set the world on the path to sustainability.



A Trusted Company with a Wealth of Technology and a Strong Track Record

Since its founding in 1915, Yokogawa has established a strong track record as a provider of reliable technologies that engages in co-creation with its customers and builds solid relationships based on trust.

- Our social capital: A strong track record and large installed base that have been built based on trust
- Our Businesses
 - Energy & Sustainability Business
 - Materials Business
 - Life Business
 - Measuring Instruments Business

See P. 68-69.

See P. 34-47.

As Yokogawa works to refine the technologies and solutions it offers, it continues to take on tough challenges in mission-critical* areas. Leveraging its cultivated ability, we are continuing to tackle difficult challenges all the time.

- Toward IA2IA (industrial automation to industrial autonomy) with AI solutions
- Initiatives for open process automation (OPA)
- Activities in new businesses and areas for exploration

See P. 56-57.

See P. 32.

See P. 48.

*Mission critical: An essential operation that must not be allowed to stop under any circumstance, such as an equipment failure

Continuing to Tackle Difficult Challenges

1 Net-zero Emissions

Dealing with a changing climate

We aim for net-zero emissions, which means that 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 the efficient use of energy.

2 Well-being

Quality life for all

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, as well as diversity, equity, and inclusion.

3 Circular Economy

Circulation of resources and efficiency

We aim to realize a social framework and ecosystem in which resources are circulated without waste and assets are utilized effectively. We are also contributing to the efficient use of water resources and the supply of safe drinking water.

Chapter 1 | **Message from the President and CEO** — Talks about now and the future of Yokogawa toward sustainable growth from the viewpoint of management

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Report Configuration

With an emphasis on storytelling, 2023 Yokogawa Report is designed to provide readers, including shareholders, investors, and all other stakeholders, with an overall understanding of Yokogawa’s value creation process. In the first part of the report (Chapters 1 and 2), the overall picture of our business is mainly introduced. We have tried to improve contents by introducing our initiatives in a concrete and easily understandable manner to provide a deeper understanding of our company, including what value we provide to which customers and what strengths we have. In the latter part of the report (Chapters 3 through 6), we explain medium- to long-term growth strategies toward sustainable growth and the progress and outcomes, and then introduce our management capital, which is the foundation of our value creation and corporate governance and risk management as a system that supports and maintains sustainable growth.

Period covered by the Report:

Fiscal year 2022, the period from April 1, 2022, to March 31, 2023 (includes some information on fiscal year 2023)

Scope of the Report:

Yokogawa Electric Corporation and its subsidiaries and affiliates

Cautionary statement regarding forward-looking statements

Statements made in this report regarding Yokogawa’s plans, estimates, strategies, and beliefs are forward-looking statements about the future performance of Yokogawa. These statements are based on management’s assumptions and beliefs in the light of currently available information. Yokogawa cautions that a number of important factors, such as general economic conditions and exchange rates, could cause actual results to differ materially from those discussed in the forward-looking statements.

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Message from the President and CEO

Co-innovating tomorrow™



While cultivating Yokogawa's strengths, we will strive tenaciously to implement organizational and business reforms, and advance steadily in our efforts to contribute to society and achieve growth.

T. Nara

President and CEO

Progress with Accelerate Growth 2023 (AG2023) medium-term business plan and the current situation

Q Two years have passed since the launch of the Accelerate Growth 2023 "AG2023" medium-term business plan. What is your assessment of the current situation?

Under AG2023 medium-term business plan, we established three subsegments under our Industrial Automation and Control Business that are structured on an industry basis, in line with our customers' businesses. Classified as the Energy & Sustainability, Materials, and Life businesses, these subsegments encompass the regional offices, which are our points of direct contact with customers, thus revitalizing our approach to industries that we previously were not addressing fully. This has led to a substantial increase in orders. In each region, we have seen an increase in proposals by our regional subsidiaries targeting industries, such as

functional chemicals, food, pharmaceuticals, and water, that previously had been covered mainly in Japan. Orders have grown significantly, not only for project-based business, but also for products (industrial instruments and sensors).

It took some time to get back on track after restructuring, but we have succeeded in building an organization that is better able to grow our businesses through global cooperation. We will continue to strengthen this global cooperation and work to put in place measures to optimize our business processes.

Q What specific measures are being taken to foster global cooperation and optimize business processes?

We are pursuing four transformation projects. ■ The first project involves structural reform, targeting our organizational structure and management system. The previously mentioned shift to an industry business subsegment structure is one such initiative of this project.

The second project is for the transformation of business processes. We are optimizing operations by standardizing individual business processes and enhancing connections between them. In parallel, we are also moving forward with plans to switch over to a new enterprise resource planning (ERP) system. The third project involves the deployment of a new customer relationship management (CRM) system. We previously used separate marketing, sales, and service systems at each of our regional offices, and these were optimized for each region. Now, our customer information is managed centrally using an integrated global system that is connected to each of our business processes. This has enabled us to provide consistent services, from inquiries and quotations all the way to post installation customer support. The fourth transformation project concerns human resources, our most important asset. It comprises the development of human resources data infrastructure and the unification of HR systems. By enabling the visualization of human resources data, we will be better able to ascertain the capabilities of our personnel around the world, secure the necessary talent, and optimize the assignment of people to positions across the entire group. To this end, we must also clarify the roles and responsibilities of each of our employees. Until now, the HR organization looked after all aspects of HR management and watched over human resources as a whole, but we will create a framework to reflect the perspectives of business execution organization into these processes.

Our initiatives to achieve these four transformation projects represent, if you like, a transition from the previous locally optimized state to one of overall optimization. To this end, starting with the planning of a "grand design," we are steadily taking the steps needed to establish a strong foundation for sustained growth.

For the details, see the review of the four basic strategies on page 52.



Q The operating income ratio in the previous fiscal year (FY 2022) was 9.7%, almost reaching the AG2023 target of 10%. Is this an indication that the AG2023 initiatives are bearing fruit?

Overall, our earning power is still too weak. Sales certainly increased, but excluding the impact of exchange rates, sales were actually at about the same level as last year. That being said, it's also true that these results were not only due to the tailwind provided by exchange rates. In a tough business environment with persistently high logistics costs, rising energy prices, parts procurement difficulties, and rising prices for same, the dedicated efforts of our employees at each site to build up sales and control costs have contributed greatly to boosting profit.

Our overall earning power is gradually getting stronger, but there is a growing awareness within the Group that we must become more profitable. By boosting efficiency and transforming mindsets through the four aforementioned transformation projects, we hope to achieve a level of profitability that compares favorably with that of our global competitors.

Q What do you think is the greatest challenge in boosting profitability?

The SG&A expense ratio is key. Our outside directors, too, are always very strict on this point. Reducing the SG&A ratio is not simply a matter of cost-cutting. It's vital that we steadily grow sales while ensuring efficiency. For this reason, we need to raise the level of productivity of each individual employee.

To achieve this, it's crucial to eliminate waste within the Group and review the intrinsic value of our work. This includes, for example, our business processes, working styles, the allocation of human resources, and our product portfolio. By using less capital to generate the maximum possible net sales and profit, we will improve capital efficiency. Again, it is necessary to change how we operate. For example, while it may be true that our customers are pleased with our efforts to respond to each request with a custom-made response, there have been cases where both the customer and Yokogawa have subsequently had to devote more time, money, and effort to maintenance and software modification, something that would not have been necessary if standard specifications had been used. It could be concluded that both we and our customers would benefit from using standard specifications, wherever possible. Of course, each project has unique circumstances. We must always make a conscious effort to optimize value for ourselves and our customers, while maintaining a balanced perspective. Even if we understand this at a theoretical level, on an individual and practical level, it tends to get buried under particulars. We must work steadily to overcome each challenge, one at a time. As a first step, I hope to make all employees firmly conscious of the value of the work that they perform. It is important to share the information that our employees need to make decisions on their own and take timely action. At present, however, I think that there are bottlenecks here and there that are hindering the flow of information around the Group. I regard this as one of our challenges. The term "capital efficiency" may sound somewhat overblown, but we are considering from a wide range of perspectives how to encourage our employees to act autonomously and combine their strengths in a way that would allow us to improve productivity.

Q What progress has been achieved with AG2023's "Expansion of value provided" strategy, and what do you perceive as the challenges?

We have pursued a broad range of initiatives and achieved results. One of these initiatives has been the establishment of Yokogawa Digital Corporation. This company provides services ranging from consulting to system implementation and maintenance, leveraging digital technology to present solutions to customers' business challenges and management issues. The consulting side of their business is still small in scale, but they are also able to offer products and other solutions and propose comprehensive service solutions covering a wide range of processes over the entire life cycle of a facility. We intend to leverage this strength to provide greater value to our customers.

Yokogawa holds workshops with a wide range of customers regarding their vision for where they wish to be in the next ten or twenty years and develops approaches for the concrete execution of strategies that will achieve customers' goals. Of course, our customers place great faith in Yokogawa's ability to propose solutions. However, I think what is needed even more than that is the ability to implement and make these proposals a reality. In terms of our capability to come up with proposals, our human resources, including younger professionals, are developing. At the same time, I am aware that there are challenges in terms of our capacity for implementing proposals in such areas as DX and IT. We will continue to strengthen and secure the human resources needed to cover the DX and IT fields.

Looking back on the initiatives we have undertaken over the past two years, I am conscious of the need to further accelerate our efforts to grow the Life business and transform our business models, and I recognize this as a challenge. Regarding the transformation of business models, we are targeting growth through new business models, mainly cloud-based recurring, subscription in the DX domain. We anticipate that these business models will be applied in fields, such as energy management, predictive equipment maintenance, and security. We have conducted numerous proof-of-concept (PoC) trials over the past two years, and are finally beginning to see some results. In fiscal year 2023, the final year under AG2023, we hope to achieve business results and lay the foundation that will lead to further growth in the future.

Q Tell us about the progress and results of the growth investments to expand value provision.

Under AG2023, we set aside ¥70 billion for investment in growth. Over the past two years, we have invested around ¥25 billion in M&A, alliances, and the like. Some may see this as a lack of progress, but we are constantly going through long and short lists of potential partners to identify M&A and alliance targets. Companies that have joined the Group over the past two years include PXiSE Energy Solutions, LLC and Dublix Technology ApS in the renewable energy field, Insilico Biotechnology AG in the biotech field, Fluence Analytics, Inc., which possesses proprietary chemical process technologies in the IA business, and Votiva Singapore Pte, Ltd. in the DX domain. We are still in the process of establishing the foundation and setting up the sales networks needed to expand these businesses, and it will take some time before we can reap the benefits. Looking ahead, we hope to accelerate the scaling up of our business, including the expansion of our customer base, through M&A and other means.

In this context, we are looking forward to seeing results from our SynCrest Inc. joint venture with Otsuka Chemical Co., Ltd. SynCrest is engaged in the CRDMO*¹ business in the medical field, focusing on middle-molecule pharmaceuticals. The combination of Otsuka Chemical's cutting-edge continuous production flow synthesis technology, middle-molecular drug manufacturing technology, and GMP*² management know-how with Yokogawa's measurement and control technologies is expected to significantly improve productivity and facilitate the provision of products and services.



*1 CRDMO: Contract Research, Development, and Manufacturing Organization

*2 GMP: Good Manufacturing Practice. Standards for manufacturing and quality control for the production of safe and effective pharmaceuticals and foods. Each country has its own rules and guidelines.

Initiatives and Challenges in the Pursuit of the Medium- to Long-Term Vision

Q Yokogawa is working to provide value based on the System of Systems concept, but it is difficult to grasp what this actually entails. How, in this sense, does Yokogawa aim to provide value to customers and society?

System of Systems is not just a huge collection of connected systems; rather, it is a system of independently operated and managed systems that work together to achieve a purpose that cannot be achieved by any one system. A smart city is a good example. All the elements that make up a smart city—from its energy systems and other infrastructure to the companies conducting economic activities, their employees, consumers, and households—influence each other. The overall optimization of a smart city not only improves efficiency, but also results in the creation of new lifestyles and new types of value. As society moves toward this model, Yokogawa will be able to demonstrate its strengths.

One concrete example of our initiatives is the cooperation between industries at an industrial complex located in the Goi and Soga districts of Ichihara City in Chiba Prefecture. In this initiative, Yokogawa is working with nine companies that do business in the energy, petrochemicals, chemicals, steel, materials, and other industries. This concerns the introduction of an inter-industry operative energy management system that will reduce CO₂ emissions, and we are considering its commercialization by the year 2030. We are also considering other measures that will be needed to accomplish the goal of making this complex carbon neutral by 2050. In the past, sustainability initiatives were mainly implemented at the individual plant or company level. By cooperating to achieve overall optimization across multiple companies and communities, we hope to generate substantial value for society as a whole. That is our vision for the future. It is Yokogawa's role to connect this all together, utilizing CO₂ emissions, utility usage, and other kinds of data from our customers to propose mechanisms that will achieve overall optimization.

This work is absolutely vital in order to achieve carbon neutrality for society as a whole. However, developing this into a business and figuring out how to put a price on the value that is provided is not easy. It might be possible to form an organization such as a cooperative and for each member company to pay a portion of the operating costs, or a leading company in a community or industry cluster could organize and manage this work, but these approaches become increasingly difficult to implement as the scale increases. We are trying to find the best way forward through a process of trial and error.

Q You explained that it is not easy to realize the System of Systems concept. So why is Yokogawa taking on this challenge in such a difficult domain?

Yokogawa's businesses target mission-critical operations that must not be interrupted under any circumstance, and the systems and products that we provide must therefore be extraordinarily safe and reliable. Our strength lies in the trust-based relationships that we have built up with our customers through the continual, long-term provision of products and services that meet their needs. By taking instead a path of least resistance and picking easy objectives that anyone could accomplish, we would end up in a highly competitive "red ocean market" in which there is little chance of getting ahead. In that sense, we regard the challenge of the System of Systems concept as our mission, precisely because of its difficulty.



Q You mentioned Yokogawa's trust-based relationships with customers as a strength in your provision of value through the System of Systems concept. Why do you think your customers choose Yokogawa?

Yokogawa has an excellent reputation among our customers for the trustworthiness of our products, our project delivery capabilities, and our service systems. Our customers also value our perseverance in bringing all jobs to completion. Our customers operate in mission-critical domains and therefore use extremely stringent criteria to evaluate suppliers. There was a time when Yokogawa, too, had difficulty gaining a response from the companies that it approached. This required numerous visits, as well as the evaluation and testing of our products from various perspectives, before a company finally recognized us and agreed to give us a trial. Even after adopting our products, our customers are always observing our attitude and response. We understand that the trust we enjoy today is based on our long track record of success in numerous projects over the years and our ability to deliver products, solutions, and services that elicit a very positive response from our customers.

Q Unlike the conventional Industrial Automation and Control Business, the System of Systems domain will require a wide variety of solutions and technological capabilities, including in the IT field. In this regard, how do you think Yokogawa is positioned?

We do not have sufficient IT capabilities or personnel with expertise in this area, and recognize this is as a challenge. However, we intend to integrate whatever is needed to create value for our customers, so it will not actually be necessary for Yokogawa to have all capabilities in-house. Of course, it would be preferable to be able to use our own products for all core applications, but it is not practically possible to develop everything internally. We handle robotics, for example, but do not develop our own robots. In other words, we have the ability to work with robots and integrate them in our solutions. In addition to our own AI products, we are flexible about using other companies' AI. We take a similar approach with IT and security. We form partnerships with IT companies that have strengths in a particular region and domain and collaborate with them to provide whatever solutions are required. With this approach, our customers can feel secure. Looking ahead, we hope that Yokogawa will be recognized for its ability to put together and manage projects, including in the IT domain.

Q How do you intend to build the strong workforce that will be needed to achieve your medium- to long-term vision?

Right at the start of this interview, I mentioned our four transformation projects. Forward progress with our initiatives cannot be achieved without the individual efforts of all our employees. Our people, therefore, are our most important resource, and without having a system in place that will enable them to grow and make full use of their abilities, the company will not be able to grow.

It is obvious that we need specialists in fields like IT. At the same time, personnel who are capable of keeping things moving ahead based on a broad, high-level understanding beginning with the customer perspective—generalists or concierge-type human resources—are also crucial to Yokogawa's businesses. These are personnel who, for example, are able to comprehend a customer issue, assign an appropriate specialist, observe the situation and determine the appropriate course of action, monitor every aspect of the business, and link everything together and get it moving.



They are people who are imaginative and can make proactive proposals to customers. We have not been able to effectively utilize such valuable personnel because we have lacked organizational flexibility. Moreover, an insufficient ability to visualize HR information meant that we could not provide adequate opportunities for them to gain experience or systematically develop their skills. Now, as one of our four transformation projects, we are making maintenance for an HR system that includes mechanisms for the visualization of human resource data and the optimal assignment of talent. In order to develop personnel who have the comprehensive and high-level perspective that I have just described, we need to provide opportunities for them to get many kinds of experience, rather than working at a single job in a single place. This is something we must engage in as an organization. We will discover a diverse range of talent across the Yokogawa Group, and through the growth of these individuals enable the entire Group to sustain its growth. We are already undertaking a wide range of initiatives. For example, we have significantly boosted human resources mobility through the introduction of an Open Job Posting System. I feel that we are making gradual progress toward greater organizational flexibility.

Contributing to Sustainability through Our Business

Q Sustainability is a key issue for companies. For Yokogawa, it also seems to be a business opportunity. What is the status of initiatives in this area?

We are starting to see some great results. For example, in the Dutch port of Rotterdam, Yokogawa is in charge of optimizing operations as a system and product integrator for Europe's largest green hydrogen project, being undertaken by Shell. In this project, our job is to integrate the systems and equipment related to plant control. This is one example of the overall optimization that is possible through the System of Systems concept that we have been discussing. We also are providing an integrated control system for the largest commercial green hydrogen project in Australia, and are undertaking an increasing number of renewable energy projects. Moreover, the company has conducted a field test of a Yokogawa AI-based autonomous control system that successfully controlled the operation of a distillation column at an ENEOS Materials Corporation chemical plant for an entire year. For operations that previously had necessitated manual control procedures, this solution was successful not only in maintaining quality and reducing workload, but also in reducing steam consumption and CO₂ emissions by 40%, making a significant contribution to this customer's sustainability management.

In another example, with water shortages becoming an increasingly serious issue globally, we have succeeded in optimizing operations at a water recycling facility in California. We are now receiving inquiries and requests for consultation from companies all over the world that have heard about this project. We also are providing systems to seawater desalination facilities in the Middle East, and each of these projects is making an important contribution to sustainability—not only providing a source of water, but also reducing the energy consumed by desalination plants and substantially cutting their CO₂ emissions.

In other areas of our business, a silicon resonant pressure sensor developed by Yokogawa has been adopted for use in tsunami detection by the Nankai Trough Seafloor Observation Network for Earthquakes and Tsunamis (N-net). This too may be characterized as a contribution to sustainability.

As the world population continues to grow, it is vital to maintain the supply of energy and resources. At the same time, it is also necessary to reduce CO₂ emissions. Achieving this represents a huge challenge, both for society and our customers. For

example, our customers in the energy industry are endeavoring to meet the continuing need for fossil fuels while at the same time transitioning to green energy sources. Yokogawa is contributing in a variety of ways, such as working with its customers to boost productivity and reduce their CO₂ emissions, as in the case just described, and we will have numerous similar opportunities in the future. We are proud to be recognized by our customers as a long-term partner.

Message to Stakeholders

Q We now understand what Yokogawa is doing to accomplish its vision for the future. In closing, do you have any messages for Yokogawa's shareholders and other stakeholders?

At Yokogawa, we strive to respond to the trust placed in us by all our stakeholders, including shareholders, customers, business partners, members of the local community, society, and employees. We endeavor to achieve sustainable growth and maximize corporate value over the medium to long term. We also think it is important to boost engagement. We consider it vital to encourage understanding of our initiatives through information disclosure, including through corporate briefings, dialogue sessions with shareholders and investors, and other forums. We receive a wide range of assessments and opinions from investors, as well as expressions of hope and anticipation, and we think it is crucial that we respond to these by, first and foremost, achieving solid results each fiscal year.

The words of one investor, some time ago, left a deep impression in my mind: "It is the passion of your employees that will make your vision for the company a reality. I'll be watching your approach as President: how you arouse and motivate this passion and how you captain the Yokogawa vessel." Human resources are key. We are now working hard to put mechanisms in place that will enable our people to play an active role, and through these mechanisms, we would like to create a climate that will allow each and every employee to realize his or her full potential.



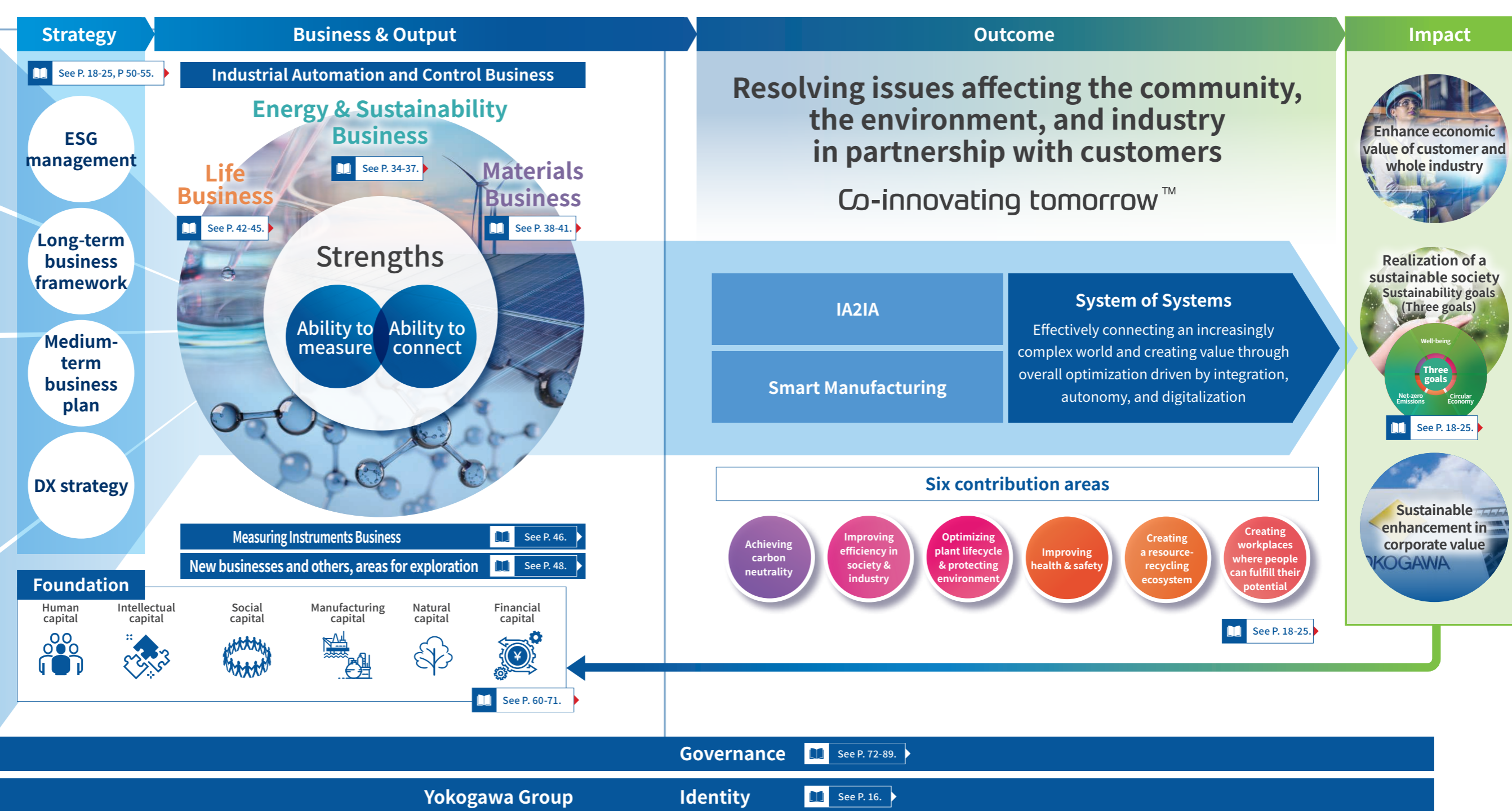
Value Creation Process

Through our business, Yokogawa resolves issues affecting the community, the environment, and industry in partnership with customers.

Yokogawa sustainably enhances corporate value by leading the way in a world where entire societies function as a System of Systems and by contributing to the realizing sustainable society.

Changes in environmental / social issues

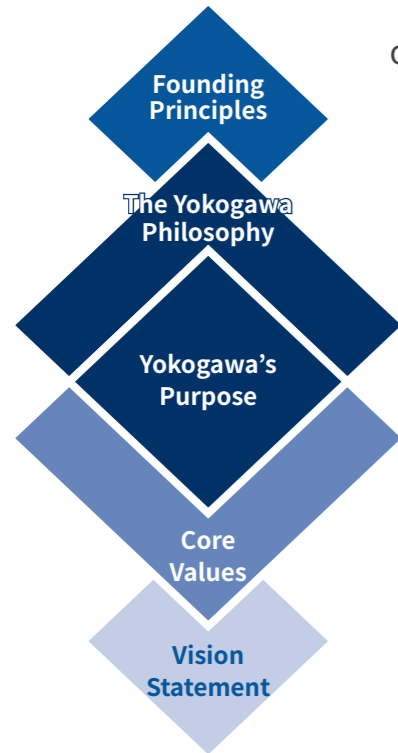
- Politics**
 - Emergence of GAFA
 - Changing capitalism
 - Tighter legal restraints
 - Nationalism
 - Increasing geopolitical risks
 - National transformation
- Economy**
 - Rise of emerging countries
 - Depletion of resources
 - Shortage of food & water
 - Changing energy mix
- Society**
 - Population growth
 - Growing economic disparity
 - Health issues
 - Population aging
 - Increased transparency
 - Urbanization
 - Environmental pollution
 - Climate change
 - Emergence of Generation Z
- Technology**
 - Biotechnology
 - AI
 - Progress of DLT*
 - 5G
 - Sustainable material
 - Quantum computing
 - IoT



*DLT: Distributed Ledger Technology

Yokogawa Group Identity

The Yokogawa Philosophy and the underlying founding principles indicate what role Yokogawa should play in society. The Vision statement indicates where Yokogawa wishes to be ten years from now, and our shared values provide guidance for action. Based on these elements, the company declares Yokogawa's Purpose as an expression of our commitment and makes clear the meaning of our existence as a company holds to society.



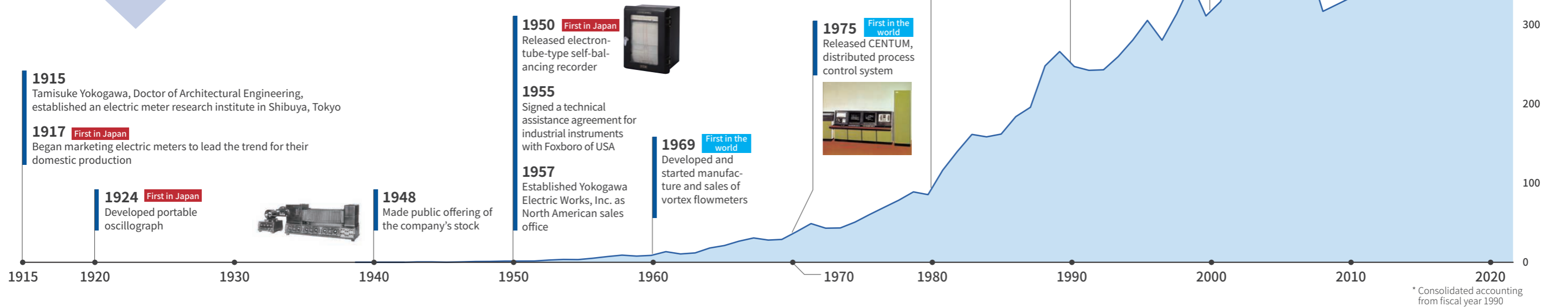
Quality first | Pioneering spirit | Contribution to society

As a company, our goal is to contribute to the realization of a sustainable society through broad-ranging activities in the areas of measurement, control, and information. Individually, we aim to combine good citizenship with the courage to innovate.

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

Respect | Value Creation | Collaboration | Integrity | Gratitude

Through autonomy and symbiosis, Yokogawa will create sustainable value and lead the way in solving global issues.

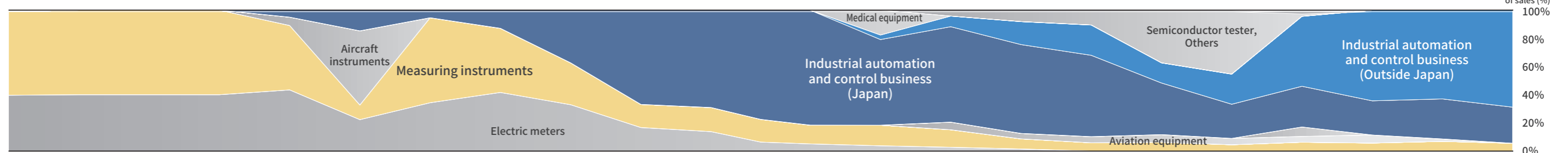


Our Ability to Measure and Connect: Tireless Efforts for Transformation

Since our founding in 1915, Yokogawa has continued to contribute to the development of society by providing cutting-edge products and solutions to industry, centered on measurement, control, and information technology. By grasping social issues and customer needs and transforming ourselves, we have created value for customers and changed the nature of our business.

We will continue to fulfill our responsibilities for a future where people and the planet Earth coexist in symbiotic harmony by utilizing our core competence in measure and connect that has been cultivated in our more than 100-year history to resolve current social issues.

Business Portfolio Transformation



ESG Management

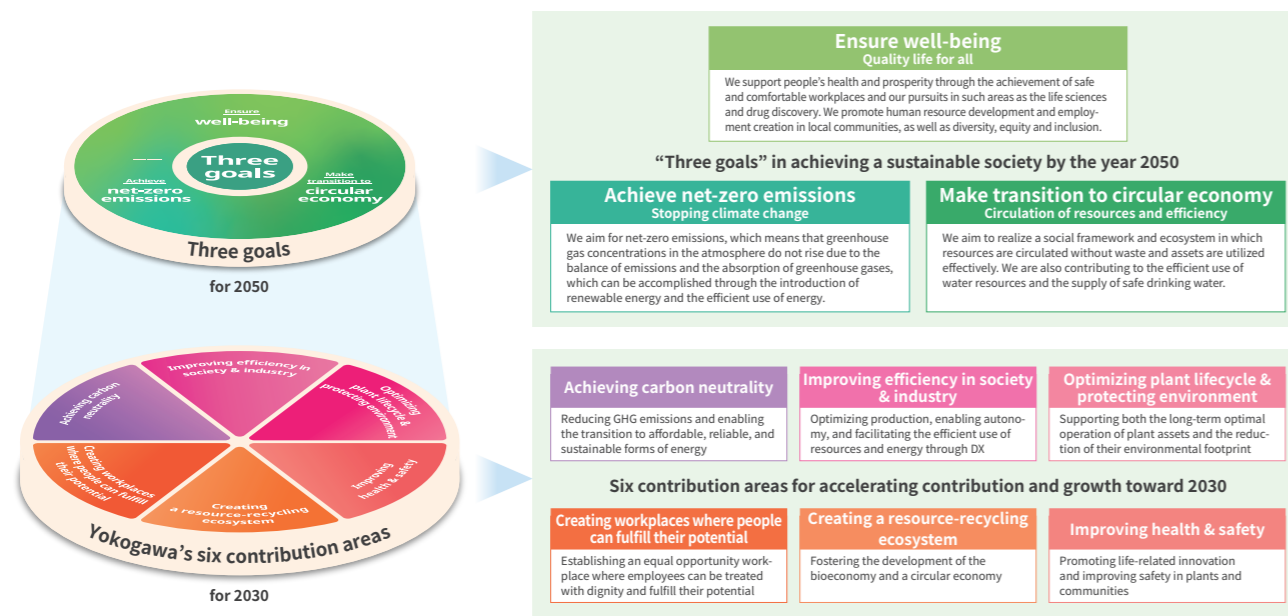
To continue providing value to society, Yokogawa holds that the management of its business operations must be based on environmental, social, and governance (ESG) perspectives, and this is emphasized in its long-term business framework.



Sustainability Initiatives

“Three goals” for sustainability and six contribution areas

In 2017, following the adoption of the Sustainable Development Goals (SDGs) and the Paris Agreement in 2015, we formulated the “Three goals” sustainability goals for the society we want to see by 2050. In addition, we conducted a materiality analysis for clarifying priority issues toward achieving the Three goals and business growth. Based on the results, we identified the six contribution areas.



Akira Fukuda
Head of Corporate Administration Headquarters

Taking a long-term perspective, we aim to expand the contributions that we make to society based on the aspirations expressed in the Yokogawa's Purpose statement, which reads, “Utilizing our ability to measure and connect, we fulfill our responsibilities for the future of our planet.”

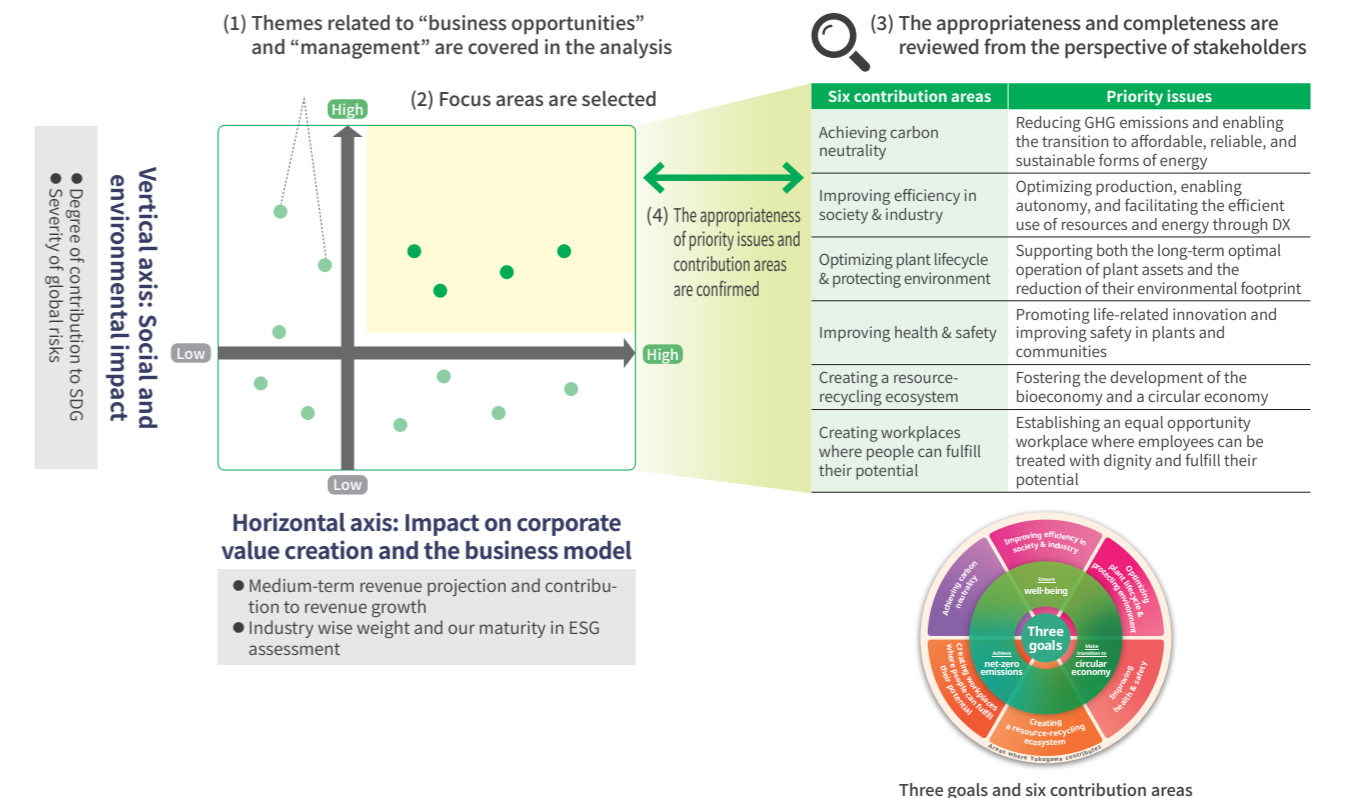
Looking beyond our aims under the AG2023 medium-term business plan of resolving customer issues and addressing societal concerns through the expansion of our business areas and business operations, we are focused on the achievement of our “Three goals” for sustainability by the year 2050. The steady efforts we are making in this direction are leading to the growth of our company and an ever greater contribution to society.

In fiscal year 2022, we established a Sustainability Committee as an advisory body to the Management Board to strengthen from the top down our efforts in this area. All executive officers, including the president, attend meetings of this committee to actively discuss important sustainability-related topics, such as GHG emissions reduction, human capital management, materiality analyses, and contribution and growth stories. The results of these discussions are reported to the board of directors. As a mechanism for incorporating the views of stakeholders in our ESG management, feedback on these discussions is provided by the outside directors.

Leveraging our strengths, we will continue striving to achieve the aims of the AG2023 plan and move forward with our ESG management efforts.

Setting of Contribution Areas Based on Materiality Analysis

Yokogawa is having a major positive impact on society and the environment by resolving the challenges of customers in the energy & sustainability, materials, and life areas. Expanding Yokogawa's contributions to society and the environment is closely connected to increasing Yokogawa's corporate value. We defined “materiality” as importance for both “social and environmental impact” and “impact on the company's value creation and business model.” In AG2023 formulated in 2021, based on surveys to persons connected to each business area, we selected issues that are highly important and to be resolved by the company (priority issues) and themes of contribution (contribution areas). Furthermore, in July 2022, we conducted a materiality analysis at the Sustainability Committee and confirmed that the priority issues and the contribution areas would not need to be changed from the time AG2023 was established.



Sustainability Committee

The Sustainability Committee was established in fiscal year 2022 to identify priority issues from the perspectives of both corporate value and social value, and to present the medium- and long-term direction of management and strategies for solving sustainability issues. The Sustainability Committee is an advisory body to the Management Board, chaired by the president and with executive officers as members, and is positioned as a body for intensive discussions on sustainability-related themes from a management perspective. The Sustainability Committee, which held two meetings in fiscal year 2022, conducted a materiality analysis, then discussed that priority issues that are of high importance and must be resolved by our company. The thematic subcommittees (Business Subcommittee, Product Subcommittee, Management Subcommittee, and Disclosure Subcommittee) have been established under the Sustainability Committee. The subcommittees held active discussions on a variety of topics, including the stories of growing our businesses and contributing to society, internal carbon pricing, human capital management, and nonfinancial disclosure. The results of the Sustainability Committee's discussions are reported to the Management Board and the Board of Directors.



Chika Furukawa
General Manager of Sustainability Promotion Department, Corporate Administration Headquarters

As the global situation grows increasingly complex, climate change is now being discussed in relation to human rights and biodiversity. In our efforts to address social issues, we need to make broad, long-term predictions on the direct and indirect impacts of our activities on humanity and the environment. At the same time, the use of digital technologies improves the likelihood that solutions can be found to certain complex issues that have proven difficult to resolve in the past. One typical example of this is a problem that extends beyond any one company and spans an entire supply chain. We believe that clues pointing to solutions can be found by measuring and looking for connections between different types of data to make predictions.

For example, what kinds of processes do raw materials go through before they reach a production line, and what happens to them next and how will they change? By making observations that take into consideration aspects, such as quality, cost, labor, and the environment, optimal solutions can be obtained that will move us closer to the realization of a sustainable society.

Sustainability Indicators and Targets

For each of the six contribution areas, we have established long-term indicators to measure the degree of contribution to society (social impact indicators) and medium-term indicators to measure the growth of businesses that contribute to society (business activity indicators) under AG2023. We aim to achieve the goals for the Social Impact Indicators by taking actions in line with the Business Activity Indicators. The Business Activity Indicators have been set for focus areas selected in the process of materiality analysis. The officer-level persons in charge of each business incorporate activities to achieve the goals into the members of the organization within the Group. Through the PDCA cycle for these indicators, we will accelerate contribution and growth.



Social Impact Indicators

The following table shows the indicators and targets for 2030, from a social impact point of view, for six contribution areas.

Contribution area	SDGs	Indicator	FY30 (FY40) target	FY22 actual	
Achieving carbon neutrality		CO ₂ emissions control amount through customers* ¹ (accum. from FY18)	1 billion t-CO ₂ (50% or more from renewable energy and new technologies)	380 million t-CO ₂ (270 million t-CO ₂ from renewable energy)	Mainly contributions to wind power generation increased.
		GHG emissions (Scope1,2) (base year FY19)	50% reduction by FY30 100% reduction by FY40	14.8% reduction	Procurement of renewable energy increased.
		GHG emissions (Scope3)* ² (base year FY19)	30% reduction by FY30	4.4% reduction	Emissions were controlled due to a reduction in the sales volume of hardware products.
Improving efficiency in society & industry		Economic value created by improving customer productivity efficiency	2 trillion yen	204.8 billion yen	We are expanding the production and energy efficiency businesses.
Optimizing plant lifecycle & protecting environment		Number of plants/factories where Yokogawa has contributed to sustainable operations	20,000 plants	6,280 plants	We are contributing to sustainable operations with life cycle support.
Improving health & safety		Total number of people whose health & safety have been enhanced through solutions provided by Yokogawa's customers	100 million people	49.78 million people	We are expanding the water environment solution business outside Japan.
Creating a resource-recycling ecosystem		Status of the new businesses launched that contribute to the resource recycling system	Establishment of two or more new resource recycling system business	We are developing resource recycling systems. Among such efforts is the biomass materials business of Yokogawa Bio Frontier Inc.	
Creating workplaces where people can fulfill their potential		Engagement to enhance employee well-being	At a level comparable to other leading companies	Engagement survey score 76%	We are working to improve employee engagement by taking measures based on survey results.
		Achievements in human resource development and capacity development for transformation	Advancing employee's future skill set (skills to play active role in new businesses and new areas)	We are developing human resources that can contribute to business growth. For example, we are developing DX human resources.	
		Achievement level of diversity and inclusion	Proportion of women in managerial positions 20%	13.3%	We are striving to increase the rate, considering local conditions.
		Enhanced diversity at senior decision-making levels	We are considering defining diversity needed for business growth and setting targets.		

*1: We aggregate the difference between customers' CO₂ emissions from renewable energy-related business or low-carbon energy production, and average CO₂ emissions from fossil fuels usage, then record it as a result.

*2: Products and services purchased (Category 1) and using of sold products (Category 11) are covered.

Business Activity Indicators

The following table shows the business activity indicators and targets for 2023. Their achievement will contribute to the achievement of the targets that have been set for the social impact indicators.

Contribution area	Focus area* ¹	Indicator	FY23 target	FY22 actual
Achieving carbon neutrality	Supporting power generation by renewable energy	CO ₂ emissions control amount through customers* ² (accum. from FY18)	500 million t-CO ₂	380 million t-CO ₂
	Supporting distribution, storage, and utilization of renewable energy	Sales growth rate of measurement instrument to renewable energy customers (base year FY20)	2.2 times	2.5 times
		Growth rate of number of units shipped of battery electrode thickness gauge (base year FY20)	1.7 times	3.2 times
	(within Yokogawa) GHG reduction at Yokogawa sites and in supply chain	GHG emissions (Scope1,2) (base year FY19)	10% reduction	14.8% reduction
	GHG emissions (Scope3* ³) (base year FY19)	10% reduction	4.4% reduction	
Improving efficiency in society & industry	Smart manufacturing business, consultation, ERP, MES, EMS	Order intake growth rate of production/energy efficiency business (base year FY20)	1.3 times	1.2 times
	Value chain optimization for pharmaceutical and food customers (MES, LIMS, EQMS)	Order intake growth rate of pharmaceutical and food value chain optimization business (base year FY20)	1.3 times	1.1 times
	(within Yokogawa) Operational optimization	Reduction of business operation hours by automation (base year FY18)	300,000 hours reduction	329,066 hours reduction
	Digitization rate of operation process	63%	63%	
Optimizing plant lifecycle & protecting environment	Supporting long-term optimal operation solutions of the plant	Number of life cycle support contracted plants	6,000 plants	6,280 plants
		Order growth rate of number of wireless asset health monitoring sensor units (base year FY20)	3.2 times	1.4 times
	Supporting reduction of environmental footprint of the plant (within Yokogawa) Reduction of Yokogawa's environmental footprint (water, biodiversity)	Number of equipment maintenance management system contract licenses	8,500 licenses	7,683 licenses
		Order intake growth rate of process analyzer (base year FY20)	1.3 times	1.2 times
	Water withdrawal amount at Yokogawa sites (base year FY19)	4% reduction	2% reduction	
Improving health & safety	Supporting safety and security of plant and workers	Number of safety instrumented systems provided	157 systems	157 systems
		Number of plant operator training systems provided	30 systems	21 systems
	Life science business	Sales growth rate of drug discovery development support products (base year FY20)	2.5 times	1.2 times
	Supporting lifeline, water, and sewage businesses	Number of solutions provided for water environment improvement (excluding Japan)	90 solutions	87 solutions
	(within Yokogawa) Occupational health and safety of workers at Yokogawa, respect for human rights	ISO45001 certification acquisition record	Acquisition at major companies (12 companies)	Acquisition at major companies (10 companies)
Creating a resource-recycling ecosystem	Contributing to functional chemical and biochemical industries, Supporting efficiency improvement of the recycling businesses	Order intake growth rate for specialty & fine chemical industry (base year FY20)	1.6 times	2.6 times
Creating workplaces where people can fulfill their potential	(within Yokogawa) Employee well-being & engagement	Engagement survey score	81%	76%
	(within Yokogawa) People capability development for change	Training hour per person	40 hours per year per person	41.3 hours
	(within Yokogawa) Promotion of diversity & inclusion	Female manager ratio	12.5%	13.3%
		Employment rate of disabled persons (Japan)	2.50%	2.52%

*1: Symbols indicating "business segments" and "foundation for business" corresponding to focus areas

■ Energy & Sustainability, ■ Materials, ■ Life, ◆ Measuring instruments, ★ New businesses and other, ○ Foundation for Business

*2: We aggregate the difference between customers' CO₂ emissions from renewable energy-related business or low-carbon energy production, and average CO₂ emissions from fossil fuels usage, then record it as a result.

*3: Products and services purchased (Category 1) and using of sold products (Category 11) are covered.

Dealing with a Changing Climate

Climate change has become an urgent issue that the world must come together to address. Yokogawa has set forth Net-zero emissions as the shape of society it aims to bring about by 2050, and “achieving carbon neutrality” is one of the six areas of contribution set out in AG2023. Recognizing the reduction of GHG emissions and the shift to cheap, reliable, and sustainable energy as key issues, we not only reduce GHG emissions from our own operations, but also contribute to the spread of renewable energy and the efficiency of energy use through our operations.



Support for TCFD

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

Governance

The Board of Directors establishes a basic policy for responding to climate change and a basic policy for developing risk and opportunity management systems, and monitors and supervises the effective operation of these systems and the appropriate response to sustainability issues. We also consider climate-related impacts when discussing business strategies and plans.

The management team, whose top decision-making body is the Management Board, considers the impact of climate change in terms of both risks and opportunities when developing business strategies and plans. In fiscal year 2022, we established the Sustainability Committee, which is chaired by the president and serves as an advisory body to the Management Board, to conduct materiality analysis covering various issues related to climate change and GHG emissions, as well as to discuss the risks and opportunities of climate change. Yokogawa has also established indicators and targets related to climate change, including carbon neutrality, and regularly reports the status of their progress to the Management Board and the Board of Directors.

Strategy

Yokogawa operates with manufacturing customers in industries such as energy and chemicals that have a significant impact on GHG emissions. Amid dramatic changes in the business environment, customers are shifting to low-carbon businesses including renewable energy and producing raw materials with a low environmental impact, such as biomaterials, and this is expanding our business opportunities.

Under the long-term business framework, we aim to achieve growth through the provision of shared social values, such as measures to address climate change, and under AG2023, we are working to expand our business by considering the transformation of our customers’ business strategies in light of the growth of the renewable energy-related market and the issue of climate change as a major business opportunity. We help our customers to reduce their GHG emissions by providing solutions that improve the overall efficiency and achieve stable plant operations and save energy.

We delved into and organized risks and opportunities related to climate change by business segment and risk type.

Major opportunities for climate change

Business segments	Key opportunities	Direction of response
Energy & Sustainability Business	Energy management that enables optimal operation of the entire energy supply chain, including renewable energy Leveraging knowledge and experience in various industries to help customers decarbonize	<ul style="list-style-type: none"> Expand the range of solutions provided Promote partnerships with customers and related organizations Accelerate business development using M&A and government support schemes
Materials Business	Providing GHG reduction and resource recycling solutions from the customer's site to the management level and throughout the supply chain	<ul style="list-style-type: none"> Focus on the mobility supply chain in addition to Process Automation area centered on chemicals Strengthen solutions such as carbon management Strengthen our ability to provide solutions on a global level
Life Business	Supporting productivity improvements across the value chain against the backdrop of energy reduction and efficiency needs in the pharmaceutical and food industries Providing solutions in the water sector against the backdrop of the increasing need for a stable water supply and quality improvement	<ul style="list-style-type: none"> Accelerate overseas business development and new product development Continue M&A and alliance activities Promote digital transformation through genetic analysis and measurement technology developed through scientific instruments
Measuring Instruments Business	Helping power suppliers switch from fossil fuels to renewable energy	<ul style="list-style-type: none"> Further enhance high-precision broadband power measurement technology Offer more solutions for the renewable energy market Contribute to rapid and efficient development of electric vehicle (EV)

Key risks of climate change

Type	Key risks	Direction of response
Transition Risk	Higher costs due to the introduction of carbon taxes and changes in legislation Loss of business opportunities due to delays in developing technologies suitable for a decarbonized society and in responding to changes in the market environment	<ul style="list-style-type: none"> Undertake planning and initiatives to achieve GHG reduction targets Execute ICP Expand the solution portfolio using domain knowledge and DX Enhance the level of environmental friendliness of products Promote M&A and alliances to acquire technology
Physical Risks	Business impacts of social disruption caused by climate disasters, as well as business damage and supply chain impacts	<ul style="list-style-type: none"> Collect information and working with external organizations to prevent, avoid, and reduce impacts Thoroughly manage suppliers and decentralization of suppliers Continuously update the Business Continuity Plan (BCP)

Risk Management System

In order to achieve effective risk management within the Group, the Risk Management Committee, chaired by the President and Representative Director with overall responsibility for risk management, has been established. In addition, when risks become apparent and a crisis occurs that could have a significant impact on the management of the Group, the Crisis Management Committee, chaired by the President and Chief Executive Officer, deals with the situation.

Risk is defined as uncertainty that affects the Group’s corporate value in areas such as the external environment, including climate change, strategy, quality, the environment, health and safety, crisis management and corporate ethics, and is classified and managed in terms of business opportunities and compliance and crisis events under the basic policy of integrally managing internal and external uncertainties relating to the business to maintain and increase the corporate value of the Yokogawa Group.

Macroeconomic trends and large-scale disasters such as floods caused by climate change are assessed as common risks by all organizations, and the results are factored into the selection of priority management risks along with the assessment of individual risks. Each organization assesses the risks associated with single-year and medium- to long-term climate change, and implements measures such as risk reduction.

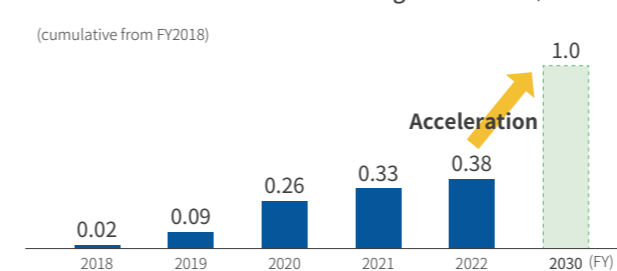


Indicators, Targets, and Performance

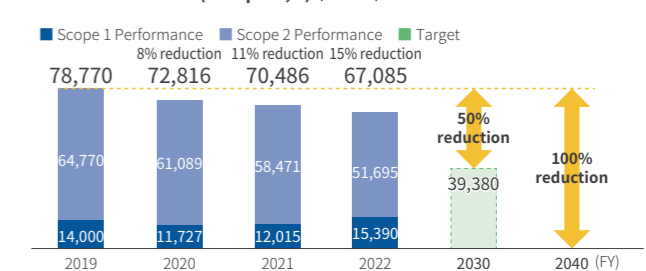
We set levels of CO₂ emissions control based on 1 billion t-CO₂ of customer emissions (fiscal year 2018 to fiscal year 2030) as an indicator in business. We compare CO₂ emissions from our customers’ renewable energy generation and low carbon energy production with averages from fossil fuel generation, and record the difference as results.

Based on the methodology of the GHG protocol, Scope 1, Scope 2, and Scope 3 targets are set as indicators for business sites, and emissions are calculated. In Scope 1 and 2, we aim to reduce emissions 50% from fiscal year 2019 levels by fiscal year 2030, and to make our business sites carbon neutral by 2040. For Scope 3 (categories 1 and 11), we aim to reduce emissions 30% by fiscal year 2030 compared to fiscal year 2019 levels. These targets are in line with the Parisian Agreement’s goal of limiting global warming to 1.5 degrees Celsius above preindustrial levels of GHG emissions. We acquired Science Based Targets (SBT) certification in fiscal year 2022.

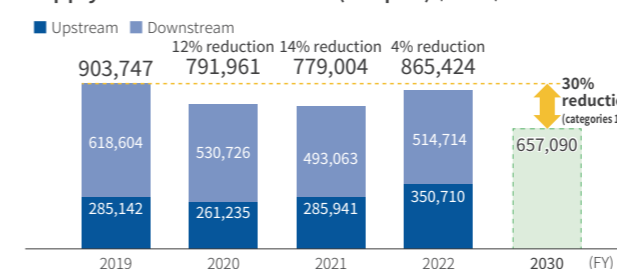
CO₂ emissions control amount through customers (billion t-CO₂)



GHG emissions (Scope1,2) (t-CO₂e)



Supply chain GHG emissions (Scope3) (t-CO₂e)



In fiscal year 2022, the CO₂ emissions from our customers’ businesses avoided since fiscal year 2018 amounted to 380 million metric tons, mainly due to sales growth of products for wind power generation. GHG emissions (Scope 1 and 2) were reduced by 15% compared to fiscal year 2019 due to increased procurement of renewable energy. GHG emissions in our supply chain (Scope 3) were reduced by 4% compared to fiscal year 2019. Emissions increased from the previous fiscal year due to business growth and other factors. We will promote energy-saving product design and engagement with suppliers to achieve the target.

Introduction of Internal Carbon Pricing (ICP)

In order to promote economically rational GHG reduction measures, we began introducing ICP in fiscal year 2022. For the overall Group, we set carbon prices (¥1,000/t-CO₂) targeting the procurement of renewable energy power, which will contribute significantly to the reduction of Scope 2.

ICP policies and carbon prices are discussed by the Sustainability Committee and determined by the Management Board. Going forward, we will gradually apply ICP to Scope 1 and Scope 3, as well as to business planning.

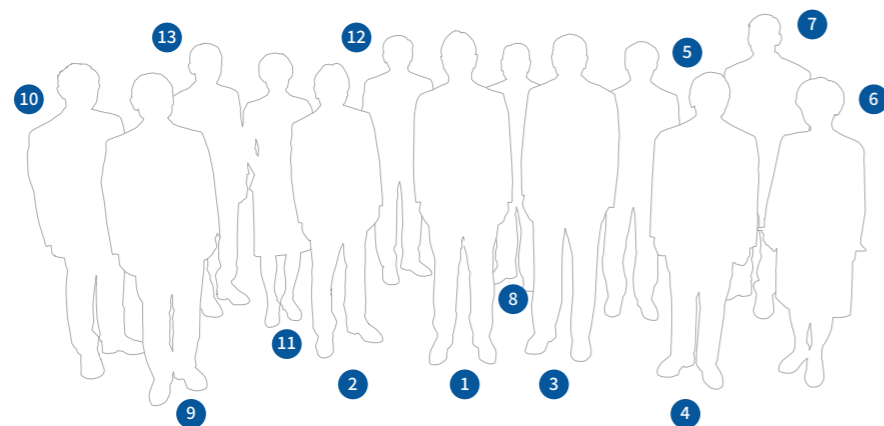
For further information, please see our Sustainability Report and our website.

<https://www.yokogawa.com/about/sustainability/report/>

Thoughts on ESG Management



While emphasizing ESG factors in the management of its business, Yokogawa is continually striving to contribute to society, protect the environment, and achieve growth.



1 Hitoshi Nara

President and CEO

By aligning Yokogawa's businesses with the contributions that the company is making on the societal and environmental fronts, we will pick up the pace of our long-term effort to present solutions that lead to the realization of a sustainable society.

3 Yu Dai

Director, Senior Vice President

We bring together talented people, innovative technologies, high-quality product, and excellent solution service, to tackle the sustainability challenges, capture growth opportunities with ESG being the key driver, and create better planet for our future generations.

5 Akira Uchida

Outside Director

With Yokogawa's sights set on achieving the "Three goals" and all of the company's businesses presenting solutions to environmental and social issues, I will strive to improve governance by pursuing initiatives that maintain a balance between economic and social value.

7 Takuya Hirano

Outside Director

As it becomes a company that is ever more innovative and quick to act, Yokogawa will seek to create lasting value in harmony with the planet, society, and humankind, and set a good example that all can follow. I will help to make this happen.

9 Hajime Watanabe

Audit & Supervisory Board Member

By presenting solutions that create value and address issues faced by customers and society, Yokogawa will be able to sustain growth and contribute to a brighter future for all.

11 Yasuko Takayama

Outside Member, Audit & Supervisory Board

Making contributions through its business that are beneficial to the environment and society is the foundation for Yokogawa's sustainable growth and the enhancement of its corporate value over the medium- to long-term. I will constantly monitor and verify these activities from the dual perspectives of contribution and growth.

13 Masaru Ono

Outside Member, Audit & Supervisory Board

Yokogawa's core measurement and control technologies play indispensable roles in ESG, and the company truly occupies a central position in this field. I am determined to do my best to ensure that forward progress is achieved with our ESG management.

2 Junichi Anabuki

Director, Senior Executive Vice President

As a company that takes seriously its responsibilities for society and the environment, governance is an all-important theme at Yokogawa, and the foundation for all we do. I will work to strengthen it.

4 Shiro Sugata

Outside Director

We are striving to lay the groundwork for the future by gathering the knowledge needed to halt climate change and enable the recycling of resources. Our aim is to make it possible for everyone to prosper, and to enjoy a life in which "today is better than yesterday, and tomorrow better than today."

6 Kuniko Urano

Outside Director

By clearly setting out our sustainability goals and contribution areas, we are encouraging all employees to assume ownership of Yokogawa's medium- to long-term business targets and internal reforms. Let us work together as "One Yokogawa" to achieve them.

8 Yujiro Goto

Outside Director

We aim to build firm relationships with all stakeholders that are based on trust, continue to work faithfully and resolutely toward ESG targets that Yokogawa is uniquely positioned to realize, and contribute in ways that exceed society's expectations.

10 Kenji Hasegawa

Audit & Supervisory Board Member

With ESG management, I think that one must continually take on a wide range of challenges, and this includes areas such as IT. It is important to have a corporate culture and environment that is conducive to this.

12 Makoto Ohsawa

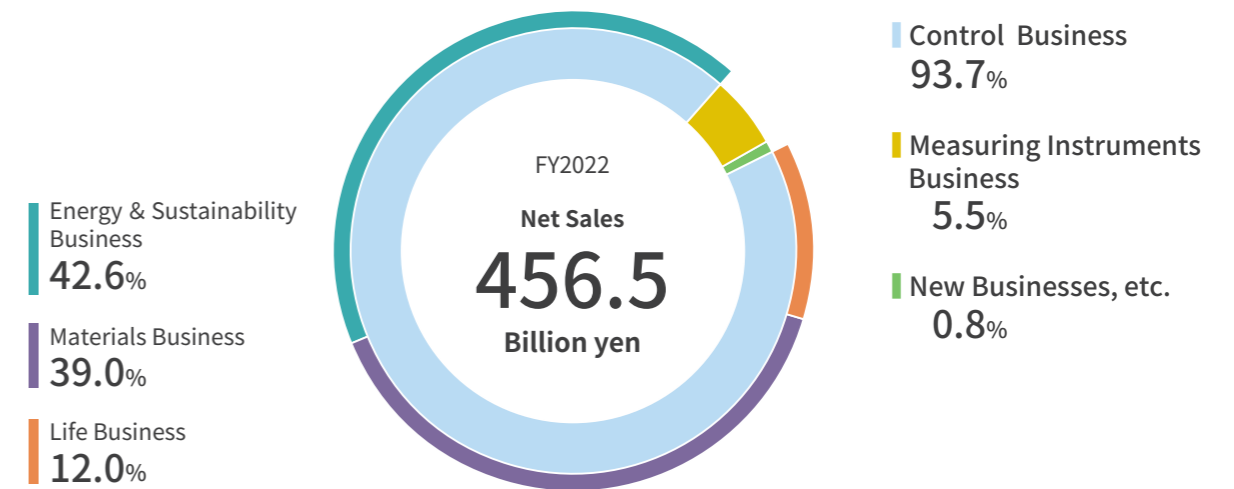
Outside Member, Audit & Supervisory Board

The key with ESG management is to always maintain the public's trust while giving due consideration to the need for balance between stakeholders and harmony with the environment.

Yokogawa's Business

Yokogawa's Business Portfolio

Drawing on its ability to measure and connect, Yokogawa collaborates with its customers. Making full use of the expertise in measurement, control, and information technologies that it has acquired over the years, Yokogawa addresses social issues through its business activities. To attain these goals, the company's core business of industrial automation and control business has been divided into three segments: energy & sustainability, materials, and life. Yokogawa's measuring instruments business and new businesses also significantly contribute to the advancement of industry and technology.



Control Business

Energy & Sustainability Business

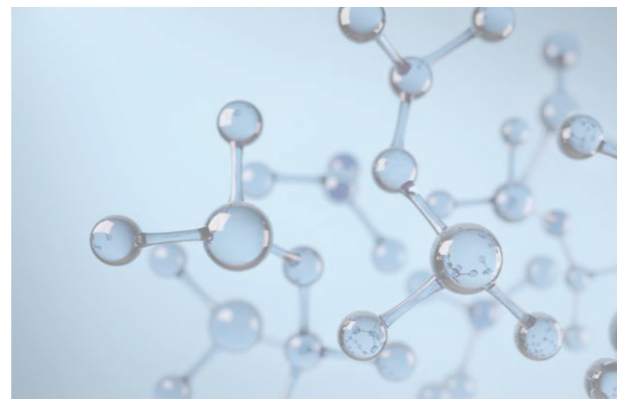


Given the expected surge in global energy demand, the renewable energy market is primed for growth. Yokogawa's energy and sustainability business promotes safe and efficient energy use by interacting with the entire value chain—from the production, supply, and use of energy to disposal and recycling. The business segment aims to protect the environment by achieving a sustainable, carbon-neutral society.

Main Markets

- Oil and gas
- Petrochemical
- Renewable energy
- Electricity
- Energy management system (EMS)
- Energy storage

Materials Business



Among the requirements in this segment are efficient energy use, recycling, and the use of raw materials that have a low environmental impact. Drawing on its expertise in ecological solutions and digital technologies, Yokogawa is striving for a world that maintains a balance between comfort and sustainability. Our materials business is critical to achieving a circular economy that can exist in harmony with the environment.

Main Markets

- High performance chemicals
- Biomass materials
- Paper and pulp
- Mining
- Textiles
- Steel
- Non ferrous metals
- Mobility
- Electrical and electronics

Life Business



The growing global population is putting a strain on the production and supply of food and water. Demand for pharmaceuticals is also rising steeply. Yokogawa's life business supports the supply of medicines and food and water so that people everywhere can live safely and enjoy good health.

Main Markets

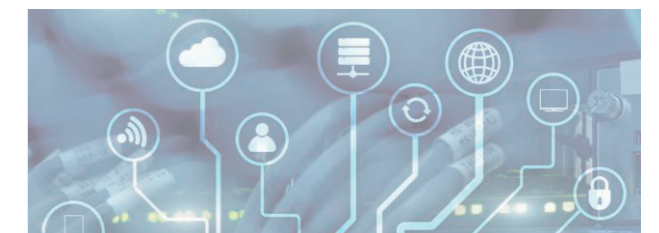
- Pharmaceuticals
- Healthcare
- Food
- Water

Measuring Instruments Business



Often considered to be the mother tools of modern industry, measuring instruments have been an integral part of Yokogawa's business since the company's inception. Taking advantage of our expertise in the precision measurement of power, voltage, light, pressure, and other physical quantities, we are pursuing decarbonization by helping our customers in such areas as vehicle digitization and electrification, renewable energy, environmental measurement, next-generation communications technology, and plant maintenance.

New Businesses, etc.



Setting its sights on easing the use of the industrial internet of things (IIoT), Yokogawa provides the necessary hardware, software, and cloud solutions. In the materials market, the company has launched a biomass materials business to provide environmentally friendly bio-based materials.

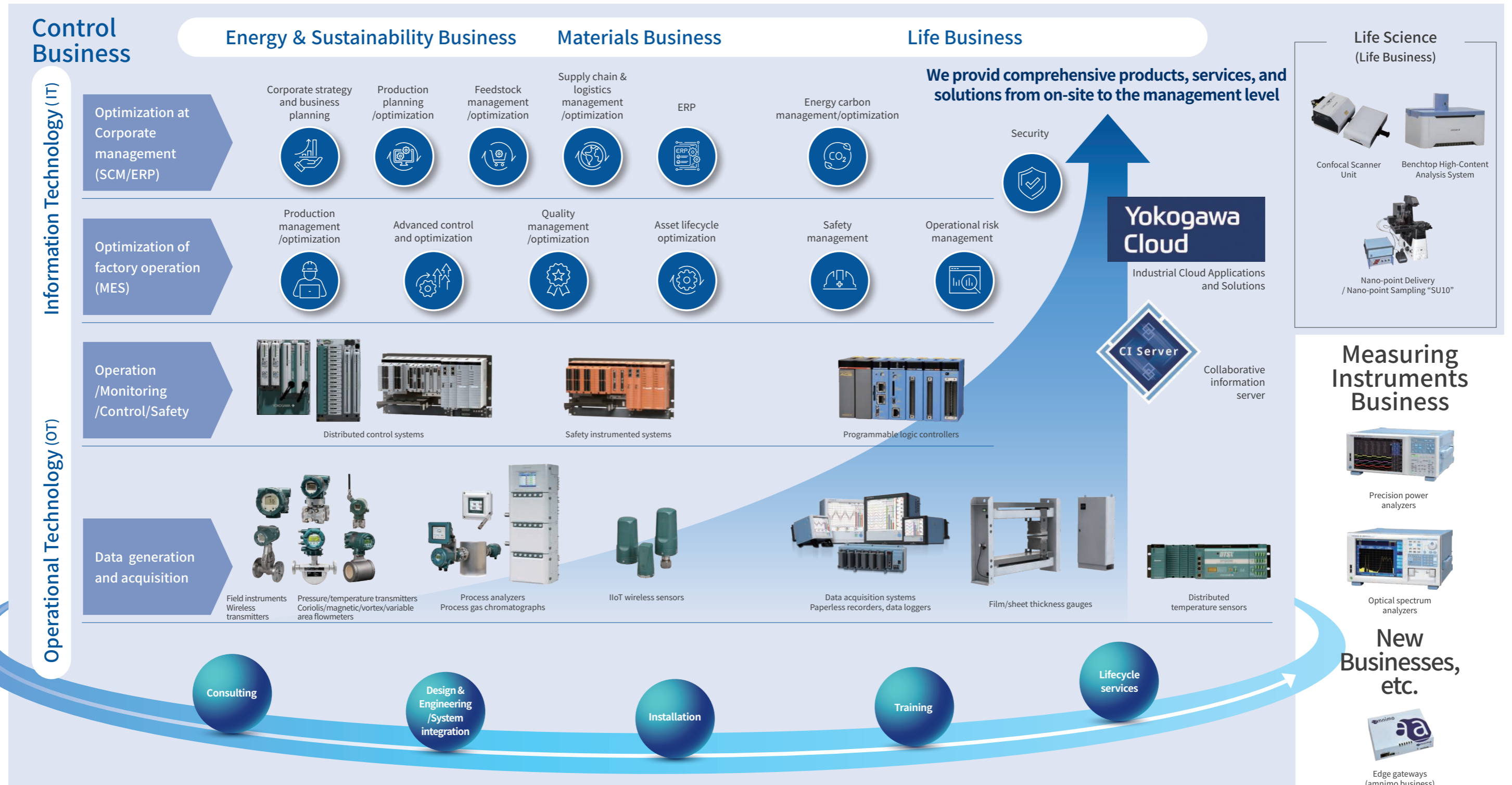
Areas for exploration

Disaster prevention, space, and ocean

Yokogawa's Products and Solution Portfolio

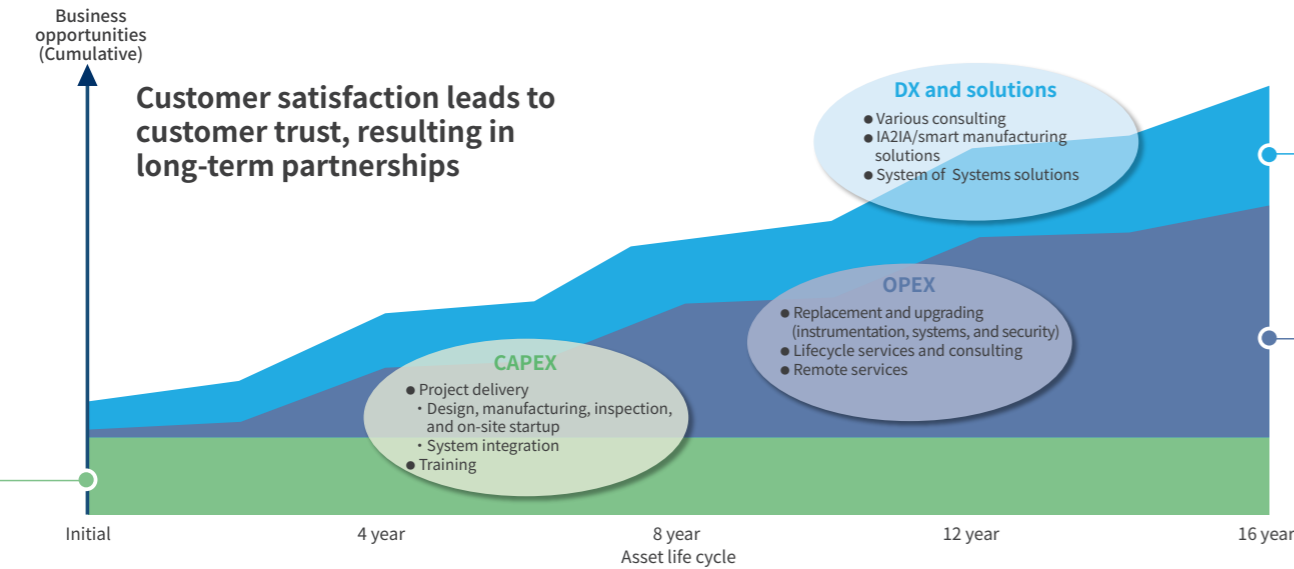
Yokogawa integrates high-quality, high-reliability products and solutions, ranging from the measurement and control technologies acquired over many years to the latest technologies, such as Digital Twin and AI, to solve customer issues and maximize customer business value.

OpreX™



Business Model of Industrial Automation and Control Business

Yokogawa continues to add value, including through products, solutions, and services as a business partner throughout the long lifecycle of customer's assets.



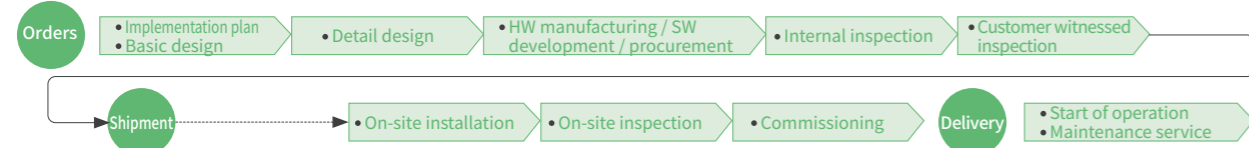
Strengths of CAPEX

High-quality, high-reliability measurement and control products

We meet every needs in production on-site from small scale to large scale through high quality, high reliability, and high efficiency product lineups including control systems, industrial instruments, and analyzers that support customers' operations over many years.

Excellent capabilities of project implementation and system integration

We have a wealth of experience and successful track records of many projects in the countries and regions where we conduct our business through prominent project implementation capability and sophisticated system integration capabilities that enable integration from OT to IT.



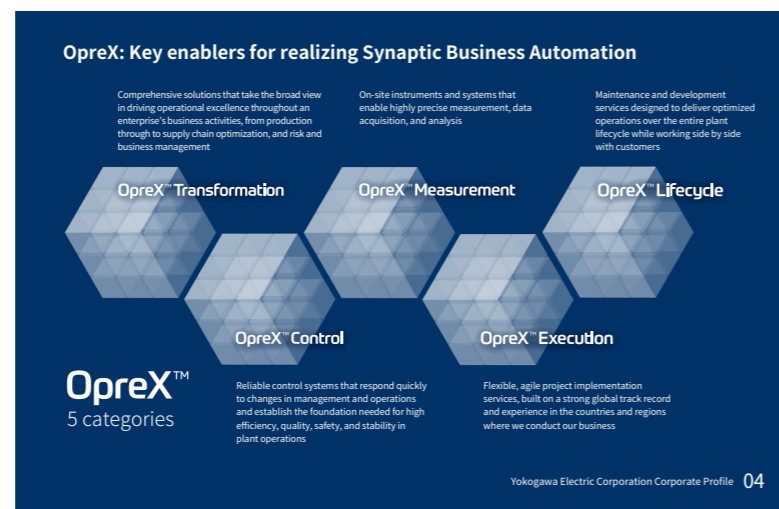
OpreX™ Measurement

OpreX™ Control

OpreX™ Execution

About OpreX

OpreX is the comprehensive brand of Yokogawa's industrial automation and control business portfolio.



Strength of DX and Solution

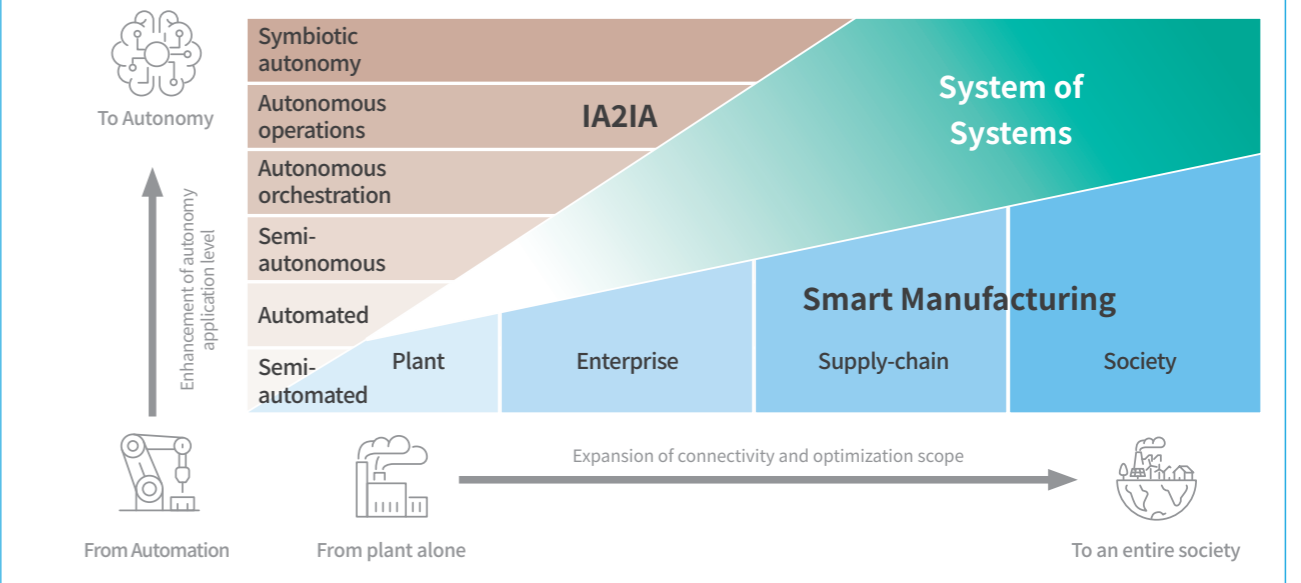
Operation optimization solution based on a wealth of experience and domain knowledge

We offer comprehensive solutions for customers to support the optimization of customers' operations and realize transformation conducive to the enhancement of corporate value, by integrating our consulting ability utilizing best-in-class know-how that contributes to management, a wealth of expertise that has led the industry, and automation ability that supports production activity.

OpreX™ Transformation

Expansion of value to be provided to customers through IA2IA and Smart Manufacturing approaches

IA2IA stands for a shift from industrial automation to industrial autonomy and smart manufacturing refers to optimization through applying DX to the manufacturing industry. By expanding their target scope, greater value can be created. Through these two approaches, we are working with customers to realize the optimization of the entire society with the system of systems.



Strengths of OPEX

Comprehensive service realizing long-term stable operations of assets

For ensuring the long stable operation of assets over the entire life cycle, we provide solutions for maintaining and enhancing the soundness of customers' assets and also contribute to making the service and maintenance work innovatively efficient.

OpreX™ Lifecycle

Global service network with 24H/7 days

We provide a reliable support system through a network consisting of response centers in nine locations overseas centered on the Global Response Center and service engineers in each other country.

The security operations centers provide the service of remotely monitoring the security conditions of customers' plants and the structure is established to promptly provide services for various issues related to customer assets.



Service networks

Countries and regions served: 200+

Service sites: 180+

Service engineers: 2,500+

Responding to Changes in Business Environment

Yokogawa responds to the changing business environment and customer needs. We would like to introduce two of our various initiatives.

Initiatives for Open Process Automation (OPA)

Changing Customer Needs

In process industries such as steels, oil refinery, and pharmaceuticals for which stable plant operations are required, highly reliable and rigid distributed control systems have contributed to enhancing customers' value. Though control systems have evolved differently in line with the development of digital technologies, they are built basically as unique, closed systems for each company.

However, recently, customers' business environments are significantly changing through ESG management and digital transformation (DX). Our customers need a faster innovation cycle for higher competitiveness and transformation by achieving the reduction of total cost of ownership and improvement of profitability over a life cycle of their plants, while contributing to decarbonization through improving operations and energy efficiency. Customer needs for control systems are also changing due to this impact. One of such changes is the open innovation in the control systems.

Utilizing open technology in systems allows customers to freely select and combine fit-for-purpose products from multiple suppliers and expect merits such as cost reductions, more diverse functions, procurement improvement, and innovation acceleration through adoption of the latest IT technologies. We, as a supplier of control systems, need to operate our business responding to such customers' needs and accelerate transformation.

Problems of customers to conventional control systems

1. Obsolescence of systems and high renewal cost
2. Difficulties and high cost of integration with other companies' products and information technology
3. Limited user access to market products and new technologies
4. Lack of expandability and agility to changes
5. Patchy and not intrinsic security

Resolutions by open innovation of control systems open

Set-up and Efforts of Industrial Association

Under the initiative of customers, efforts for standardization of control systems are under way to resolve problems of conventional control systems. NAMUR, a chemical industry body in Europe, announced NAMUR Open Architecture in 2016. Also in the same year, led by ExxonMobil, Open Process Automation Forum (OPAF) was established with the purpose of introducing open technologies to the control system industry. In OPAF, end users in various industries, suppliers of various systems, instruments, and software, system integrators, and representatives from IT companies as well as academic organizations have gathered and are selecting the industry technology standards toward practical implementation of open, secure, and interoperable next-generation control systems. OPAF has a standardized data interface in the OT field. This improves interoperability among each instrument, unit, and system, making integration of products from different suppliers and new technologies easier. As this is only standardization of interfaces, internal technologies and knowhow of suppliers are not made open.

Our Efforts and Future Outlook

To continue to provide value to customers amid changing customers' business environments and needs, Yokogawa must accelerate transformation by developing the business leveraging open technology. In this context, we joined OPAF to contribute to formulating global standards. We were selected by ExxonMobil as a system integrator responsible for establishing its OPA test bed in 2019 and as a system integrator for the field trials for introducing the OPA system to actual plants in 2022. In addition, as OPA systems are expected to be introduced to customers' plants on a full scale, we are responding to this trend by the entire group and setting up the Open Readiness Center (ORC) in 2022. ORC is working to expand the OPEX business by examining YOKOGAWA's optimal role in the ecosystem, building a business model that can maximize profits, and supporting operations and management in an open system over the entire lifecycle.

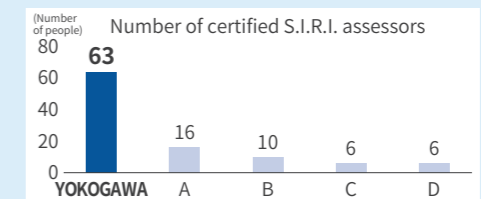
It is expected that the progress of openness will lead to more commoditization of products. However, we will advance the use of open technologies with customers by utilizing our high project implementation capability cultivated through past experiences and high value-added solutions, and realize a new type of operation brought about by open innovation.

Initiatives to realize Smart Manufacturing with S.I.R.I. human resources as a core

"We have a Smart Manufacturing vision but do not know where to start" and "We are not able to make a detailed roadmap towards its realization" – Yokogawa hears such customers' voices. For these challenges, Yokogawa assists customers to realize their Smart Manufacturing by making use of its state-of-the-art insights and domain knowledge on IT-OT. S.I.R.I. human resources play the leadership role.

What is S.I.R.I.?

S.I.R.I.* is a framework by which enterprises can efficiently assess their digital maturity level and take a systematic transformation approach. Yokogawa embraces 63 certified S.I.R.I. assessors, which is the largest capacity in the world as an enterprise. (63 assessors out of 231 globally (as of June 2, 2023)). Yokogawa also helped compile the Japanese version of the S.I.R.I. white paper.

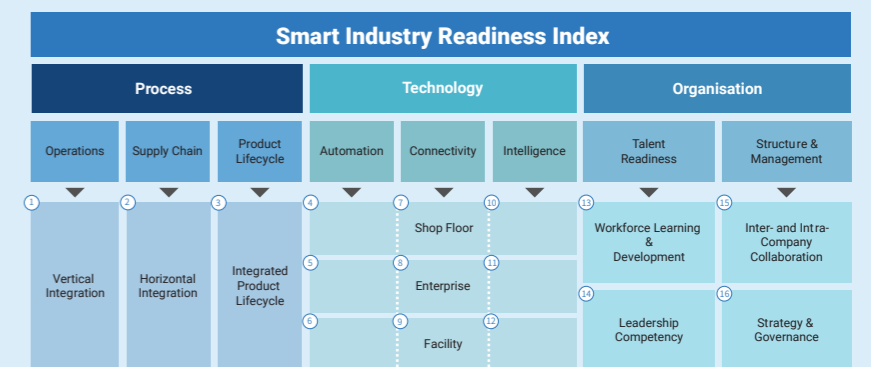


Data source: International Centre for Industrial Transformation (INCIT)



S.I.R.I. white paper (Japanese version)

*S.I.R.I.: Smart Industry Readiness Index. The Singapore Economic Development Board (EDB) established the index through cooperation with major technology companies, consulting companies, and a network of industrial and academic experts. It assesses the digital maturity level of enterprises in terms of process, technology, and organization that are basic components of Industry 4.0. In 2022, S.I.R.I. activity shifted from the EDB to the International Centre for Industrial Transformation (INCIT). S.I.R.I. assessment is based on the definite framework consisting of the three major basic components of process, technology, and organization, and 16 dimensions divided from them (see figure on the right). The definite framework enables us to bring beneficial results in a relatively short amount of time and to benchmark industry specific maturity levels.



Data source: International Centre for Industrial Transformation (INCIT)

Yokogawa's certified S.I.R.I. assessors, along with Yokogawa's team of IT-OT domain experts, engage extensively with stakeholders in customers' organization through workshops, interviews, and site surveys to assess digital maturity across their enterprise, prioritize digitalization efforts, and analyze functional area gaps. This allows customers to create a roadmap to focus their plans on the next steps.

Furthermore, as customers progress along the path of their Smart Manufacturing roadmap, Yokogawa is building an IT-OT data platform by digitizing information and integrating data, providing digital solutions that can be expected to produce results in the short term, and ultimately, contribute to the implementation of digital solutions required to achieve business goals and sustainable digital transformation.

Global S.I.R.I. Network

Yokogawa has established the Global S.I.R.I. Network consisting of certified S.I.R.I. assessors and consultant business owners of regional offices, and holds meetings every month. In this network, we share best practices in Yokogawa's Smart Manufacturing and consulting-sales approach at all offices toward solving various customer challenges.

Case Study

The S.I.R.I. / Smart Manufacturing assessment consulting service provided by Yokogawa has received a lot of response and adoption from our customers. We have already provided assessment consulting services to customers in various industries such as energy, chemicals, oil and natural gas, food and beverage, pharmaceuticals, and electronics worldwide on more than 30 occasions.

Taiwan Everlight Chemical kindly provided the following words. "We appreciate Yokogawa's excellent work and are confident that the analysis and proposal report submitted will be very beneficial in our Smart Manufacturing transformation journey."



Taiwan Everlight Chemical

Business Activities



Industrial Automation and Control Business

Energy & Sustainability Business



Our business contributes to realizing a resilient and sustainable society by supporting safe and optimal operations throughout the entire value chain of production, delivery, use, disposal, and recycling for energy diversification.

Koji Nakaoka
Head of Energy & Sustainability Business
Headquarters



We provide optimal and timely solutions by understanding the needs and trends of changing customers and industries, and by utilizing our own products as well as collaboration with third-party and M&A.

Fiscal Year 2022 Review

Orders received in fiscal year 2022 grew substantially by 25.3% year on year. We believe that this growth was primarily due to the stronger relationships of trust we built with our customers through the tenacious value proposition activities even throughout the COVID-19 pandemic period. This resulted in immediate orders awarded by our customers as soon as economic activity resumed. It is also attributable to our proactive efforts to propose solutions that contribute to enhancing DX and reducing environmental impact, by capturing customers' revitalized investment sentiment and business diversification needs thanks to the stabilizing high prices of crude oil and natural gas.

Highlights in each industry included great number of DX solutions through "co-creation" with customers in both the Upstream and Downstream sectors. For example, we have offered the real-time data acquisition of operating status and the revenue maximization in the petroleum refining process through KBC's simulation technology, as well as accident prevention and labor savings through the prior detection of abnormalities at individual

oil wells scattered across a vast area and the automation of recovery operations procedure. These solutions also make a significant contribution to reducing environmental impact.

In the Power/Renewable Energy sectors, we have collaborated with other companies to make a proposal and secure orders for a variety of new solutions such as boiler condition monitoring and turbine control technologies. We also received a great number of inquiries concerning our new acquisitions, PXiSE and Dublix. We are progressively responding to these with priority and at same time are expanding our sales network by conducting training in our overseas offices.

In addition, for hydrogen, starting from the iconic award of "Holland Hydrogen I" in the Netherlands, we are co-creating for the condition monitoring methods, storage and transportation, etc., and are participating in a various Proof of Concept activities in order to be recognized as a leading vendor in the emerging hydrogen business.

Fiscal Year 2023 Outlook

Orders in the Energy & Sustainability subsegment are expected to decline by 5.3% year on year in fiscal year 2023.

This is mainly due to a peaking-out in demand for large capital investment projects in fiscal year 2022. Moreover, customers have allocated substantial human resources to projects implementation over the past two years, and concerns about deteriorating profit margins for new projects due to the progress of global inflation, as well as doubts about the ability to execute projects due to labor shortages, have led them to adopt a somewhat cautious attitude towards further large investments.

A large number of projects are expected in India and China, where the market is expected to grow strongly, but price competition is intensifying. Therefore, we will strategically advance our activities to achieve growth in medium-to long-term while striving to securing a reasonable level of profit.

Despite these concerns ahead, the Energy & Sustainability Business Headquarters aims to achieve the targets of AG2023 by deepening four major strategies.

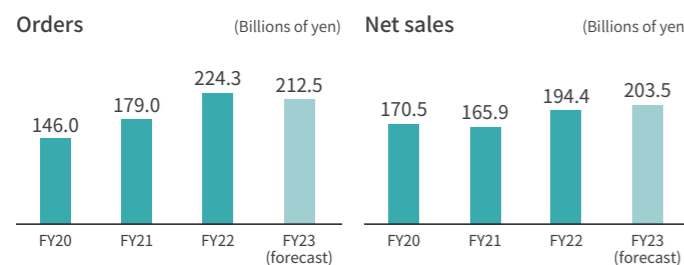
- (1) "Co-creation" with customers — Through cross-industry collaboration on carbon neutrality and more diverse proposals using our IA2IA concept, we will lead the way with schemes for reducing environmental impact not only from plant operations, but throughout the energy supply chain.

- (2) Expand the recurring revenue business model — We will capture maintenance costs across the asset lifecycle by collecting customers' plant maintenance data, then providing integrated remote monitoring and data analysis, and advising and delivering appropriate maintenance and solutions.

- (3) Enhance Business portfolio through collaboration, M&A, and alliances — We will focus on the renewable energy industry, where we will address diverse applications, and on the oil and gas industry, one of our strengths, to broaden our business portfolio and drive further differentiation.

- (4) Regional/Account strategy — The needs of our customers are becoming increasingly diverse in each region and industry, and we are engaged in a growing number of joint venture projects with our powerful local customers, including international oil companies. We will strive to establish partnerships allowing us open opinions exchange, not only through the local management but also with Yokogawa's top management, especially in regions such as the Middle East, India, and South America, where the will of the customers' top management is strongly reflected in the activities of government-owned or semi-government companies.

Trend in Orders and Net Sales



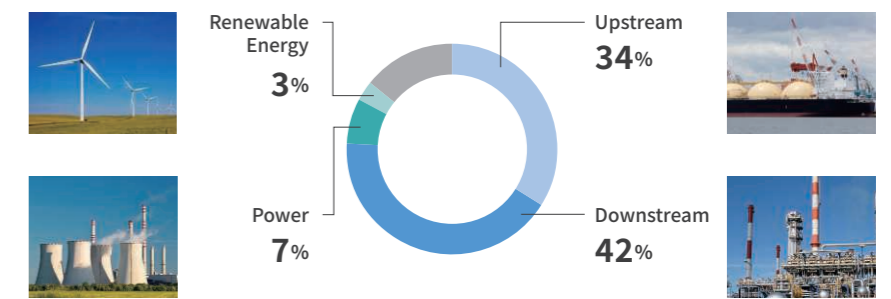
AG2023 CAGR					
(Reference) Order growth*2			Sales growth*2		
CAGR (FY20-22)	CAGR (FY20-23)	AG2023 target	CAGR (FY20-22)	CAGR (FY20-23)	AG2023 target
23.9% (14.3%)	13.3% (7.8%)	9% or more	6.8% (-1.6%)	6.1% (0.9%)	4% or more

*1 If the FY2023 forecast achieved
*2 The figures in parentheses represent organic growth (excluding the impact of exchange rates)

Business Area

Our business domain encompasses the entire energy supply chain, from the drilling for oil and gas to delivery of "city gas" and optimal control of electricity and renewable energy generation and transmission/distribution networks.

Business Composition (Orders Received in Fiscal Year 2022)



Upstream / Downstream

Power / Renewable Energy

	Upstream / Downstream	Power / Renewable Energy
Strengths	<ul style="list-style-type: none"> A global, unbiased and abundant installed base and a relationship of trust with customers that continues after delivery. OPEX business model including services based on the above relationship. Simultaneous possession of the ability to consult on operational improvements and the solutions to implement. Total system integration capabilities including third-party products (products re-sold by other companies) 	<ul style="list-style-type: none"> Extensive experiences in geothermal, Waste-to-Energy, and Biomass applications and further expansion of know-how and solutions through M&A. Acquisition of transmission system technology know-how through M&A. A full lineup of environmental load reduction solutions such as emission control and optimal combustion, and real-time temperature control Our references in Japan for optimal energy management.
Customer Trends	<ul style="list-style-type: none"> Investment revitalization on oil & gas businesses due to the impact of the Russia-Ukraine situation (especially on gas) Diversification of businesses and selective investment into core businesses in parallel, responding to energy transition. Proof of Concept activities to commercialize cross-industry consortia for CCUS, hydrogen, and ammonia, etc. Increased investment in DX, including operational efficiencies, unmanned and remote operation, etc. Concerns about worsening breakeven point caused by inflation (of both construction material and wages). Project postponement or suspension due to such concern. 	<ul style="list-style-type: none"> Diversification of renewable energy. Key investment applications vary by region and customer. Return of investments in gas-fired and nuclear power plants to compensate for power shortages Strengthening the self-sufficiency capability with domestic resources due to the emergence of energy security risks, and Continuation of investments in coal-fired power generation, etc., corresponding to that
Competitive Environment	<ul style="list-style-type: none"> Severe price competition involving local vendors (China and India) Active M&A by IA leading vendors for vertical integration. Active promotional activities centered on carbon neutrality 	<ul style="list-style-type: none"> The entry of new players outside of the traditional IA domain, such as consulting firms, IT vendors and local integrators, etc. Aggressive introduction of new solutions and case studies through the active use of social media or webinars, etc.

Key Measures

Upstream / Downstream	Power / Renewable Energy
<ul style="list-style-type: none"> Helping customers increase profits by improving equipment operating efficiency and by maximizing uptime through fully DX utilization. Horizontal development of "ready-to-use" solutions through Proof of Concept with customers. Proactive use of collaborations and alliances. Expand the OPEX business based on abundant installed base Enhance own solution development capabilities in overseas offices and share the successful cases globally. 	<ul style="list-style-type: none"> Strengthen vertically integrated portfolio including acquiring of facilities management solutions to expand MGC**/DERMS** business. Pursue other M&A, collaborations and equity investment. Expand business scope by combined proposal of existing solutions using active inquiries to acquired companies Accelerate research on hydrogen business potential by in-house cross-section task force.

*1 PoC: Proof of Concept
*2 MGC: Micro Grid Control
*3 DERMS: Distributed Energy Resource Management System

Energy & Sustainability Business

Maximization of the efficiency of power generation through IoT systems

(Olkaria Geothermal Complex)

Project Name	Olkaria Geothermal Complex (Republic of Kenya)
Customers	The Kenya Electricity Generating Company PLC (KenGen)



Olkaria II Power Station

Overview

Electricity consumption in the Republic of Kenya tripled*1 between 2000 and 2021 due to the rising population and economic development, and securing a stable supply of electricity has become an issue for the country. Kenya has some of the richest geothermal resources in the world. Geothermal power generation is gaining attention as a stable source of electricity with extremely low CO₂ emissions.

The Olkaria Geothermal Complex*2 is the largest geothermal power generation capacity in Africa. It consists of five geothermal power stations (Olkaria I, I Additional Unit, II, IV, and V) operated by KenGen. Olkaria IV is the furthest away from the central control office, at a distance of 20km by road. Previously, the operations of each scattered power stations had been separately managed, and

the power complex lacked an effective operations management system capable of overseeing all power stations.

Yokogawa proposed the establishment, installation, and training of an IoT-based, integrated, remote management system using telecommunications and other networks to collect data from the four scattered geothermal power stations above (Olkaria I Additional Unit, II, IV, and V). This system enables the integrated management of the performance of each generating unit's and the maintenance status of the associated equipment. If there is a decline in the efficiency of power generation, it automatically analyzes the causes, and implement appropriate maintenance accordingly.

Achievements

Maximization of the efficiency of power generation:

In the past, when the efficiency of power generation declined, the plant would be coped by increasing the production volume of steam: the "fuel" that runs the generators. However, steam is also a limited natural resource. The depletion of the "fuel" due to an increase in production volume leads to the risk of shortening the operating life of the power plant. This project enabled the plant to use the fuel more efficiently over a longer period.

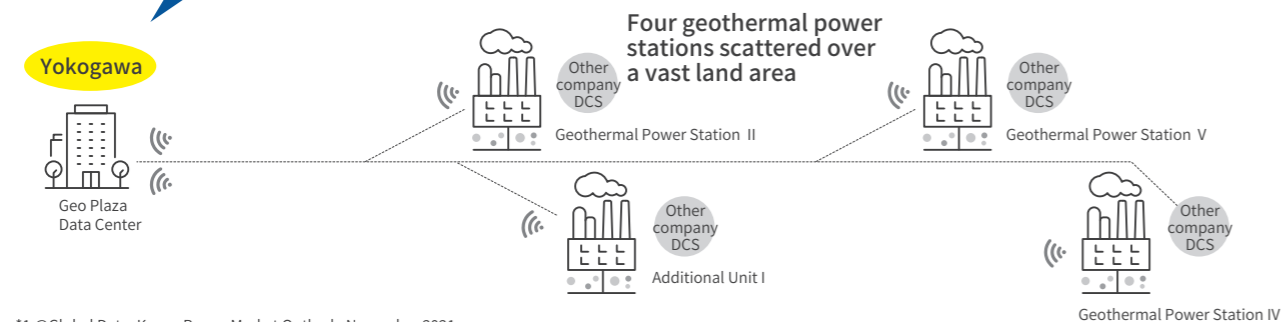
Realize integrated remote management and ensure human safety

The Olkaria Geothermal Complex is located in a vast, verdant national park, large enough to accommodate approximately 1,450 units of Tokyo Domes. It is therefore necessary to patrol the

Complex's undeveloped roads by off-road vehicle. The maintenance work itself was dangerous, and there were concerns over air pollution in the park from vehicle exhaust fumes. This project has drastically reduced the need for staff to travel to the power plants and steam escaping wells scattered throughout the park to check the conditions of equipment there.

The project was implemented on an extremely tight schedule in the midst of the COVID-19 pandemic, but experts from the Yokogawa Headquarters rushed to the site, which requires on-site verification test, and successfully able to complete delivery on schedule. Our customers applauded Yokogawa's project execution capabilities.

Remote integrated management + Maximizing power generation efficiency = Realizing stable power supply



*1 @Global Data, Kenya Power Market Outlook, November 2021

*2 The Olkaria Geothermal Complex consist of geothermal power stations I, I Additional Unit, II, III, IV, and V, and currently has a power generation capacity of approximately 930 MW. The oldest power station, Olkaria I, started operation in 1981.

As a leading integrator in the world of the System of Systems, we will provide solutions that create value for society and the entire supply chain

(Holland Hydrogen I Project)

Project Name	Holland Hydrogen I (the Netherlands)
Customers	Shell



Holland Hydrogen I (Part of the facilities *Image)

Overview

Hydrogen is highlighted as a promising energy source in the energy transition towards a decarbonized society. The Netherlands is already the hub of Europe's natural gas pipelines, and the prices of gas transactions in Europe are determined through trading at this hub. For a next generation energy source, efforts are being made to maintain this status as a part of the Netherlands' national strategy.

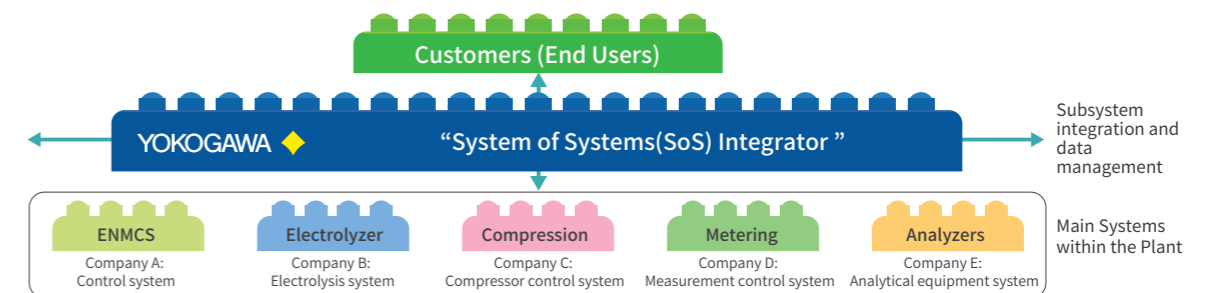
As the name suggests, this project is one of the Netherlands' national strategies to become the leader of the hydrogen supply

in Europe. Hence, the country's top politicians attended the inauguration ceremony. The project is positioned as a crucial one by both Shell and the Netherlands government. Yokogawa has been selected as the MAC (main automation contractor) for this project. We will organically integrate plant control and equipment for optimized plant operation.

Our Vision for the System of Systems (SoS)

Yokogawa aims to lead the world in which society as a whole becomes a System of Systems (SoS), where systems are organically connected to each other. The same is true in the hydrogen supply chain, where supply vendors differ for various functions such as production, pipeline transportation, storage, and supply, and a high level of integration capability is required to integrate and

operate these subsystems. In this project, Yokogawa was selected as the MAC (Main Automation Contractor) based on its long-standing relationship of trust with the client and its proven track record. Yokogawa will contribute to this project by creating value through SoS optimization.



For the Future

Through our participation in this project, we expect to gain operational expertise for large-scale commercial plant in highly promising hydrogen business. With many electrolysis-based hydrogen production projects in the sales pipeline, Yokogawa will acceler-

ate our activities and expose more our industry presence through our achievements. In fiscal year 2022, Yokogawa was also selected for Australia's largest commercial green hydrogen project (the Yuri project).

The Energy & Sustainability Business Headquarters will continuously contribute to a resilient and sustainable society.



Industrial Automation and Control Business

Materials Business



The Materials Business contributes to the realization of a convenient and comfortable material society and a recycling-oriented society that can coexist with the global environment by speedily implementing four key measures to address issues such as improving customer productivity, reducing environmental impact, and using energy efficiently.

Takeshi Taniguchi
Head of Materials Business Headquarters



In addition to growth in the Process Automation (PA) area, which is our forte, centered on chemicals, we aim to further expand our business in new areas centered on the mobility supply chain (semiconductors, mining, etc.), which is expected to grow against a backdrop of decarbonization and other factors.

Fiscal Year 2022 Review

Looking back on the second year of the Materials Business Division, which was newly established in April 2021, it was a year of solid results in establishing a business base and accelerating growth in the industrial axis.

In fiscal 2022, orders received were especially strong at 202.0 billion yen (+28.3%), including the effect of exchange rates, mainly in Japan, which accounts for about half of the orders.

Although some orders were frontloaded due to the impact of global inflation, we recognize that we are making steady progress toward achieving the AG2023 target.

In the mainstay chemical industry, the need for environmentally friendly materials (business opportunities) is increasing as the movement toward carbon neutrality and a circular economy accelerates. Against the background of CO₂ reduction in the mobility supply chain, our company's strength in technology, especially in the field of Specialty Chemicals, and experience in various manufacturing processes, including the needs for new raw materials for rechargeable batteries for electric vehicles (EVs) and power semiconductors, is contributing to an increase in orders.

Also, in the mining industry, which is our focus industry, continuous demand growth for copper and lithium, including global expansion through comprehensive initiatives with major overseas customers, has led to an increase in orders.

Mindset Transformation (MX) activities, including the industry-plant process training that has been promoted mainly in Singapore to strengthen solution-oriented proposal capabilities, have contributed to the growth of problem-solving orders globally, as well as to the improvement of organizational capabilities in the industrial segment. In addition, as part of our efforts in new areas, we have also improved the content of our Battery Website and released a promotional movie for Carbon Management Solutions. We received overwhelming responses and have been approached by customers in various industries where GHG emissions are a management issue, as well as new partners with whom we have not previously had a relationship, to work with us to decarbonize their businesses.

Fiscal Year 2023 Outlook

Material Business Division Orders for FY2023 are expected to decrease 9.4% YoY, mainly in the first half of the fiscal year, due to an expected slowdown in investment by customers, mainly in the materials industry. Despite a temporary decline in a single fiscal year, the Materials Business Division recognizes that it is making steady progress toward its AG2023 targets of 6% CAGR for orders and 3% for sales, excluding the impact of foreign exchange rates. We will not change our policy significantly but will further accelerate our priority measures to achieve the AG2023 target.

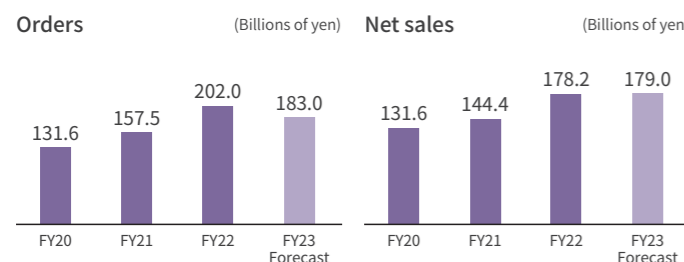
In addition, with an eye on the future, we will focus our activities from the three perspectives of "Focus Industries," "Sales Strategy," and "Solutions."

First, in "Focus Industries," in addition to the chemical, mining, and mobility supply chains, we will focus on the agrochemical

and fertilizer areas, which are essential for daily life and for which demand is relatively stable.

Second, in "Sales Strategy," we will devote resources to developing new sales channels while optimizing global allocation and strengthening conventional channels beyond the framework of regional strategies. Next, from a "Solutions" perspective, priority will be given to strengthening "Carbon Management," "batch solutions" in the Specialty Chemical fields, and "Battery Solutions." In both cases, in addition to growth in existing fields, we will place "Mobility Supply Chain" at the center of our strategy to achieve our business goals, support the creation of earth-friendly materials of the future, and contribute to the realization of a recycling-oriented society.

Trend in Orders and Net Sales



AG2023 CAGR		Sales growth*2			
(Reference) Order growth*2		Sales growth*2			
CAGR (FY20-22)	CAGR (FY20-FY23)	CAGR (FY20-22)	CAGR (FY20-FY23)		
Actual	Forecast*1	Actual	Forecast*1	AG2023 Target	
23.9%	11.6%	16.4%	10.8%	3% or more	
(16.9%)	(8.1%)	(9.6%)	(7.4%)		

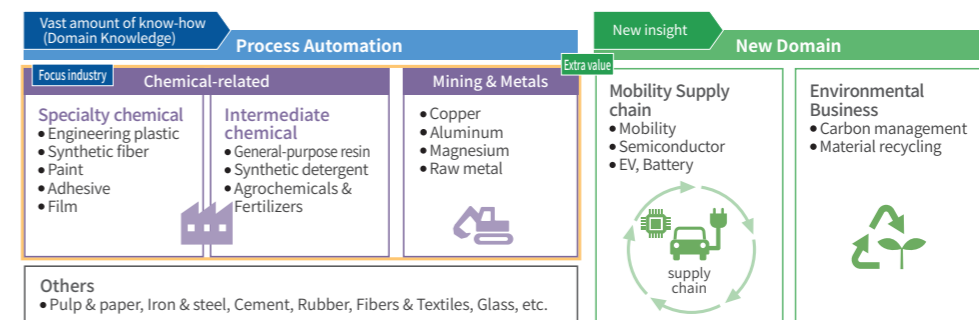
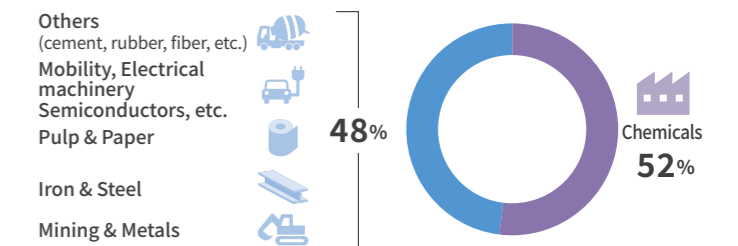
*1 If the FY2023 forecast is achieved
*2 The figures in parentheses represent organic growth (excluding the impact of exchange rates)

Business Area

In a wide range of materials industries, we are developing our business in two main areas.

The first is the "PA domain" which includes mining, metals, etc., with a focus on chemistry, which has always been our forte. The second is the "New domain" which includes mobility supply chain, which is a new growth area, and carbon management, etc.

Business Composition (Orders Received in Fiscal year FY2022)



	Chemicals	Mining & Metals
Strengths	<ul style="list-style-type: none"> High share of DCS in the basic chemical field and large installed base Extensive experience and know-how accumulated through long-term partnerships with customers of world-leading Japanese companies 	<ul style="list-style-type: none"> It has a strong affinity with the PA area, which Yokogawa specializes in. Safety and reliability match our customers' needs. Experience and know-how accumulated through long-term partnerships with customers mainly in Australia, South America and Africa
Customer Trends	<ul style="list-style-type: none"> High-mix low-volume production Increasing global demand for semiconductors and efforts for stable supply New raw material for EVs, raw material development needs with low environmental impact Promoting efficient use of energy, such as reducing CO₂ emissions toward carbon neutrality 	<ul style="list-style-type: none"> Increasing need for optimal and autonomous operations throughout the mine Issues such as environmental (decarbonization) safety, advanced control, advanced maintenance, and remote operation
Competitive Environment	<ul style="list-style-type: none"> The continuous process is centered on DCS vendors, and the batch process has many players including PLC vendors as well as DCS vendors. Industry knowledge is a differentiating factor 	<ul style="list-style-type: none"> Mainstream of major vendors traditionally strong in the heavy electric field

Growth Strategy

Utilizing our customer base, we will develop our business by focusing on industries, sales strategies (expansion of sales channels/utilization of digital sales), and development of new solutions. We will take three approaches.



Chemicals

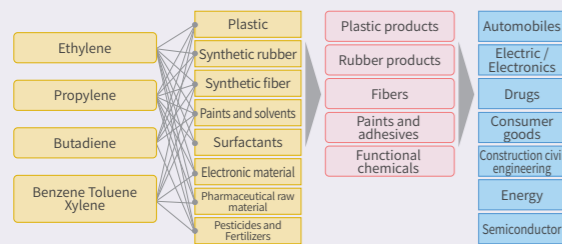
The chemical industry has a broad base, encompassing various sectors, from producing basic chemicals such as ethylene to providing raw materials widely useful to society, such as materials for electric vehicles and semiconductors. Due to the complexity of the system, the number of control points, and the importance of integration, the chemical plant process can take advantage of Yokogawa's strengths such as reliable and high-quality products, high project execution ability, solution proposal capability, and timely and detailed service. In particular, we hold a dominant share of the chemical industry in Japan.

In the manufacturing process of the chemical industry, the upstream of the supply chain is predominantly a continuous process,

while the downstream is batch processes. In the future, as raw materials diversify and materials become more functional, Yokogawa will strengthen batch (process-oriented) solutions in addition to continuous processes, which is its forte, and will accelerate its efforts to establish a firm foothold in the chemical industry.

Globally, the chemical industry is expected to grow at a high rate over the medium to long term, although there will be temporary increases and decreases due to continued market expansion in semiconductors, EVs, and other mobility-related markets. By leveraging the extensive experience and know-how accumulated in Japan and expanding overseas, Yokogawa aims to achieve steady growth.

Supply Chain of Chemical Industry



Source: Ministry of Economy, Trade and Industry, "Current Situation and Issues in the Chemical Industry"

Classification of Manufacturing Processes



Source: Ministry of Economy, Trade and Industry, "Role and Expectations of Innovation in the Materials Industry," January 2018

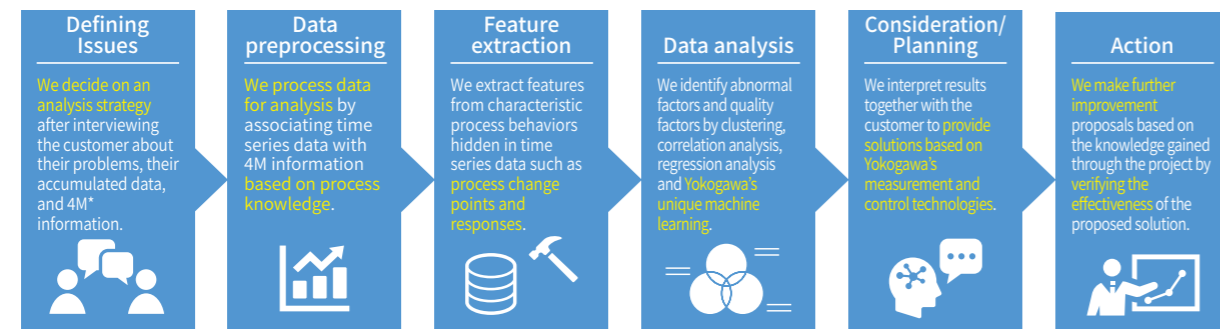
Case Study: Improving and Stabilizing Product Quality Using Big Data

Customer Industry: Fine Chemicals
Solution: Process Data Analytics

Customer Background: Due to the aging production facilities and the retirement of veteran operators, quality stabilization, efficiency improvement, and transmission and sharing of operating know-how have become major issues at many plants. In recent years, more stringent quality targets have been required for products, and further improvements in operations have been required.

Achievement: Yokogawa provides a big data analysis IoT solution to solve these challenges. In the analysis project, we analyze various data, including process data, in cooperation with people in the manufacturing field, and unravel the factors. By engaging people in the field with a variety of knowledge and experience in thinking together, discussing throughout the analysis, and implementing improvement actions, we provide not only tangible value, such as stabilizing quality, but also intangible value, such as formalizing tacit knowledge, improving communication across departments and roles, and improving problem-solving skills.

As a result, we have identified several factors that affect product quality. We have improved and stabilized product quality by improving the accuracy of sensors in required areas, adding new quality control points, and modifying control sequences.



*4M: Man, Machine, Material, Method

Mining

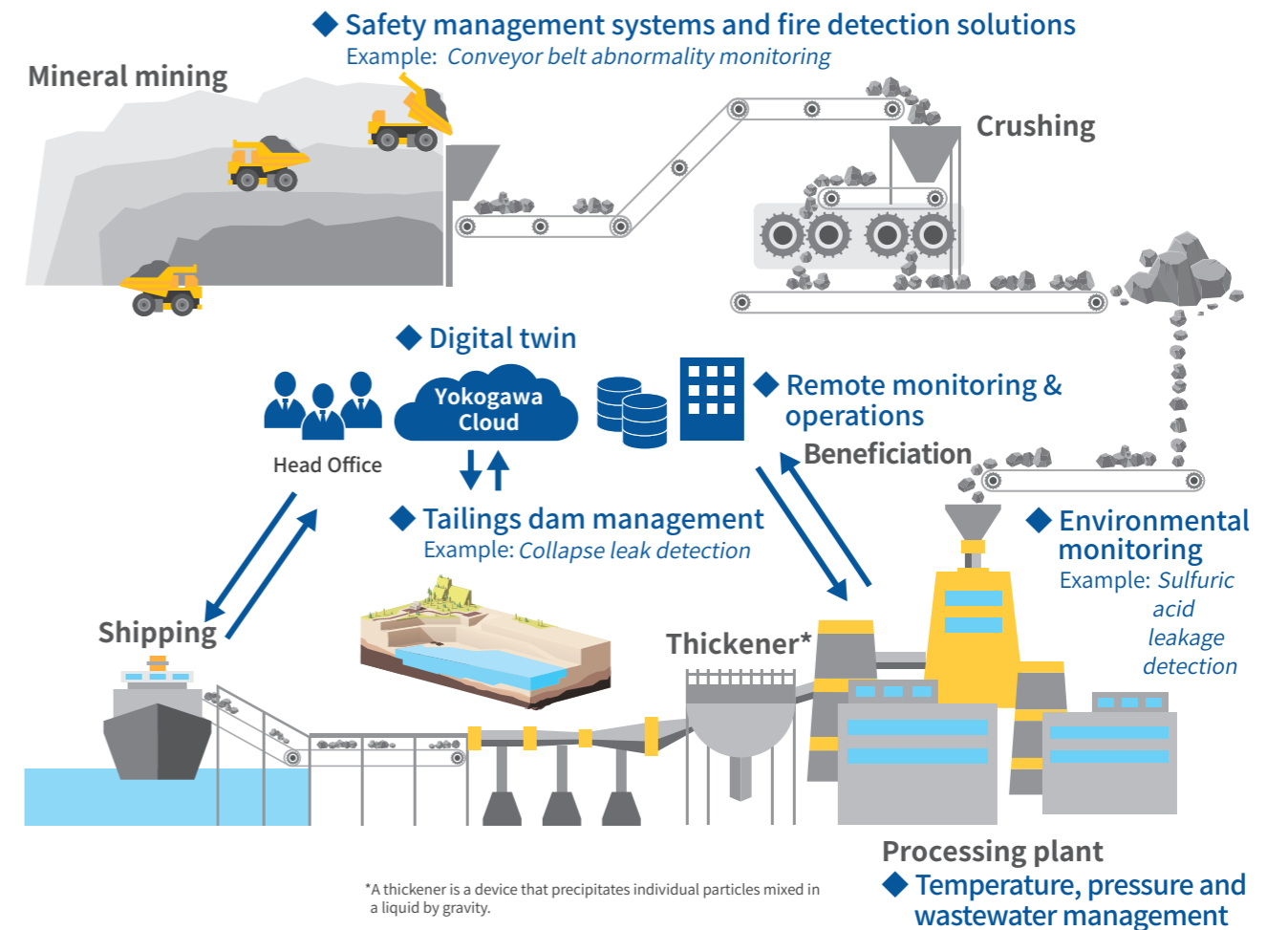
Recently, as the world increasingly adopts renewable energy, electric vehicles (EVs), storage batteries, fuel cells, etc., toward decarbonization, the demand for mineral resources such as copper and rare metals has increased. The mining & metal market is booming and the market size is expanding. Against this backdrop, the need for optimal and autonomous operation of the entire mine is increasing, as the site is required to respond to environmental (decarbonization) considerations, safety, advanced control and maintenance, and remote operation.

The "dig, crush, heat or pressure, refine, and drain safely" process at the mine is highly compatible with solutions for oil and

gas, and it is an industry where our strength in "measurement" and "control" can be utilized.

In addition to measurement and control solutions for scattered worksites, Yokogawa provides solutions such as cloud-based integrated operations, as well as environmental load reduction, safety and operational improvement. Our company is working to solve our customers' problems by utilizing the know-how we have accumulated through many projects, mainly in Australia, South America, and Africa.

Examples of Solutions Provided



Challenge to Improve Useful Mineral Collection Using AI

Yokogawa is working to solve problems by conducting a series of demonstrations with our customers to realize control technologies that maximize mineral recovery in the flotation* process through image analysis using AI instead of operators.

*A type of beneficiation in which minerals and chemicals such as surfactants are injected into a water tank, and useful minerals are collected by separating them into those that float and those that sink with the bubbling air blown into the tank.



Industrial Automation and Control Business

Life Business



The life business provides solutions that support people's lives and protect their health and safety. We contribute to the supply of pharmaceuticals that save people's lives and health, and safe food and water everyone can eat and drink with peace of mind.

Hiroshi Nakao
Head of Life Business
Headquarters



We will lead the world in advancing “Bio Industrial Autonomy (BIA)” and contribute to a future embracing global harmony.

Fiscal Year 2022 Review

Orders received in FY2022 were ¥59.1 billion, up ¥4.5 billion, or 8.3%, from the previous year.

In the Life Sciences business, sales of the “CSU-W1 SoRa”, which enables super-resolution live cell imaging, increased. We were able to obtain an order for High Content Analysis that can seamlessly realize everything from cell imaging to analysis from a major account in Europe and the United States. In addition, the activities to expand the service business that we have been promoting since the past have been successful. As a result, the Life Sciences business achieved record-high orders and sales. We launched the Subcellular Sampling System SS2000 in February 2022, and in FY2022, we received an order for the first unit from GSK plc.

In the Pharmaceuticals and Food markets in Japan, we have achieved record-breaking orders for not only existing businesses such as control equipment, but also DX/smart factory solutions to resolve customer issues.

In the Water business, besides steadily increasing orders in Japan, we actively worked to create new businesses such as water leakage/distribution management and sewage/reclaimed water.

Furthermore, continuing from previous year, we vigorously worked for M&A and alliance activities for the purpose of expanding the Life business. For HIROTSU Bioscience Co., Ltd. (HBS), with which we concluded a capital and business alliance agreement in December 2020, we were in charge of designing and manufacturing inspection equipments. HBS and Yokogawa have adopted a revenue-sharing system^{(*)1} and we will continue to work together in the future. Yokogawa Insilico Biotechnology, which joined the Yokogawa Group in November 2021, has been developing digital twin technology for bioprocesses, used to improve the efficiency of operating condition searches through bioprocess simulations, stabilize production of biopharmaceuticals, and reduce production losses. We will provide customers with unprecedented new value. In addition, in April 2022, we launched “Pharmira Co., Ltd.,” a joint venture that conducts contract development and manufacturing of continuous manufacturing technology for pharmaceutical active ingredients and intermediates.

We will continue to energetically work to provide customers with new value and cutting-edge technology.

*1: A system that distributes a certain amount of revenue according to the number of samples to be measured

Fiscal Year 2023 Outlook

In the Pharmaceuticals, Food and Water industries, we continue to see strong investment appetite for process advancement, including safety, productivity and quality improvements. Aiming for 4.9% growth in orders received in FY2023, we will strengthen our overseas development of products and solutions that have traditionally been strengths in the Japanese market.

In Life Sciences, we are currently focusing on single-cell analysis solutions. We will develop applications such as genome editing (CRISPR-Cas9^{(*)2}) and utilize demonstration sites, academic conferences, exhibitions, etc., for accelerating global activities to receive orders.

In Pharmaceuticals, Food, and Bio, we will work with regional headquarters to capture target customers such as GMA (Global Major Accounts) by training overseas members and strengthening support for overseas bases from Japan. As a new solution, in June

2023, we announced an integrated information management system (OpreX Informatics Manager) that connects not only laboratories but also departments such as production and quality assurance.

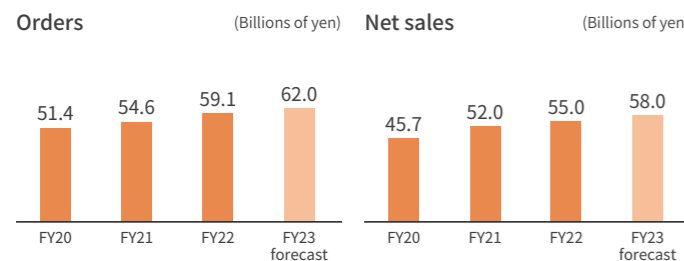
In the existing Water business, we aim to acquire new business opportunities for water supply, sewage, water distribution businesses and ODA^{(*)3} projects. In the new Water business, we aim to commercialize the water distribution and leakage management, land-based aquaculture, reclaimed water, and water circulation cloud businesses.

We will continue M&A and alliance activities. In FY2023, we will continue to work actively to achieve the plan of AG2023.

*2: CRISPR-Cas9: A genome-editing technology that enables simpler, more efficient, and more flexible rewriting of genetic information than conventional genome-editing methods

*3: ODA: Official Development Assistance

Trend in Orders and Net Sales



AG2023 CAGR		Sales growth **			
(Reference) Order growth**					
CAGR (FY20-22)	CAGR (FY20-FY23)	CAGR (FY20-22)	CAGR (FY20-FY23)		
Actual	Forecast**	Actual	Forecast**	AG2023 Target	
7.2% (4.0%)	6.4% (4.8%)	9.7% (6.0%)	8.3% (6.5%)	16% or more	

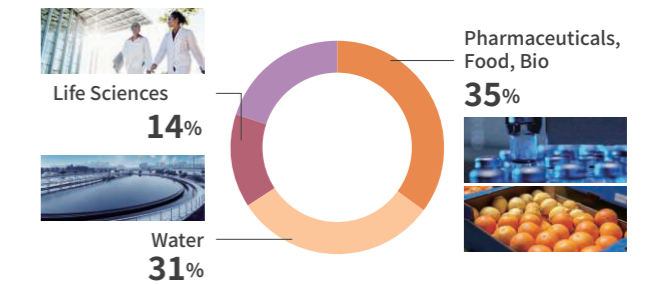
*4: If the FY2023 forecast is achieved

*5: The figures in parentheses represent organic growth (excluding the impact of exchange rates)

Business Area

In the Life business, we improve the productivity of the entire customer value chain, from basic research to logistics and services, in the Life Science, Pharmaceutical, Food, Bio, and Water industries, and contribute to the well-being of all people.

Industry Composition (Orders Received in Fiscal Year 2022)



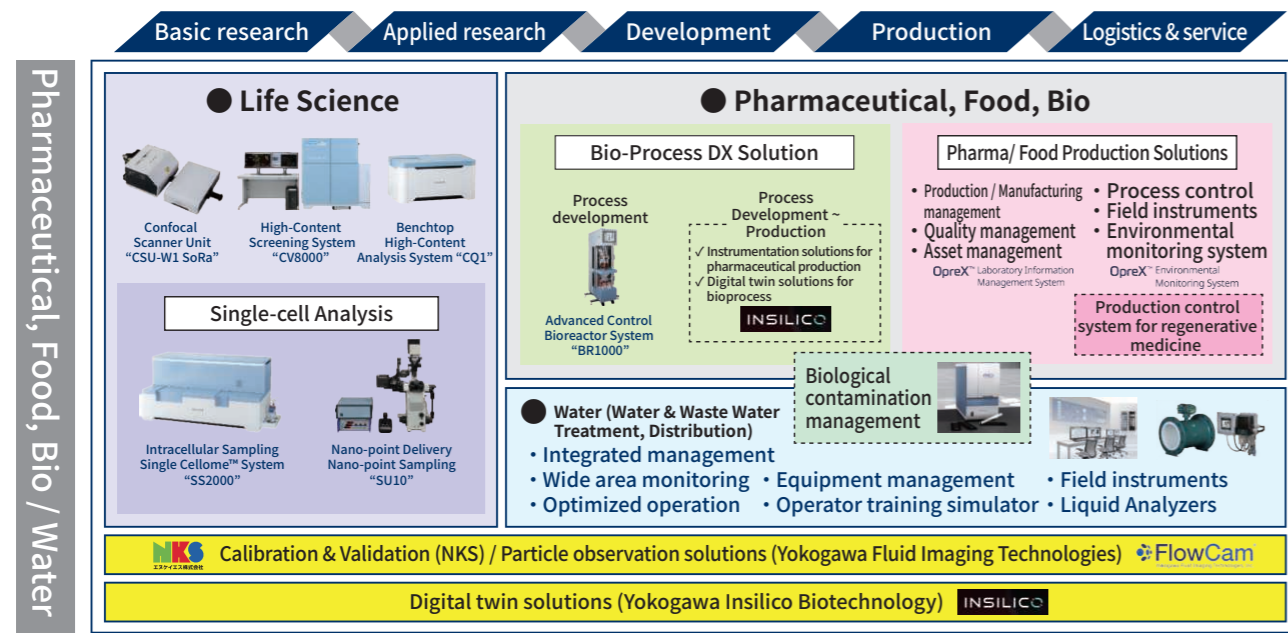
	Life Sciences	Pharmaceuticals, Food, Bio	Water
Strengths	<ul style="list-style-type: none"> High market share and brand value in high-end CSU Unique and innovative technologies and advanced development capabilities in live cell imaging Knowledge and expertise in the cell field 	<ul style="list-style-type: none"> Providing wide variety of solutions to support from on-site to the management level Global sales and service network and extensive implementation track record Measurement and control technologies for the biomaterial manufacturing process Digital twin technology 	<ul style="list-style-type: none"> Extensive track record of deliveries in the Japanese water and sewage market Total project execution capability for integration includes electric instrumentation
Customer Trends	<ul style="list-style-type: none"> Increase in personalized medicine studies Increasing needs for sophistication and automation in the laboratory experiment Accelerating open innovation Growing demand in the live cell imaging field 	<ul style="list-style-type: none"> Progress in biotechnology Advances in technologies such as genome analysis/manipulation and cell processing Implementation of automation and autonomy through smartification and digitization Increasing the penetration rate of digital twins 	<ul style="list-style-type: none"> Increasing water demand due to population growth Active development of water sources for stable supply Increased investment in monitoring control, and DATA fields Provide diversified solutions to meet regional and country-specific needs
Competitive Environment	<ul style="list-style-type: none"> Severe competition with industry giants 	<ul style="list-style-type: none"> Aggressive entry from the IA industry 	<ul style="list-style-type: none"> Many competitors exist in each region and country
	Common	<ul style="list-style-type: none"> Enhance portfolio and product lineup through M&A and alliances 	
	Common	<ul style="list-style-type: none"> New entry from IT and software companies 	

Key Measures

Life Sciences	Pharmaceuticals, Food, Bio	Water
Common		
<ul style="list-style-type: none"> Expansion of imaging equipment functions Research and develop technologies for next-generation microscopes Strengthening bio lab automation Providing remote support services Expansion of single-cell analysis solutions 	<ul style="list-style-type: none"> Realization of next-generation smart factories Expansion of production control system for regenerative medicine Unmanned or labor-saving operations through Robotics Providing Bioprocess DX(BDX) Solutions 	<ul style="list-style-type: none"> Automation of water and sewage facilities Official Development Assistance (ODA) in emerging countries Water distribution and leakage management / Land-based aquaculture / Reclaimed water / Water cycle cloud
<ul style="list-style-type: none"> Strengthen cooperation with regional headquarters and expand global business Create new projects and expand orders using digital marketing, exhibitions, and webinars Continuation of M&A, capital and business alliance activities 		

Industrial Automation and Control Business **Life Business**

Solution Portfolio of the Life business



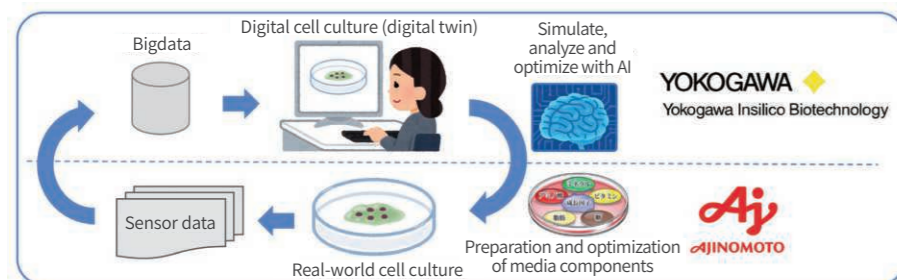
Contribution to Digital Transformation(DX) in the Biopharmaceutical Industry (Ajinomoto Co., Inc.)

Overview
In recent years, demand has continued to grow for biopharmaceuticals that have fewer side effects and can be used to treat patients with rare and intractable conditions. In contrast to the production of chemically synthesized small molecule pharmaceuticals, the overall cost of biopharmaceuticals is higher, and the complex cell cultivation process required to efficiently and stably obtain the target proteins demands rigorous quality control measures that pose significant challenges to mass production.

By leveraging the digital twin technology provided by Yokogawa Insilico Biotechnology GmbH (YIB), a member of the Yokogawa Group since November 2021, we can help develop processes to achieve stable quality and efficient mass production in the field of biopharmaceuticals development and production.

YIB is working in collaboration with Ajinomoto Co., Inc., which develops, manufactures, and sells cell culture media under the CELLIST™ brand, for development and production of biopharmaceuticals. Ajinomoto Co., Inc. develops advanced culture media based on their expertise in amino science such as amino acid nutrition, pharmaceuticals R&D, and fermentation production technology, and provides culture media to the global market as well as Japan and Asia. Ajinomoto Co., Inc. uses YIB's digital twin technology to develop and supply high-quality, high-performance media promptly and stably.

Achievement
In the production of mammalian cell culture for biopharmaceuticals, we propose the optimal adjustment of culture media components to Ajinomoto Co., Inc. by using YIB's digital twin technology with modeling and AI to simulate and optimize data collected from various sensors. Subsequently, based on suggestions with YIB technology, Ajinomoto Co., Inc. can confirm the improvement of culture medium performance through real cell-culture. As a result, Ajinomoto Co., Inc. can greatly reduce the time required to search for optimized conditions through repeated experiments. YIB technology contributes to the development of rapid optimization mechanisms for medium composition and culture conditions and to the efficient scale-up of antibody-production by controlling the response. Yokogawa and YIB will continue to accelerate digital transformation(DX) in the bioprocess field, contributing to the industrialization of bioprocesses and the improvement of productivity and quality in the biopharmaceuticals field.



Yokogawa Insilico Biotechnology GmbH
Established: 2001 (Joined Life Business Headquarters as a subsidiary in November 2021)
Location: Stuttgart, Germany
CEO: Koichi Oya
Number of employees: 30
Business: Development of digital twin-based software and provision of services for bioprocesses

Building Next-Generation Smart Factories that Pursue Optimal Safety and Security (NISSIN FOOD PRODUCTS CO., LTD.)

Summary
NISSIN FOOD PRODUCTS CO., LTD. has defined the concept of its new factory as a “next-generation smart factory that pursues optimal safety and security.” They are studying ways to create safe and secure products, reduce manufacturing costs, and build an optimal supply system. Yokogawa received orders of all five systems for the new factory such as the Manufacturing Execution system, Warehouse Management System and Plant Information Management System.* To realize the new factory, Yokogawa participated not only in the introduction of the new systems, but also in the “Consulting on Basic Concept” phase for drawing up a design plan, and worked with the customer. In the review process, NISSIN FOOD PRODUCTS CO., LTD. stated that “Yokogawa is a company that is highly experienced and knowledgeable about the site, learns about NISSIN, and works from the same perspective as ours. Besides, we often heard about the good reputation of Yokogawa from other food & beverage companies, which was a key factor in our selection of partners.”
*Some products and solutions are sold only in Japan.

Results
The new factory, which is currently in operation, has established the Centralized Monitoring and Control Office as the center of the world-class quality-control system. Yokogawa's system has contributed to improving food safety and security. This factory is now one of the largest factories in Japan, producing 4 million meals per day, with high productivity as well as quality.

Future of Customers and Yokogawa
In the future, NISSIN FOOD PRODUCTS CO., LTD. will continue to collect and analyze data and conduct a variety of research projects, aiming not only to automate facilities but also to realize autonomous operation in the future. In addition to this, NISSIN is aiming to link supply chain data, optimize operations as a company, and further improve efficiency with a view to expanding the system to other factories and divisions.

Yokogawa has a strong determination to bring together its know-how, and will continue to work to sustain the global food & beverage supply with our customers in the food & beverage manufacturing industry with a mission of providing a long-lasting stable supply.



NISSIN FOOD PRODUCTS CO., LTD. KANSAI Factory

Visit the website below for more information.

<https://www.yokogawa.com/industries/food-beverage/>

Subcellular Sampling System SS2000 - Aiming to Contribute to the Development of Drug Discovery and Medicine - (GSK plc)

Overview
Yokogawa began developing the SS2000 prototype in 2014 and completed the prototype in 2017. Since 2017, we have installed a prototype at GSK plc, a global biopharmaceuticals company in the U.K., and have been jointly developing devices and applications. In February 2022, the SS2000 was officially launched, and we received an order for the first unit from GSK plc in FY2022.

Achievement
It takes about 30 minutes to collect cell samples manually, but the SS2000 can perform the procedure automatically in about three minutes. Since conventional analysis of intracellular components mainly involves collecting and disrupting cells, positional and morphological information is lost. However, the SS2000 solves these problems.

Future of Customers and Yokogawa
GSK plc is currently considering using the SS2000 for individual region analysis of tubercle bacillus-infected cells, macrophages, BCG (anti-tuberculosis vaccine), and bacteria projects. The SS2000 plays an important role in GSK plc's early studies and clinical development pipeline. We will continue to contribute to biopharmaceuticals research through further collaborations. Yokogawa will continue to contribute to the development of drug discovery research, personalized medicine, and regenerative medicine through single-cell analysis solutions to enrich people's lives.



Subcellular Sampling System SS2000

Single Cellome™ System SS2000, a single-cell analysis solution that utilizes high-resolution images captured with a confocal microscope to automatically and accurately collect samples of specific cells and intracellular components.



Measuring Instruments Business

In partnership with our customers, we offer measurement solutions that are helping to realize sustainability and innovation, and pointing the way to a brighter future for all on planet Earth.



As a best-in-class technology solutions company, we are able to deliver solutions that both surprise and delight to our customers.



Toshiyuki Suzuki
President of Yokogawa Test & Measurement Corporation

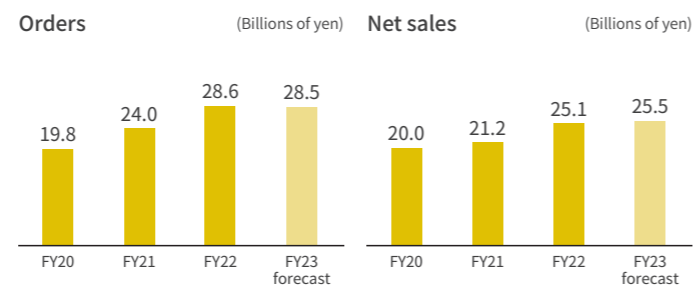
Greetings

The measuring instruments business is the foundation on which Yokogawa was established more than 100 years ago. With the industry-leading accuracy and excellent quality of its measuring instruments, this business has continued to set new milestones throughout its history, keeping pace with advances in technology. Our focus on technology is unwavering, and we will continue to respond to the real challenges of our customers and the true needs of our customers' customers through the delivery of timely solutions. With the aim of being a best-in-class technology solution company with luminous authenticity, we are in the business of delivering solutions that both surprise and delight to our customers.

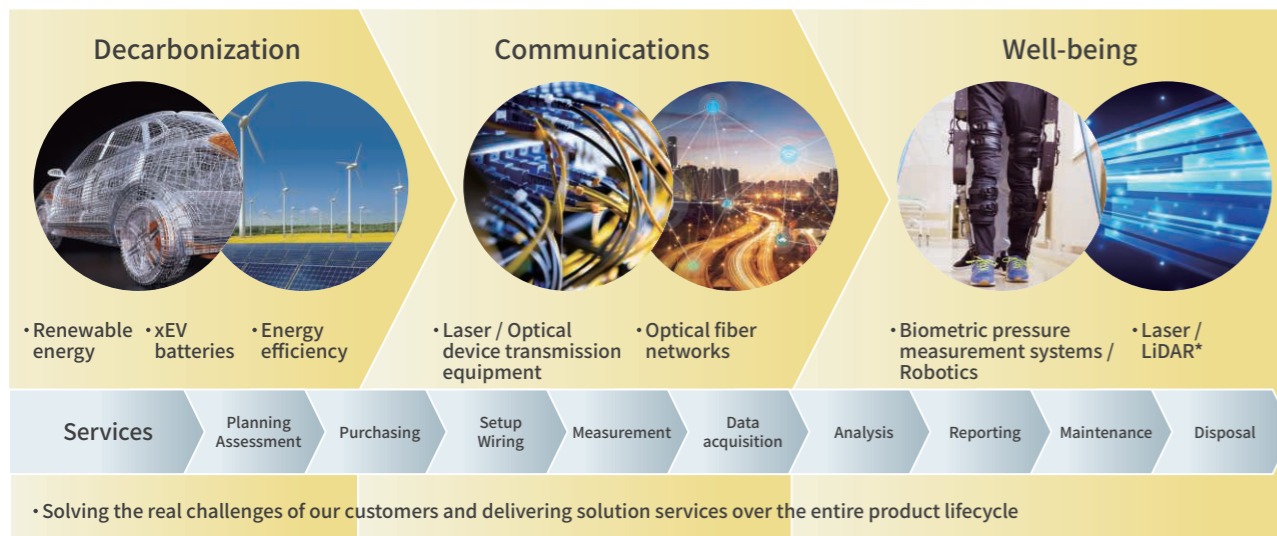
Future Growth Strategies

- **Targeting of growth sectors that contribute to the SDGs**
Making full use of our expertise, we are focused on the decarbonization, communications and well-being industry sectors, and on the services sector.
- **Making our strong products even stronger**
Providing our integrated measurement solutions to the energy-conservation and EV markets, based on strong product families such as our market-leading optical spectrum analyzers
- **Expanding our solutions in close cooperation with our customers**
Solving the real challenges faced by our customers and delivering solution services over the entire product lifecycle

Trend in Orders and Net Sales



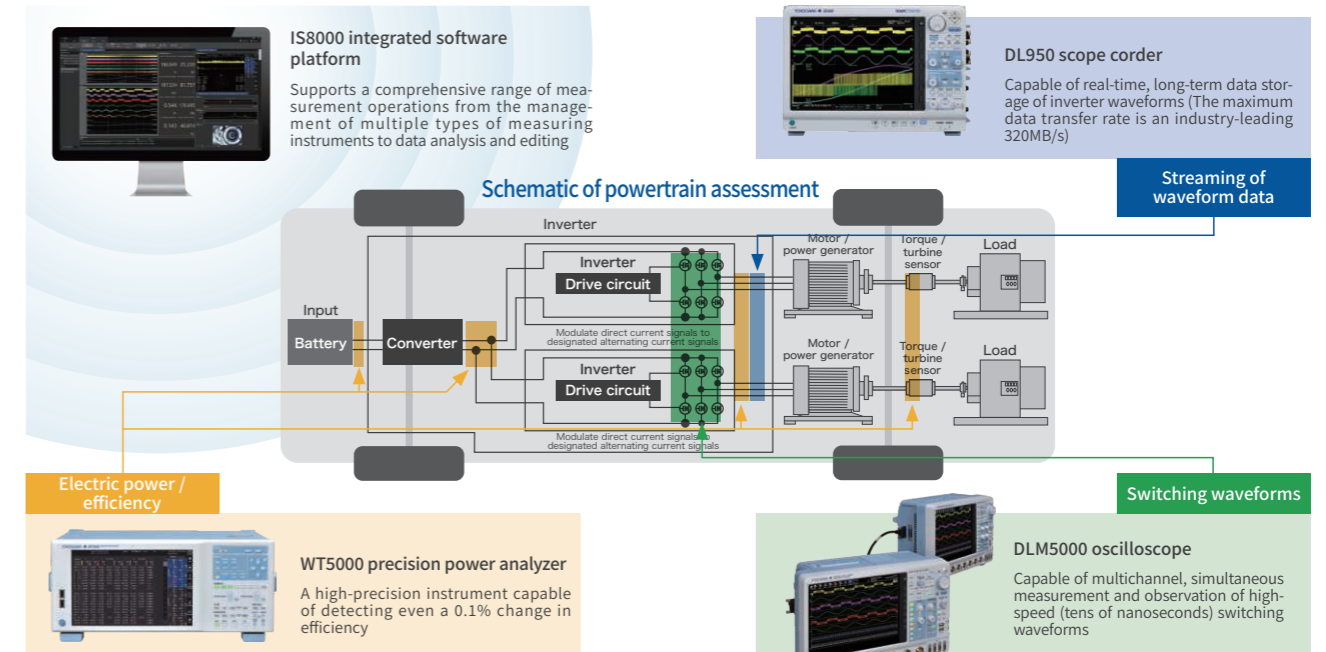
Focus Areas —Industrial Sectors that Contribute to Sustainability—



*LiDAR is a method for calculating the distance to a target. This is done by targeting an object with a laser and measuring how long it takes for the light to be reflected to a receiver.

Measurement Solutions for Electric Vehicle (EV) R&D

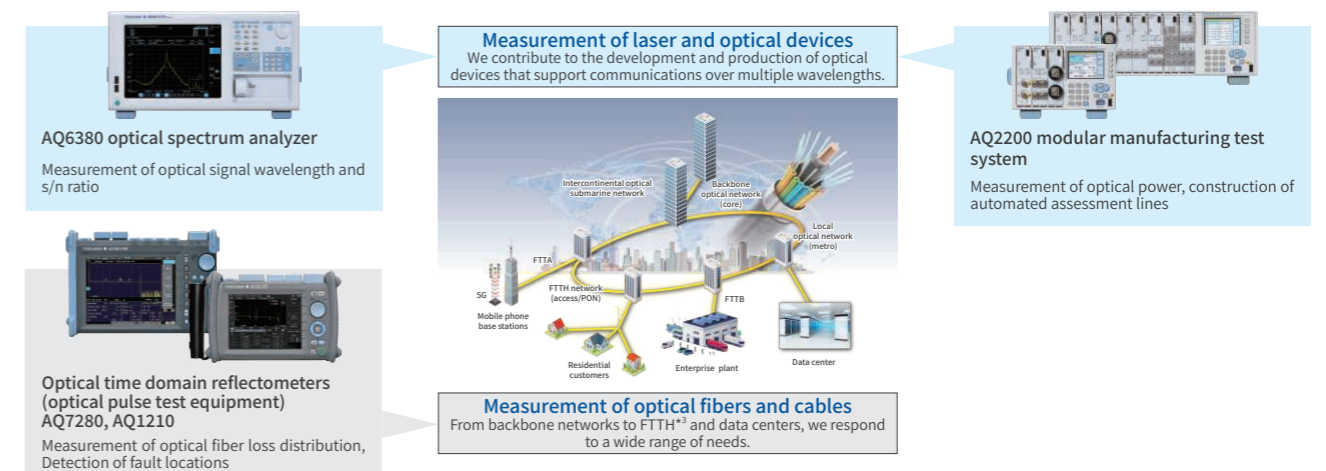
We are helping to speed up and improve the efficiency of electric vehicle (EV) research and development by offering solutions that enable precise and seamless integrated measurements for the assessment of the powertrains^{*1}, that are a core element in every EV. This includes, the assessment of high-speed inverter^{*2} switching waveforms and the waveforms of individual units, as well as high precision assessments of electric power efficiency.



^{*1} In automotive engineering, a general term for the components that transmit mechanical power from a motor to the wheels
^{*2} A device that converts direct current to alternating current

Measurement Solutions for Optical Networks

In a world where rapid progress is being achieved in the digitalization of processes, network infrastructure and communication networks play ever more indispensable roles. Yokogawa meets a wide variety of measurement needs, spanning everything from the development of cutting-edge R&D devices to the support of stable mass production operations and the construction and maintenance of optical fiber networks.



^{*3} "Fiber to the Home," one of the broadband internet connection architecture

New Businesses and Others

We will make an effort to achieve solid growth and earnings improvement in new businesses, such as the provision of services leveraging IoT and AI, and the production and sales of biomass materials.



amnimo Inc.

amnimo, launched in May 2018, contributes to realizing IoT and AI convergence by providing easy-to-use, highly reliable IoT devices and software services. amnimo flexibly combines its own IoT devices, cloud applications, and partner components to support customers' process transformation and contribute to their value creation.

Yokogawa Bio Frontier Inc.

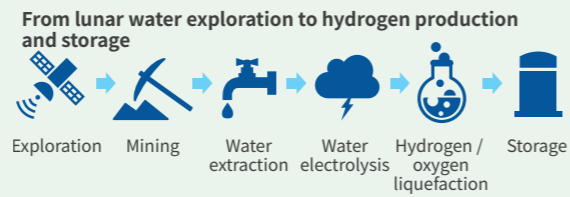
Yokogawa Bio Frontier Inc. was established in March 2021 to develop, produce, and deliver biomass materials to the world beyond our conventional business of providing solutions for the manufacturing industry.

Activities in Areas for Exploration

Space: Participating in Lunar Hydrogen Energy Technology Feasibility Study*1

Yokogawa is participating in a Ministry of Economy, Trade and Industry (METI) project to verify the feasibility of producing hydrogen from lunar water ice and using that to sustain activities on the moon. We are identifying technologies that could be useful in the search for water resources and the production and utilization of hydrogen on the moon, and are jointly developing roadmaps for the future with other participating companies. This is the first-ever study to examine the feasibility of establishing a human habitat and engaging in economic activities on the moon.

As plant operation on the moon requires unmanned, time-lagged, remote monitoring and control, we are undertaking challenges to solve problems by a predictive control approach using digital twin technology. The circulation of resources will be essential on the moon, and we will apply the insights gained to build a circular society on Earth.



*1 Conducted prior to the launch of a new business, product, or service to assess and verify its practicality based on cost, market, technology, patents, and other considerations.

Disaster Prevention: Successful Deep Sea Observation of Sea Level Fluctuations with Made-in-Japan Silicon Resonant Water Pressure Gauge

The National Research Institute for Earth Science and Disaster Resilience (NIED), the Earthquake Research Institute (ERI) of the University of Tokyo, and Yokogawa Electric Corporation (Yokogawa) have undertaken an evaluation of an innovative water pressure gauge for use in the early detection of tsunamis. The water pressure gauge used in this evaluation was equipped with a new type of silicon resonant pressure sensor*2, and was installed on the seafloor near the Boso Peninsula at a water depth of 3,436 m. In this evaluation, the gauge successfully identified pressure fluctuations of seven hectopascals equivalent to a 7-cm change in sea level. Although it is difficult to obtain data on tsunamis, which are infrequent events, the evaluation allowed the detection of changes in sea level similar to those of a tsunami, and the water pressure gauge is expected to be used in the event of an actual tsunami. The water pressure gauge will be adopted for the Nankai Trough Seafloor Observation Network for Earthquakes and Tsunamis (N-net) to observe water pressure fluctuations on the seafloor caused by tsunamis generated by earthquakes, enabling reliable detection of tsunamis and contributing to damage mitigation. (Announced on May 22, 2023)



A water pressure gauge equipped with a silicon resonant pressure sensor that uses MEMS technology

*2 Yokogawa's silicon resonant pressure sensors employ a sensing method based on the pressure-dependent change in the resonant frequency of single crystal silicon resonators, and are characterized by low power consumption, compact size, high sensitivity, high stability, and high pressure resistance. The resonator is sealed in a clean vacuum cavity using silicon semiconductor manufacturing technology, which prevents foreign particles from adhering to the resonator and degrading its performance. In addition, there is no change in performance due to gas desorption, which occurs with sensors using quartz crystal resonators, and stable measurement can be achieved. Yokogawa has been installing pressure sensors using this sensing method in its industrial differential pressure and pressure transmitters since 1991.

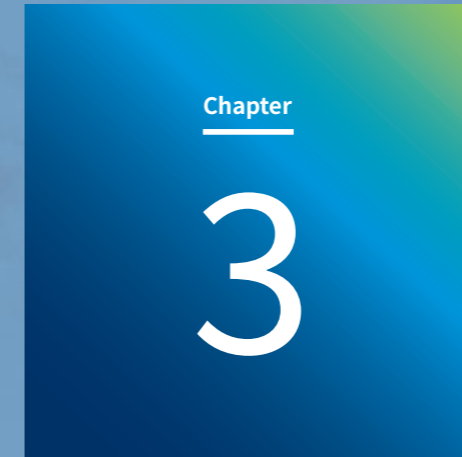
Otsuka Chemical and Yokogawa Electric to Launch SynCrest Inc., a Joint Venture Targeting the CRDMO Business for Middle-molecular Drugs

Otsuka Chemical Co., Ltd. and Yokogawa Electric Corporation announce the establishment of SynCrest Inc., a joint venture that will engage in research, development, and manufacturing in the promising field of middle-molecular pharmaceuticals as a Contract Research, Development and Manufacturing Organization (CRDMO*3). (investment ratio: Otsuka Chemical 51%, Yokogawa Electric 49%) This new joint venture will provide services to meet various challenges and needs across the pharmaceutical industry's drug development value chain, from research through to commercial production.



SynCrest's Naruto Plant

*3 CRDMO: The Research function at SynCrest Inc. will initially focus on library development and library synthesis.

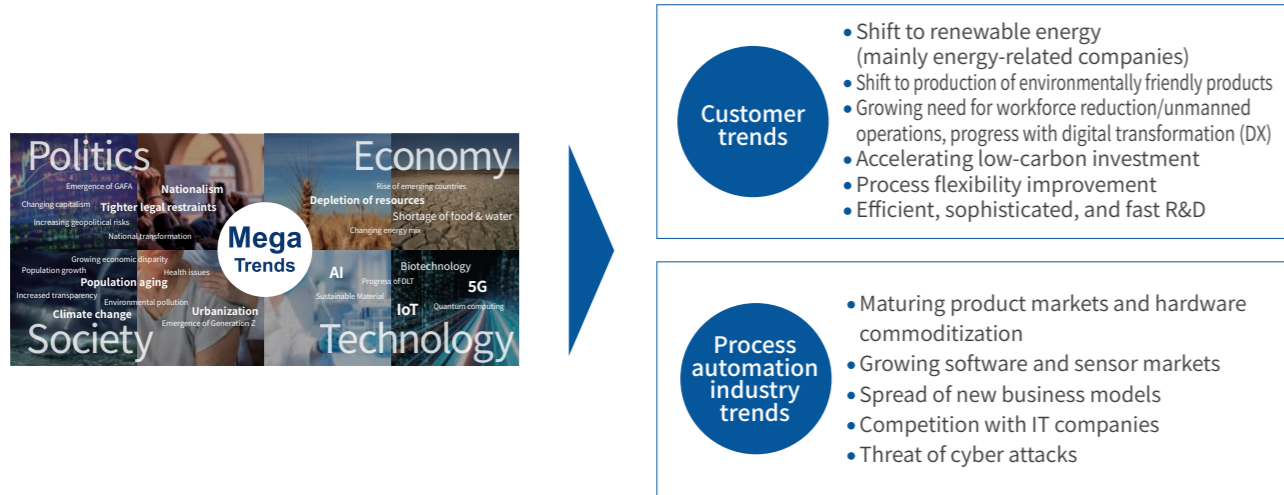


Management Strategy

Medium- to Long-Term Management Strategy

At Yokogawa, we have set “Three goals” for sustainability as our vision for a sustainable society for future generations. We aim for sustainable corporate growth while contributing to society and the environment. We have established our long-term business framework, taking into account society-wide megatrends and changes in the external environment surrounding our business towards 2030, and the Accelerate Growth 2023 medium-term business plan, setting our goal for 2023.

Changes Across Society and the Business Environment

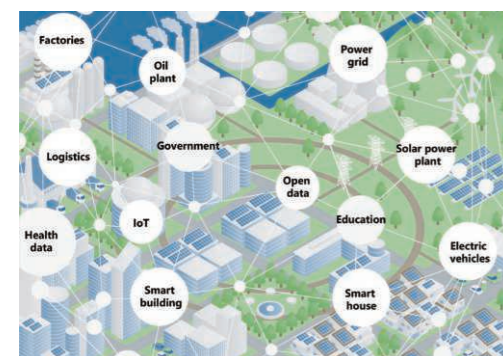


Overview of Long-Term Business Framework and Medium-Term Business Plan

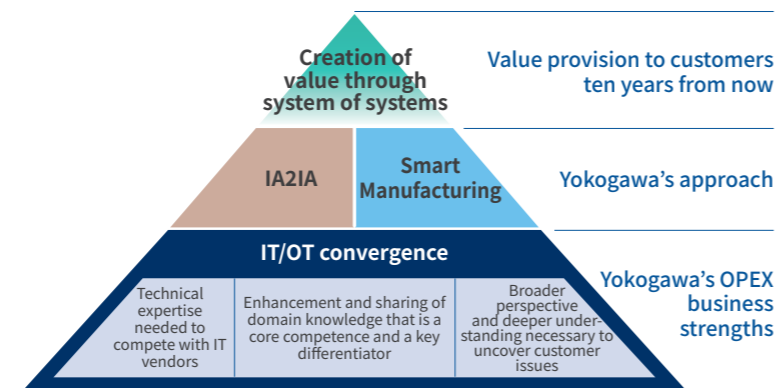


Overview of the Long-Term Business Framework

In the world today, everything is increasingly interconnected in complex ways. There is a progressive trend towards system of systems (SoS), where multiple independently operated and managed systems cooperate to achieve a purpose that cannot be achieved by any one system. By leveraging our proprietary strengths, Yokogawa will become a presence that can effectively connect different systems together through integration, autonomy, and digitalization, and become a leading integrator in a world where entire societies function as an SoS, aiming to create value through overall optimization.



A world progressively connected through system of systems



Paths to value creation through a system of systems

Medium-Term Business Plan Accelerate Growth 2023

AG2023: The Four Basic Strategies

We have formulated four basic strategies and key measures to be taken over the three years up to fiscal year 2023 to realize the long-term business framework.



The four basic strategies of Accelerate Growth 2023

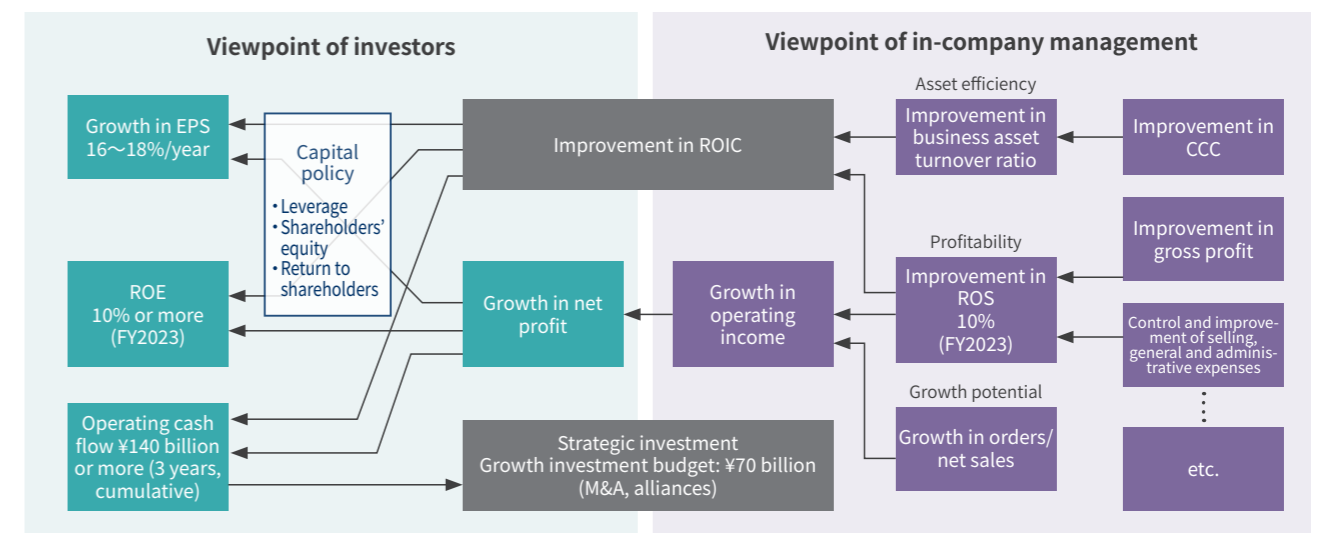
AG2023 Medium-Term Business Plan —Key Performance Indicators and Targets

Our basic policy is to maximize corporate and shareholder value from a medium- to long-term perspective. We aim to achieve record-high levels of earnings per share (EPS) growth, generate operating cash flow, and improve return on equity (ROE).

Order growth	8~10%/year
Sales growth	4~6%/year
EPS growth	16~18%/year
ROS	10% (FY23)
ROE	10% or more (FY23)
Sales cash flow	¥140 billion or more (3 years cumulative)

EPS: Earnings per share
ROS: Return on sales
ROE: Return on equity, assumed exchange rate: USD 1 = ¥105

Main initiatives for achieving targets (KPI structure)





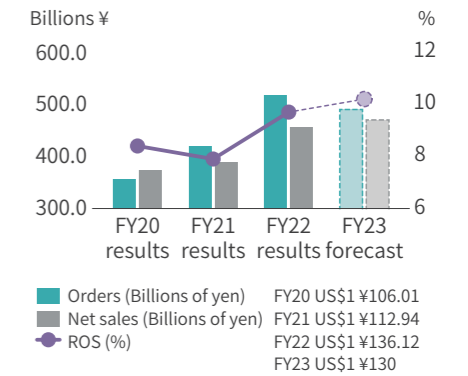
Medium-Term Business Plan Accelerate Growth 2023 Four Basic Strategies: Review

AG2023 Target

	AG2023 target	FY22 results	FY23 forecast
Order growth	8~10%/year <small>*FY20-FY23</small>	20.7%/year <small>*FY20-FY22</small>	11.3%/year <small>*FY20-FY23</small>
Sales growth	4~6%/year <small>*FY20-FY23</small>	10.5%/year <small>*FY20-FY22</small>	7.9%/year <small>*FY20-FY23</small>
ROS	10% (FY23)	9.7%	10.2%
EPS growth	16~18%/year <small>*FY20-FY23</small>	42.3%/year <small>*FY20-FY22</small>	31.8%/year** <small>*FY20-FY23</small>
ROE	10% or more (FY23)	10.9%	11.1%**
Sales cash flow	¥140 billion or more (3 years cumulative)	¥92 billion (2 years cumulative)	¥140 billion (3 years cumulative)

AG2023 exchange rate: US\$1 = ¥105
 FY22 average exchange rate: US\$1 = ¥136.12
 FY23 forecast exchange rate: US\$1 = ¥130

**The Company has resolved to acquire of own shares. "EPS growth and ROE" in the FY23 forecast does not consider the impact of the acquisition of own shares. Therefore, it may change depending on the status of future acquisition of own shares.



1 Implement IA2IA & Smart Manufacturing and Transform Value Provision

Expansion of value provided

- Move IA2IA concept to the implementation phase
- Expand the scope of smart manufacturing solutions provided for customers

Substantiated the value provided and accumulated results and achievements

- ◆ Steady progress in IA2IA/smart manufacturing business development initiatives
 - Number of new solutions: 100 (FY21 and FY22, cumulative)
 - Number of orders outside Japan: 355 (FY21 and FY22, cumulative)
- ◆ Increase in number of orders for MAC/MAIC* projects requiring high-level project execution and integration capabilities
- ◆ Carbon-neutral feasibility study through cooperation between nine companies in different industries
- ◆ FKDPP, an autonomous control AI algorithm, took the highest honor in the Japan Industrial Technology Awards [P.57](#)

* MAC: Main Automation Contractor
 MAIC: Main Automation and Information Contractor

Establish recurring/subscription and other new business models and accelerate scaling up of business

- ◆ Strengthen the quality and quantity of human resources to promote DX and IT/OT convergence to customers.
 Example) Employees acquired certified S.I.R.I. assessors for promotion of business [P.33](#)
- ◆ Develop human resources capable of proposing solutions and promote the transformation of mindsets
 Example: Established the Global Training Center in Singapore [P.65](#)
- ◆ Strengthen communication and KPI monitoring with regional offices
- ◆ Accelerate businesses to capture strong customer inquiries at Yokogawa Digital Corporation.

2 Strengthen Industry Responsiveness and Expand Cross-industry Business

Expansion of value provided

- Provide new value to customers who are making the shift to being integrated energy companies
- Expand other industry and cross-industry business

Making progress on initiatives to boost orders in focus industries

- ◆ Orders received in focus industries
 - Renewable energy: ¥7.1 billion (1.8 times vs. FY20)
 - High-performance chemical (overseas): ¥13.6 billion (2.3 times vs. FY20)
 - Pharmaceutical and food: ¥20.7 billion (1.1 times vs. FY20)
- ◆ M&A and alliances to grow focus industries
 - Acquired Dublix, a provider of optimization technologies for waste-to-energy and biomass power plants
 - Established "SynCrest", a joint venture with Otsuka Chemical [P.48](#)
- ◆ Increase in project orders for hydrogen, ammonia, etc.
- ◆ Increase in orders in the water business outside Japan (seawater desalination, water recycling, etc.)

Business growth in the Life Business (especially outside Japan)

- ◆ Taking advantage of our Japan market expertise; building a strong foundation for the existing pharma, food, and water businesses; accelerating growth overseas
- ◆ Pursuit of M&A deals and alliances, particularly in the life science and pharma fields, to strengthen our business platforms and portfolio

Examples: • Upskilling overseas personnel
 • Strengthen support from Japan for overseas operations
 • Improved customer demonstrations
 • Digital marketing utilization

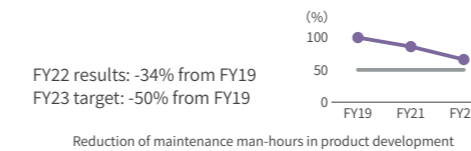
3 Ensure Profitability and Sound Growth

Ensure profitability and sound growth

- Aggregate knowledge and improve efficiency with large projects
- Focus resources on product groups that deliver high value
- Generate profits from software and engineering

Progress is being made in building a business process and system for operational excellence, which is the key to improving profitability in the medium to long term. We have developed an overall vision and will accelerate initiatives to achieve it.

- ◆ Improvement of efficiency in product development by shifting resources while addressing parts procurement difficulties



- ◆ Implementation of initiatives to improve efficiency in project delivery and services
- ◆ Cost reduction in project procurement: approx. 2 billion yen (FY21 and FY22)

Tenaciously pursue each measure despite newly pushing up cost factors

- ◆ Procurement difficulties and soaring prices of production parts and project supplies
 - Continue to negotiate, expand suppliers, use alternative parts, design changes, etc.
 - Optimize selling prices
- ◆ Accelerate infrastructure development to globally improve operational efficiency (four transformation projects)
 - ① Organizational structure reforms
 - ② Standardize business processes and promote cooperation between processes and data infrastructure innovation
 - ③ Develop infrastructure to improve customer experience
 - ④ Unify the HR system and develop data infrastructure
- ◆ Shorten the CCC days
 - Through persistent effort, change local business customs and long-standing habits
 - Continue PDCA for improvement

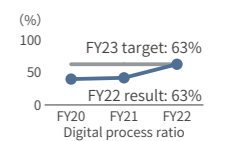
4 Optimize Internal Operations and Transform Mindsets

Strengthen the corporate base

- Strengthen strategic planning functions
- Cultivate a corporate and organizational culture that encourages entrepreneurial spirit
- Strengthen internal DX and transform business models
- Transform skills and improve engagement

The importance of skills transformation and mindset change is well recognized. Every initiative is moving forward.

- ◆ Our internal DX initiatives are progressing steadily [P.54](#)



- ◆ Progress in efforts to transform the skills and mindset of human resources
 - Increased number of DX human resources in IT sector
 - Progress in training certified S.I.R.I. assessors to lead IA2IA/smart manufacturing [P.33](#)
 - Established a global training center
- ◆ Development of solution proposers is making good progress [P.65](#)

Accelerate efforts to move into the implementation an HR strategy that is aligned with management strategy [P.62](#)

- ◆ Globally integrate the HR system, processes, and HR database and build a base for the optimal allocation of human resources across the Group
- ◆ Define the quality and quantity of HR required to meet future needs and align this with business strategy.
- ◆ Develop human resources matching the needs of our business strategy (human resources with skills such as DX and solutions) and strengthen our recruitment capabilities

Examples: • Enhance educational opportunities for all Group employees through Yokogawa University.
 • Strengthen development of business leaders (e.g., global training centers).

Review of Digital Transformation Strategy



Message from the Head of the Digital Strategy Headquarters

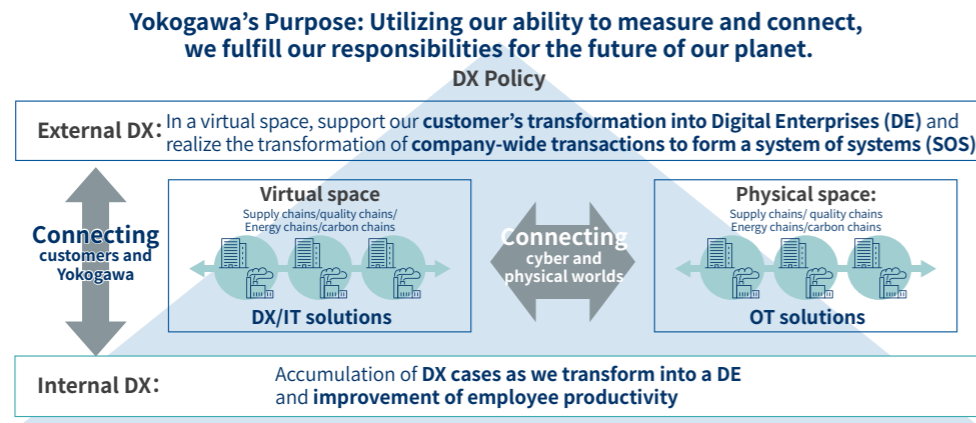


Yukihiro Funyu
Head of Digital Strategy
Headquarters
Head of DX-Platform Center,
Digital Solutions
Headquarters

Yokogawa's DX activities started in April 2018 under TF2020, the previous medium-term business plan. Since then, we have promoted internal DX activities to improve employee productivity and external DX activities to expand the provision of digital services that add customer value. In the first three years of this effort, we strove to globalize and optimize our IT infrastructure, security, applications, and data (DX1.0). Under AG2023, the current medium-term business plan, we are promoting DX measures to enhance customer, partner, and employee experience (DX2.0). For external DX, we have been actively developing cloud applications that utilize the know-how we have cultivated in the operational technology (OT) area and have been progressively shifting from a product- to a service-based business model. In addition to shifting conventional applications to the cloud and moving to a recurring revenue model, we have also strengthened our offering of IIoT, artificial intelligence (AI)/machine learning (ML), 3D digital twin, video management, cybersecurity services, and other solutions on Yokogawa Cloud, our cloud application platform. As a result of these DX activities, in June 2022, we were listed as a DX Featured Company based on a DX Survey that was conducted by the Ministry of Economy, Trade and Industry (METI) and the Tokyo Stock Exchange Inc. (TSE) and on April 1, 2023, we were designated a Digital Transformation Certified Company by METI. We will continue striving to improve employee productivity, which is the objective of our Internal DX efforts. At the same time, we will engage in external DX activities that will expand orders, sales, and profits through the offering of DX services.

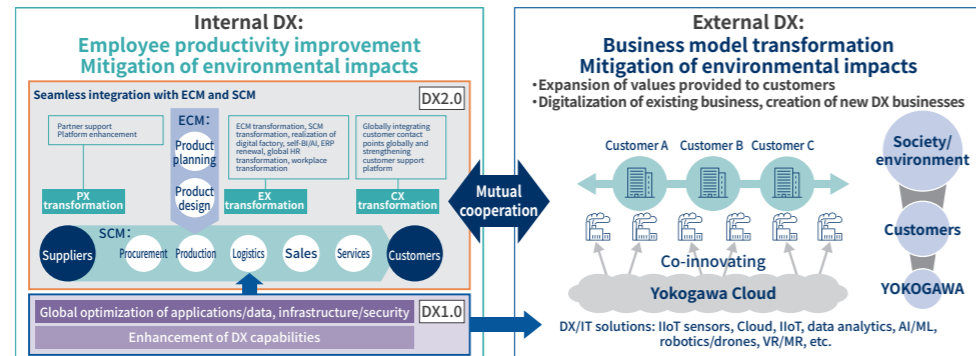
DX Policy

Under Yokogawa's Purpose, we are undertaking internal DX activities to improve employee productivity and external DX activities to help our customers' transition into digital enterprises and implement the system of systems approach.



DX Strategy (FY2021 to FY2023)

With internal DX, we seek to improve customer, partner, and employee experience based on the global IT infrastructure developed in the DX1.0 implementation phase. As for external DX, we aim to connect digitally with customers, providing attractive cloud applications on our Yokogawa Cloud, our application platform.



PX : Partner Experience, EX : Employee Experience, CX : Customer Experience, ECM : Engineering Chain Management, SCM : Supply Chain Management

Goals and Results

DX-related order ratio	FY20: 2.0% FY22: 3.5% FY23: 4.0%	Digital process ratio	FY20: Approx. 40% FY22: 63% FY23: 63%	IT infrastructure environmental impact reduction ratio	FY18: 100% FY22: 57% FY23: 65%
Cloud ratio	FY20: 61% FY22: 75% FY23: 64%	Agile project ratio	FY20: 19% FY22: 62% FY23: 35%	DX human resources ratio	FY20: 20% FY22: 40% FY23: 50%

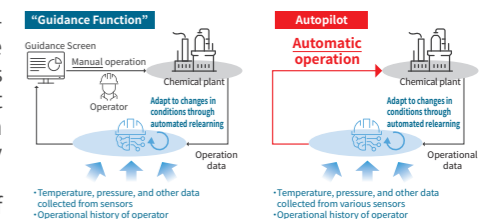
*DX-related order ratio: Ratio of DX-related project orders to total orders
*Digital process ratio: Ratio of the number of processes utilizing global digitized platforms to the number of all processes defined for each business process
*IT infrastructure environmental impact reduction ratio: Reduction of power consumption from the FY2018 level through the shift to cloud computing
*Cloud ratio: Ratio of the number of cloud servers to the total number of servers
*Agile project ratio: Ratio of IT projects utilizing an agile approach to the total number of IT projects
*DX human resources ratio: Ratio of the number of talents with digital skills to the number of All talent

Progress of DX-Related KPIs in Fiscal Year 2022

Fiscal year 2022 was the second year of our AG2023 medium-term business plan and the second year under the new DX strategy. The DX-related order ratio, positioned as a key indicator of external DX, improved significantly due to the global growth in the intake of DX-related orders. In consideration of our achievements in improving the digital process ratio, IT infrastructure environmental impact reduction ratio, cloud ratio, agile project ratio, and DX human resources ratio, all of which are positioned as key indicators of internal DX, IT infra environmental impact reduction ratio, and agile project ratio have made significant progress due to the further penetration of cloud computing and agile technology, and we were able to achieve our medium-term goals ahead of schedule. We also made progress in improving our digital process ratio and DX human resources ratio. Regarding the digital process ratio, the indicators have improved significantly due to the introduction of global platforms, such as integrated CRM, that were planned for fiscal 2022. For the DX human resources ratio, we continue to make great improvements through the DX talent training programs we started in fiscal year 2021, and we are getting closer to achieving our medium-term target.

Introduction of New DX Services

In January 2023, together with NTT Communications Corporation, we began offering "Autopilot," an AI service that automates plant operations by learning the actions of operators. This was introduced at JNC Petrochemical Corporation's Ichihara Factory, and was successful in automating processes that were difficult to control using existing technologies. It was also confirmed the extent to which this improved precision in comparison to the manual operation performed by human operators.



In March 2023, we launched OpreX Asset Health Insights (2.0), a new version of our cloud-based IIoT service that features powerful new asset health monitoring and management functions and is also compatible with Alibaba Cloud. Asset Health Insights is a cloud-based asset monitoring service that collects OT data from assets such as the equipment and devices deployed in a plant, aggregates this data, and displays it in an appropriate format. This works on Yokogawa Cloud and features analytics functions that are powered by AI and ML.



In March 2023, a reinforcement learning-based AI system was officially adopted at an ENEOS Material Corporation chemical plant, a world first. In a one-year test, it was verified that this next-generation autonomous control AI system stably controlled plant operations, reduced environmental impact, stabilized product quality, and facilitated the digital transformation of know-how. Through this development, technical issues that have stood in the way of the realization of IA2IA and smart manufacturing are being resolved.

Progress in Strategic Alliances with DX/IT Companies

The company is committed to promoting OT/IT convergence under its AG2023, our new medium-term business plan. For OT/IT convergence, we are actively collaborating with DX/IT partners to enhance our DX/IT capabilities while leveraging our OT capabilities, one of our strengths. In September 2022, we acquired Votiva Singapore Pte. Ltd. to accelerate ERP business growth in Southeast Asia and strengthen our ERP business in the IT field. Going forward, we plan to enhance our global ERP business through collaboration with Web Synergies (S) Pte. Ltd., another of our capital alliance partners. At the same time, we have entered into a capital and business alliance with LTS Corporation to enhance our IT and DX consulting capabilities. We are also collaborating with Yokogawa Digital Corporation to provide consulting services that combine IT and OT. We will continue our efforts to collaborate actively with DX/IT companies.

AI Solutions for Industrial Autonomy (IA2IA)

In a World First, Yokogawa's Autonomous Control AI is Officially Adopted for Use at an ENEOS Materials Chemical Plant

– One year of stable operation demonstrates this next-generation control technology can reduce environmental impact, achieve stable quality, and transform operations –

Summary

ENEOS Materials Corporation and Yokogawa Electric Corporation announce they have reached an agreement that Factorial Kernel Dynamic Policy Programming (FKDPP), a reinforcement learning-based AI algorithm, will be officially adopted for use at an ENEOS Materials chemical plant. This agreement follows a successful field test in which this autonomous control AI*1 demonstrated a high level of performance while controlling a distillation column at this plant for almost an entire year. This is the first example in the world of reinforcement learning AI being formally adopted for direct control of a plant*2.

What Yokogawa Achieved

Over a 35 day (840 hour) consecutive period, from January 17 to February 21, 2022, this field test initially confirmed*3 that the AI solution could control distillation operations that were difficult to apply to existing control methods (PID control/APC) and had necessitated manual control of valves based on the judgement of experienced plant personnel. Following a scheduled plant shut-down for maintenance and repairs, the field test resumed and has continued to the present date. It has been conclusively shown that this solution is capable of controlling the complex conditions that are needed to maintain product quality and ensure that liquids in the distillation column remain at an appropriate level, while making maximum possible use of waste heat as a heat source. In so doing it has stabilized quality, achieved high yield, and saved energy.

Confirmed Benefits from the Year-Long Field Test

① Year-round stability

The autonomous control AI maintained stable control of the liquid levels and maximized the use of waste heat, even in winter and summer weather, with external temperature changes of around 40°C. No problems were observed, and stable operation and high product quality was achieved throughout the field test.

② Reduced environmental impact

By eliminating the production of off-spec products, the autonomous control AI reduced fuel, labor, and other costs, and made efficient use of raw materials. While producing good quality products that met shipment standards, the autonomous control AI reduced steam consumption and CO₂ emissions by 40%**4 in comparison to conventional manual control.

③ Lightened workload and improved safety

The autonomous control AI eliminated the need for operators to make manual inputs. This not only reduced the workload and helped to prevent human error, but also reduced mental stress levels and improved safety.

④ Robustness of the AI control model

Even after modifications were made at the plant during a routine shut-down for maintenance and repair, the same AI control model could remain in use.



Distillation columns at the chemical plant (Credit: ENEOS Materials Corporation)

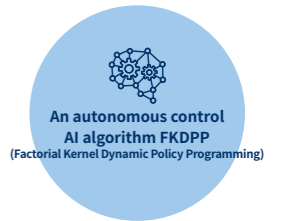
Confirmed benefits from the year-long field test			
<p>Year-round stability even with external temperature changes of around 40°C</p>	<p>Optimized energy use and reduced time and cost while maintaining quality, enabling a 40% cut in CO₂ emissions</p>	<p>Lightened workload and improved safety</p>	<p>AI control model could be used as is even after plant shut-down for maintenance and repair</p>

*1 Yokogawa defines autonomous control AI as AI that deduces the optimum method for control independently and has a high level of robustness enabling it to autonomously handle, to a certain extent, situations that it has not previously encountered.
 *2 Based on comprehensive secondary research of publicly available resources by IoT Analytics, performed in March 2023.
 *3 Press release announced on March 22, 2022: 'In a World First, Yokogawa and JSR Use AI to Autonomously Control a Chemical Plant for 35 Consecutive Days - Putting into practical use a next-generation control technology that takes into account quality, yield, energy saving, and sudden disturbances. Please refer to our company website for details.
 *4 In comparison to the amount of steam previously used to maintain the liquid level and the corresponding amount of CO₂ emissions.

<https://www.yokogawa.com/news/press-releases/2022/2022-03-22/>

Factorial Kernel Dynamic Policy Programming (FKDPP), a Reinforcement Learning-Based AI Algorithm

The AI used in this control experiment, the Factorial Kernel Dynamic Policy Programming (FKDPP) protocol, was jointly developed by Yokogawa and the Nara Institute of Science and Technology (NAIST) in 2018. It can be used in areas that could not be automated, for example, where there are conflicting targets, such as the need for both high quality and energy savings.



Received the Prime Minister's Award at This Year's Japan Industrial Technology Awards

The FKDPP algorithm has received the highest award, the Prime Minister's Prize, in this year's Japan Industrial Technology Awards. The Japan Industrial Technology Awards (Nihon Sangyo Gijyutsu Taisho) were established in 1972. The purpose of these annual awards is to bring recognition to companies and other organizations that have contributed to industry and society over the year through the development and practical application of advanced technologies.



The Japan Industrial Technology Awards Ceremony (Credit: Nikkan Kogyo Shimbun)
 From left: Mr.Yanagi Vice-Minister of the Ministry of Education, Culture, Sports, Science and Technology; Mr.Nara President of Yokogawa Electric Corporation; Mr.Kanokogi President of Yokogawa Digital Corporation; Mr.Ota Vice President of Nara Institute of Science and Technology

The Future Direction of AI and Manufacturing

Research into the use of AI in manufacturing began at Yokogawa around 2013. At the time, AI was still a term that was used more in science fiction, not the buzzword one often hears on TV today. (Back then, "AI" was generally understood in the IA field to stand for "analogue input".) However, since the AlphaGo Go-playing program defeated a professional Go player in 2015, AI technology has been in the spotlight and attracted a lot of public attention AI has continued to develop, and in their respective board game and document generation domains, technologies such as AlphaGo and ChatGPT have achieved tangible results that everyone can see.

AI research is also being undertaken for various applications in the manufacturing industry. However, people have been particularly cautious about the full-scale use of AI with plant operations. This requires high levels of reliability and safety, so the introduction of this unprecedented new technology has faced high hurdles. Moreover, the plant control technologies have been developed over many years and are themselves highly refined. Many people have therefore expressed doubts that AI could produce better results.

As explained on the left side of this page, a test of the FKDPP reinforcement learning AI algorithm that began in March 2022 succeeded in autonomously controlling the operation of valves at a chemical plant. After one year of stable operation, this technology was officially adopted for use at this Yokogawa customer's plant. At last, AI had succeeded in achieving "tangible results that everyone could see" in the operation of a plant. As one of the originators of FKDPP, I feel very fortunate about this. This achievement can be attributed to the passionate aspirations of the researchers from the Nara Institute of Science and Technology, plant-related staffs from ENEOS Materials Corporation, and Yokogawa's people to achieve something new, and their strong collaboration. I would like to take this opportunity to express my gratitude to all those involved.

Yokogawa Digital Corporation was founded in July 2022. As a consulting firm that has its origins in the manufacturing industry, we will work together closely with our customers to resolve issues at their plants. The manufacturing industry faces a wide range of issues from addressing a decrease of operators and difficulties in passing on technical knowledge due to a falling birth rate and an aging population to sustainability management and strengthen the resilience of global supply chains. These issues are difficult to solve simply by introducing AI technology. By transforming mindsets and developing specific measures to resolve management issues, Yokogawa Digital Corporation will provide realistic and practical proposals for the transformation of businesses transformation. As a powerful tool in this, we will provide autonomous control AI solutions that match up well with whatever issues our customers' face in running their businesses.



Hiroaki Kanokogi
 President, Yokogawa Digital Corporation

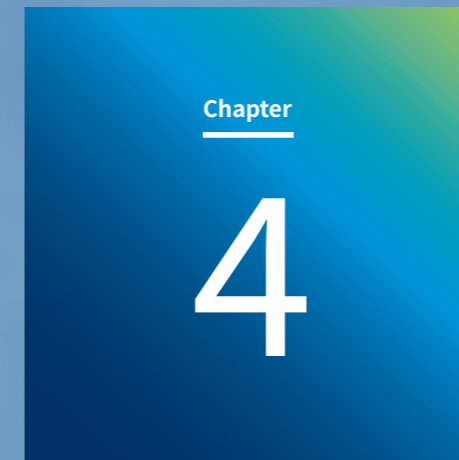
Yokogawa Digital Corporation Established to Support DX in Manufacturing

In July 2022, Yokogawa Digital Corporation was established to support DX in manufacturing, and started operations in October of the same year. As a consulting firm born in the manufacturing industry, we provide support to strengthen the competitiveness of the manufacturing industry, from productions to management.

While dealing with the COVID-19 pandemic, supply chain issues, and the need to contribute toward the SDGs and implement ESG management, companies must also optimize their business operations, from management and the supply chain through production, to increase competitiveness and achieve a sustainable society. Yokogawa Digital will add DX/IT know-how to Yokogawa's strong OT expertise, including DX strategy planning, AI utilization, carbon neutral services, security services, OT strategy planning, software services, and training services, aiming to become a consulting firm that integrates IT and OT and provide value for the overall optimization of our clients' businesses.

Reference Progress of Medium-Term Business Plan







	Transformation 2017 “TF2017” 2015-2017	Transformation 2020 “TF2020” 2018-2020																																													
	<i>Transformation 2017</i>	<i>Transformation 2020</i>																																													
Vision	Establishing a foundation for growth by transforming our business structure	Creating opportunity and consolidating the foundation for growth																																													
Business environment (initially)	<ul style="list-style-type: none"> Expansion of energy demand in line with growth of emerging economies Technology innovations in oil and gas development and in manufacturing processes ICT advancement and penetration into industrial base Oil price volatility Concerns over intensifying competition 	<ul style="list-style-type: none"> Market downturn, intensifying competition Economic slowdown beyond expectation, including stagnant crude oil prices and decelerating growth in emerging countries Declining investment by our customers CAPEX stagnation ⇄ OPEX firm growth Our existing businesses facing an uphill struggle High dependency on energy-related business, leveling-off sales, and volume Reforming growth model Opportunities for growth brought by innovations in digital technology, SDGs, and other changes in our external environment 																																													
Strategy	<p>Focusing on customers</p> <ul style="list-style-type: none"> Develop business by pursuing strategic partnerships with customers Expand our business with our current customer base <p>Creating new value</p> <ul style="list-style-type: none"> ICT advances are leading to new business opportunities Co-create value across companies and industries by improving efficiency and achieving overall optimization <p>Becoming a highly efficient global company</p> <ul style="list-style-type: none"> Globally optimize all functions and operations Be more profitable than our competitors 																																														
KPIs and targets	<table border="1"> <thead> <tr> <th></th> <th>Targets</th> <th>Results</th> </tr> </thead> <tbody> <tr> <td>ROE</td> <td>11% or more</td> <td>8.1%</td> </tr> <tr> <td>ROA</td> <td>6% or more</td> <td>4.8%</td> </tr> <tr> <td>Net sales</td> <td>¥440 billion</td> <td>¥406.6 billion</td> </tr> <tr> <td>Operating income</td> <td>¥45 billion</td> <td>¥32.7 billion</td> </tr> <tr> <td>ROS</td> <td>10.2%</td> <td>8.0%</td> </tr> <tr> <td>EPS</td> <td>¥100 or more</td> <td>¥80.27</td> </tr> <tr> <td>Operating CF</td> <td>¥100 billion</td> <td>¥103.1 billion</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Expanded and grew business based on a strong customer base, and improved profitability, our top priority. Broadened the range of value proposition, primarily in the industries where we are strong, and improved the balance sheet. 		Targets	Results	ROE	11% or more	8.1%	ROA	6% or more	4.8%	Net sales	¥440 billion	¥406.6 billion	Operating income	¥45 billion	¥32.7 billion	ROS	10.2%	8.0%	EPS	¥100 or more	¥80.27	Operating CF	¥100 billion	¥103.1 billion	<table border="1"> <thead> <tr> <th></th> <th>Targets</th> <th>Results</th> </tr> </thead> <tbody> <tr> <td>Growth in orders</td> <td></td> <td>(3.9)%/year</td> </tr> <tr> <td>Growth in net sales</td> <td>3-5%/year</td> <td>(2.7)%/year</td> </tr> <tr> <td>Growth in EPS</td> <td>7-9%/year</td> <td>(3.9)%/year</td> </tr> <tr> <td>ROS</td> <td>10% or more (FY2020)</td> <td>8.4%</td> </tr> <tr> <td>ROE</td> <td>10% or more (FY2020)</td> <td>6.5%</td> </tr> <tr> <td>Organic FCF</td> <td>¥85 billion or more (cumulative over three years)</td> <td>¥68.8 billion</td> </tr> </tbody> </table> <ul style="list-style-type: none"> The targets were not achieved due to the dramatic changes caused by the COVID-19 pandemic. Expanded the range of value proposition, mainly in the industries we specialize in, and continuously improved the balance sheet. 		Targets	Results	Growth in orders		(3.9)%/year	Growth in net sales	3-5%/year	(2.7)%/year	Growth in EPS	7-9%/year	(3.9)%/year	ROS	10% or more (FY2020)	8.4%	ROE	10% or more (FY2020)	6.5%	Organic FCF	¥85 billion or more (cumulative over three years)	¥68.8 billion
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Issues	<ul style="list-style-type: none"> Drastically improved profitability to build a structure that is resistant to fluctuations in trade volume, and accelerate transformation. In addition to the transformations set out in TF2017, drastic business restructuring is needed for Medium- to long-term improvement in corporate value in a changing business environment. 	<ul style="list-style-type: none"> Responding to changing customer needs “leading customer business transformation” Provide solutions that utilize digital technologies, such as DX amid expanding needs for solutions with the themes of productivity improvement, remote control, and safety. Cost structure reform and cost efficiency improvement Continue to work on the measures and reap the results. Break away from the worker-proportional business style. Transformation of human resources Shift resources from existing fields to innovation fields and strengthen the capabilities of the shifted human resources amid the increasing importance of innovative solutions due to the development of digital technology and changing customer needs. 																																													



Management Capital

Six Management Capitals as the Foundation of Value Creation

Data in the table are current as of March 31, 2023

	Source of Value	Approaches to Enhancing Corporate Value and Maximizing Shareholder Value	Relevant page in this report
 Human capital	<ul style="list-style-type: none"> ● Yokogawa Group Identity: “Individually, we aim to combine good citizenship with the courage to innovate.” (Yokogawa Philosophy), “Respect/Value Creation/Collaboration/Integrity/Gratitude” (shared values) ● Number of consolidated employees: 17,084 ● High employee engagement 	<ul style="list-style-type: none"> ● Transforming mindsets ● Improvement in educational environments for employees to act on their own initiative to improve individual capabilities and skills (e.g. the corporate university Yokogawa University) ● “Global HR Transformation Project” Integration of personnel systems, processes, and HR databases ● Promotion of DE&I ● Respect for workers’ rights ● Health and productivity management ● ESG management 	<ul style="list-style-type: none"> ● Human capital See P. 62-65. ● Yokogawa Group Identity See P. 16. ● ESG management See P. 18. ● Health and productivity management, occupational health and safety See P. 94. ● Special Feature: Initiatives for Realizing Smart Manufacturing with S.I.R.I. human resources as a Core See P. 33. ● ESG Highlights See P. 100-101.
 Intellectual capital	<ul style="list-style-type: none"> ● Yokogawa Group Identity: “Pioneering spirit” (Founding Principles) ● R&D expenses/R&D expenses to net sales ratio: ¥30.5 billion/6.7% ● Intellectual property holdings based on IP strategy (number of patents held: approx. 5,500) ● Development centers outside Japan: 10 countries ● Open innovation activity’s structure ● Participation in international standardization activities ● OpreX, comprehensive brand of control business 	<ul style="list-style-type: none"> ● Investments to increase and maximize corporate value over the medium to long term ● DX strategy ● Development of new technologies and solutions in existing business areas ● Trying new businesses and areas for exploration 	<ul style="list-style-type: none"> ● Intellectual capital See P. 66-67. ● Yokogawa Group Identity See P. 16. ● DX strategy See P. 54-55. ● Special Feature: AI Solutions for Industrial Autonomy (IA2IA) See P. 56-57. ● Initiatives for Open Process Automation (OPA) See P. 32. ● Activities in New Businesses and Others and Areas for Exploration See P. 48.
 Social capital	<ul style="list-style-type: none"> ● Yokogawa Group Identity: “Contribution to society” (Founding Principles) “Individually, we aim to combine good citizenship with the courage to innovate.” (the Yokogawa Philosophy) ● A close, trust-based, and long-term relationship with customers built throughout the lifecycle of their plant facilities and our large installed base ● Global business foundation and service networks (service centers: 180 or more, service engineers: approx. 2,500 engineers) ● Participation in projects that contribute to the development of emerging and developing countries ● Contributions to local communities as a good citizen and good relationships with local residents through Yokogawa Festival and other opportunities 	<ul style="list-style-type: none"> ● Resolution of social issues and customer issues through our business ● Establishment of a human rights management system and human rights due diligence ● Fair and impartial transactions ● Local contribution (e.g., use of company facilities, support for local residents in times of disaster, Yokogawa Festival) ● Donations and support to outside charity organizations and communities ● Support for universities and research institutes, etc. 	<ul style="list-style-type: none"> ● Social capital See P. 68-69. ● Yokogawa Group Identity See P. 16. ● ESG management See P. 18. ● Compliance See P. 92. ● Respect for human rights See P. 93. ● Business activities See P. 34-48. ● ESG Highlights See P. 100-101.
 Manufacturing capital	<ul style="list-style-type: none"> ● Yokogawa Group Identity: “Quality first” (Founding Principles) ● Globally expanding production bases ● Excellent manufacturing ability and production technology ability that realize high-quality and high-reliability products ● Yokogawa’s production system NYPS (New Yokogawa Production System) ● Process-oriented organizational culture in which management and on-site work together to discuss repeatedly and continue to improve 	<ul style="list-style-type: none"> ● Continuous maintaining and improvement of hands-on approaches (improvement activities and systematic human resource development) ● Supply chain risk management for the Groups: <ul style="list-style-type: none"> - Reconstructing supply chains taking geopolitical risk into account - Next-generation SCM by DX including AI - Renewal of designs that realizes longer product life cycles ● Value provision activities to customers utilizing our plants 	<ul style="list-style-type: none"> ● Manufacturing capital See P. 70. ● Yokogawa Group Identity See P. 16. ● Risk management See P. 90.
 Natural capital	<ul style="list-style-type: none"> ● Maintaining and continuously improving policies, promotion system, and management system toward reductions in environmental emissions in business activities ● Provision of environmentally friendly products 	<ul style="list-style-type: none"> ● GHG reduction — Acquisition of SBT certification, introduction of ICP, reductions of energy consumption, promotion of introduction of renewable energy, etc. ● Water resource conservation — Reductions in the amount of water usage by improving our production processes and introducing water-saving systems in our office water supplies, etc. ● Waste reduction — Promotion of reusing, reducing, and recycling resources in plants and offices and in product packaging, etc. ● Chemical substance reduction — Strict management on hazardous chemicals, reductions through development, introduction of alternative processes, etc. ● Biodiversity conservation — Raising awareness among employees through seminars and events, etc. ● Environmental assessment standards (product design, lifecycle) ● Product design standards (environmentally friendly design, management of chemical substances in products, recycled product design, and energy-saving design) ● Promotion of green procurement 	<ul style="list-style-type: none"> ● ESG management See P. 18. ● Sustainability initiatives See P. 18-23. ● Environmental management See P. 95. ● ESG Highlights See P. 100-101. ● Included in major ESG indexes See P. 105.
 Financial capital	<ul style="list-style-type: none"> ● Stable financial foundation (maintaining an A rating) ● Operating cash flow of ¥40.4 billion (FY2022), 3 year (FY2021–FY2023) cumulative operating cash flow of target ¥140 billion or more ● Good relationships with high quality long-term institutional investors and analysts through IR activities 	<ul style="list-style-type: none"> ● Ensure the implementation of the four basic strategies of AG2023 to increase order volume, sales growth, an increase of ROS and increase business asset turnover. ● Maintain a financial base to support growth, invest in growth, and allocate optimal cash flow to shareholder returns. ● Providing an explanation about and facilitating understanding of management policies, business strategies, and financial results to the capital market 	<ul style="list-style-type: none"> ● Financial capital See P. 71. ● Medium- to long-term Growth Strategies See P. 50-51. ● Review of the four basic strategies of AG2023 See P. 52-53. ● Financial highlights See P. 98-99. ● IR Activities See P. 105.

Human Capital



Mikio Matsui
Head of Human Resources and General Affairs
Headquarters

Yokogawa aims to realize the aspirations expressed in Yokogawa's Purpose and achieve the growth that will put us on track to becoming a trillion-yen company by fiscal year 2030 through the provision of shared value to society. The driving force behind this is the growth of each and every one of our employees. We will create an environment in which our employees can resolutely tackle the changes in the business environment that are exceeding all expectations, adopt whatever mindset is required, and act on their own initiative to improve individual capabilities and skills.

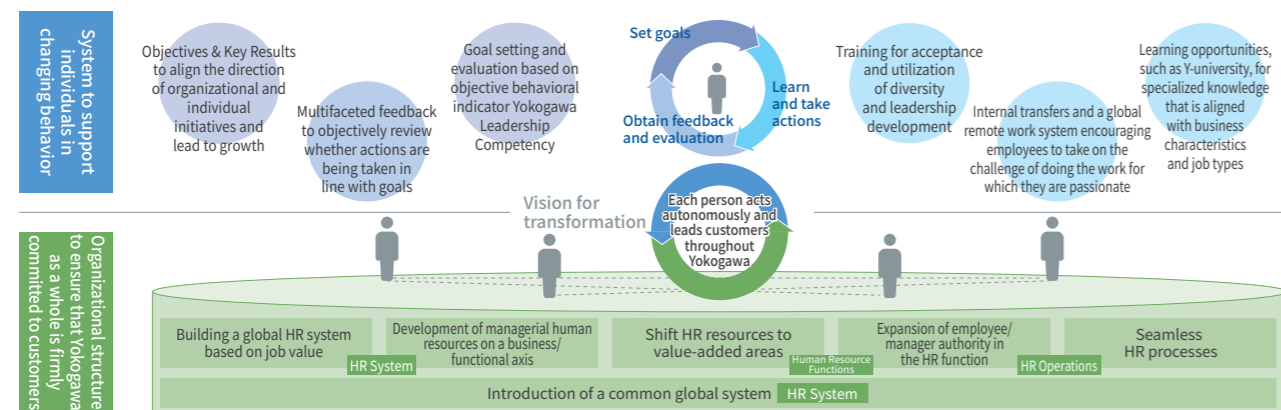
Under the AG2023 plan, we are thoroughly implementing a global human resources strategy to optimize our internal operations and transform mindsets, as part of which we are cultivating a corporate culture and an organizational climate that encourages people to take on new challenges. A key to expansion into new businesses and fields is to promptly secure human resources with the required capabilities at a global level. We will visualize information on the quality and number of personnel, and recruit, train, and optimally deploy employees. Through recruitment and M&A, we will bring on-board personnel who can be immediately effective, promote a change in mindset among our employees, and enhance the training environment for reskilling the workforce. At the same time, the Global HR Transformation Project will integrate personnel systems, processes, and HR databases to establish a foundation for the optimal allocation of human resources. By creating an environment in which human capital is enhanced by such means as improving employee capabilities and engagement, we will maximize the efficiency of our global team. And through our practice of human capital management, our aim as one globally unified company is to continually provide shared value to society.

Global HR Transformation Project - Each one of us strengthens Yokogawa

In response to the evolving business landscape surrounding our customers, we initiated this project starting from the fiscal year 2021 to globally identify and address customer challenges and achieve "Yokogawa's Purpose" through value provision.

We are promoting the global unification of personnel systems and processes and introducing a global human resources IT system to effectively operate them. This will create an organizational structure that is customer-oriented and enables cross-border collaboration and optimization. Additionally, we are establishing the foundation for a framework where individuals can understand and grow in alignment with the expected roles in the future.

Furthermore, in this transformation, each and every employee takes center stage. Both individuals and the organization must change from the ways of the past, requiring considerable effort and ingenuity. That is precisely why we are fostering collaboration between the frontline and the HR department to drive a change in mindset as well.

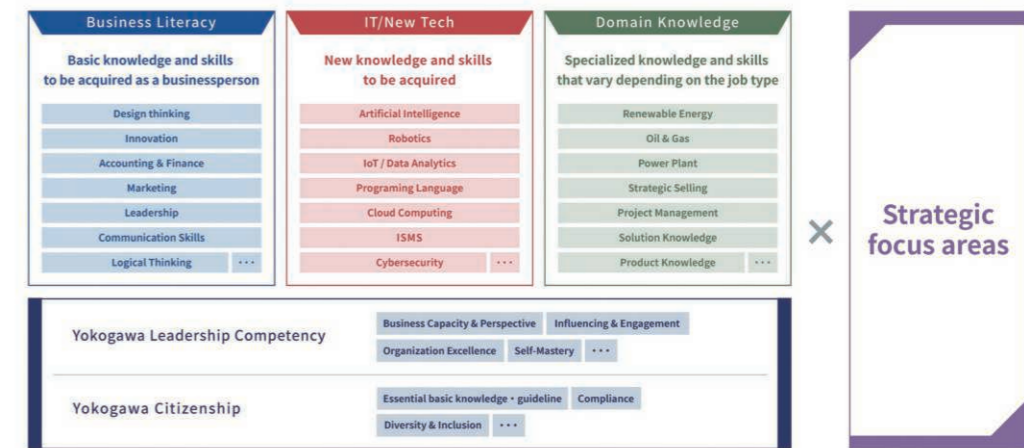


Fostering a Corporate Culture That Inspires Employees to Grow with the Company

With the goal of ensuring Yokogawa can continue to create greater value for our customers and society in a fast-changing world, in October 2018, we established Yokogawa University, an in-house institution, to provide our employees with an environment to acquire and increase their level of expertise and skills in a broad range of areas. E-learning is used as the primary method of training so that our employees around the globe have an equal opportunity to learn without time or location constraints. At the same time, we are developing instructors globally to ensure the availability of instructors at all our locations. Further, our officers serve as instructors to educate our employees. By offering employees opportunities to take on new challenges and helping motivated employees grow faster while cultivating a corporate culture where employees can learn from one another ("Learning Company"), Yokogawa aims to transform itself into an enterprise that is able to achieve sustained growth through employee growth and development.

Learning Target and Results

FY2022 Medium-term results Learning hours per person: 41.3 hours
FY2023 Medium-term target Learning hours per person: 40 hours



Yokogawa University Learning Categories

Future Co-creation Initiative: Nurturing Co-creative Talents and Shaping Collaborator Networks with External Parties

Under the president's direct control, this cross-organizational virtual team is responsible for adapting to drastic external environmental changes, embodying Yokogawa's Purpose, forming collaborative networks, creating value related to solving social issues, and nurturing co-creative talents. Twenty-four young employees in their 20s to 40s, belonging to the millennials, are actively engaged as Scenario Ambassadors, using future scenarios as a dialogue tool to explore and pioneer the future, transcending organizational and industry boundaries, and engaging in forward-looking dialogues with various stakeholders.

■ The 2035 Future Scenario Created by Scenario Planning:

The future scenario envisioned by young employees using scenario planning has become a tool for dialogue about the future across industries and generations. This scenario is widely used for human resource development, business strategy, R&D strategy, and other purposes and continues exploring a new sense of the world. In December 2022, a new team of 18 young employees was formed to create a 2040 future scenario with an expanded scope from BtoB to BtoBtoC.

■ Exploration of Future-Oriented Management and Organizations:

While performing their primary duties, the members have engaged in dialogues with various stakeholders and have established relationships with more than 100 corporations and organizations as of the end of FY2022. They function as boundary spanners, connecting various communities both within and outside the company, thereby strengthening the "power to connect" in Yokogawa's Purpose. We are also continuing our exploration of future-oriented management and organizations by developing new training programs that utilize generative AI and working to activate dialogue and improve the capabilities of young employees.

■ Expanding Collaborator Networks and the Future Co-Creation Community:

We are expanding our collaborator networks by holding workshops to comprehensively explore common social and management issues such as sustainability, DX, and well-being, collaborated on the industry-government-academia fusion community (Green Phoenix Project) established in collaboration with Waseda University's Governance & Sustainability Research Institute.



Please visit our website for more details.

<https://www.yokogawa.com/solutions/featured-topics/future-co-creation-initiative/>

Improvement of Employee Engagement

Increasing employee engagement is essential for Yokogawa to enhance corporate value and achieve sustainable growth.

When employees are passionate about their work and contribute to the achievement of the organization's goals, the capability of the organization is enhanced, and the value provided to stakeholders is greater. While sharing Yokogawa's Purpose, Vision, Mission, and Shared Values, we will develop employees who are proud to be a part of the organization, appreciate and admire each other, have a spirit of mutual respect, and contribute to the organization in an autonomous manner.

Main Achievements in fiscal year 2022

Global employee engagement pulse survey, analysis of results, and improvement activities

In FY2022, we conducted an engagement pulse survey (a simple survey with a limited number of questions) (see "Indicators, Targets, and Performance" on the right page for results). The results of the analysis revealed that "inefficient business processes" were an issue to employee vitality and engagement. In addition, the "connection between managers and general employees" is an issue requiring continued efforts. In response to the current situation where many employees are working remotely, we have identified a lack of verbal communication as one cause. We are making improvements with "communication" and "teamwork" as keywords. In order to address these issues more promptly, each department head has set a mission to "improve sustainable engagement" and is focusing on improvement activities with numerical targets.

Yokogawa Group Awards, an in-house awards system for the Yokogawa Group, are held every year (150 employees received 16 awards in FY2022).

Recognizing and praising people and teams embodying the company's strategy and direction (AG2023/Three goals/Core Values) as role models and good practices.



Promoting Diversity, Equity & Inclusion (DE&I)

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

To achieve this, Yokogawa will actively recruit, develop, and promote people from a variety of backgrounds who differ in terms of experience, knowledge, thinking styles, perspective, cultural background, and socioeconomic status, and in so doing will not discriminate based on ethnicity, nationality, gender, religion, age, social position, or disability. By utilizing digital technology and cultivating an inclusive working environment, we will make it possible for every employee to demonstrate his or her full potential and to work comfortably with a flexible workstyle. Engaging communication and constructive collaboration based on mutual respect facilitates innovation and the co-creation of new value for our customers, partners, suppliers, and in so doing, improves our planet.

Main Achievements in fiscal year 2022

Expanding DE&I Mindset Training to All Global Employees

Deepened understanding of the importance of DE&I promotion and how unconscious bias can affect behavior.

Conducted audits of human resource management systems globally, with DE&I as one of the policies. (FY2022: Implemented at 4 sites)

Promoting the active role of employees with disabilities

Employees with disabilities are making the most of their respective skills and experience and are active in various fields, including engineering, manufacturing, sales, and clerical work. Active recruitment activities have been conducted continuously for many years; as of June 1, 2023, the employment rate in the domestic group is 2.52%.

Promoting the career advancement of female employees

In April 2015, an organization dedicated to promoting diversity was established. We are making group-wide efforts to achieve the goal of increasing the percentage of female managers to 9.3% on a nonconsolidated basis and 12.5% on a global basis by FY2023. In April 2021, two female executive officers were promoted from within the company. In FY2022, the non-consolidated ratio was 8.7% (+3.3% compared to FY2018), and the global ratio was 13.3% (+3.9% compared to FY2018).

Transformation from Telework-Centered Work to Hybrid Work

Due to the impact of COVID-19, there has been a major shift from a work style based on coming to the office to one centered on telework. In line with this change, we have been developing various systems and environments. While the spread of telework has helped individuals achieve a better work-life balance, online work has also led to a lack of daily communication. Many of Yokogawa's strengths have been cultivated through real communication, such as our knowledge of the actual business field, our perseverance in tackling difficult projects, and our ability to overcome challenges through teamwork. Therefore, we have started a hybrid work initiative that combines the best parts of telework and real communication.



I believe we are living in a fascinating era, in which we don't just want, but create a culture that gives everyone a safe space to contribute, achieve their full potential, and feel a strong sense of belonging. This culture embraces diversity, equity and inclusion (DE&I) and will empower us to innovate and dynamically transform mindsets to achieve successful outcomes for our people, partners, communities, and our planet.

Karen Murray

Director, Global DE&I and Organization Effectiveness CoE

Please visit our website for more details.

<https://www.yokogawa.com/about/careers/diversity-equity-inclusion/>

Governance

See page 72 for Corporate Governance.

The Board of Directors monitors and oversees the appropriate response to human capital challenges. The Board of Directors also considers human capital strategies and plans when discussing business strategies and plans.

Risk Management

See page 90 for Risk Management.

In the global business activities of the Yokogawa Group, it is extremely important to bring together a diverse range of human resources so that each individual can maximize their abilities and individuality. As the mobility of human resources increases, the greatest risk is that the competitiveness of recruitment will decline, resulting in the inability to recruit new graduates and mid-career hires as planned and targeted, and the overall strength of the organization will decline as a result of employee turnover. We are working to reduce these risks by providing employees with opportunities for growth and creating an environment that facilitates their success.

Indicators, Targets, and Performance

The Group has established long-term indicators to measure the degree of contribution to society (social impact indicators) and mid-term indicators to measure the growth of businesses contributing to society (business activity indicators) under AG2023 in each of six contribution areas. Among them, as Yokogawa's focus areas related to human capital and diversity, we have identified "occupational health & safety of workers, respect for human rights," "employee well-being & engagement," "people capability development for change," and "promotion of diversity & inclusion," and we set the indicators and targets as follows and are working on these.

Contribution area	Focus area	Indicator	FY23 target	FY22 actual
Improving health & safety	Occupational health and safety of workers at Yokogawa, respect for human rights	ISO45001 certification acquisition record	Acquisition at major companies (12 companies)	Acquisition at major companies (10 companies)
	Employee well-being & engagement	Engagement survey score	81%	76%
Creating workplaces where people can fulfill their potential	People capability development for change	Training hour per person	40 hours per year per person	41.3 hours
	Promotion of diversity & inclusion	Female manager ratio	12.5%	13.3%
		Employment rate of disabled persons (Japan)	2.50%	2.52%

Special Feature

Transforming Mindsets: Empowering sales organizations through value-creating selling training



Ang Aik Leong
Head, Global Training Center

Launch of Global Training Center (GTC)

Sales organizations are actively working towards a shift from product-centric selling to solution-oriented selling, aiming to add value by enhancing their capability to assist customers in identifying their potential issues and offering them valuable solutions. GTC, under the Global Sales HQ, develops and delivers training programs with the objective of supporting sales organizations globally in transforming their sales mindset and enhancing their selling skills, process knowledge, and organizational learning capabilities.

Training programs focusing on three key areas

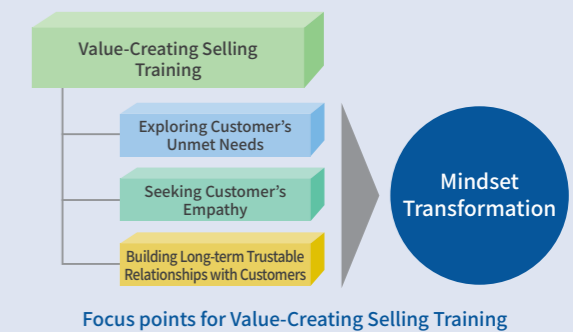
- A) Sales skills with a focus on value-creating selling
- B) Process knowledge to better connect with our customers
- C) Coaching to motivate learning

Main activities

One of the foundations of value-creating selling is preparing hypotheses using industry process knowledge. These hypotheses can help explore customers' challenges, triggering them to analyze with new perspectives to uncover unmet needs.

Good sales meeting skills are critical in establishing customer trust and building long-term relationships. The training program utilizes a structured process and a tool to assess individual meeting skills from the customer's perspective (judging from customer's reactions and feelings) and identifying areas for self-improvement.

Finally, GTC offers a coaching program helping managers to enhance their ability to support their staff's learning. By consistently enhancing training initiatives, including enhancing conducive learning environments and support, GTC aims to empower sales professionals across the organization to further excel in their roles.



Focus points for Value-Creating Selling Training



Sales Training in Yokogawa South Africa

Strengthening the relationship between Intellectual Capital and Social Capital based on Yokogawa's Vision



Tsuyoshi Abe, Ph.D.
Head of Marketing
Headquarters

To make investments that will ensure sustainable growth, one must not only consider risk and return, but also impact. And to this end, it is vitally important to strengthen not only tangible assets, but also all intangible assets that have an impact on our business activities, and publicly disclose information on these assets. It is important to have a strong and sophisticated strategy for intellectual property as it is a key intangible asset, and toward this end one must consider the IP landscape, open vs. closed strategies, IP portfolio management, and IP organizational design. Moreover, consideration must be given to defense, offense, and co-creation. "Defense" is the protection of a business by establishing the own IP rights. "Offense" is the enhancement of corporate value through the acquisition and utilization of intellectual property based on an intellectual property portfolio management strategy. "Co-creation" refers to any jointly executed value creation activity undertaken for the purpose of creating shared value. At Yokogawa, we are looking ten years down the road as we take the initiative to solve problems faced by society and thus achieve our vision for a future in which individual industries and societies will function autonomously, but collaborate with each other and have a symbiotic relationship.

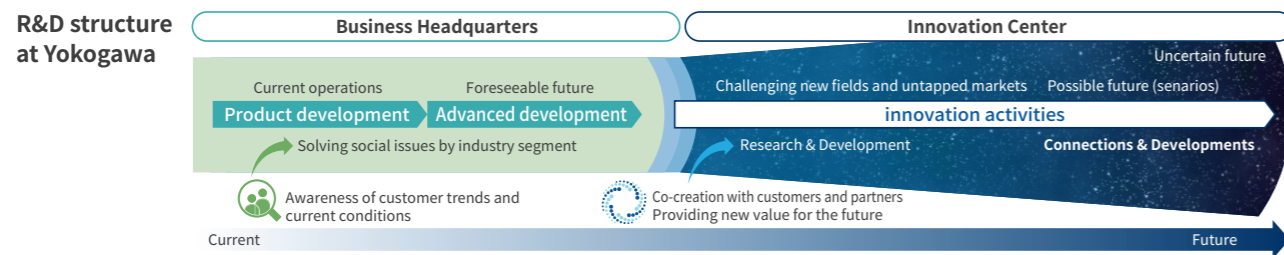
The system of systems (SoS) concept and our "Co-innovating tomorrow" corporate brand slogan are our starting points for the strengthening of collaboration with internal and external stakeholders. We believe that active and concerted action by all stakeholders, including other companies, members of the local community, and employees will help to make society more efficient. While acknowledging the importance of the trust, norms, and human networks that are the fabric of society, we will emphasize autonomy and symbiosis as we target the sustained creation of value and seek to present solutions to social issues.

Intellectual Capital Innovation (Research & Development)

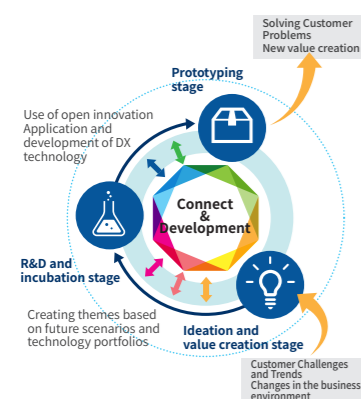
Yokogawa's research & development (R&D) includes product development and advanced development activities that resolve issues quickly in each industry segment based on customer trends and an awareness of the current situation. It also includes innovation activities whose goal is to quickly provide new value while looking ahead to the future through co-creation with customers and partners. The business headquarters is mainly responsible for the former, while the latter is primarily the task of the Innovation Center.

The mission of the Innovation Center is twofold:

1. Contribute to customers' value creation (co-creation) through the interconnection of internal and external organizations, including customers' organizations.
2. Devise innovative scenarios and incorporate them in research and development activities to nurture future businesses.



Connect & Development



Through its innovation activities, Yokogawa is creating sustainable value for customers based on a broader perspective and a deeper understanding of customer issues. The innovation creation process consists of the three stages shown on the left. In the ideation and value creation stage, future scenarios are developed from the challenges faced by customers, customer trends, and changes in the business environment. These scenarios are then incorporated into R&D themes.

In the R&D and incubation stage, we will leverage open innovation, intellectual property, and technology marketing to build concrete services and product images, and verify the value and feasibility of research themes. We will also apply DX technology to create new value.

In the prototyping stage, we listen to customers, returning to them many times throughout the PoC process to quickly and efficiently improve the completeness of the solution and create new value. These three stages of our innovation activities enable us to identify and resolve customer issues.

Yokogawa's R&D Strategy

The basic concept of Yokogawa's R&D activities is how to produce and utilize materials with specific functions, and how to develop and provide effective means for those functions.

The Innovation Center conducts R&D activities on three themes. Energy & Sustainability Innovation will contribute to the process automation industry by deepening and enhancing industry automation, which has been our core business.

Life Innovation and Material Innovation will not be an extension of Yokogawa's existing business, but a new field where we will take on new challenges.



Open Innovation Activities

Yokogawa is vigorously promoting open innovation, the use of external ideas and resources (e.g., advanced technologies, expertise, human resources), and collaboration with other parties for innovation. We are aiming to maximize the value provided to our customers by collaborating with other organizations. To search for the most suitable collaborative partner, we are working on collaboration with domestic and overseas universities and research institutes and utilization of a venture company introduction service. We are greatly expanding opportunities to promote co-innovation with external organizations, acquire cutting-edge technologies and the latest information at an early stage, and connect this to the creation of new business development. In addition, these open innovation activities, as well as the company-wide system and intellectual property activities that support them, received a high rating, and we won the 2023 Intellectual Property Achievement Award from the Commissioner of the Patent Office. Going forward, in addition to transforming existing businesses through digital transformation, we will focus on developing new markets through open innovation in the biotechnology, life sciences, water, ocean, and space fields.

International Standardization Activities

International standardization activities have a significant meaning in business strategy as one of the activities to ensure competitive advantage for a company through rule-making. Furthermore, they are also an important element of R&D strategy, as they determine whether the technology that is being invested will be accepted in the market.

In collaboration with its R&D and intellectual property strategies, Yokogawa is actively engaged in international standardization activities in various fields and is a member of many international standardization organizations, including IEC and ISO. Yokogawa prioritizes the enhancement of value for its customers and focuses on international standards that establish requirements for interoperability in telecommunication technologies and software. The Company's policy is to disclose its intellectual property if necessary or license it through licensing agreements.

Intellectual Property

In the intellectual property department, we have formulated and implemented new intellectual property strategies in light of the business environment that is undergoing major changes as IT/OT convergence advances. The intellectual property department is located in the marketing headquarters, with a system that allows alignment with each department such as R&D, brand, design, M&A, and alliances.

■ Formulation and execution of IP strategy

Acquisition of intellectual property by the company

Given that companies in the non-IA industry may become competitors, we put our focus on the creation and acquisition of rights for inventions in the IT/OT field based on our strategy on intellectual property portfolio management. To establish rights in the technical fields, we are proceeding with IP acquisition with a view to "aggressive" and while also eyeing to promote co-creation.

Acquisition of intellectual property from third parties

In order to create a more competitive business and create shared value, including co-creation goals, we are developing new business through M&A and open innovation, and are working to acquire intellectual property. We standardize IP due diligence and PMI operations for M&A and investment, and promote effective and efficient risk assessment and IP acquisition.

■ Building a system to strengthen intellectual property activities

Intellectual property DX conversion

We have introduced a new intellectual property management system (Anaqua), and are working to collaborate with external resources (patent law firms, etc.) in and outside Japan. By distributing Anaqua in our business divisions, we are strengthening our system for prompt and appropriate management.

Clarification of decision-making body

It has been announced that the IP department will make decisions independently regarding the handling of company's intellectual property. Expediting decisions on the prosecution and abandonment of rights, it has become possible to strengthen our intellectual property portfolio based on information from a variety of areas, such as market and business, in addition to existing information.

Intellectual Property Achievement Award

Yokogawa received the 2023 Intellectual Property Achievement Award from the Commissioner of the Japan Patent Office. The key points of the award were: 1) open innovation initiatives, 2) technology development in collaboration with approximately 180 institutions, and 3) promotion of bioeconomy-related business in collaboration with start-up companies and research institutes. Yokogawa promotes initiatives for co-creation that make effective use of the intellectual property system and leads the realization of a sustainable society.



From left: Mr. Tsuyoshi Abe, Senior Vice President, Yokogawa Electric Corporation; Mr. Koichi Hamano, Commissioner of the Japan Patent Office; Hitoshi Nara, President, Yokogawa Electric Corporation; and Yokogawa members

Social Capital

A strong track record and large installed base that have been built based on trust

In nearly 60 years since we began developing our global business rooted in local communities, we have worked closely with customers in each region to provide products, solutions, and services and have undertaken more than 40,000 projects around the world. This abundant delivery record is proof of the relationship of trust that we have built over the years with our customers.

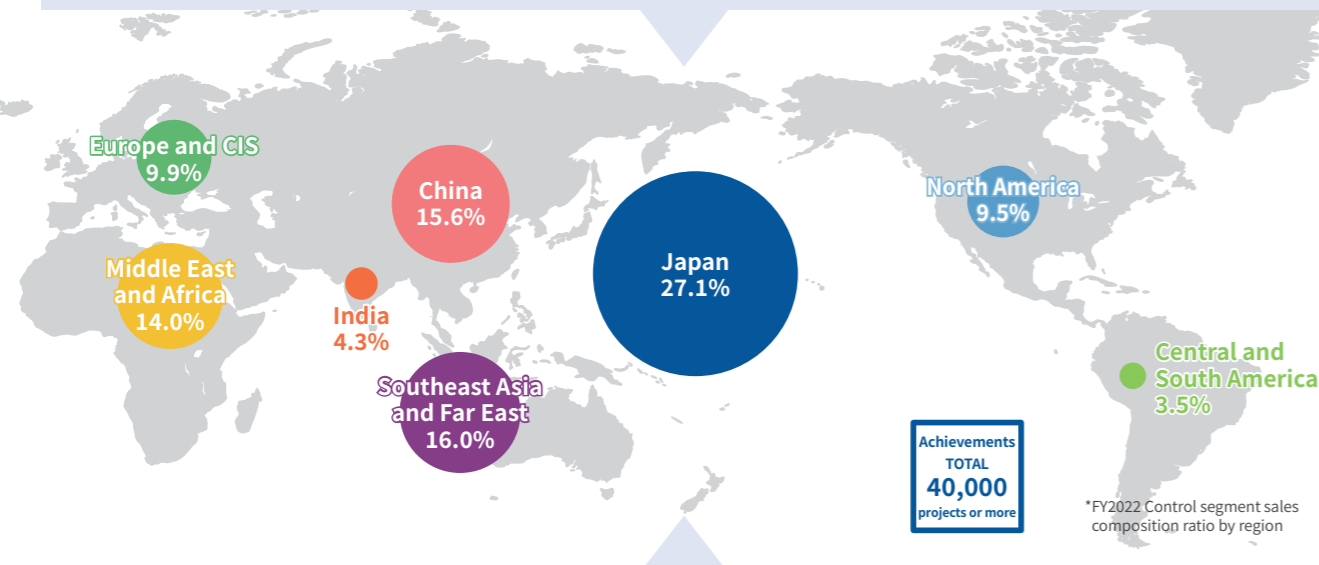
Messages from Regional Chief Executives



Kazuhiko Takeoka
Regional Chief Executive for ASEAN, Pacific, China and Korea
President of Yokogawa China Co., Ltd.

Half a century has passed since Yokogawa began to develop its business in the ASEAN countries, China, Korea, and other countries in the Pacific region. I would like to take this opportunity to express my deep gratitude for the great support and guidance we have received from our customers. In recent years, there has been a call for companies to contribute to sustainability by accelerating the introduction of DX technologies, engaging in ESG management to achieve the SDGs, and other initiatives, and this has come to be regarded as an indicator of corporate value. Yokogawa and its customers are actively engaged in such efforts.

In this region, the Energy & Sustainability, Materials, and Life businesses are closely inter-related due to geopolitical and geoeconomic factors and the characteristics of our customers' value and supply chains. In this context, regional and global coordination across national borders has become more important. At Yokogawa, we will continue to base our business strategy on the trust-based relationships we have cultivated with customers over the years and our long track record in providing solutions. We will work with our customers to co-create value and endeavor to help them become more profitable and efficient through solutions centering on IA2IA that contribute to the establishment of a sustainable society.



Kunimasa Shigeno
Regional Chief Executive for Middle East and Africa
President of Yokogawa Middle East & Africa B. S. C.(c)

Yokogawa's entry into the Middle East dates back to the 1970s, when the company entered into an agency agreement with a Saudi Arabian company and began developing the control system market centering on oil, gas, and petrochemicals. In 1990, Yokogawa established a company in Bahrain, and thereafter established sales and service offices in Saudi Arabia, UAE, Oman, Qatar, and other Middle Eastern countries. In 2013, control of the African business was transferred from the European regional headquarters to our regional headquarters.

Over the years, Yokogawa has maintained good customer relationships with major companies engaged in the oil, gas, and petrochemical businesses, mainly in Saudi Arabia and the UAE. With its highly reliable and high-quality products, proven project execution capabilities, solution proposal capabilities, and timely and meticulous services, the company is honoring its commitments to its customers and steadily expanding its business while strengthening its localization. Yokogawa has taken on the challenge of transforming itself from a control system supplier to a total solution provider.



Shuji Mori
Regional Chief Executive for North America, South America, Europe, Russia and CIS

As we are on our competitors' home turf and got a later start here than these companies, we have always seen ourselves as challengers in our efforts to develop this market and expand our business here. By consistently providing unique value that only we can offer, we have gained the trust of companies that had been doing business with our competitors, and successfully started doing business with them. Thanks to this, we have become indispensable partners of a number of companies here and are working with them to grow their businesses. The spirit of being a challenger remains unchanged, and our leaders and employees in each country in this region continue to work closely with our

headquarters in Japan to deliver value to our customers. In Europe and North America, people are very aware of the need for new energy sources and sustainability, and there is active investment in green energy and renewable energy. Our company has already been selected to work as a main automation contractor in numerous projects. Through our involvement in these initiatives, we aim to engage in the development of new technologies that will help to realize a sustainable society and achieve a brighter future for the region and our customers.



Hiromasa Yatsunami
Regional Chief Executive for Japan
President of Yokogawa Solution Service Corporation

Japan is where Yokogawa was founded, and throughout our long history we have continued to refine our technologies and work with our customers, constantly changing and aiming for growth, to contribute to the development of a wide range of areas in society and industry.

In 2013, 10 years ago, Yokogawa established Yokogawa Solution Service Corporation, integrating the sales, engineering, information business, and service divisions of the domestic control business with the aim of transforming it into a solution service company. This business has been expanded by establishing a system to provide optimal solution services to our customers in a single, integrated manner.

As efforts to protect the environment and realize a sustainable society are required on a global scale, new technologies are being introduced one after another, and we are entering an era of momentous change in society, industry, and lifestyles. Our customers face a wide range of challenges and are accelerating their efforts to decarbonize, integrate management and manufacturing information with the use of digital technology, and establish resilient supply chains.

To assist in these efforts, we will continue to co-create with our customers and provide value through our nationwide sales, engineering, and service system, and through our business partners. To accomplish this, we will capitalize on our extensive installed base, the expertise we have cultivated in various industries, and the strong relationships that we have established with our customers.



Sajiv Ravindran Nath
Regional Chief Executive for India and South Asia
President of Yokogawa India Limited

Yokogawa India Limited is committed to creating a sustainable society by utilizing IA2IA and smart manufacturing to ensure the provision of green/clean/renewable energy, clean water for all, food for all, and health for all, and above all create an ecosystem that is fully circular and self-sustainable.

We are perfectly aligned with Yokogawa's vision of creating sustainable value and leading the way in solving global issues through autonomy and symbiosis. Significant steps have been taken in meeting customers' expectations for AI, autonomous operations, smart manufacturing, and other technologies. We have won projects in various domains, like supply chain analytics for pipelines, AR/VR using smart wearables, asset & process data analytics, connected worker platforms, real-time production management, smart manufacturing consulting, open platforms (OPAF), and digital oil fields.

As per the International Monetary Fund, India is poised to become the third largest global economy by 2027. The "Make in India" policy, which calls for the localization of manufacturing in India, is being vigorously pursued. India is well poised to be a global manufacturing hub to solve supply chain issues and be a growth engine for Yokogawa.

South Asia has more than 2 billion people and constitutes nearly 25% of the world's population. This segment of the global population has a huge demand for water, power, food, medicine, and energy (especially renewable energy). We will make the best use of this opportunity and leverage our unique strengths in providing deliverables at all levels (field, control room, supervisory, planning, and management).

The synergy that Yokogawa India, KBC, and Yokogawa Technology Solutions share with Yokogawa Electric and other companies of the Yokogawa Group results in the creation of enormous value for our customers, shareholders, and the people of our countries.

Manufacturing Capital

Strengthen supply chain risk management through a global production system. Optimizing production and logistics by utilizing DX and working to provide value by combining our factories and core competencies.



Hiroshi Nagai
President of Yokogawa Manufacturing Corporation

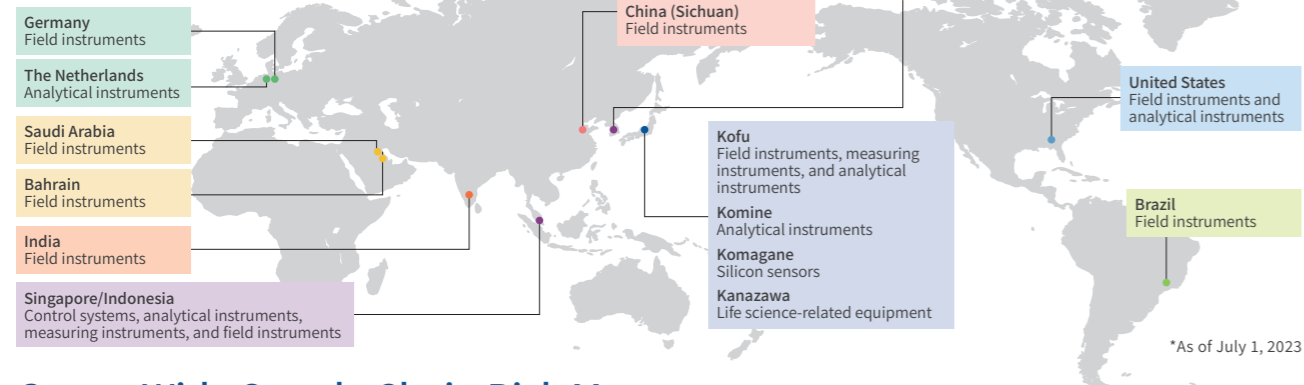
Yokogawa's manufacturing organization spans globally. Although manufacturing around the world is rapidly changing, such as supply chain disruptions and material shortages, we continue to strive to improve our production operations by enhancing global collaboration to meet our customer's demands for on-time delivery, while maintaining high quality, based on quality-first policy. We view adversity as an opportunity to strengthen our resilience by globally optimizing material selection and procurement, diversifying risks, and re-viewing how products are developed and designed. In addition, we utilize digital technology to visualize and optimize production and logistics to be able to quickly and flexibly adapt to unexpected changes in our business.

The driving force behind our new initiatives is a core competence, "Genbaryoku," which means the site know-how and manufacturing engineering capabilities we have acquired through our build-to-order production and a platform that allows us to continuously develop these capabilities. This is based on a process-oriented organizational culture in which management and production line workers continuously discuss ways as one team to make improvements based on the global standard New Yokogawa Production System (NYPS). Our systematic human resources development activities support these efforts.

We also contribute to solving our customer's problems by demonstrating daily improvements in our factory where Yokogawa's solutions and products are installed.

In these ways, we engage value creation to our customers by making use of both our factories as tangible assets and intangible assets, namely this "Genbaryoku."

Production activities expanding globally



Group-Wide Supply Chain Risk Management

Due to supply chain disruptions caused by COVID-19 and a global shortage of materials, we have had to adjust production in Yokogawa. Our group provides solutions that are essential to our social infrastructure, and we are required to respond to further changes to maintain a stable supply for our customers. To this end, it is essential to strengthen our supply chain management (SCM), particularly our overall management from procurement to logistics. Manufacturing is located at the center of SCM, and we are promoting the overall strengthening of SCM by cooperating with the upstream and downstream process of the supply chain through Genbaryoku, thereby taking on the role of Yokogawa's overall optimal engine. Currently, we are rebuilding a stable supply system through the following initiatives.

Rebuilding the Supply Chain in Consideration of Geopolitical Risks

Depending on the type of parts and components, we have established systems, such as multiple sourcing, independent of specific regions, strategic stock, localization, and in-house manufacturing to enhance resilience.

Next-generation SCM through DX, including AI

Global inventory management is realized by integrated and centralized management of incoming and outgoing warehouse information from tracking data by DX. In addition, we calculate the parts required from demand forecasting data using AI and share them with suppliers in advance to enable supply in line with customer demand.

Design Updates for Longer Product Life Cycles

Our customer's demand that we provide products with long-term high reliability. Therefore, we need to update the design of our products on a regular basis to match parts that switch over a short period of time. By making strategic design changes, we will maintain supple products, while ensuring the parts availability.

Financial Capital

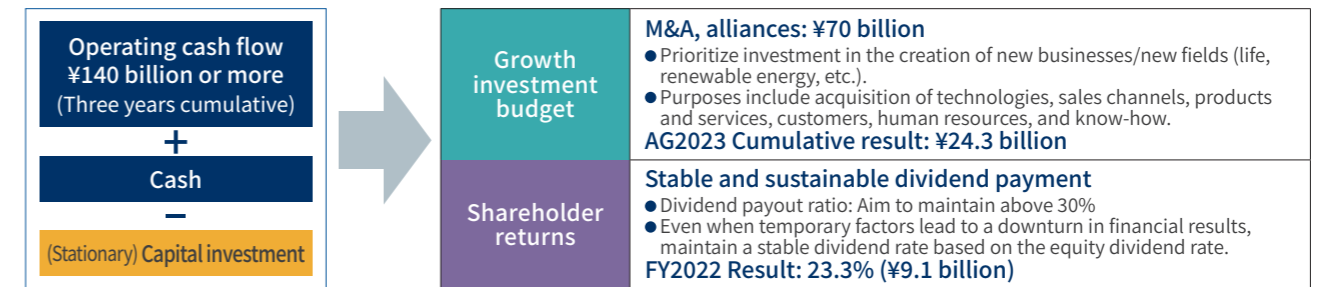
Capital Policy and Financial Strategy

Under the medium-term business plan Accelerate Growth 2023, we will preferentially allocate generated cash flow for growth investment to increase sustainable corporate value and total shareholders return (TSR). We will also strive to improve shareholder returns in a proactive manner on the premise that we will maintain a certain financial base.

In order to realize investment for growth and proactive shareholder returns, it is also important to maintain a financial base supporting them. Assuming discontinuous risk from the past, including rapid changes in external business environments, we will keep shareholders' equity at a level that can maintain an A rating, even if the risk is actualized.



Michiko Nakajima
Head of Accounting & Treasury Headquarters



Capital Investments for Growth (Strategic Investments)

The company will set aside a total of ¥70 billion over the three-year period. It will maintain an optimal capital structure that takes into account overall existing risks, predicted increases or decreases in equity, and predicted increases in risk associated with capital investments for growth (strategic investments).

Major Results

- Acquired Insilico Biotechnology AG, developer of innovative bioprocess digital twin technology
 - Acquired PXISE Energy Solutions LLC, developer of high-speed control software for grids and renewable energy assets
 - Acquired Dublix Technology ApS, provider of optimization technologies for waste-to-energy and biomass power plants
 - Acquired Fluence Analytics, Inc., pioneer in digitalizing the monitoring of polymerization reaction* processes
 - Launched "SynCrest Inc.," a joint venture targeting the CRDMO business for middle-molecular drugs (investment ratio: Otsuka Chemical 51%, Yokogawa Electric 49%)
- * Polymerization reaction: The combination of small molecules, called monomers, to form larger molecules (polymers)

Dividend Policy (Basic Policy on Allocation of Profits)

We will seek to allocate profits preferentially to investments that maximize corporate value over the medium to long term, but will also strive to improve shareholder returns through the proactive payment of dividends, while ensuring it retains a certain financial base. Yokogawa will continue to return a certain percentage of profit each period based on the target dividend payout ratio, and maintain a stable dividend based on the equity dividend rate. We will aim to maintain the dividend payout ratio above 30%, based on the thinking laid out above, we will set it at a level in order to maintain long-term expectations for the company in the capital markets.

We also flexibly consider additional shareholder returns through acquisition of own shares based on status of cash flow generated and other factors, on the premise that we will ensure preferential allocation to growth investment and a certain financial base.

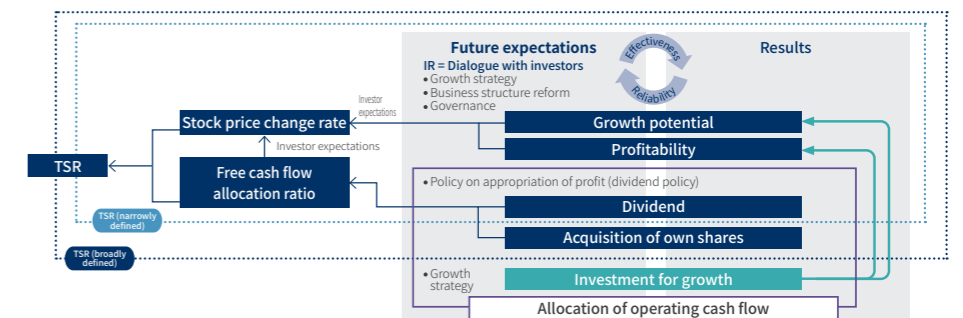
Dividend: See Financial Highlights on page 98
 Acquisition of own shares: The company's common shares are purchased on the market with an upper limit of ¥20 billion (acquisition period: from May 22, 2023, to December 29, 2023)

Thoughts on Shareholder Value

We will strive to maximize shareholder value from a medium- to long-term perspective by achieving a total shareholder return (TSR) that exceeds the cost of shareholders equity. Through investment for growth, we will strive to increase our "growth potential" and "profitability", further increase our cash flow, achieve sustainable growth, and increase corporate value over the medium to long term. We will also actively provide returns to shareholders on the premise that we will maintain a certain financial base.

Furthermore, by actively engaging in dialogue with stakeholders, including capital markets, through IR activities, we will strive to deepen common understanding and foster trust.

The TSR in fiscal year 2022 was below the weighted average cost of capital (WACC). Based on the basic strategies of AG2023, we will accelerate business growth to improve ROIC, and eventually also ROE.



Chapter
5

Corporate Governance

Basic Views on Corporate Governance

The Yokogawa Group has established a corporate philosophy, the Yokogawa Philosophy, and Standards of Business Conduct for all members, and strives to ensure the appropriateness of all relationships with stakeholders, including shareholders, customers, business partners, employees, and society, grow sustainably, and increase corporate value over the medium and long terms. In addition, based on the philosophy that “a company is a public entity in society,” the Group positions the earning of the trust of all stakeholders, via sound and sustainable growth, as its basic corporate management mission.

In addition, we believe that solving environmental and social issues is the raison d'être of the Group, and we have established Yokogawa's Purpose as “utilizing our ability to measure and connect, we fulfill our responsibilities for the future of our planet,” in which the top management itself demonstrates strong conviction and leadership to promote management that values sustainability.

In order to experience healthy and sustainable growth of the Group and to maximize its corporate value, the Group believes that efforts, such as thorough compliance, appropriate management of risks, and information disclosure in order to ensure constructive dialogue with shareholders and other stakeholders, are also essential. 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.

The transparency of the actions of the Board of Directors and the speed of its decision-making is improved through deliberations between directors who are well versed in the Company's business and Outside Directors who maintain a high degree of independence. In addition, Audit & Supervisory Board Members, including outside Audit & Supervisory Board Members, shall work to enhance the auditing of management through the strict auditing of the legality and rationality of the work carried out by directors and the validity of their decision-making processes.

The Board of Directors is evaluated every year to enhance the appropriateness of directors' execution of their duties and to improve efficiency through objective evaluation and analysis of the effectiveness of the Board of Directors.

Please refer to our website for Yokogawa Corporate Governance Guidelines.

https://cdn-nc.yokogawa.com/1/20520/tabs/ir_cg_guidelines-en.pdf

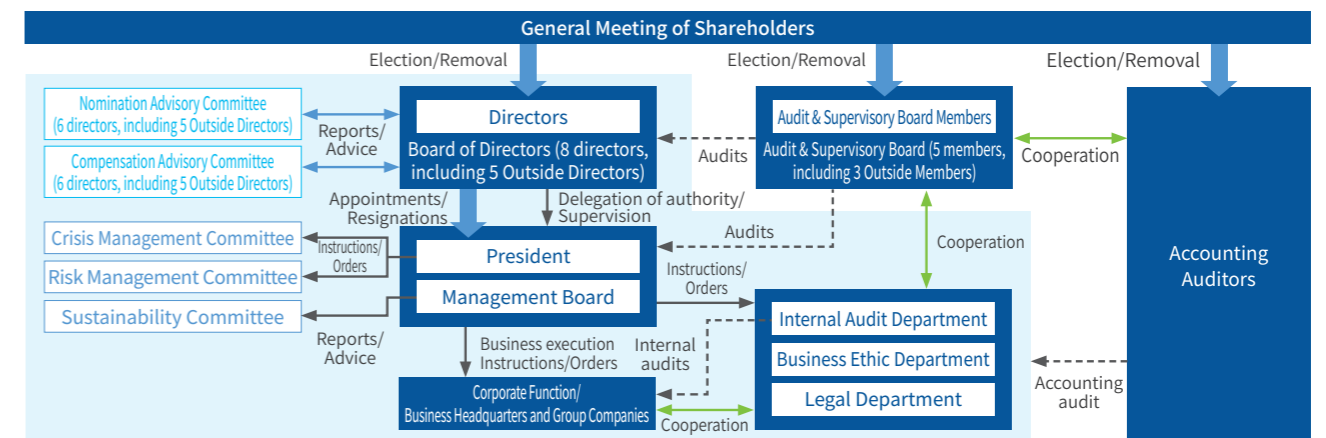
Continued Enhancement of Corporate Governance

	Until FY20 Continuous enhancement			From FY21 Continuing enhancement
	2005	2010	2015	2021
Outside directors	● 1 director	● 2 directors ● 3 directors	● 4 directors	● 5 directors, accounting for a majority of the Board of Directors
Voluntary advisory bodies			● Established a Nomination and Compensation Committee	● Established a Nomination Advisory Committee and Compensation Advisory Committee
Compensation system	● Abolished retirement bonuses for Directors		● Introduced a restricted stock compensation plan (RS)	● Introduced a performance-linked stock compensation plan (performance share unit plan: PSU)
Systems and policies	● Revised the Articles of Incorporation to reduce the number of Directors (25→15)	● Introduced a one-year tenure system for Directors	● Introduced takeover defense measures	● Discontinued (abolished) takeover defense measures
Other			● Established the Company's independence standards	● Established the Yokogawa Corporate Governance Guidelines
			● Abolished the positions of Senior Advisor, Advisor, and Honorary Corporate Associate	● Amendment of the Articles of Incorporation regarding an electronic provision system for informational materials for the General Meeting of Shareholders

- Using and improving existing systems and frameworks
- Diversifying the Board of Directors and enhancing information disclosure
- Creating global human resource system and appraisal/compensation system for Group
- Enhancing Group governance
- Strengthening internal control and risk management systems

* Once every three years. Self-evaluation in other years.

Corporate Governance System



For more detailed and specific information about Corporate Governance, please refer to our website.

<https://www.yokogawa.com/about/ir/governance/>

Round-Table Discussion with Outside Directors

Shiro Sugata

Outside Director



Akira Uchida

Outside Director

Kuniko Urano

Outside Director



Takuya Hirano

Outside Director

Yujiro Goto

Outside Director



Laying a solid foundation for the next medium-term business plan and making the most of Yokogawa's strengths to achieve sustainable growth

Evaluation of the medium-term business plan at the two-year point

Fiscal year 2022 was the second year of the Accelerate Growth 2023 medium-term business plan. What is your assessment of the initiatives undertaken over the past two years?

The two-year period during which our three business subsegments and four basic strategies began to operate toward the long-term goals for 2030

Shiro Sugata Under the current medium-term business plan, Yokogawa has restructured from a conventional product/function-based organization to an industry-based organization, and has divided the industrial automation and control business segment into Energy & Sustainability, Materials, and Life business subsegments. The orders received in each business are trending upwards, and the achievement of our goals for business expansion and a speedier shift to a solutions business is now in sight. I think this has been our greatest achievement over the past two years. I think that a certain level of achievement can be seen toward the next medium-term business plan starting in 2024.

Akira Uchida I also feel that the three subsegments created through Yokogawa's restructuring of its organization have begun to function effectively over the past two years. Next, however, there is a need for greater clarity regarding the profit responsibilities of these three subsegments so that each can truly function as a strategic business unit (SBU).

To create strategies for the launch of new businesses under the medium-term business plan, we used an Ansoff Matrix that contrasts new and old markets, with new and old products and technologies.

Initially, many new markets and technologies were considered, but as these discussions became more focused, they gradually turned toward the exploitation of new fields where Yokogawa has some degree of strength. I regard this as a very positive thing. I do, however, have the impression that we should identify our priorities and reduce the number of key themes.


Kuniko Urano I was appointed to the position of outside director right when the current medium-term business plan was being launched. As Mr. Sugata and Mr. Uchida have mentioned, the division of the industrial automation and control business into three subsegments has really led to expansion of our addressable markets, and I am very happy with this approach.

One of the key points of the medium-term business plan has been the establishment of a long-term vision for 2030 and the implementation of a back-casting approach based on this vision. The process of sowing and reaping is not limited to three-year initiatives, and it is excellent that Yokogawa has been able to share with all officers and employees its long-term vision for 2030.

Mr. Sugata Business results are improving, but I would like to point out that this is partly attributable to fluctuations in foreign exchange rates. In this sense, profitability remains an issue.

Ms. Urano Employees and the management team are all firmly aware of the profitability issue, and Yokogawa's challenges in this area are clear, although we may have to wait until the next medium-term business plan to address them. I believe that the targets and issues defined during this two-year period were quite correct. However, regarding steps for implementation to be taken from now on— and this links back to what Mr. Uchida just mentioned about the need to identify priorities — it will be necessary to discuss where we should focus our efforts.

Mr. Uchida Under the medium-term business plan, we set forth four basic strategies that were linked to the expansion of value provided, profitability and growth in value provision, and strengthening the corporate base. At first, our efforts centered on a company-wide approach, but recently, each business division has become able to develop its own initiatives in line with the four basic strategies. The approach set forth in the medium-term business plan has penetrated throughout the organization, leading to the evolution of new initiatives.

Ms. Urano The four transformation projects,  in particular, despite a difficult birth, have succeeded in identifying issues, setting targets, and creating a common understanding of how to approach these issues among all officers and employees across the Group. Each project is making steady progress, albeit with some differences in pace, and I look forward to seeing them come to fruition.



For the details, see the review of the four basic strategies on page 52.

Takuya Hirano A year has passed since I was appointed to the position of outside director. It's been a really exciting year at Yokogawa. Looking back on the past year, I am impressed by the fact that, despite the change in strategies and approach, Yokogawa has kept and upheld what it has stood for— its DNA. This is Yokogawa's spirit of taking care of its customers. I think that Yokogawa's backbone and essential strength lie in its attitude of steadfastly doing its best for its customers and not running away from difficulties. This is also what differentiates it.

I have the same impression as Mr. Sugata, Mr. Uchida, and Ms. Urano regarding the efforts that are being made under

the medium-term business plan. In other words, I feel that the company has clearly defined the categories and domains for its strategies, is targeting these in its business activities, and is beginning to see results.

Yujiro Goto The company I previously worked at used a variety of Yokogawa equipment and systems, and my work



Concerns and issues

You have all noted that the medium-term business plan is generally progressing smoothly. Please tell us your views on Yokogawa's position and the challenges it needs to face to remain globally competitive.

Balancing speed and tenacity Achieving targets requires both a readiness to change course and the tenacity to succeed

Mr. Hirano With its logical approach and emphasis on harmony, Yokogawa has the strength to move ahead with its businesses, but going forward, I think it will be crucial for the company to take challenges in areas, such as speed, agility, and risk-taking.

Yokogawa's global competitors move very quickly and implement corporate acquisitions on a dynamic scale. In addition to its logical and harmonious approach, the company needs to move faster and take risks.

Mr. Uchida The issues on how to go forward with a new business can be divided into three phases: refining an idea into a specific implementation plan, decision-making after the plan is finalized, and implementing those decisions to produce results. In terms of speed, I feel that, in Yokogawa's case, too much time is taken in the first and third phases.

In the first phase, there are cases when the process of collecting and analyzing information takes too much time, or it is difficult to come to a clear conclusion. For example, it is vital to establish industry contacts in a business that requires new technology to determine which companies to partner with. As mentioned earlier, narrowing down our list of priority themes is also essential.

Regarding the third phase, things do not always proceed as planned. For situations like this, it's necessary to have a plan B.

Ms. Urano To be able to move quickly, one must make select and focus. Yokogawa has a culture of tackling every job with sincerity, which is one of its strengths. On the other hand, however, they are not good at letting things go, even if it is a lower-priority work.

directly involved them. I was impressed by the way that Yokogawa's representatives came down onto the factory site and worked earnestly with us to resolve issues. I formed the impression that Yokogawa is a company that looks after its customers and builds relationships with them that are based on trust.

This year, as an outside director, I have reaffirmed my impression that the great aspects of Yokogawa and its hands-on approach, which I remember from my previous positions, are still inherited today. At the same time, in terms of corporate governance, the Group is pursuing highly advanced global initiatives, and I hope to see its continued transformation. I look forward to being involved in the management of Yokogawa.

It will not be possible for Yokogawa to move quickly, unless the management team and the top managers at each site are able to select where to focus their efforts. This is especially true because Yokogawa is in a position to expand into so many businesses through its customers and supply chains.

Mr. Hirano Everyone needs to decide matters swiftly and take action quickly. By clarifying ownership within the Group and ensuring that people are empowered and held accountable, I believe it will be possible to increase speed and agility within the Group and have an impact.

Mr. Sugata Collaboration and alliances with other companies are effective ways to exploit new markets. Looking back on Yokogawa's history, one realizes how necessary it is to take the initiative with collaborations and alliances.

Mr. Uchida The success rate for new businesses is generally low, but it's important to ensure that these new ventures enjoy some degree of success once they complete the research phase and enter the development stage. It's also important to be very tenacious when engaging in new businesses, to make sure they succeed. Resources must be focused on crucial projects, and that will help things move along more quickly.

Mr. Sugata I feel the same way as Mr. Uchida regarding the importance of tenacity. M&A projects, for example, require tenacity to succeed.

Nonetheless, in many cases, they do not progress as planned. Moving quickly is not enough. When things aren't going to plan, it's necessary to consider how to put a project back on track, as originally envisaged. I think a solid, deliberate, and tenacious effort is required to succeed in these projects and keep them on track.

Mr. Hirano "Connectedness" is ever more important in this world. Technologies and businesses are growing more

connected in various ways. In that sense, nurturing businesses that involve other companies could be the key to future growth. This could lead to the formation of even larger markets and enable Yokogawa to create solutions in more markets and increase its market share.



Mr. Sugata Some of us have already described how Yokogawa is continuing to grow thanks to the division of the industrial automation and control business into three subsegments. This type of matrix-based business structure is generally easy to understand and organize, but attention is needed, as it can occasionally lead to confusion in the chain of command and delays in making decisions and taking action. Institutional design is a crucial factor in making sure things move quickly.

Ms. Urano I think there are few companies that could simultaneously pursue the four transformation projects I just mentioned. These four transformation projects are brilliant, in that they encompass all important aspects of foundation-building, including standardization and visualization. However, it is not enough simply to create a framework or a receptacle: what Yokogawa adds or puts into that is also important. I still vividly remember President Nara pointing out that Yokogawa's strength lies in its knowledge and insights (domain knowledge) in specialist fields and industries. I think that carefully analyzing how this domain knowledge has been acquired, accumulated, and inherited as part of our corporate DNA, as well as finding ways to recreate it, will give Yokogawa greater strength.

I would like to see employees who have worked hard to pioneer markets encourage their younger colleagues to boldly take the plunge and experience acquiring domain knowledge for themselves.

Mr. Sugata The four transformation projects involve the introduction and renewal of IT systems, but I think the key point here is what the company hopes to ultimately achieve through these projects. The introduction of new systems tends to attract attention, but attention is needed to ensure that a project does not simply end with the smooth operation of a system that is just a means to an end.

Mr. Goto Yokogawa's customers are also acutely aware of the trend towards digital transformation (DX), over and beyond the introduction of IT systems. Even though they may be aware of the need for change, I feel that some may have grown anxious and have been fumbling around for solutions.

In this context, Yokogawa's customers have great trust in Yokogawa's consulting capabilities. I think that proposals

that go beyond plant automation and enhance efficiency by incorporating this technology into enterprise systems would be extremely attractive to them.

At the same time, Yokogawa's ability to demonstrate its presence and attractiveness in comparison to its competitors is a crucial point.

Mr. Sugata I feel that the 2022 establishment of Yokogawa Digital Corporation, the DX consulting company for the manufacturing industry, is symbolic in terms of Yokogawa's future business development. Expansion of the problem-solving business, with the addition of a control systems consulting function, will enable Yokogawa to transcend its classification as a manufacturing industry company. Taken to the limit, expansion into any business field could become a possibility, and demand could be limitless.

However, as Ms. Urano has pointed out, it's necessary to pay careful attention to how we narrow down our targets and determine a clear direction.

Mr. Goto Our customers' business cultures are not always the same as ours. It's vital to proceed with an understanding of this and find a way to provide solutions, without imposition, that will genuinely delight our customers. To provide technologies and services that our customers can really get excited about, we need to consider how to narrow down our themes. This might involve taking a different route from other companies or using some unique approach and narrowing our focus.

Mr. Hirano We need to change the quality of Yokogawa's internal capabilities and mindset. More people within the company will need to collaborate. I also hope that the definition of success will be refined in the long-term business framework. Toward that end, an appropriate environment must be created for this, and people must be empowered.

Mr. Uchida I said the same thing last year, but I think we need to find a more efficient way to use research and development funds. I think it is necessary to leave the maintenance and improvement of existing products to the manufacturing departments, as far as possible, and use our original research and development activities to steadily create new things that will lead to increased sales. One aspect of this is the need to encourage the fusion of technologies and interactions between people. I believe that this will also give rise to innovation.

Mr. Hirano Yokogawa has technologies that we can all feel proud of, but further innovations are needed, together with a boost in productivity. For example, we need innovations that make full use of a variety of edge technologies, such as cloud computing and AI, that will not only make customers feel secure, but also delight and inspire them. In terms of productivity, I believe that Group company employees need to go beyond the scope of cost control and work to enhance their businesses and enhance internal operations, while staying aware of the impact that the output of their work has.

Yokogawa's strengths and direction

You mentioned Yokogawa's advantages when commenting about the issues we face. At the risk of repetition, please tell us about your views on Yokogawa's strengths and how they should be enhanced.

A one-stop business model and the hardware capabilities that underpin it The warmhearted organization and human resources that are Yokogawa's greatest strengths

Mr. Uchida As everyone has already pointed out, Yokogawa's greatest strength from a customer perspective lies in its capability as a one-stop provider of products, services, and solutions, including after-sales services. This is not something that an IT company can do, and I think it's important that we further develop this strength.

Mr. Sugata Yokogawa's strength as a one-stop value provider is based on its extremely reliable hardware products and technologies. Some of us have commented on Yokogawa's broad business expansion, including a consulting function. Yokogawa's strength lies in the fact that even these new businesses are built on its hardware capabilities. It's vital that the company does not lose this point, but rather strengthens it as it grows.

Mr. Uchida Yokogawa's strong customer base in the oil and gas industries faces headwinds due to the trend toward decarbonization. At first sight, this may appear as a vulnerability, but it is also a huge opportunity. Customers will surely increase their appetite for investment in renewable and new energy sources, not to mention energy conservation, in order to transform their own businesses. By accurately grasping this and building an even stronger track record, the company is in a position to strengthen its Energy & Sustainability business. I think this represents one of Yokogawa's strengths.



Mr. Sugata Taking a long-term perspective that considers the prospect of global warming, there is little doubt that the demand for oil and gas will decline and the demand for other energy sources, such as renewable energy and nuclear energy, will increase. It is crucial that we accurately comprehend this changes in demand.

At the same time, there is increasing mention of the formation of economic blocs due to geopolitics. At the risk of being called overly optimistic, I believe that, over the long

term, countries will inevitably adopt a more global perspective, complementing each other in terms of energy, materials, and products, and offering mutual assistance. I think we need to keep this general trend in mind.



Ms. Urano The other day, I had the opportunity to talk with some of Yokogawa's future leaders. I was impressed by their openness and frankness. They are able to approach customers, be welcomed by them, initiate communications, and build teams. In addition, they have an extremely high level of engineering expertise. I believe that people like them are Yokogawa's true strength.

Mr. Goto I agree. Various types of training are being implemented within the Group, and various experiences of challenges are being shared among employees. I feel that our employees are growing through this. That's not to say that everyone grows in a uniform way. Not everyone is a "typical model" employee, and Yokogawa has a diverse range of people, each with their own individual characteristics and idiosyncrasies.

Based on my experience of having worked for a company that used Yokogawa's products and services, I feel that Yokogawa has a diverse range of human resources, from people with a strong obsession for their work to specialists with exceptional expertise. I think this enables them to communicate honestly with each other, stimulating and motivating each other through their work together.

Ms. Urano I hope to see Yokogawa steadily create an environment where the employees who will lead the Group in the future can continue to stretch themselves, take on greater responsibilities, and make bold moves. I think that increasing the number of such employees is the only way for Yokogawa to leverage the strengths of its businesses and frameworks.

Mr. Hirano As I just mentioned, Yokogawa's strength lies in its warmhearted organization and the personnel who develop their careers in this organization. Yokogawa has formed a corporate culture in which the company takes care of and nurtures its employees, and is devoted to its customers. The time will come, however, when it will no longer be enough for the company to simply respond to whatever requests its

customers make. Human resources will be needed who can make proposals on new ways to create value to customers who may be content with the status quo.

This will sometimes require employees to involve other departments or even other companies for operations that

were previously carried out by their department alone. If this approach is taken with the strategies, innovations, and M&A that all of you have been commenting on, this could have a major and dynamic impact.

Aspirations as outside directors

To conclude, we would like to hear about your aspirations as outside directors and your hopes for Yokogawa's employees.

Committed to raising corporate value Serving as a check, catalyst, and evaluator of the executive team, as it formulates the next medium-term business plan

Mr. Goto If each individual employee understands, accepts, and shares Yokogawa's goals, this will lead to expectations for the future. As an outside director, I hope to contribute to this by ensuring the creation of an appropriate environment and the transformation of mindsets.

Mr. Hirano In my position as an outside director, I hope to maintain a clear view of the external environment as well as a firm understanding of Yokogawa's internal operations, and clearly and openly expressing opinions that will raise the Group's total corporate value.

I realize that this sounds like something of a cliché, but trust and honesty are vital. These qualities will ensure that the company's businesses are properly administrated and managed. I'm eager to tackle with passion to work vigorously to enable Yokogawa to pursue its businesses with speed and energy.

Ms. Urano I believe that Yokogawa is truly a rare company that is able to make a direct contribution through all of its business in dealing with prominent issues, such as ESG management and the achievement of a sustainable society. I, therefore, hope to see all employees pursue the current strategies and initiatives with confidence, without being too swayed by terms like ESG management and sustainable management.

As for myself, I will keep looking for ways to contribute. In my management role as an outside director, I will be committed to ensuring that everyone can achieve results by ensuring that they are aware of the need for speed in moving things forward and have a sense of ownership for the initiatives that they undertake.

Mr. Uchida I hope to contribute by leveraging the insights and know-how gained from my previous career experience to nurture the development of new businesses for Yokogawa.

At the same time, Yokogawa is presently considering changes in its institutional design that will improve the effectiveness of the Board of Directors and the quality of its execution. I have direct experience in the formulation of Corporate Governance Code, and hope to use the insights that I have gained to make a contribution in this area.

Mr. Sugata As an outside director, I hope to serve as a check and as a catalyst to enable the executive team to take more appropriate and efficient action as they work toward their targets. Yokogawa's outside directors have experience in a wide range of industries. I think that we can give the executive team new ideas and provide a fresh perspective by telling different ways of thinking and perspectives. I refer to this as our catalytic function. As outside directors, we have an important role to play as a check and a catalyst.

Another role of the outside directors is evaluation. I prefer to use the term "evaluation" rather than "supervision." I believe the current medium-term business plan should be thoroughly evaluated and summarized when formulating the next medium-term business plan.

Of course, the role of an outside director does not end after just one year. I hope to make preparations and take action to help Yokogawa grow through the next fiscal year and beyond.

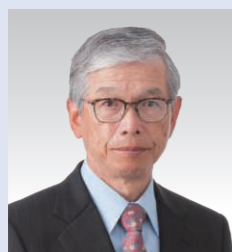


Board of Directors

The Board of Directors, which holds a meeting once a month in principle, is comprised of nine (9) Directors, including five (5) independent Outside Directors, aiming to achieve sustainable growth and an increase in corporate value of the Group over the medium to long term as a decision-making body. To achieve these goals, considering its initiatives for sustainability as an important management issue, the Board of Directors shall determine the general direction of the Group, including corporate strategies, while improving profit-earning capability and capital efficiency. Also, in addition to monitoring and supervising the execution of business by management, including directors and officers, the Board of Directors shall develop provisions related to the execution of duties by directors and establish a framework to take supervision responsibility related to the execution of business. (Fiscal Year 2022: Held 14 times)

Examples of Agenda Items Discussed by the Board of Directors in Fiscal Year 2022

- Medium- to long-term growth strategy and important management issues
- Sustainability
- Governance concept



Chairman of the Board
Shiro Sugata

Fiscal Year 2023, A Milestone Year: Solidifying Our Achievements and Preparing for the Future

It was an honor to be appointed Chairman at the meeting of the Board of Directors that was held after the Annual General Meeting of Shareholders in June 2023. Fiscal year 2023 is a significant milestone year for Yokogawa. First, it is the final fiscal year under the Accelerate Growth 2023 medium-term business plan that commenced in 2021, and the attainment of its goals will be examined. Under this plan, we are proceeding with four major corporate transformation projects, and will move forward with their concrete implementation under a new setup. Second, in fiscal year 2023, the next medium-term business plan will be formulated and put in place. We are also deepening our discussions on a new organizational design, a topic that has been under consideration for several years now. The Board of Directors therefore, expects to handle an even broader range of issues, as it strives to operate efficiently and ensure quick and effective decision-making.

In fiscal year 2022, we launched the Energy & Sustainability, Materials, and Life business for subsegment of control business, and produced results in a broad range of industries. Our product business also grew substantially. As a result, company-wide results significantly exceeded initial targets, with some divisions taking just two years to achieve the targets that had been set for the three-year medium-term business plan. However, this took place under circumstances that included an unpredicted rise in oil and gas demand triggered by the conflict in Ukraine and an unprecedented depreciation of the yen. We have made it only part way down the road in our efforts to improve profitability. Taking current circumstances into account, we will aim to secure good results in the final fiscal year of the current medium-term business plan, formulate a new medium-term business plan that is in line with our aspiration to reach net sales of one trillion yen by 2030, and make solid progress in discussions on measures that will allow us to begin the next fiscal year in good shape.

For a company to enhance corporate value and grow, it is vital to provide services and products that are useful to society and in demand, and to establish mechanisms that allow this to continue. Past evaluations of the Board of Directors have indicated that its scale, composition, and operations are appropriate. Ultimately, the effectiveness of the Board of Directors can be judged based on the company's corporate value, as indicated by its achievements and share price, and by the correctness of the decisions that led up to this. However, that can only be evaluated in retrospect. We will, therefore, make arrangements that will facilitate our consideration of what actions should be taken. Specifically, we will select matters that should be decided by the Board of Directors, ensure the provision of all necessary information, discuss matters sufficiently, make decisions swiftly, and follow up on any decisions that are made. Until now, Yokogawa has gone about these tasks in a relaxed manner; without being disruptive, we will seek to operate more efficiently.

Regarding the provision of information and the efficiency of discussions, we will continue to make use of practices, such as advance explanation of agenda for Board meetings and observing management meetings, which have also been improved in 2022. I think that visits to business sites and informal discussions with executives and/or the members of the Audit & Supervisory Board could also be effective. Meanwhile, the new organizational design and the decision-making process that are currently under consideration to speed up decision-making and business operations will involve the delegation of authority to the executive team. Therefore, it will become even more crucial to reinforce the supervisory and monitoring functions of the Board of Directors, a need for which was identified some time ago. From the shareholder's viewpoint, it is often said that the role of the Board of Directors is to provide "supervision," but I feel this has a somewhat supercilious nuance and think the word "evaluation" may be more appropriate. From the standpoint of all stakeholders, we evaluate and judge in a fair and dispassionate manner. I think that this will help to enhance corporate value and be in the interest of our shareholders, and will endeavor to make sure that fiscal year 2023 serves as a runup period for this.

With an eye on the future development of our management ranks, I will work with the Nomination Advisory Committee to discuss and promote a succession plan for top management.

I believe the role of an outside director is to "check" that the executive team is working correctly and efficiently to achieve Yokogawa's goals, and to be a "catalyst" who can capitalize on experience in different industries to bring new ideas to the executive team. The Board of Directors will proceed with its operations based on these two functions and the "evaluation" function mentioned above.

For the policy and procedure for the appointment and dismissal of Directors, Audit & Supervisory Board Members and officers, please refer to page 14 of the Notice of 2023 Annual General Meeting Shareholders.

<https://www.yokogawa.com/about/ir/reports/meeting/>

Board of Directors Evaluation

Based on the evaluations of each Director and Audit & Supervisory Board Member, each year the Board of Directors shall identify issues for further boosting the strengths and effectiveness of the Board of Directors, and use analysis and evaluations in order to clarify the points that should be emphasized when working on each issue. To conduct evaluations, the Board of Directors has used third-party evaluation organizations, as appropriate.

Board Evaluation Process for Fiscal Year 2022

- In fiscal year 2022, the Board of Directors conducted a self-evaluation.
- All Directors and Audit & Supervisory Board Members responded to questionnaires, the creation of which was led by the Chairman of the Board.
 - The questions included fixed-point observations related to the evaluation of the size, composition, and operation of the Board of Directors, as checks on the status of activities aimed at bringing about improvements and other items. An open text box was also provided to encourage the identification of new issues.
 - An analysis of these responses was reported to the Board of Directors and discussed by Board members before the forming of the final evaluation.
 - Based on this evaluation, etc., the Board of Directors held discussions to identify issues to further enhance the effectiveness of the Board of Directors, then passed a resolution to implement action plans for their improvement.



Summary of the Fiscal Year 2022 Board of Directors Evaluation Results

It was confirmed that the Board of Directors, as it stands is highly effective.

Size and composition of the Board of Directors

- In relation to size and composition, the assessment of the Board of Directors, as it is currently constituted, is that it is well-balanced, with the presence of independent Outside Directors, who make up a majority of members, ensuring an appropriate mix of independence and objectivity, as well as expertise, experience, and diversity.
- Multiple people expressed the opinion that the elements of expertise and experience that are important for the Board of Directors of the Company are corporate management and internationality/global experience.

Roles and functions of the Board of Directors and state of its operations

- With the business environment undergoing drastic change, the Group is working to transform itself with a strong sense of crisis. The Board of Directors has a shared awareness of the particular importance of setting medium- to long-term management strategy, and of exercising its supervisory and monitoring function in relation to management, and has fulfilled this role and function appropriately.
- Due to appropriate setting of the agenda and operations of meetings by the chairperson, as well as efforts by the lead independent Outside Director to facilitate communication between officers, the Directors and Audit & Supervisory Board Members have been able to leverage their individual expertise and experience to carry out open-minded and active discussions.
- The frequency of Board of Directors meetings, and the timing of the same, are considered appropriate.
- On the subject of further strengthening supervision in order to achieve medium- to long-term improvements in corporate value, the Board of Directors enhanced the supervisory function through substantive discussions based on the selection of agenda items pertaining to important issues affecting management across the Company, such as sustainability matters, improving profitability, and human capital management.
- With regard to enhancing discussions on the Nomination Advisory Committee and the provision of information to the Board of Directors, the Nomination Advisory Committee discussed succession plans, as well as institutional design and other matters, and shared the content on an appropriate and timely basis with the Board of Directors.
- Although improvements in the content of proposals and the quality of explanations were confirmed, further enhancement to information provided for supervisory purposes is required from the perspective of narrowing the focus of discussions and in other areas.

Efforts for Future Improvement

In order to further accelerate the transformation of the Group based on the results of the Board of Directors evaluation, the Board of Directors will work to enhance effectiveness by bolstering the supervisory function further through the following initiatives:

- **Enhancing discussions on medium- to long-term management strategy and bolstering the monitoring function**
 - In fiscal year 2023, from the perspective of further strengthening the supervisory function, the Board of Directors will confirm the state of progress toward the goals of the medium-term business plan AG2023, which has reached its final year, and identify ongoing problems, as well as selecting priority agenda items, such as the formulation of the next medium-term business plan and important issues that affect management across the Company. By also focusing on the key discussion points for proposals and reports, and ensuring adequate time for deliberation by providing fuller explanations at prior meetings, the Board of Directors will work to conduct more substantial and effective discussions.
- **Investigating institutional design**
 - The Company's current institutional design as a company with Audit & Supervisory Board is appropriate, but in order to accelerate the transformation of the Group, in fiscal year 2023, we will continue to investigate the optimal institutional design and decision-making process, speeding up decision-making by delegating more authority to the executive, and with the aim of further bolstering the supervisory function through the composition of the Board of Directors, in which Outside Directors account for a majority of the members.

Audit & Supervisory Board

The Audit & Supervisory Board is comprised of five (5) members in total, which consist of two (2) standing members and three (3) outside members, and its meeting is held once a month in principle. In order to ensure the Group's sustainable growth and corporate soundness, the Audit & Supervisory Board shall make appropriate decisions and express its opinions from an independent and objective standpoint. Also, based on laws and regulations as well as the Auditing Standards for Audit & Supervisory Board Members and the Rules Governing the Audit & Supervisory Board, the Audit & Supervisory Board shall receive reports from each Audit & Supervisory Board member on important matters related to audits, deliberate, and pass resolutions as necessary. Audit & Supervisory Board members perform Audit & Supervisory Board member audits in accordance with the annual audit plan that specifies priority audit items. Audit & Supervisory Board members attend meetings of the Board of Directors and the Management Board and other important meetings, and hold regular meetings with departments that are in charge of internal audits, legal affairs, and business ethics which promote the compliance framework, and exchange and share information about the activities of each, as well as proactively offering opinions. In addition, Audit & Supervisory Board members deepen mutual cooperation with the accounting auditor and exchange information with the accounting auditor regularly and as needed to improve the quality of audits by both sides and make the audits more efficient. (Fiscal Year 2022: Held 16 times)

Priority audit items for Fiscal Year 2022

- Progress of the medium-term business plan AG2023
- Establishment and operation of Yokogawa's Internal Control System

Audit activity results in Fiscal Year 2022

- Audits of group subsidiaries
- Attending important meetings, auditing business execution, and viewing important documents
- Meeting with directors, executive officers, and other key employees
- Cooperation with accounting auditors and internal audit departments
- Cooperation with Outside Directors and Group full-time corporate auditors

Management Board

The Board of Directors delegates decision-making related to the execution of business to the Management Board to promote swift decision-making. The Management Board meets once a month in principle and comprises the President and CEO, officers, and standing members of the Audit & Supervisory Board. In addition, matters regarding the resolution of the Management Board and other matters shall be reported to the Board of Directors. (Fiscal Year 2022: Held 12 times)

For the policy and procedure for the appointment and dismissal of Directors, Audit & Supervisory Board Members and officers, please refer to page 14 of the Notice of 2023 Annual General Meeting Shareholders.

<https://www.yokogawa.com/about/ir/reports/meeting/>

Skill Matrix

The expertise and experience of the Company's Directors and Audit & Supervisory Board Members are shown below.

		Corporate management	Internationality/Global experience	Treasury/Finance	Technology/Development	IT / Digital	Sales / Marketing	Human resources, Human resources development	Legal Risk management	Sustainability ESG
Directors	Hitoshi Nara	●	●				●			
	Junichi Anabuki			●					●	●
	Yu Dai	●	●		●	●				
Outside Directors	Shiro Sugata	●	●		●		●			
	Akira Uchida		●	●						●
	Kuniko Urano							●		●
	Takuya Hirano		●			●	●			
	Yujiro Goto	●			●					●
Audit & Supervisory Board Members	Hajime Watanabe		●	●					●	
	Kenji Hasegawa				●	●	●			
Outside Members, Audit & Supervisory Board	Yasuko Takayama								●	●
	Makoto Ohsawa		●	●						
	Masaru Ono		●						●	●

Reasons for Setting Expertise and Experience

Corporate Management: In order to achieve the transformation set out in the long-term business framework and in the medium-term business plan AG2023 amid major changes in the business environment, such as structural changes in the energy industry and advances in digital technology innovation, a wealth of experience, and knowledge in the field of corporate management in general is required, including leading the transformation as head of the corporate headquarters of a major company.

Internationality, global experience: A wealth of experience and knowledge in global business and overseas culture and environments is required to develop and implement medium- to long-term growth strategies for the Company, which operates globally (ratio of overseas sales: approximately 70%, ratio of overseas employees: approximately 65%), and to properly supervise global management.

Treasury / Finance: Solid experience and knowledge in the fields of treasury and finance are required to build a strong financial base to support sustainable growth of the Company and to develop a financial strategy to promote aggressive investment in growth, including M&A and alliances, and to realize appropriate shareholder returns.

Technology / Development: To further evolve and develop the Company's strengths in technology and development in the fields of measurement, control, and information to achieve growth through innovative solutions incorporating new technologies, it is necessary to have solid experience and knowledge in the fields of innovation, technology, development, quality, and the environment.

IT / Digital: Achieving new solutions through integration, autonomy, and digitization and creating new value through OT/IT convergence and the System of Systems connecting multiple systems require extensive experience and knowledge in the fields of business operations and business model transformation using advanced IT and digital technologies.

Sales / Marketing: To achieve growth by solving customers' real problems through innovative solutions, it is essential to transform business models and to plan and develop new solutions that meet market needs, as well as to develop a strategy to expand orders and sales, which require extensive experience and knowledge in the sales and marketing fields.

Human resources, Human resources development: As the importance of human capital management increases, in order to transform the company into what it aims to be in the medium to long term, it is important for the Company to develop and implement human resources strategies, such as securing, developing, and utilizing management personnel, DX personnel, and consultant personnel, in conjunction with management strategies, which require solid experience and knowledge in the fields of human resources and human resources development.

Legal, Risk management: Achieving sustainable corporate value growth requires risk management that can accurately and quickly address rapidly changing and diversifying risk factors in a rapidly changing business environment and requires solid experience and knowledge in the fields of risk management, compliance, and law.

Sustainability, ESG: Under Yokogawa's Purpose of "Utilizing our ability to measure and connect, we fulfill our responsibilities for the future of our planet," to sustainably increase corporate value, it is necessary to achieve both growth through ESG-focused management and the creation of social and environmental value, and it is necessary to have extensive experience and knowledge in the fields of sustainability and ESG.

Reasons for Election as Outside Directors and Outside Audit & Supervisory Board Members and Attendance

They meet the requirements of an independent officer pursuant to Article 436, Paragraph 2 of the Securities Listing Regulations of the Tokyo Stock Exchange, and the standards of independence in the Company. The Company nominated them as independent officers.

For the Company's independence standards, please refer to our website.

<https://www.yokogawa.com/about/ir/governance/officer/>

Name	Reasons for Election and Status of Attendance in Fiscal Year 2022
Outside Director Shiro Sugata	Mr. Shiro Sugata properly supervises management as an Outside Director. He was appointed as an Outside Director so that he can achieve greater operational fairness, objectivity, and transparency with respect to supervising the management of the Company based on his wide knowledge as a corporate manager, his abundant experience in the development and marketing of industrial instruments, and his extensive expertise in global business. Attendance at meetings of the Board of Directors: present at 14 of the 14 meetings.
Outside Director Akira Uchida	Mr. Akira Uchida properly supervises management as an Outside Director. He was appointed as an Outside Director so that he can achieve greater operational fairness, objectivity, and transparency with respect to supervising the management of the Company based on his wide knowledge as a corporate manager and extensive experience in the corporate administration field centered on the Finance and Controller's Division. Attendance at meetings of the Board of Directors: present at 14 of the 14 meetings.
Outside Director Kuniko Urano	Ms. Kuniko Urano properly supervises management as an Outside Director. She was appointed as an Outside Director so that she can contribute to greater operational fairness, objectivity, and transparency with respect to supervising the management of the Company based on her wide knowledge as a corporate manager and extensive experience in the divisions of production, personnel/education, public relations/CSR, etc., in major manufacturing companies. Attendance at meetings of the Board of Directors: present at 14 of the 14 meetings.
Outside Director Takuya Hirano	Mr. Takuya Hirano properly supervises management as an Outside Director. He was appointed as an Outside Director so that he can contribute to greater operational fairness, objectivity, and transparency with respect to supervision of management of the Company based on his wide knowledge as a corporate manager and wide-ranging practical experience in the business divisions of a global IT firm. Attendance at meetings of the Board of Directors: present at 11 of the 11 meetings.
Outside Director (New) Yujiro Goto	Mr. Yujiro Goto has a wealth of experience and expertise in leading production strategies in the field of production and production engineering at a major global manufacturing company for a long time, and as CEO, he has worked on corporate transformation, human resource reform, new business development, and M&A. He was appointed as an Outside Director so that he can contribute to greater operational fairness, objectivity, and transparency with respect to supervising management of the Company based on his experience.
Outside Audit & Supervisory Board Member Yasuko Takayama	Ms. Yasuko Takayama worked for a major company in the consumer market where she gained extensive practical experience, including responsibility for CSR, and acting as a full-time Audit & Supervisory Board Member. She also has a wealth of experience as an outside executive at various companies. Accordingly, she was appointed as an Outside Audit & Supervisory Board Member because she is expected to execute effective auditing that reflects this experience. Attendance at meetings of the Board of Directors: present at 14 of the 14 meetings and attendance at meetings of the Audit & Supervisory Board: present at 16 of the 16 meetings.
Outside Audit & Supervisory Board Member Makoto Ohsawa	Mr. Makoto Ohsawa has wide knowledge based on his perspective as an experienced corporate manager and his extensive range of business activities, and also has a wealth of experience acting as an outside executive at various companies. Accordingly, he was appointed as an Outside Audit & Supervisory Board Member because he is expected to execute effective auditing that reflects such experience. Attendance at meetings of the Board of Directors: present at 14 of the 14 meetings and attendance at meetings of the Audit & Supervisory Board: present at 16 of the 16 meetings.
Outside Audit & Supervisory Board Member Masaru Ono	Mr. Masaru Ono is a lawyer with wide knowledge of the corporate legal affairs and finance fields. Accordingly, he was appointed as an Outside Audit & Supervisory Board Member because he is expected to execute effective auditing that reflects such extensive knowledge from his extensive range of business activities in economic and educational circles. Attendance at meetings of the Board of Directors: present at 14 of the 14 meetings and attendance at meetings of the Audit & Supervisory Board: present at 16 of the 16 meetings.

* For Outside Director Takuya Hirano, we have described his attendance at meetings of the Board of Directors convened since he assumed the position on June 22, 2022.

Nomination Advisory Committee

The Nomination Advisory Committee shall provide recommendations to the Board of Directors regarding subjects such as the nomination of candidate Directors and Audit & Supervisory Board Members; the evaluation, appointment, or dismissal of the President and Chief Executive Officer; the appointment or dismissal of executive officers; proposals for the dismissal of Directors and Audit & Supervisory Board Members and the criteria (qualities, achievements, etc.) required of candidates for directors, Audit & Supervisory Board Members, and executive officers, following deliberations in accordance with the standards and procedures prescribed to ensure optimal placement for the Group's sustainable growth and corporate governance from the perspective of all stakeholders.



Chairperson of the Nominating Advisory Committee
Akira Uchida

My name is Akira Uchida, and this year I am the chairperson of the Nomination Advisory Committee. A majority of the members of this committee are outside directors, and this is the second year in a row that it has been chaired by an outside director. The committee is now structured to conduct discussions with even greater independence. And thanks to steps that have been taken to reinforce the committee secretariat, the committee now receives better support.

One of the focus points for this fiscal year is CEO succession planning. We will proceed with interviews and assessments to narrow down the list of potential candidates and discuss the direction to be taken with their career development. As the role of the CEO can have a significant impact on our corporate value, we intend to devote sufficient time to this process. And following on from last year, we will continue a deep discussion of the direction the Board of Directors should ideally take, and move forward in these deliberations.

Looking ahead, we must face up to the challenge of enhancing both growth potential and profitability while responding to changes in the business environment. To accomplish this, we need strong executive leadership in transforming the business structure and mindset, and a Board of Directors that is able to closely oversee these efforts. While carefully considering matters such as the ideal form that the Board of Directors should take and the appropriate selection of officers from both within and outside the Group, I and the other members of the committee will strive to address the aforementioned challenge in a highly effective manner.

Activity Reports

Deliberations were held 14 times in total and the following matters were discussed:

- How the Board of Directors should function, the direction it should pursue in the future, and the makeup of the Board of Directors
- Evaluation and reappointment of the President and Chief Executive Officer
- Structure of Executive Officers for fiscal year 2023
- Recommended Director candidates and Audit & Supervisory Board Member candidates to be proposed for election at the Annual General Meeting of Shareholders in June 2023

Compensation Advisory Committee

The Compensation Advisory Committee shall provide recommendations to the Board of Directors, in accordance with the standards and procedures, to ensure that the compensation system and the compensation of directors and officers promote the appropriate aggressive attitude toward the Group's growth, enable the hiring and retention of excellent human talent, and foster a common perspective held by all stakeholders.



Chairperson of the Compensation Advisory Committee
Kuniko Urano

My name is Kuniko Urano, and this fiscal year I am serving as the chairperson of the Compensation Advisory Committee. As an advisory body to the Board of Directors, this committee has discussed how the compensation of Directors and Executive Officers should be structured to ensure that Yokogawa experiences sustained growth, and has continued to make revisions to the compensation system and other enhancements. Based on the compensation policy shown on the right side of this page, and with the aim of providing appropriate incentives and ensuring that Yokogawa, a company that operates globally, takes the risks that are necessary to implement its medium- and long-term management strategies, we discuss and report our recommendations to the Board of Directors on matters such as the ideal compensation level, the breakdown of compensation into its basic short- and medium-term performance-linked components, the stock compensation plan, and the methods for quantitative and qualitative evaluation, and in addition verify the appropriateness of the compensation system.

I believe that continuity is necessary with the compensation system. It is also important to be able to make whatever revisions are needed to adapt to business changes and changing social trends. So that we do not miss out on opportunities, we take continual care to look ahead and discuss at an early stage what changes could be made and how they could be implemented. This includes matters such as keeping pace with globalization, shifting toward solutions business or accelerating activities such as business alliances or responding to changes in the competitive landscape, and the relationship between initiatives that contribute to sustainability and those that contribute to business growth.

Through discussions that draw on the diverse knowledge and experience of the committee's members, we will endeavor to realize a compensation system that promotes corporate growth while ensuring transparency and fairness for stakeholders.

Activity Reports

The Compensation Advisory Committee held a total of four deliberations, which included the following matters:

- Performance-linked compensation paid in July 2022
- Determination of performance indicators and formulas for performance-linked compensation paid in July 2023
- Confirmation of executive compensation levels by comparison with benchmark companies to verify the appropriateness of current levels of executive compensation

Composition as of June 27, 2023

Outside director	Shiro Sugata
Outside director	Akira Uchida ◎
Outside director	Kuniko Urano
Outside director	Takuya Hirano
Outside director	Yujiro Goto
President and CEO	Hitoshi Nara

◎ Chairperson

Composition as of June 27, 2023

Outside director	Shiro Sugata
Outside director	Akira Uchida
Outside director	Kuniko Urano ◎
Outside director	Takuya Hirano
Outside director	Yujiro Goto
President and CEO	Hitoshi Nara

◎ Chairperson

Executive Compensation

Basic Policy for the Compensation, etc., of Directors

The basic policy on the compensation of Directors shall be as follows:

- A plan that promotes the sustainable, medium- and long-term improvement of corporate value
- A plan that reflects the medium- to long-term management strategy and strongly motivates the achievement of medium- to long-term management objectives
- A plan that prevents a bias toward short-term thinking
- A plan and monetary amount that secures and maintains excellent human resources
- A plan that is transparent, fair, and rational for all stakeholders, decided through an appropriate process to ensure these factors

Policy for Determining the Compensation, etc., of Officers

1) Compensation of Directors

The amount of compensation of Directors shall be determined individually within the limits approved at the General Meeting of Shareholders.*¹ Compensation for Audit & Supervisory Board Members shall also be determined through discussion among the Audit & Supervisory Board Members within the limits approved at the General Meeting of Shareholders.*²

*¹ At the 142nd Ordinary General Meeting of Shareholders held on June 26, 2018, it was resolved that the maximum amount of compensation for Directors would be 1.6 billion yen per business year (excluding salaries for employees).

*² At the 128th ordinary general meeting of shareholders held on June 25, 2004, it was resolved that the maximum amount of compensation for Corporate Auditors would be no more than 150 million yen per fiscal year.

2) Composition, Roles, and Responsibilities of the Compensation Advisory Committee

The Compensation Advisory Committee, comprising at least three Directors, the majority of whom are Outside Directors, shall be established as an advisory body to the Board of Directors with the aim of enhancing the objectivity and transparency of the process for determining the compensation of Directors and Executive Officers.

i) Members of the Compensation Advisory Committee

The committee comprises three or more Directors, the majority of whom are Outside Directors.

ii) Roles and Responsibilities of the Compensation Advisory Committee

The Compensation Advisory Committee, in consultation with the Board of Directors, deliberates on the compensation system and decision-making policies regarding Directors and Executive Officers, and reports to the Board of Directors. In addition, the Compensation Advisory Committee, in accordance with the compensation system, determines the details of compensation for individual Directors and Executive Officers.

iii) Measures to ensure that the Committee's Powers are Properly Exercised

The members of the Compensation Advisory Committee, which comprises a majority of independent Outside Directors, will elect a Chairperson, and the amounts of individual officers' compensation are determined based on the compensation system approved by the Board of Directors, thereby ensuring decisions that conform with the aforementioned purpose.

Composition of Officers' Compensation

Compensation for internal Directors and Executive Officers consists of (a) basic compensation, which is a fixed component, and (b) a performance-linked component ((b)-1 annual incentive and (b)-2 medium- to long-term incentive).

Directors and Executive Officers, excluding Outside Directors, Audit & Supervisory Board Members, and non-executive Directors are given performance-linked compensation.

This is because variable compensation such as performance-linked compensation is not appropriate for Outside Directors and Audit & Supervisory Board Members, who maintain positions independent from the performance of duties, and as such only fixed compensation is paid to them. This is the same for non-executive Directors.

The levels of the compensation of executives are set through a comparison with companies in the same industry and of the same scale, both domestically and internationally, based on the results of surveys conducted by external organizations, and the Company's financial condition.

Compensation levels for each position are based on the 50th percentiles level of peer companies. From the viewpoint of flexible management in response to changes in the environment and the acquisition and retention of talented management personnel, compensation levels shall generally be between the 25th and 75th percentiles.

Compensation for personnel hired overseas may be determined individually based on a compensation benchmark analysis that takes into account the responsibilities of each position based on executive compensation survey data in that overseas region.

The following chart shows how composition is structured for each executive category.

Executive category	(a) Base compensation	(b) Performance-linked compensation (b)-2 including non-monetary compensation		Remarks
		(b)-1 Annual Incentive	(b)-2 Medium- to Long-Term Incentive	
Directors (excluding Outside Directors and Non-executive Directors)	○	○	○	Executive compensation and employee salaries
Outside Directors and Non-executive Directors	○	—	—	Executive compensation
Audit & Supervisory Board Members	○	—	—	Executive compensation
Outside Audit & Supervisory Board Members	○	—	—	Executive compensation
Non-Director officers	○	○	○	Employee salaries

(a) Basic Compensation

Basic compensation shall be fixed monthly compensation and shall be determined based on the criteria established by the Compensation Advisory Committee in accordance with the roles and positions of the Directors and Executive Officers.

(b) Performance-Linked Compensation

Performance-linked compensation shall be determined by the Compensation Advisory Committee in order to raise awareness of the improvement of business performance in each fiscal year and the enhancement of corporate value in the medium term. It shall be paid in the amount or number calculated according to the degree of achievement of the target (KPI).

The concept underlying performance-linked compensation is as follows:

1. Increase the ratio of performance-linked compensation to total compensation.
2. The higher the position, the higher the ratio of performance-linked compensation to total compensation, with the ratio for the Representative Director set at 60%.
3. Stock-based compensation as a percentage of total compensation shall be at least equal to that of other companies in the same industry or of the same scale.

(b-1) Annual Incentive

The annual incentive in performance-linked compensation shall be calculated by the Compensation Advisory Committee on the basis of the company-wide performance evaluation and individual performance evaluations for a single fiscal year, and shall be paid once a year. The amount to be paid shall be designed to vary from 0% to 200%, based on a value of 100% when the performance target is achieved.

* The ratio of basic compensation to annual incentive when performance targets are achieved is designed so that the higher the position is, the higher the ratio of the annual incentive is set. The lower the position is, the lower the ratio of the annual incentive will be, with the Representative Director's annual incentive being set between 0.75 and 1. The overall average including the Executive Officers is generally 1:0.5 (Figure 1). This ratio may vary between 1:0 and 1:1, depending on the degree to which performance targets are achieved.

Figure 1



(b-2) Medium- to Long-Term Incentive

Regarding the medium- to long-term incentive, at the 142nd Annual General Meeting of Shareholders convened on June 26, 2018, the Company introduced the performance share unit plan (the "PSU Plan"), a performance-based stock compensation plan, under which the Company's shares and cash are paid in accordance with the extent to which the Company's consolidated return on equity (ROE) target and other targets have been achieved in the final fiscal year of the medium-term business plan.

Subject to the performance targets and other requirements established in advance by the Board of Directors during the period of the medium-term business plan, the Company determines the amount of compensation based on the medium- to long-term incentive for each eligible Director and Executive Officer by multiplying the base amount of stock compensation established by the Compensation Advisory Committee for each Director and Executive Officer to which compensation will be paid by a coefficient established in advance by the Board of Directors in accordance with the conditions for achieving performance targets (the "payment rate"). Of the amount of compensation, 60% shall be paid in the form of shares of the Company and 40% in monetary terms. The payment rate is designed to vary from 0% to 100% depending on the degree of achievement of the performance target.

Performance targets for medium- to long-term incentive are linked to the medium-term business plan, and are considered to be important indicators in terms of both corporate value and shareholder value. Accordingly, the Company shall use return on equity (ROE), which is an indicator of management efficiency.

The PSU Plan establishes a clawback provision under which, in the event of material fraud accounting or a large loss, it can be requested that all or a portion of the compensation paid as compensation related to the PSU Plan be reimbursed free of charge.

*The ratio of annual incentives and medium- to long-term incentives to basic compensation when the performance targets for each of the annual incentive and the medium- to long-term incentive are achieved in the fiscal year in which the medium- to long-term incentive is paid shall be set as the higher the position, the higher the ratio to the basic compensation, and as the position falls from 1:0.75 for the representative director, the overall average including executive officers shall be approximately 1:0.5:0.5 (Figure 2).

This ratio may vary from 1:0:0 to 1:1:0.5, depending on the degree of achievement of the performance objectives for each of the annual incentives and the medium- to long-term incentives.

Figure 2



Note 1. Based on the idea that the performance objectives that are a part of the evaluation of the entire company's results for the individual year for the annual incentive are significant indicators for the Group to measure sustained growth, the performance objectives have been set for consolidated sales and consolidated return on sales (ROS). Performance objectives and results in the fiscal year ended March 31, 2022, one of the determinant factors for performance-linked compensation, are as follows:

Performance objectives set for the fiscal year ended March 31, 2022	Results in the fiscal year ended March 31, 2022	
Consolidated sales	¥370.0 billion	¥389.9 billion
Consolidated return on sales	6.8%	7.9%

Note 2. The Company believes the performance objectives for the medium- to long-term incentive are connected to the medium-term business plan. Among the business objectives set in the medium business plan, the Company has currently chosen return on equity (ROE), an indicator showing the efficiency of management, as the performance objective based on the idea that it is a significant indicator of an increase in both corporate value and shareholder value.

Actual ROE	Payment Rate
Less than 8%	0%
From 8% to less than 11%	$(25 + (\text{Actual ROE} \times 100 - 8) / 3 \times 25)\%$
From 11% to less than 14%	$(50 + (\text{Actual ROE} \times 100 - 11) / 3 \times 50)\%$
14% or higher	100%

Initiatives Related to Cross-Shareholdings

Method of Verifying Shareholding Policy and Rationality (Reduction Efforts)

The Group shall strategically hold shares of other companies' stock, provided the shares that are held are determined to contribute to maintaining and increasing corporate value. Regarding all cross-holding shares, the Board of Directors shall uphold a policy of keeping the minimum necessary number of cross-holding shares and decide every year if the holding of the shares is appropriate by individually examining the purpose and economic rationale, etc., for holding each stock from medium- and long-term perspectives. Any strategically held shares that are deemed to be no longer appropriate to hold as a result of the examination shall be sold with the goal of reducing the number of shares held. In the examination, the stocks held are classified into the following three categories, and transaction status, share price and dividends, and capital costs are designated to be the KPIs in the determination of the appropriateness of the holding of the stock:

- a. Business partners (for the purpose of maintaining and strengthening business transaction and partner relationships)
 - b. Financial institutions (for the purpose of conducting financial transactions smoothly)
 - c. Others (those which do not fall under the above categories)
- Specifically, the appropriateness of holding each stock is individually assessed and determined through the process of a to d below:
- a. Quantitative assessment of share price (market value, cost, and carrying amount after impairment)
 - b. Quantitative assessment of ROIC, which is calculated on the basis of market value and cost, compared with the share price assessed in a. (After-tax gross income from sales and dividend income are used in the calculation of ROIC.)
 - c. Qualitative assessment of the purpose of holding, transaction results, an estimate of future transactions, and other factors for each share held.
 - d. Assessments a. to c. are comprehensively evaluated from perspectives, including medium- to long-term economic value, business expansion, and the strengthening of relationships.

Voting Rights

The Group shall make decisions regarding the exercise of the voting rights of strategically held shares based on a sufficient examination from the standpoint of increasing the corporate value of the Company and the companies that the Company has invested in over the medium to long term.

In the following cases in particular, the Company shall exercise its voting rights based on a careful examination of whether or not the voting rights should be exercised:

- 1) Cases where any violation of law, misconduct, or anti-social behavior has occurred at the companies in which the Company has invested
- 2) Proposals that are considered to be likely to undermine the Company's corporate value, for organizational restructuring including mergers, acquisitions, or business transfers, the advantageous issuing of shares to third parties, etc.

Directors/Audit & Supervisory Board Members/ Vice Presidents

(As of July 4, 2023)

Directors/Audit & Supervisory Board Members



President and Chief Executive Officer
Hitoshi Nara
Date of birth: Jan. 23, 1963
Number of years since appointment as a Director: 12 years



Director, Senior Executive Vice President
Executive Assistant to the President
Junichi Anabuki
Date of birth: Mar. 18, 1963
Number of years since appointment as a Director: 9 years



Director, Senior Vice President
Head of Digital Solutions Headquarters
Yu Dai
Date of birth: Feb. 25, 1963
Number of years since appointment as a Director: 4 years



Outside Director
Chairman of the Board
Shiro Sugata
Date of birth: Nov. 17, 1949
Number of years since appointment as an Outside Director: 7 years



Leading Outside Director
Chairperson of the Nominating Advisory Committee
Akira Uchida
Date of birth: Oct. 4, 1950
Number of years since appointment as an Outside Director: 4 years



Outside Director
Chairperson of the Compensation Advisory Committee
Kuniko Urano
Date of birth: Oct. 19, 1956
Number of years since appointment as an Outside Director: 2 years



Outside Director
Takuya Hirano
Date of birth: Aug. 11, 1970
Number of years since appointment as an Outside Director: 1 year



Outside Director
Yujiro Goto
Date of birth: May 4, 1957
Number of years since appointment as an Outside Director: Newly elected



Audit & Supervisory Board Member
Hajime Watanabe
Date of birth: Aug. 17, 1962
Number of years since appointment as a Member of the Audit & Supervisory Board: 3 years



Audit & Supervisory Board Member
Kenji Hasegawa
Date of birth: Apr. 18, 1962
Number of years since appointment as a Member of the Audit & Supervisory Board: Newly elected



Outside Member, Audit & Supervisory Board
Yasuko Takayama
Date of birth: Mar. 8, 1958
Number of years since appointment as a Member of the Audit & Supervisory Board: 6 years



Outside Member, Audit & Supervisory Board
Makoto Ohsawa
Date of birth: Feb. 20, 1959
Number of years since appointment as a Member of the Audit & Supervisory Board: 5 years



Outside Member, Audit & Supervisory Board
Masaru Ono
Date of birth: Jun. 1, 1953
Number of years since appointment as a Member of the Audit & Supervisory Board: 3 years

Introduction of New Officers



Outside Director
Yujiro Goto

I previously spent many years with Nippon Shokubai, a chemical company, for which I developed technologies that maintained a good balance between safety, quality, environmental, and production efficiency considerations at our plants. I was directly involved in the introduction of Yokogawa's products and systems. Back then, Yokogawa's representatives worked with us at our production sites to develop new techniques, and through their frank and honest interactions helped to establish trust and build strong relationships with our staff. Yokogawa still maintains that hands-on approach today, and that is a strength. At the same time, the company is pursuing advanced initiatives to strengthen its corporate governance.

I believe that the basic management policies and medium- to long-term management strategies set forth by Yokogawa are an expression of its sincere aspiration to meet the expectations of all stakeholders. I have recently had the honor of being appointed to the position of Outside Director, and as a member of the Board of Directors responsible for Yokogawa's management, I recognize my duty is to support transparent, fair, swift, and bold decision-making and sound corporate management based on strong corporate governance. In particular, I hope to assist Yokogawa to further leverage the power of its hands-on approach to strengthen its practical capabilities, and see this as one of my most important roles. As such, I aim to contribute to the further enhancement of Yokogawa's corporate value.



Audit & Supervisory Board Member
Kenji Hasegawa

As a member of the Audit & Supervisory Board, I will seek to ascertain whether Yokogawa is being managed in a sound and fair manner, and thereby ensure that the company continues to live up to the trust and expectations of all its stakeholders. At the same time, I believe I also have a duty to enhance the company's corporate governance, in terms of both aggressive and defensive corporate management. Audit & Supervisory Board members are required to shoulder ever greater responsibilities with each passing year, and I think that, likewise, their roles must not remain fixed and immovable, but be revised and improved over time.

I have business experience in fields such as sales, marketing, technology, development, and IT. I intend to utilize this experience, as well as my network inside Yokogawa and my operational knowledge, to engage in my auditing duties.

I believe that the key to my work as a standing member of the Audit & Supervisory Board will be to promptly obtain information and ascertain facts by establishing smooth communication and relationships that are based on trust, while emphasizing independence and objectivity.

Vice Presidents



Tsuyoshi Abe
Senior Vice President
Head of Marketing Headquarters



Shuji Mori
Senior Vice President
Regional Chief Executive for North America, South America, Europe, Russia and CIS



Yukihiro Funyu
Senior Vice President
Head of Digital Strategy Headquarters
Head of DX-Platform Center



Koji Nakaoka
Senior Vice President
Head of Energy & Sustainability Business Headquarters, Global Sales Headquarters



Mikio Matsui
Vice President
Head of Human Resources and General Affairs Headquarters



Kazuhiko Takeoka
Vice President
Regional Chief Executive for ASEAN, Pacific, China, and Korea
President of Yokogawa China Co., Ltd.



Hiroshi Nakao
Vice President
Head of Life Business Headquarters



Hikaru Kikkawa
Vice President
Head of Audit & QHSE Headquarters



Hiromasa Yatsuhashi
Vice President
Regional Chief Executive for Japan
President of Yokogawa Solution Service Corporation



Hiroshi Nagai
Vice President
President of Yokogawa Manufacturing Corporation



Sajiv Ravindran Nath
Vice President
Regional Chief Executive for India & South Asia
President of Yokogawa India Limited



Michiko Nakajima
Vice President
Head of Accounting & Treasury Headquarters



Yoko Fujita
Vice President
Head of Global Business Service Headquarters



Takeshi Taniguchi
Vice President
Head of Materials Business Headquarters



Toshiyuki Suzuki
Vice President
President of Yokogawa Test & Measurement Corporation



Hiroshi Tanoguchi
Vice President
Head of Yokogawa Products Headquarters

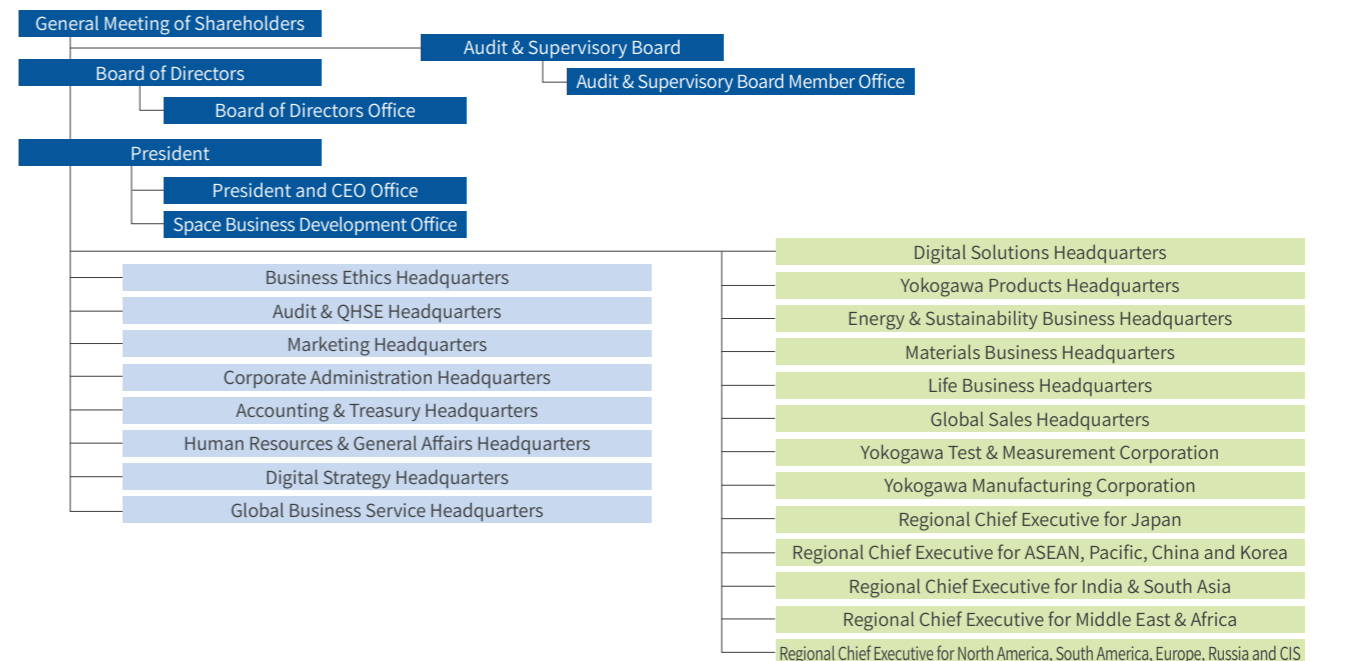


Kunimasa Shigeno
Vice President
Regional Chief Executive for Middle East & Africa
President of Yokogawa Middle East & Africa B.S.C.(c).



Akira Fukuda
Vice President
Head of Corporate Administration Headquarters

Organization Chart (as of June 27, 2023)



Risk Management

Risks

Described below are matters related to the Group's business that are considered as the main sources of risks and that could significantly impact investors' decision-making. Should these risks materialize, they could impact the Group's overall business activities, possibly affecting its earnings performance and financial status.

Details of risks	Major initiatives	Key related topics*		
		I	II	III
Risks relating to the external environment				
Related to social conditions				
● Political or economic factors in each country	We are striving to prevent, avoid, and reduce the impact of risks related to changes in the external environment through the collection of information within the Group, contracts with external parties, and other initiatives.	○	○	
● Impact of taxation and trade restrictions		○		
● Differences in commercial practices outside Japan		○		
● Social turmoil stemming from natural disasters (earthquakes, fires, floods, tsunamis, etc.), wars, riots, terrorism, infectious diseases, strikes, and other factors		○	○	○
● Cyberattacks affecting the Company's products, services, and infrastructure		○		
● Incomplete understanding of regulations, sanctions, patents, etc., and new laws or revision of regulations, in countries where we operate, including those pertaining to the protection of the environment		○	○	
● COVID-19		○	○	
Related to fluctuations in foreign exchange rates, interest rates, and stock prices				
● Rapid/significant foreign exchange rate fluctuations	In connection with risks involved in the fluctuation of foreign exchange rates, interest rates, and stock prices, we are engaged in measures such as forex contracts to address the potential impact of foreign currency fluctuations.		○	
● Increase/decrease of interest earnings and impact on assets value due to interest rates fluctuations			○	
● Stock price movements			○	
Risks relating to strategy				
Related to markets/competitive environment				
(1) Cost competitiveness	Regarding risks related to the market and competitive environments, we are working to increase the cost competitiveness of products and services that are required by the markets and to satisfy cost reduction requests. We are also endeavoring to create new value through digital transformation in a broad array of areas, mainly among our business partners, not to speak of our own company, in order to secure competitive advantages. Moreover, we are pushing ahead with the transformation of business models by, for example, seeking to establish a results-based business and a recurring business that emphasizes the offering of services. Regarding energy, initiatives to address environmental changes such as a shift in energy use from a long-term perspective are under discussion, and we are working to respond to such changes in the market environment.	○		
(2) Establishment of competitive advantages by the use of digital technologies		○		
(3) Transformation of business models to match market needs		○		
● Loss of business opportunities		○		
(4) Changes in the market environment due to climate change initiatives	Regarding risks related to strategic investment, we are intensifying our focus on strategic growth investments, primarily for expansion into new businesses and new fields. Further, we are striving to steadily implement processes from project discovery to investment, to improve the accuracy of evaluation and verification, and to swiftly launch businesses after investment.	○		○
● Loss of business opportunities and decline in corporate value		○		
Related to strategic investment				
● Assumed results not achieved due to unexpected environmental change	Regarding risks related to research and development, we are continuously pushing forward with the development of new technologies, with basic research of measurement, control and information, and the development of advanced technologies and digital technologies such as IoT and AI as our topmost management priorities. We are strengthening initiatives to adapt to changes in international codes and standards, and to aid the realization of a sustainable society, as represented by SDGs. We are also continuing to invest in R&D for product technologies and service innovation to ensure we maintain our competitiveness while seeking to understand market trends in product and service areas with growth potential.	○	○	
● Assumed results not achieved due to delay in launching invested business		○	○	
Related to R&D				
● Nonconformance with market needs and targets	Regarding risks related to recruitment and the training of human resources, we have globally employed people with the ability to propose solutions, with project management and engineering capabilities, and with technology and knowledge regarding digital technology and new businesses. And we have educated and trained the people that we employ.	○		
● Conform to requirements but no innovative technology created, and assumed results not achieved		○		
● Allow other companies to take a lead		○		
Related to the recruitment and training of human resources				
● Unable to secure necessary human resources	As for human rights-related risks, we have established the policy to respect human rights and expressed our support for the U.N. Global Compact. We have established guidelines for human rights initiatives in supply chains, and we undertake activities to ensure that internationally required human rights are respected.	○	○	
● Unable to complete training as planned		○	○	
Related to human rights				
● Compensation liability incurred	-	○		
● Decline in corporate value		○		
Related to depreciation of owned assets				
● Decline in asset value stemming from a fall in market prices and profitability, etc.			○	
Risks relating to operations				
Related to product quality and supply				
● Defects inherent in products or services	Concerning risks related to product quality and supply, we are accumulating technology and expertise while ensuring our strict quality management system stays in place. We are also endeavoring to achieve stable procurement by routinely collecting information on market trends impacting our main electronic components and other materials we procure, and to ensure thorough management of supplier information, including quality and delivery time, as we work to diversify our supply sources and avoid excessive concentration and dependence on particular suppliers.	○		
● Loss arising from a defect		○	○	
● Product supply delayed or halted		○		
Related to project management				
● Unexpected cost arises	Regarding risks related to project management, we are striving to prevent the occurrence of unprofitable projects through efforts, including profit estimation in the process leading up to the receipt of orders, the improvement of the accuracy of profitability management until delivery time, and thorough control of production and quality.	○	○	
● Compensation liability incurred due to delayed delivery, etc.		○	○	
Related to intellectual property rights				
● Unable to use important technology	Concerning risks related to intellectual property rights, we expend every effort to protect our intellectual property rights in the process of developing our products and services, and thoroughly manage intellectual property rights to prevent our infringement of other companies' rights.	○		
● Compensation liability incurred		○	○	
● Decline in corporate value		○		
Related to information security				
● Compensation liability incurred	Regarding information-security-related risks, we are working to improve our information management system and providing training on the subject.	○	○	
● Decline in corporate value		○		

***Key related topics**

- I. The risks that were the background behind the formulation and review of **the long-term business framework and the AG2023 medium-term business plan** were mainly examined from perspectives evaluating political, economic, social, and technological trends, customer trends, and trends in the process automation industry. The risks were reflected into Yokogawa's Purpose, Vision statement, and various strategies.
- II. On the **financial** front, risk scenarios are developed mainly from perspectives considering overseas and domestic economic crises, natural disasters, environmental and energy constraints, infectious diseases, and sluggish new businesses. These scenarios are utilized in the verification of safety, medium- and long-term balance sheet projections, M&A decision-making, and other activities.
- III. Assuming that there will be damage caused by **climate change** (physical risks) mainly due to natural disasters and that climate change will force changes (transition risks) mainly due to the decrease of businesses dependent on fossil fuel-based energy and the delay in climate change measures, we will accelerate our climate change initiatives including those recommended by the TCFD.

Risk Management

Risk Management Structure

To ensure effective risk management within the Group, we have established the Risk Management Committee chaired by the President and CEO, who is responsible for supervising all matters in relation to risk management. We identify the risks posed by uncertainties that may affect the Group's corporate value, including uncertainties in the external environment such as climate change, strategies, product quality, the internal environment, health and safety, crisis management, and corporate ethics. We also categorize and manage these uncertainties in terms of the external environment, strategies, and operations.

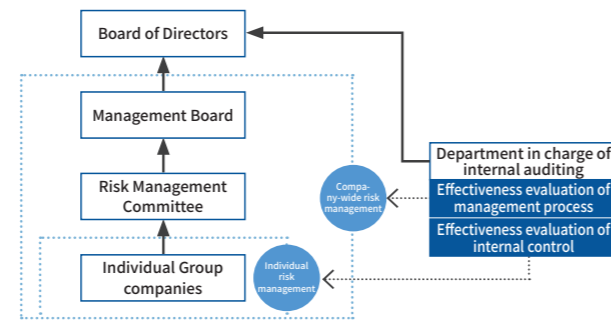
The department in charge of internal audits evaluates the effectiveness of the Group's risk management process and reports important findings to the Board of Directors and the Audit & Supervisory Board members twice a year.

In addition, in the event that a risk materializes, and a crisis occurs that may have a serious impact on the Group's management, the Crisis Management Committee, chaired by the President and CEO, will respond.

Promoting Risk Assessment and Risk Management

Each year, individual Group companies identify their own risks and measures, and the Risk Management Committee selects the risks to be intensively managed (priority management risks), taking into account management strategies, management issues, and the external risk environment. In selecting them, we evaluate the severity of risks in terms of their impact and likelihood of occurrence. The content and progress of measures to address priority management risks are reviewed quarterly, the status of risks is evaluated by the Risk Management Committee, and reports are made to the Management Board and the Board of Directors. We also implement a review of measures and identify areas for improvement. These are reflected in the selection of priority management risks for the following year.

In addition, individual Group companies autonomously conduct PDCA cycle to manage risks identified.



PDCA for Risk Management

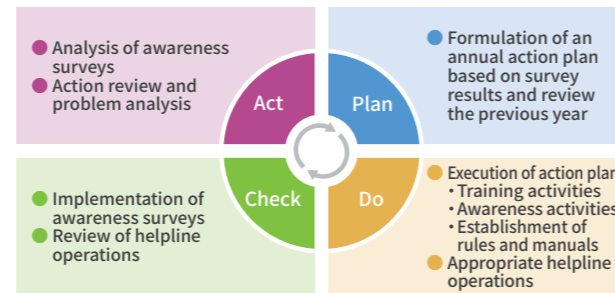


Compliance

Yokogawa places the utmost priority on compliance and conducts its business activities in compliance with relevant laws, regulations, ordinances, and social norms while upholding the highest of ethical standards. Directors take the lead in the Group's adherence to and dissemination of business ethics. The Yokogawa Group Code of Conduct sets out the Basic Policy and Standards of Conduct, which employees should observe to realize Yokogawa's corporate philosophy, while the Yokogawa Group Compliance Guidelines prescribe the specific actions each and every employee should take.

Yokogawa aggressively promotes management practices built upon a foundation of compliance through the establishment of a business ethics department that is responsible for developing a compliance promotion structure and identifying and addressing issues pertaining to it. Yokogawa's goals are to be healthy and open, with both a culture that encourages and enforces proper ethical conduct and a system that prevents misconduct and scandal. In so doing, Yokogawa will meet the expectations of investors and other stakeholders.

PDCA Cycle for promoting Compliance



Yokogawa Group Compliance Guidelines

The United Nations Global Compact

Yokogawa signed the United Nations Global Compact in 2009 and expressed its support for the Compact's 10 principles addressing human rights, labor, the environment, and anti-corruption. We are working with our stakeholders to uphold the 10 principles through efforts.

ISO26000

The ISO26000 standard published by the International Standardization Organization in November 2010 is an international standard relating to the social responsibilities of organizations. Yokogawa is a company active in the global marketplace, and it adheres to the ISO 26000 standard and regards corporate governance as a foundation for corporate management. As such, we are committed to the implementation of socially responsible activities to meet our stakeholders' expectations, including contributing to communities through our business operations, environmental conservation, and respecting human rights

Internal Control

Yokogawa has established and is operating an internal control system to promote management efficiency while ensuring the appropriateness of business operations, and to achieve continuous growth and increase corporate value.

The Group Management Standards were established as the most important regulations within Yokogawa Group, clarifying the roles and responsibilities of each business process, and implementing an internal control system based on autonomous control activities. Among the internal control systems, processes that are particularly important from the perspective of operational appropriateness are consolidated into a deployment system consisting of business ethics, decision-making, operations management, crisis management, and corporate auditing infrastructure. The system of overall responsibility for the Group has been established and is being operated. The person responsible for each process is responsible for providing supervision and guidance to ensure (i.e., maintain and improve) the effectiveness and efficiency of internal controls at each Group company.

In operating the internal control system, relevant result indicators and action indicators are clearly defined and PDCA is followed. The department in charge of internal audits conducts an internal audit of the effectiveness of the internal control system and reports important matters to the Board of Directors and the Audit & Supervisory Board Members.

Respect for Human Rights

Yokogawa Group Human Rights Policy

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

<https://www.yokogawa.com/about/sustainability/humanrights/>

Human Rights Management

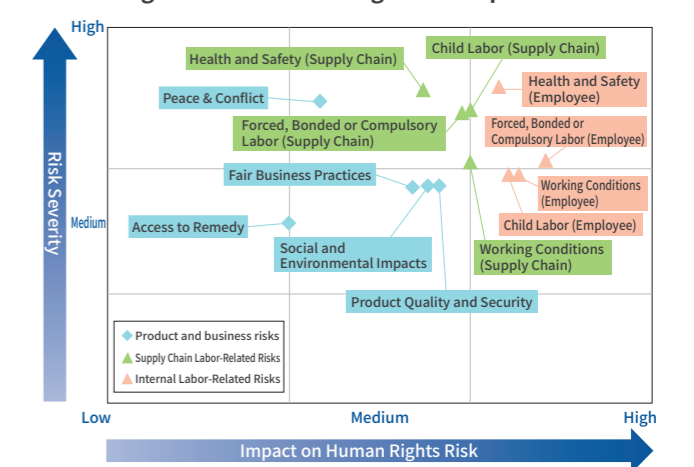
We have established an internal system in which the President and CEO have the highest responsibility for human rights in the Group, and we are implementing ongoing efforts. The Human Rights Working Group, whose members are selected from the departments related to human rights, is working on specific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

Human Rights Due Diligence

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

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

Human Rights Risk of the Yokogawa Group



Major Human Rights Initiatives in FY 2022

Internal human rights risk assessment activities	Following our assessment of manufacturing sites in fiscal year 2021, we implemented a Self Assessment Questionnaire (SAQ) concerning issues such as "forced, bonded, or compulsory labor," "occupational health and safety," and "working conditions" at 33 engineering sites in Japan and overseas. Although there were no high-risk sites requiring immediate action, we will continue to communicate with them to reduce the risk of human rights violations.
Conducted human rights due diligence for critical suppliers	We conducted human rights due diligence on important business partners using a SAQ. We identified high-risk business sites and engaged in communication to bring about improvements.
Revised Sustainable Procurement Guidelines	Implemented revisions in line with the amendment of international procurement standards.
Education and awareness-raising programs on respect for human rights	We are working to encourage employee participation through measures such as the provision of educational materials in multiple languages. We distributed awareness-raising content to all employees on World Human Rights Day.
Human rights helpline and remedy procedures	In line with the partial revision of the Whistleblower Protection Act in Japan, the related internal rules have been revised and communicated to employees.
Update risk map	We reevaluated risks internally based on changes in the external environment, the progress of internal initiatives, and future continuity, and renewed the risk map to reflect these.

Health and Productivity Management*

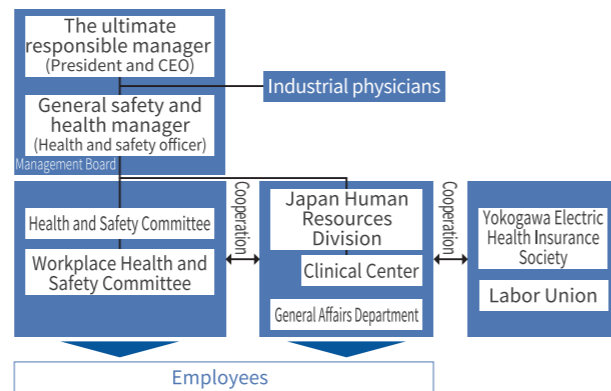
In order for Yokogawa to provide sustainable value and lead the way in solving global issues, it is essential to promote health and productivity management, in which health is considered from a management perspective and strategically practiced. Yokogawa will help its employees autonomously maintain their health while improving their physical and mental health, satisfaction, and happiness, increasing engagement and productivity across the Group. In September 2016, the Company established the Health Declaration as a basic policy for health and productivity management with the aim of further accelerating various initiatives related to employee health from the perspective of health and productivity management.

Health Declaration

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

Health and Productivity Management Promotion System

With the President and Chief Executive Officer assuming the ultimate responsibility and under the leadership of the management team spearheaded by Health and Safety Officers who serve as general safety and health managers, the Health and Safety Committee takes charge of promoting health and productivity management while relevant departments, namely the Japan Human Resources Division, including the Clinical Center, and the General Affairs Department in the Human Resources and General Affairs HQ, coordinate with Industrial physicians, the Yokogawa Electric Health Insurance Society and Labor Union.



The Company has worked on various initiatives under its policy relating to maintaining and improving the health of employees, including working styles that allow flexibility in work locations and times, creating employee-friendly office environments, management of working hours, and health improvement programs. Through these efforts, the Company has been continuously certified as “the Certified Health & Productivity Management Outstanding Organizations” of the Ministry of Economy, Trade and Industry (METI) since fiscal year 2017, and was recognized as “the Certified Health & Productivity Management Outstanding Organizations (White500)” for the first time in two years in fiscal year 2023.

* “Health and productivity management” is a registered trademark of Workshop for the Management of Health on Company and Employee.

Occupational Health & Safety

Yokogawa shall, in recognition that good Occupational Health and Safety (OHS) management is essential for the Group, autonomously strive to promote the health and safety of its personnel, while creating and maintaining a suitable working environment. The Yokogawa Group has established and operates its Occupational Health and Safety Management System to eliminate occupational accidents and facilitate the continual improvement of its occupational health and safety activities.

We combine activities to remove and reduce potential risks through risk assessment with existing occupational health and safety activities, such as occupational health and safety patrols and near-misses, to increase the effectiveness of the system and activities. We aim to acquire ISO45001, the international standard for occupational health and safety management, at all of our 12 principal sites by FY2023.

Major Occupational Health and Safety Activities

- Promotion of ISO 45001 certification (FY2022: 10 out of 12 principal sites acquired)
- Risk assessment (hazard identification and risk reduction activities)
- Emergency response training (fire extinguisher training and evacuation training)
- Traffic safety education (safe driving and safe use of bicycles)
- Maturity Level Assessment (maturity survey on quality, occupational health and safety, and environment)
- Yokogawa QHSE Month (global awareness raising activities on quality, occupational health and safety, and environment)
- Global QHSE Conference (global meetings to discuss and determine policies and measures by stakeholders in quality, occupational health and safety, and the environment)

Quality Management

The Yokogawa Group meets its customers’ expectations by providing products and solutions of uniformly high quality. The driving force behind this is our founding principle of quality first, which we have followed faithfully for more than 100 years.

The basic way of thinking of Yokogawa Group’s quality management is composed of three basic elements: Quality Assurance (QA), Quality Improvement (QI), and Quality mind (Qm). We believe that we have the ability to meet our customers’ expectations and establish enduring relationships of trust only when all of these three elements are engaged. The Quality First mindset is critically important in maintaining the high quality of Yokogawa’s products and services. All employees of the Group understand the importance of the Quality First mindset and quality is built into every business process in accordance with the rules and approaches shared throughout the Group.



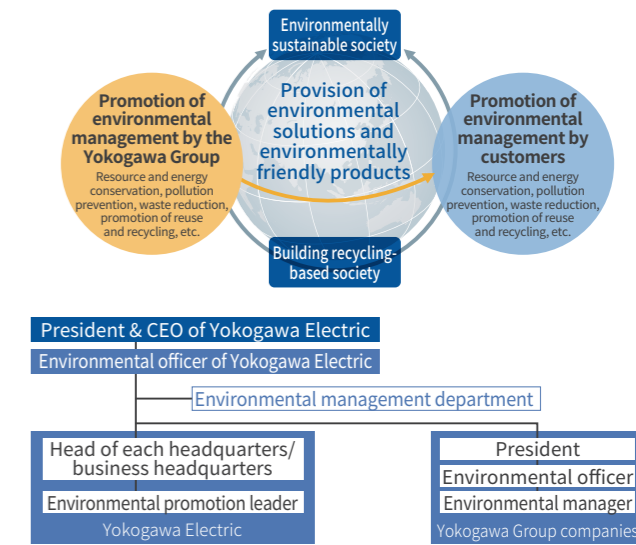
Environmental Management

Yokogawa takes its responsibility to protect the global environment seriously and, recognizing the responsibilities we bear for future generations, we practice environmental management from a medium- to long-term perspective. We promote the efficient use of resources and the significant reduction of greenhouse gas emissions together with our customers and actively work to develop environmentally friendly products and further reduce the environmental impact of the Yokogawa Group’s operations.

Environmental Promotion Structure

The Group companies have established environmental targets based on the Yokogawa Group Environmental Policy and are conducting environmental activities closely linked with their business activities. To promote global environmental management, environmental management officers at each Group company in Japan and overseas consider measures and review activities under the supervision of the Yokogawa Group’s Environmental officer.

The Group’s major business and engineering sites around the world are ISO14001 certified, with 83% of production sites having obtained certification.



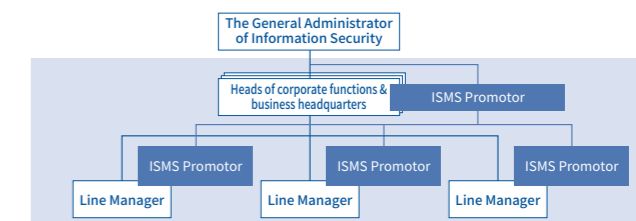
Information Security

To protect important information entrusted to us by our stakeholders, Yokogawa has established an information security promotion system and implements information security measures.

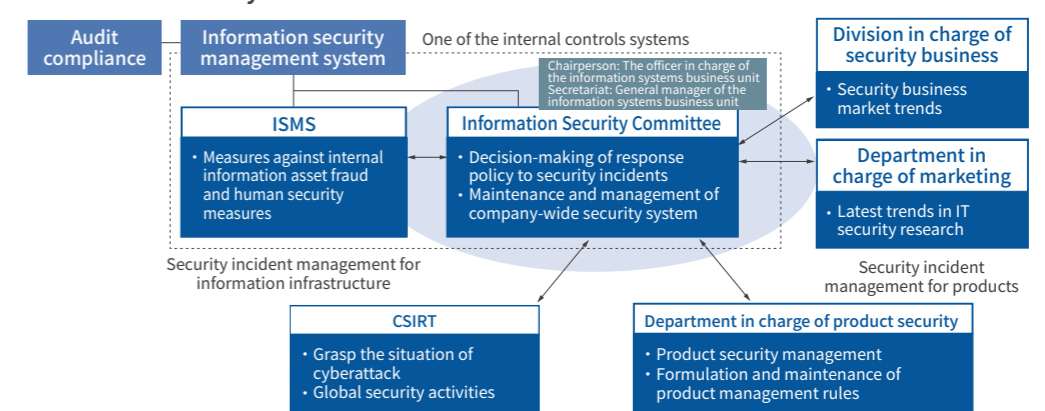
Information Security Promotion System

Yokogawa conducts information security activities based on the concept of the ISO 27001 standard. The officer responsible for regulating information security management notifies each business unit, headquarters, and affiliated company of policies and measures through information security managers. A secretariat conducts on-site inspections to monitor operations to ensure they are performed in line with rules and takes necessary improvement measures. To ensure information security, Yokogawa has developed an information security structure at each of its business units, headquarters, and affiliated companies. In addition, it implements PDCA cycle, which is the key to smooth information security promotion activities.

In conjunction with the above, Yokogawa also has an information security committee to improve its responses to cyberattacks and ensure that customers are able to continue their business activities safely and securely. This committee is chaired by the officer responsible for the department in charge of information systems and comprises cybersecurity experts on products and other fields that Yokogawa operates within. The committee works to share information within the Group and understand the latest trends.



Information Security Committee



For more information on these initiatives, please also visit the Yokogawa website and the Sustainability Report.

<https://www.yokogawa.com/about/sustainability/>

Review of Fiscal Year 2022 and Forecast for Fiscal Year 2023

Review of Fiscal Year 2022

The Group's orders, net sales, and operating income all increased year on year for the fiscal year 2022. Orders increased by 23.3% year on year (up 12.6% excluding the impact of foreign exchange rates), mainly due to the continued strong willingness of customers to invest against the backdrop of a full-fledged recovery in economic activity from COVID-19 since the latter half of the previous fiscal year and the impact of foreign exchange fluctuations. Net sales increased by 17.1% year on year (up 6.7% excluding the impact of foreign exchange rates), mainly due to an increase in net sales and the impact of foreign exchange fluctuations, despite the impact of lower gross margin and an increase in SG&A, and return on sales (ROS) was 9.7%.

Ordinary profit increased by 36.0% year on year. Profit attributable to owners of parent increased by 82.9% year on year, due to an increase in extraordinary income mainly owing to the reaction to the decrease in the previous fiscal year's recording of business restructuring expenses and loss on valuation of investment securities, and a decrease in tax expenses owing to the recoding of deferred tax assets. As a result, earnings per share (EPS) growth was 83.0% per year and return on equity (ROE) was 10.9%. Operating cash flow was approximately ¥40.4 billion.

Forecast for Fiscal Year 2023

The future world affairs and the global economy are becoming increasingly uncertain amidst advance of inflation around the world, and prolonged situation in Russia and Ukraine causing stressed energy supply-and-demand, surging prices for resources and raw materials, and heightened geopolitical tensions.

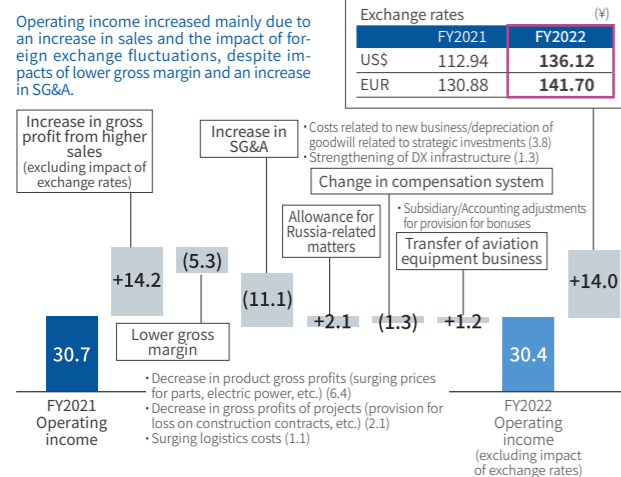
The Group's consolidated earnings forecast for the coming fiscal year is projected to a decrease in orders based on an expectation of slow growth for the global economy as a whole, a perception that the cycle of orders received for large-scale projects restarted after COVID-19 was coming to an end, and the expectation of a slowdown in investment in the materials industry. Net sales and operating income are expected to grow to a limited extent due to ongoing difficulties in procuring production parts, including semiconductors, etc., and project-procured products. As a result, ordinary profit is expected to increase slightly, while profit attributable to owners of parent is expected to increase due to gains on sales of investment securities.

Review of Fiscal Year 2022 and Forecast for Fiscal Year 2023

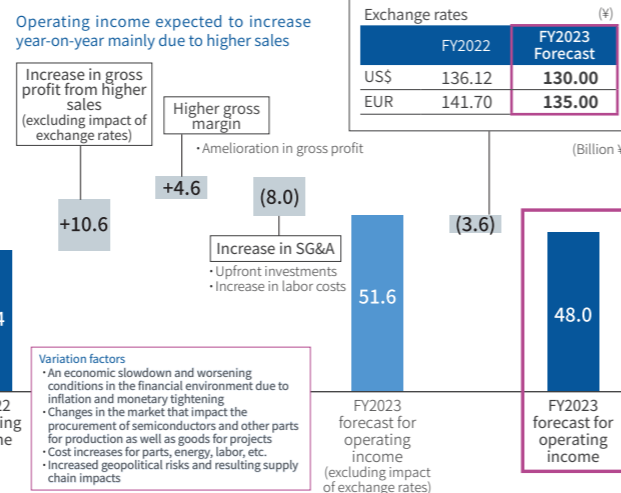
	FY2021 Results (A)	FY2022 Results (B)	FY2023 Forecast (C)	Difference (B-A)	% change (B/A-1)	Difference (C-B)	% change (C/B-1)
Orders (Billions of yen)	420.5	518.4	490.0	+97.9	+23.3%	(28.4)	(5.5%)
Net sales (Billions of yen)	389.9	456.5	470.0	+66.6	+17.1%	+13.5	+3.0%
Operating income (Billions of yen)	30.7	44.4	48.0	+13.7	+44.8%	+3.6	+8.1%
ROS (%)	7.9	9.7	10.2	+1.9 pt	—	+0.5 pt	—
Ordinary income (Billions of yen)	35.7	48.6	49.0	+12.9	+36.0%	+0.4	+0.8%
Profit attributable to owners of parent (Billions of yen)	21.3	38.9	44.0	+17.7	+82.9%	+5.1	+13.1%
EPS (yen)	79.67	145.81	164.84*	+66.14	+82.9%	+19.03	+13.1%
ROE (%)	6.6	10.9	—	+4.3 pt	—	—	—
Exchange rate to 1 U.S. dollar (Yen)	112.94	136.12	130.00	+23.18	—	(6.12)	—

*At the meeting of the Board of Directors held on May 9, 2023, we made a resolution on the acquisition of own shares (acquisition period: From May 22, 2023, to December 29, 2023) EPS (¥) in the forecast for fiscal year 2023 does not reflect the impact of this acquisition of own shares. Accordingly, the forecast may change, depending on status of the future acquisition of own shares.

Factors accounting for increase/decrease in operating income (result)



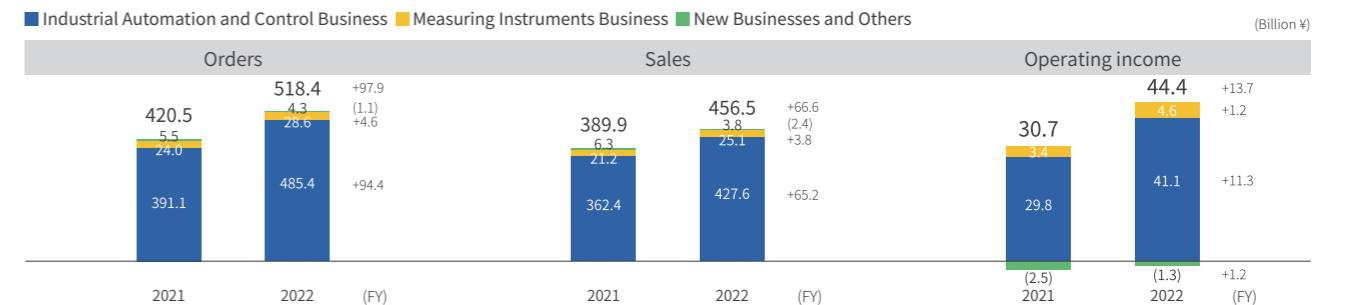
Factors accounting for increase/decrease in operating income (forecast)



Fiscal Year 2022 Results by Segment

Please see Financial Highlights on page 98

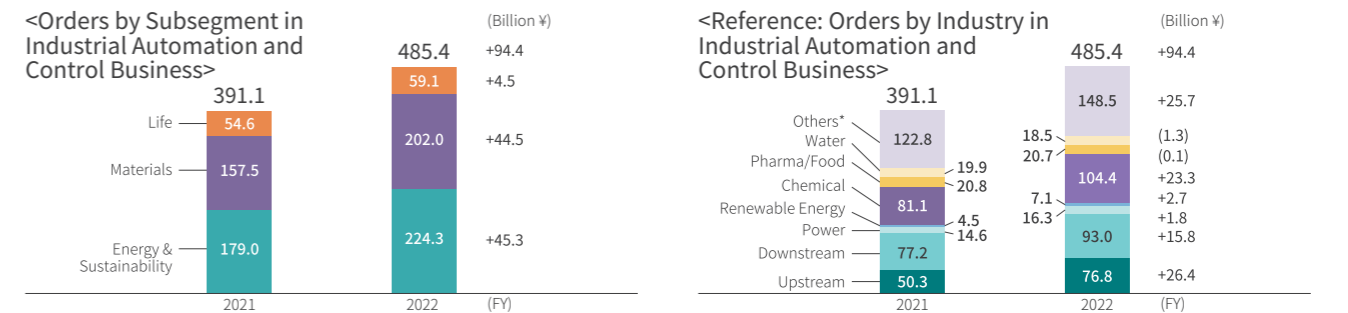
Both orders and net sales of the Industrial Automation and Control Business increased year on year. Orders increased by 24.1% year on year (up 13.4% excluding the impact of foreign exchange rates) and net sales increased by 18.0% year on year (up 7.5% excluding the impact of foreign exchange rates). Operating income increased by 38.1% year on year (down 2.1% excluding the impact of foreign exchange rates) mainly due to increased net sales and foreign exchange fluctuations. Net sales and operating income of the Measuring Instruments Business increased 18.1% and 35.5% year on year respectively, mainly due to the impact of foreign exchange fluctuations. Net sales of New Businesses and Others decreased 38.7% year on year due to the transfer of the aviation equipment business and operating loss shrunk.



* Due to the transfer of the aviation equipment business, the name of the reportable segment previously known as the Aviation and Other Businesses has been changed to the New Businesses and Others from fiscal year 2022.

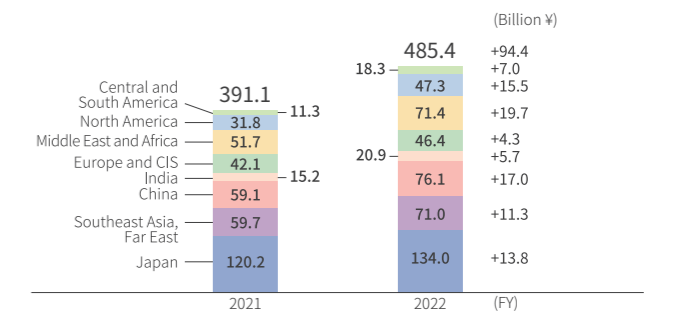
Orders by Subsegment in Industrial Automation and Control Business (Actual)

The Energy & Sustainability business increased by 25.3% year on year (up 12.8% excluding the impact of foreign exchange rates). Mainly, Upstream, Downstream, and Renewable energy have grown. The Materials business increased by 28.3% (up 18.9% excluding the impact of foreign exchange rates). Mainly, Chemical industry has significantly grown and orders such as for steel materials and the battery industry also remained solid. The Life business increased by 8.3% year on year (up 3.6% excluding the impact of foreign exchange rates).



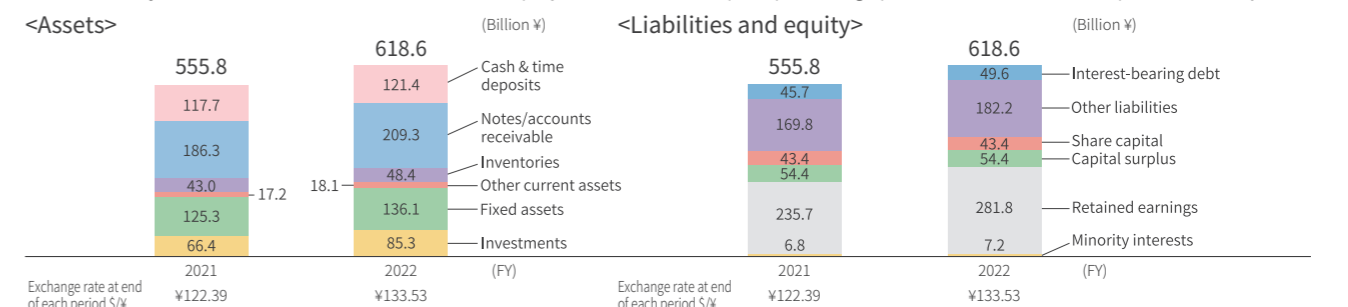
Orders by Region in Industrial Automation and Control Business (Actual)

Orders by region were up from the previous year in most regions. Orders in the Middle East and Africa, Central and South America, India, and North America remained strong. Orders in Japan and China also continued to be solid.



Balance Sheet

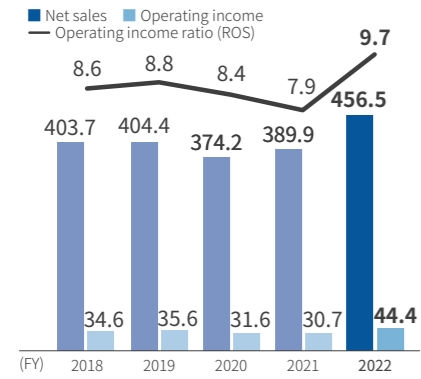
In comparison to March 31, 2022, total assets as of March 31, 2023, were up ¥62.7 billion to ¥618.6 billion, mainly due to increases in accounts receivable - trade, contract assets, and investment securities. In addition, total liabilities were ¥231.8 billion, up ¥16.2 billion compared to March 31, 2022, mainly due to increases in commercial papers and contract liabilities. As of March 31, 2023, net assets were ¥386.8 billion, up ¥46.5 billion compared to March 31, 2022, mainly due to the recognition of profit attributable to owners of parent and an increase in foreign currency translation adjustment. As a result, the shareholders' equity ratio was 61.4%, up 1.4 percentage points from the end of the previous fiscal year.



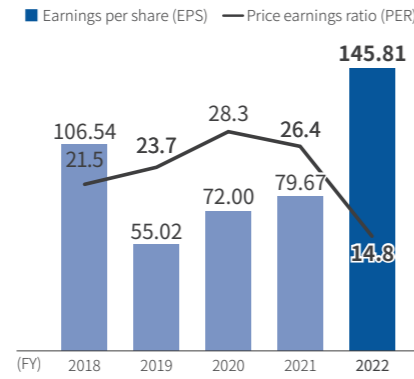
Financial Highlights

Profitability • Efficiency

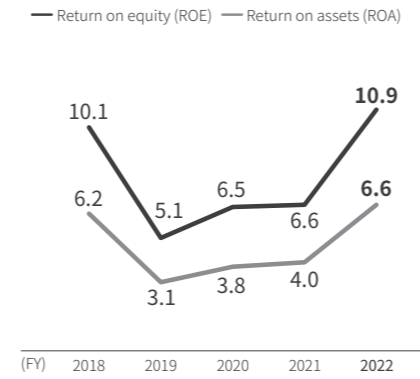
Net sales (Billions of yen)/Operating income (Billions of yen)/Operating income ratio (ROS) (%)



Earnings per share (EPS) (Yen)/Price earnings ratio (PER) (%)



Return on equity (ROE) (%) / Return on assets (ROA) (%)



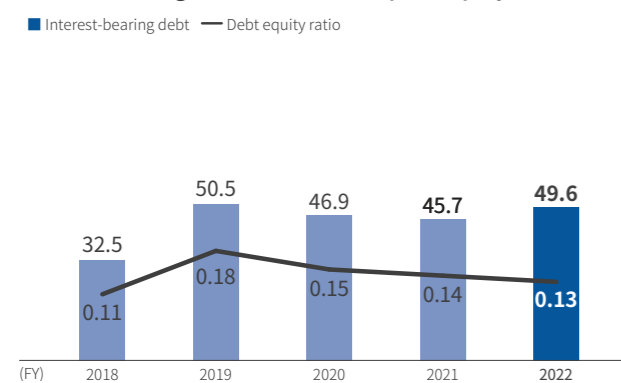
*As of March 31 each year

In fiscal year 2022, net sales increased mainly due to the impact of foreign exchange fluctuations. Operating income increased due to an increase in net sales and the impact of foreign exchange fluctuations despite the impact of lower gross margin and an increase in SG&A.

Return on equity (ROE) improved by 4.3 points with increased profit due to an increase in extraordinary income owing to the reaction to the decrease in the previous fiscal year's recording of business restructuring expenses and loss on valuation of investment securities, and a decrease in tax expenses owing to the recording of deferred tax assets. In addition, earnings per share increased by ¥66.14 year on year and price earnings ratio decreased by 11.6 points year on year.

Distribution of Earnings

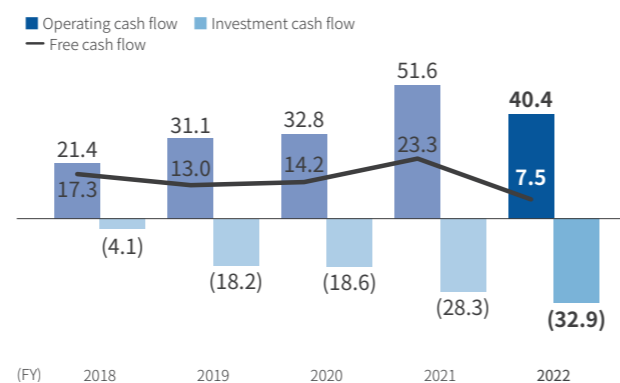
Interest-bearing debt (Billions of yen)/Debt to equity ratio (Times)



*As of March 31 each year

We will repay interest-bearing debt and strengthen our financial base.

Cash flows (Billions of yen)

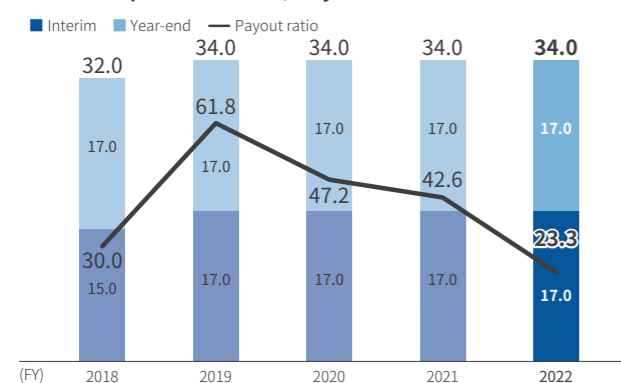


*As of March 31 each year

We generated operating cash flow of approximately ¥92.0 billion in total over two years from the beginning of AG2023, and allocated approximately ¥24.3 billion in total as capital investments for growth (strategic investments), including M&A and alliances, to maximize corporate value over the medium- to long-term.

To maximize shareholder value from a medium to long term perspective, we will continue to allocate cash flow optimally to maintain a financial base that supports growth, to invest in growth, and to return profits to shareholders.

Dividend per share (Yen)/Payout ratio (%)

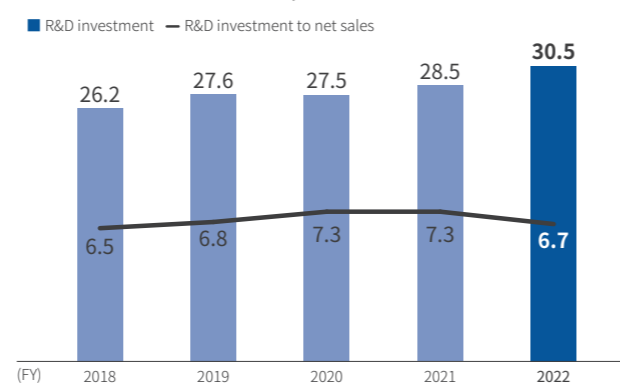


*As of March 31 each year

We recognize the distribution of earnings to shareholders as one of our highest management priorities and aim for a stable and continuous increase in dividends through earnings growth.

In addition, even when temporary factors lead to a downturn in financial results, we will strive to maintain a stable dividend rate based on the equity dividend rate.

R&D investment (Billions of yen)/R&D investment to net sales (%)

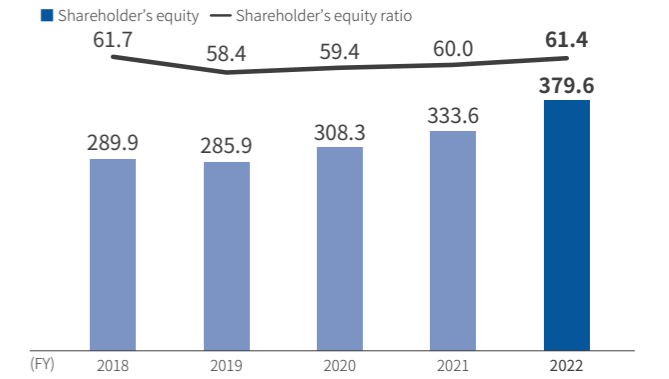


*As of March 31 each year

The R&D expenditures ratio of net sales was maintained at approximately 7%, and R&D expenditures in fiscal year 2022 were ¥30.5 billion.

Soundness

Shareholders' equity (Billions of yen)/Shareholders' equity ratio (%)

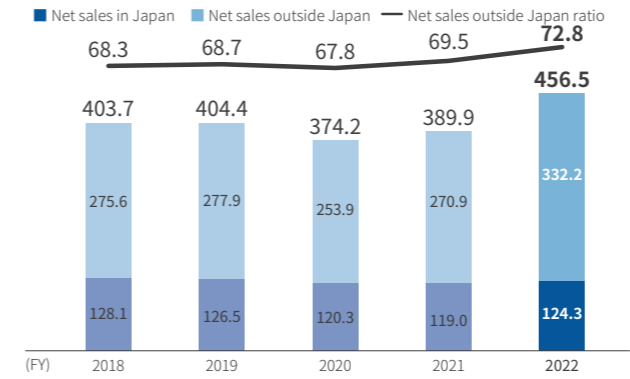


*As of March 31 each year

Shareholders' equity at the end of fiscal year 2022 increased mainly due to the recording of net income attributable to owners of parent.

We maintain a strong financial position to respond to any temporary deterioration in our performance.

Net sales in Japan and outside Japan (Billions of yen)/Net sales outside Japan ratio (%)



*As of March 31 each year

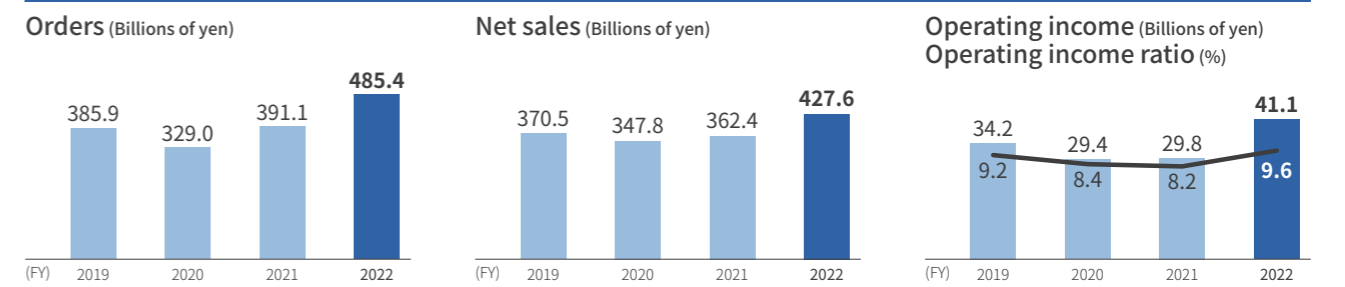
Overseas sales accounted for approximately 70% of net sales.

In fiscal year 2022, domestic sales increased while overseas sales also increased mainly due to the impact of foreign exchange fluctuations. Under the three subsegment structure of the industrial automation and control business, we will further grow our business, focusing on our focus areas.

Highlights by Segment

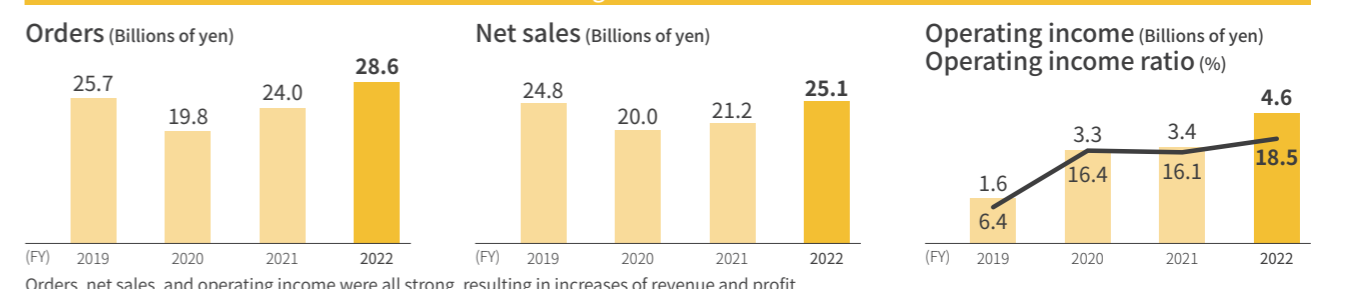
* Due to the transfer of the aviation equipment business, the name of the reportable segment previously known as the "Aviation and Other Businesses" has been changed to the "New Businesses and Others" from fiscal year 2022.

Industrial Automation and Control Business



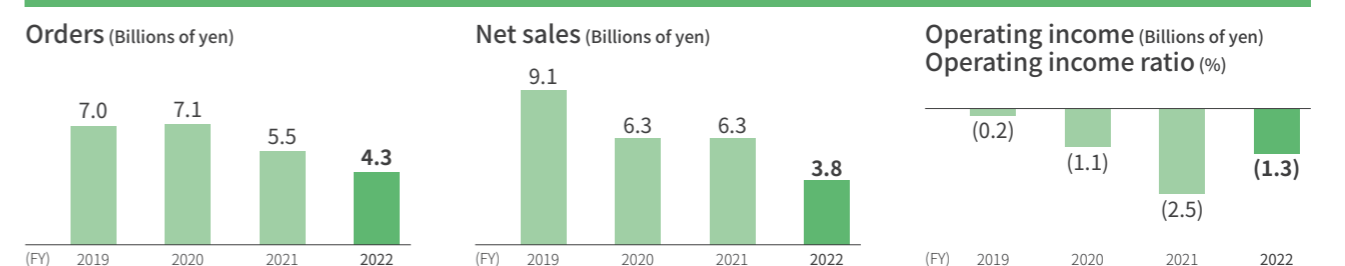
Orders received increased mainly due to the continued strong willingness of customers to invest against the backdrop of a full-fledged recovery in economic activity from COVID-19 and the impact of foreign exchange fluctuations. Sales increased mainly due to the impact of foreign exchange fluctuations, while operating income increased due to an increase in revenue and the impact of foreign exchange fluctuations.

Measuring Instruments Business



Orders, net sales, and operating income were all strong, resulting in increases of revenue and profit.

New Businesses and Others



Due to the transfer of the aviation equipment business, orders and net sales decreased and operating loss shrunk.

ESG Highlights

Environment

Item		2018	2019	2020	2021	2022
Energy consumption (GJ)	In Japan	684,085	632,217	623,618	641,173	567,187
	Outside Japan	854,898	831,180	758,685	745,515	750,264
	Total	1,538,983	1,463,397	1,382,303	1,386,688	1,317,451
	Intensity (GJ/¥100 million)	381	362	369	356	289
Renewable energy (MWh)		131	112	175	2,594	10,730
Greenhouse gas (GHG) emissions (t-CO ₂ e)	In Japan	34,447	30,745	29,850	28,331	25,127
	Outside Japan	49,439	48,025	42,966	42,155	41,958
	Total	83,886	78,770	72,816	70,486	67,085
	Intensity (t-CO ₂ e/¥100 million)	20.78	19.48	19.46	18.08	14.70
	Scope1	15,015	14,000	11,727	12,015	15,390
	Scope2	68,871	64,770	61,089	58,471	51,695

Item	Classification	Category	2020	2021	2022	
Supply chain GHG emissions Scope 3 (t-CO ₂ e) A dash (—) indicates “not applicable.”	Upstream	1 Purchased goods & services	197,858	225,275	272,104	
		2 Capital goods	26,154	24,926	25,997	
		3 Fuel- and energy-related activities not included in Scope 1 or 2	10,734	10,722	11,033	
		4 Transportation & logistics	17,660	15,055	16,032	
		5 Waste generated in operations	1,012	1,055	1,119	
		6 Business travel	4,294	5,460	20,217	
		7 Employee commuting	3,523	3,448	4,208	
		8 Leased assets	—	—	—	
		9 Transportation & deliveries	—	—	—	
		10 Processing of sold products	—	—	—	
		11 Use of sold products	529,700	492,060	513,699	
		Downstream	12 End-of-life treatment of sold products	1,026	1,003	1,015
			13 Leased assets	—	—	—
			14 Franchises	—	—	—
			15 Investments	—	—	—
Total		791,961	779,004	865,424		

Item		2018	2019	2020	2021	2022
Water withdrawals (m ³)	In Japan	315,766	246,539	240,379	187,040	203,373
	Outside Japan	244,876	266,087	248,092	237,927	298,307
	Total	560,642	512,626	488,471	424,967	501,680
	Intensity (m ³ /¥100 million)	139	127	130	109	110
Water discharges (m ³)	In Japan	266,833	246,248	235,432	184,289	197,012
	Outside Japan	232,110	228,154	227,369	218,831	242,676
	Total	498,943	474,402	462,801	403,120	439,688
Waste generated (t)	In Japan	2,566	2,414	1,977	2,530	2,203
	Outside Japan	2,624	2,499	2,406	2,162	2,310
	Total	5,190	4,913	4,383	4,692	4,513
	Intensity (t/¥100 million)	1.29	1.22	1.17	1.20	0.99
Non-hazardous waste (t)	Recycled	3,528	3,333	2,851	3,142	2,877
	Incinerated	126	393	481	434	393
	Landfilled	784	613	524	333	489
	Total	4,438	4,339	3,856	3,909	3,759
	Recycled	—	—	—	708	546
Hazardous waste (t)	Incinerated	—	—	—	75	207
	Landfilled	—	—	—	0	1
	Total	752	574	527	783	754

Social

Item		2018	2019	2020	2021	2022
Number of employees (persons)	Yokogawa Group	17,848	18,107	17,715	17,258	17,084
	Yokogawa Electric Co.	2,574	2,496	2,536	2,503	2,342
Ratio of foreign nationals among employees (%)	Yokogawa Group	61.4	64.4	64.5	64.0	64.0
	Yokogawa Electric Co.	2.6	3.5	3.7	4.1	4.7
Ratio of women employees (%)	Yokogawa Group	21.9	21.7	21.9	22.5	23.1
	Yokogawa Electric Co.	15.5	16.5	17.4	18.1	18.8
Ratio of women managers (%)	Yokogawa Group	9.4	10.2	11.7	12.6	13.3
	Yokogawa Electric Co. *Yokogawa Electric on a non-consolidated basis	5.4	6.3	7.7	8.6	8.7
Ratio of women new graduates joining the Company (%)	Yokogawa Group	34.5	41.3	52.5	26.7	46.7
	Yokogawa Electric Co.	(2019/4)	(2020/4)	(2021/4)	(2022/4)	(2023/4)
Employment rate of disabled persons (%)	In Japan	2.27	2.27	2.40	2.46	2.52
	*Data for the 6 Group companies in Japan	(2019/6)	(2020/6)	(2021/6)	(2022/6)	(2023/6)
Gender pay gap (%)	Yokogawa Group	—	—	—	—	73.4
	Mean gender pay gap	—	—	—	—	68.4
	Yokogawa Electric Co.	—	—	—	—	77.1
Collective agreement coverage (%)	In Japan	73.7	73.1	73.7	72.7	77.7
	*Data for Yokogawa Electric Co. on a non-consolidated basis until FY2021; data for the 4 Group companies in Japan for FY2022					
Average hours per FTE for training and development (hours/FTE)	Yokogawa Group	—	—	—	—	41.3
Total employee turnover rate (%)	In Japan *Data for the 4 Group companies in Japan	—	—	—	6.7	6.2
Employee engagement (%)	Yokogawa Group	77	78	79	80	76

Item		2018	2019	2020	2021	2022
Annual actual total working hours (hours/person)	Yokogawa Electric Co.	1,906	1,888	1,948	1,975	1,967
Average annual paid leave uptake rate (%/person)	Yokogawa Electric Co.	65.2	66.8	58.7	67.6	76.9
Average days of annual paid leave taken (days/person)	Yokogawa Electric Co.	14.0	14.3	12.6	17.4	20.4
Childcare leave uptake rate among male workers (%)	Yokogawa Electric Co.	3.9	7.9	16.2	36.8	49.2
Frequency rate of occupational accidents (Number of accidents resulting in lost workdays ÷ Aggregate number of work-hours × 1,000,000)	Employees (Yokogawa Group)	0.28	0.34	0.11	0.41	0.34
	Temporary and contract employees (Yokogawa Group)	0.46	0.28	0.00	0.23	0.32
Fatal accidents (cases)	Employees (Yokogawa Group)	0	0	0	0	0
	Temporary and contract employees (Yokogawa Group)	0	0	0	0	0

Item		2018	2019	2020	2021	2022	
Donations and community investments (million yen)	Activities	Cash contributions	194.3	184.4	229.7	199.5	177.8
		Employee participation and dispatch	1.7	1.0	0.6	0.7	0.5
		In-kind giving and use of company facilities	7.4	45.9	4.1	12.7	3.5
		Management overheads	18.0	18.0	18.0	18.0	18.0
	Total	221.4	249.3	252.4	230.9	199.8	
	In and outside Japan	In Japan	178.9	175.6	180.7	191.3	178.2
		Outside Japan	42.5	73.7	71.7	39.6	21.6
Total		221.4	249.3	252.4	230.9	199.8	

Governance

Item		2018	2019	2020	2021	2022
Ratio of women on the Board of Directors (%)		0	0	11	11	13
	*Upon conclusion of the Annual General Meeting of Shareholders in June each year	(2019/6)	(2020/6)	(2021/6)	(2022/6)	(2023/6)
Ratio of foreign nationals on the Board of Directors (%)		11	11	11	11	13
	*Upon conclusion of the Annual General Meeting of Shareholders in June each year	(2019/6)	(2020/6)	(2021/6)	(2022/6)	(2023/6)
Ratio of independent outside directors on the Board of Directors (%)		50	50	56	56	63
	*Upon conclusion of the Annual General Meeting of Shareholders in June each year	(2019/6)	(2020/6)	(2021/6)	(2022/6)	(2023/6)
Ratio of independent outside directors on the Nomination Advisory Committee (%)		66	66	71	71	83
	*Parentheses () indicate the number of outside directors	(4)	(4)	(5)	(5)	(5)
Ratio of independent outside directors on the Compensation Advisory Committee (%)		66	66	71	71	83
	*Parentheses () indicate the number of outside directors	(4)	(4)	(5)	(5)	(5)

For sustainability data, please refer to our website.

<https://www.yokogawa.com/about/sustainability/sustainabilityinfo/sustainability-data/>

Consolidated 11-Year Summary

Fiscal year											(Billions of yen)	(Millions of US dollars)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022
Financial data*1												
Orders	354.5	406.0	417.1	421.1	390.7	400.3	432.0	418.7	355.8	420.5	518.4	3,882
Net sales	347.9	388.5	405.8	413.7	391.4	406.6	403.7	404.4	374.2	389.9	456.5	3,419
(Net sales outside Japan)	213.9	259.4	281.1	286.6	263.5	276.1	275.6	277.9	253.9	270.9	332.2	2,488
Cost of sales	206.6	229.3	236.6	236.9	222.3	231.3	230.6	227.9	210.0	217.1	252.0	1,887
Selling, general, and administrative expenses	122.8	133.3	139.4	137.1	137.5	142.6	138.5	140.9	132.6	142.1	160.1	1,199
Operating income	18.4	25.9	29.8	39.6	31.6	32.7	34.6	35.6	31.6	30.7	44.4	333
Profit (loss) attributable to owners of parent	14.7	12.3	17.2	30.2	25.8	21.4	28.4	14.7	19.2	21.3	38.9	291
Capital expenditures	13.5	14.0	14.1	15.4	14.2	13.2	15.0	19.6	20.6	21.7	22.2	166
Depreciation and amortization	13.5	13.6	14.5	15.1	18.0	18.3	17.7	18.8	17.6	17.9	19.7	148
Research and development costs	25.5	25.8	25.8	25.3	27.1	26.6	26.2	27.6	27.5	28.5	30.5	228
Cash flow from operating activities	17.4	30.1	38.3	31.9	39.2	32.0	21.4	31.1	32.8	51.6	40.4	303
Cash flow from investing activities	(7.5)	(13.9)	(1.8)	(10.9)	(36.5)	(6.6)	(4.1)	(18.2)	(18.6)	(28.3)	(32.9)	(246)
Free cash flow	9.9	16.2	36.5	21.0	2.7	25.4	17.3	13.0	14.2	23.3	7.5	56
Cash flow from financing activities	(8.0)	(21.6)	(20.2)	(26.9)	6.5	(22.4)	(7.0)	4.6	(17.1)	(16.2)	(10.9)	(82)
At year-end												
Total assets	379.9	398.9	440.0	412.8	440.5	448.8	470.1	489.7	519.1	556.0	618.6	4,633
Interest-bearing debt	98.6	81.4	65.3	30.5	44.6	30.5	32.5	50.5	46.9	45.7	49.6	371
Shareholders' equity	168.4	187.3	215.5	240.4	256.4	271.9	289.9	285.9	308.3	333.6	379.6	2,843
Financial indicators												
Operating income ratio (ROS)	5.3	6.7	7.3	9.6	8.1	8.0	8.6	8.8	8.4	7.9	9.7	
Debt equity ratio (Times)	0.59	0.44	0.30	0.13	0.17	0.11	0.11	0.18	0.15	0.14	0.13	
Return on equity (ROE)	9.4	6.9	8.6	13.2	10.4	8.1	10.1	5.1	6.5	6.6	10.9	
Return on assets (ROA)	4.0	3.1	4.1	7.1	6.0	4.8	6.2	3.1	3.8	4.0	6.6	
Shareholders' equity ratio	44.3	46.9	49.0	58.3	58.2	60.6	61.7	58.4	59.4	60.0	61.4	
Per share data												
Earnings per share (EPS)	57.03	47.92	66.88	114.03	96.44	80.27	106.54	55.02	72.00	79.67	145.81	1.09
Cash dividends	10.00	12.00	12.00	25.00	25.00	30.00	32.00	34.00	34.00	34.00	34.00	0.25
Shareholders' equity	653.83	727.09	836.94	900.75	959.58	1,017.40	1,085.88	1,071.07	1,155.06	1,249.66	1,422.20	10.65
Stock information												
Stock price at the end of the term (Yen / US dollars)	946	1,667	1,295	1,163	1,752	2,198	2,291	1,303	2,038	2,099	2,150	16.10
Market capitalization (Billions of yen / Millions of US dollars)	254.1	447.8	347.9	312.4	470.6	590.4	615.4	350.0	547.5	563.8	577.5	4,325
Number of issued shares (shares)	268,624,510	268,624,510	268,624,510	268,624,510	268,624,510	268,624,510	268,624,510	268,624,510	268,624,510	268,624,510	268,624,510	—
Exchange rate information												
Average yen / US dollar exchange rate during the year	83.33	100.67	110.58	119.99	108.95	110.70	111.07	108.96	106.01	112.94	136.12	133.53*2

Note: 1. Figures are rounded down to the nearest 100 million yen.

2. The translations of Japanese yen amounts into U.S.dollar amounts have been made at the rate of ¥133.53 to \$1, the approximate rate of exchange at March 31, 2023.

Non-financial data*1												
Number of employees (by segment)	19,685	19,837	19,601	18,646	18,329	18,290	17,848	18,107	17,715	17,258	17,084	
Industrial Automation and Control Business	17,188	17,669	17,593	16,724	16,751	16,771	16,633	16,865	16,483	16,364	16,296	
Measuring Instruments Business	1,667	1,328	1,171	1,122	802	770	945	980	990	668	656	
New Businesses and Others	830	840	837	800	776	749	270	262	242	226	132	
Environmental data												
Energy consumption (GJ)	1,850,857	1,732,042	1,710,907	1,552,937	1,494,818	1,505,947	1,538,983	1,463,397	1,382,303	1,386,688	1,317,451	
Greenhouse gas emissions (t-CO ₂ e)	102,312	103,411	99,195	89,479	84,370	84,882	83,886	78,770	72,816	70,486	67,085	
Renewable energy (MWh)	97	86	85	69	56	83	131	112	175	2,594	10,730	
Water withdrawals (m ³)	846,036	737,265	723,548	616,783	599,646	614,762	560,642	512,626	488,471	424,967	501,680	
Waste generated (Tons)	6,343	5,143	6,023	4,204	4,507	4,805	5,190	4,913	4,383	4,692	4,513	
Occupational health & safety												
Frequency rate of occupational accidents*2	0.32	0.39	0.53	0.38	0.46	0.33	0.28	0.34	0.11	0.41	0.34	

Note: 1. The results of each data for fiscal year 2022 have been assured by the third-party assessment of Lloyd's Register Quality Assurance Limited.

2. Frequency rate of occupational accidents= Number of accidents resulting in lost workdays ÷ Aggregate number of work-hours × 1,000,000. Calculated on a calendar basis, including temporary and contract employees, until 2014, and on the newly defined basis from 2015 onwards.

Risks Relating to the Group's Business

Described below are matters related to the Group's business that are considered to be the main sources of risk or that could significantly affect investor's decision-making. Recognizing the possibility that these risks may materialize, the Group will work to avoid these risks and take appropriate measures should they occur. However, investment decisions regarding Yokogawa's securities should be made carefully by evaluating the matters stipulated below along with the matters discussed in other sections of this document. The risks described below include forward-looking statements that are based on judgments made by the Group at the end of fiscal year 2022 and are subject to uncertainties. Therefore, actual results may vary from the statements.

(1) Risks relating to the external environment (Related to social conditions)

The scope of the Group's activities extends not just to Japan but also to various parts of the world. Changes in external conditions in each region could adversely affect the Group's business results and financial situation. Specifically, the following risks have been identified.

- Political or economic factors in each country
- Impact of taxation and trade restrictions
- Differences in commercial practices outside Japan
- Social turmoil stemming from natural disasters (earthquakes, fires, floods, tsunami, etc.), wars, riots, terrorism, infectious diseases, strikes, and other factors
- Cyberattacks affecting the Company products, services and infrastructure
- Incomplete understanding of regulations, sanctions, patents, etc., and new laws or revision of regulations in countries where we operate, including those pertaining to the protection of the environment

The Company strives to prevent, avoid, and reduce the impact of these risks by collecting information within the Group and contracting external organizations.

For the global outbreak of COVID-19, we are assessing the impact on economic activity, including supply chain disruptions due to localized lockdowns. In addition, we are responding to "Coexist with COVID-19" by transitioning to a flexible work style that combines office work and telework.

In addition, the situation in Russia and Ukraine continues to be characterized by a tightening of energy supply and demand and soaring prices for resources and raw materials. The Crisis Management Committee continues to share information and consider policies and measures to address the situation.

The Group's consolidated earnings forecast for the coming fiscal year (FY2023) are projecting decrease for orders based on expectation of slow growth of the global economy as a whole, a perception that the cycle of the orders received for large-scale projects restarted after COVID-19 was coming to an end, and expectation of slowdown in investment in the materials industry. Net sales and operating profit are expected to grow to a limited extent due to ongoing difficulties in procuring production parts including semiconductors and project-procured products. As a result, ordinary profit is expected to increase slightly, while profit attributable to owners of parent is expected to increase due to gains on sales of investment securities.

The world is experiencing increasing needs for the resolution of social issues such as the energy transition to realize a low-carbon society and innovation in digital technology. The Group sees these changes in the business environment as opportunities and will establish a business structure focused on solving common social issues for growth, while expanding its contribution to society and the environment to achieve growth.

(Related to fluctuations in foreign exchange rates, interest rates, or stock prices)

The Group operates globally and uses many currencies for its business transactions and activities. The Group enters into forward exchange contracts in order to respond to fluctuations in foreign exchange rates. However, there is the risk that foreign exchange rates may swing rapidly and sharply, which may affect the Group's business results and financial situation.

There is the risk that changes of interest rates related to the Group's assets and liabilities may impact interest earnings and asset values, which may affect the Group's business results and financial situation.

There is the risk that the prices of the stocks and other securities held by the Group may fluctuate, which may affect the Group's business results and financial situation.

(2) Risks relating to strategy (Related to markets/competitive environment)

1) Cost competitiveness

As the Company aggressively develops its businesses, competition in construction and modernization projects is intensifying, and demand for cost reduction is intensifying. At the same time, resource-rich and emerging countries are increasingly prioritizing their own countries, and there is increasing demand for the localization of employment, services and procurement, including product production. Although the Company is working to increase its cost competitiveness, there is the risk that the Company will lose business opportunities if it cannot effectively respond to the demand in these markets that costs be reduced, including product and service costs and selling, general and administrative expenses. This could affect our Group's business results and financial situation.

2) Establishment of competitive advantages by the use of digital technologies

There is growing demand for a dramatic increase of productivity in business processes throughout the value chain and product life cycle through the utilization of digital technologies. The Company must respond to this demand as a business and establish a competitive advantage. Recognizing this as an opportunity for business growth, the Group is working to create new value through digital transformation in a wide range of fields, not only for itself but also for its customers. If the Company is unable to keep up with new technology or meet the demands of these markets, this could lead to the loss of business opportunities, which could affect the Group's business results and financial situation.

3) Transformation of business model to match market needs

While changes in society and technological innovations are creating many new business models, the Group's customers are also increasingly demanding subscription businesses and other businesses that reduce initial deployment costs and provide flexibility in operations and maintenance after deployment. The Group is also transforming its business model by working to establish performance-based compensation businesses and service-providing businesses. There is a risk that business opportunities will be lost if the Group is unable to adequately respond to the new market needs that are changing towards the future, or if it delays its efforts. This could affect the Group's business results and financial situation.

4) Changes in the market environment due to climate change initiatives

Society's increasing demand for action regarding climate change initiatives may affect the strategies of the Group's customers. In the energy-related field, in which the Group's major customers operate, it recognizes that they are studying measures to address environmental change, such as a shift of energy resources from a long-term perspective. The Group views these changes as business opportunities and is working to respond to changes in the market environment. However, if the Group is unable to respond to these changes in the customers' environments or if its efforts are delayed, there is the risk that business opportunities may be lost or corporate value may decline. This could affect the Group's business results and financial situation.

(Related to strategic investment)

The Group is investing mainly to acquire technologies, sales channels, products and services, customers, human resources, and expertise, while strengthening its strategic growth investments in the creation of new businesses and new fields and examining M&A and alliances as necessary. The Company is fully prepared to carry out the entire process from project discovery to investment, to improve the accuracy of evaluation and verification, and to swiftly launch businesses after investment. The Company is also working to develop and utilize the human resources that support it. However, there is the risk that the expected results will not be achieved due to unexpected changes in the environment. In addition, there is the risk that a business may not be able to start up quickly after investment if the acquired assets and opportunities are not fully utilized, and that the expected results may not be achieved. This could affect the Group's business results and financial situation.

(Related to R&D)

The Group regards basic research into measurement, control and information, and the development of advanced technologies and digital technologies such as the IoT and AI as its most important management issues, and is continuously promoting the development of new technologies with a view toward the future. In addition, in response to changing international standards, efforts to realize a sustainable society such as the SDGs are being strengthened. However, there is the risk that development investments will not meet future market demands and targets as planned. In this event, business opportunity losses may affect the Group's business results and financial situation. The Company also continues to invest in R&D for product technology and service innovation to maintain its competitiveness. However, there is the risk that the Company's R&D investments will not succeed if it fails to understand market trends regarding products and services with growth potential. In addition, there is the risk that R&D investments do not produce innovative technologies or produce the results that were expected even if they fit the market, or competitors may precede the Group in the development of the technology. In these cases, business opportunity losses may affect the Group's business results and financial situation.

(Related to the recruitment and training of human resources)

The Group's growth is supported by its capable personnel, such as the human resources who support its leading-edge technologies and the engineers who ensure high product quality. In particular, the importance of human resources capable of proposing solutions, human resources with engineering and project-management abilities, and human resources with skills and knowledge related to AI, digital technologies, and the company's new businesses is increasing. The Group continues to globally recruit and develop human resources through education and training. However, there is the risk that we may not be able to secure and train the necessary human resources as planned. If so, the Group's business results and financial situation may be affected as well as the effectiveness of its business operations.

(Related to human rights)

The Group's established policy is to respect human rights and it has expressed its support for the U.N. Global Compact. Consequently, the Group is stepping up its efforts based on the human rights policy and international human rights standards set forth in the Compact. Regarding human rights initiatives in the supply chain, the Group has provided guidelines prohibiting forced labor, inhumane treatment, child labor and discrimination, and protecting appropriate wages, compliance with laws regarding work hours, and the right to organize. The Group supports internationally demanded human rights and strives to respect human rights. However, if a human rights problem occurs due to an unexpected situation, there is the risk that the Group may be liable for compensation, and there is the risk that the Group's corporate value may decline, which could adversely affect its business results and financial situation.

(Related to depreciation of owned assets)

There is the risk that the value of the Group's business assets may decline due to decreased market prices or reduced profitability. If so, the Group's business results and financial situation could be affected, including the occurrence of impairment losses.

(3) Risks relating to operations (Related to product quality and supply)

The Group provides highly reliable products and services to customers through its accumulation of technology and expertise over many years and the development of a strict quality control system. However, there is the risk that defects in the Group's products and services may exist, and that damage may result from these defects. In this event, the Group's business results and financial situation may be affected and the Group's overall business activities may be affected. In addition, the Company is striving to reduce risks by constantly collecting information about market trends in major electronic parts and other products and striving to ensure stable procurement. In addition, the Company is thoroughly managing the quality and delivery dates of its suppliers and diversifying its suppliers to avoid excessive concentration and dependence on specific suppliers. However, there is the risk that the delay or suspension of product supply in the event that the procurement of electronic parts and the manufacturing of important products become difficult due to supply chain disruptions caused by changes in the external environment. If this happens, the Group's business results and financial situation and the Group's overall business activities, including the Group's production activities, could be affected.

(Related to project management)

In the Group's business, particularly in project-type businesses that provide customers with the products, engineering solution services, and products of other companies in bulk, the reliable execution of project management is a necessity. We are striving to prevent the occurrence of unprofitable projects through such efforts as profit estimation in the process leading up to the receipt of orders, the improvement of the accuracy of profitability management until delivery, and the thorough control of production and quality. However, there is the risk that we may incur unexpected costs or may be liable for compensation due to delayed delivery if there are deviations from the assumed estimates, or problems in the management of profit, production, quality, etc. This could affect the Group's business results and financial situation.

(Related to intellectual property rights)

The Group has established a complete management system to protect its intellectual property rights and preventing its infringement on the rights of other companies in the course of its development of proprietary products and services. However, if intellectual property rights are infringed upon by a third party and the Group is therefore unable to make an expected profit, or if the Group is deemed to have infringed upon the intellectual property rights of another company due to a difference in viewpoint or some other reason, there is the risk that the Group will be subsequently disadvantaged by its inability to use important technology, may be liable for compensation, or its corporate value may decline, which could adversely affect the Group's business results and financial situation.

(Related to information security)

Through its business activities, the Group acquires personal or otherwise confidential information about its customers and trading partners. It therefore establishes systems to manage this information and provides its employees with training on information security. However, in the event that information is leaked or abused due to some unforeseen circumstances, there is the risk the Group will be liable for compensation or the Group's corporate value will decline, which could adversely affect the Group's business results and financial situation.

See p. 90 for Risk Management. →

Financial Section

Consolidated Balance Sheet

Yokogawa Electric Corporation and Consolidated Subsidiaries
March 31, 2023

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023 (Note 1)
ASSETS			
Current Assets:			
Cash and cash equivalents (Note 10)	¥116,378	¥115,541	\$871,551
Receivables (Note 10)			
Accounts receivable	133,654	116,601	1,000,929
Trade notes receivable	10,318	11,572	77,276
Contract assets	65,297	58,155	489,011
Other	3,684	3,392	27,586
Less: Allowance for doubtful accounts	(6,106)	(5,304)	(45,730)
Net receivables	206,847	184,416	1,549,072
Inventories (Notes 6 and 7)	48,407	43,005	362,520
Other	25,628	21,232	191,927
Total current assets	397,261	364,195	2,975,072
Property, Plant, and Equipment (Notes 8 and 9):			
Land	15,570	15,448	116,605
Buildings and structures-net	46,183	46,089	345,867
Machinery, equipment, and vehicles-net	9,354	8,159	70,057
Tools, furniture, and fixtures-net	6,550	6,144	49,059
Construction in progress	1,780	2,961	13,333
Right-of-use assets-net (Note 15)	8,097	8,083	60,640
Lease assets-net (Note 15)	22	57	167
Total property, plant, and equipment	87,559	86,943	655,731
Investments and Other Assets:			
Investment securities (Notes 5, 10, and 16)	51,022	37,990	382,106
Investments in and advances to unconsolidated subsidiaries and affiliated companies (Note 16)	19,763	15,250	148,008
Goodwill (Notes 3, 9, and 23)	14,614	11,993	109,450
Software (Note 9)	14,137	13,997	105,876
Other intangible assets (Notes 9 and 23)	19,782	12,472	148,146
Deferred tax assets (Note 13)	8,921	7,154	66,811
Other	6,433	7,124	48,180
Less: Allowance for doubtful accounts	(859)	(1,154)	(6,438)
Total investments and other assets	133,815	104,829	1,002,141
Total Assets	¥618,637	¥555,968	\$4,632,945

See notes to consolidated financial statements.

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023 (Note 1)
LIABILITIES AND EQUITY			
Current Liabilities:			
Short-term loans payable (Notes 10, 16, and 18)	¥460	¥1,562	\$3,450
Current portion of long-term debt (Notes 10 and 16)	20,014	13	149,886
Commercial papers (Note 10)	25,000	20,000	187,223
Current portion of lease obligations (Notes 10 and 16)	2,219	2,758	16,618
Payables (Note 10)			
Trade notes and accounts	31,226	26,590	233,852
Electronically recorded obligations-operating	10,098	10,119	75,629
Contract liabilities (Note 22)	45,837	41,124	343,278
Other	18,741	19,046	140,355
Income taxes payable	6,472	5,926	48,471
Accrued expenses	34,340	30,907	257,171
Provision for contract loss (Notes 3, 7, and 19)	7,380	6,499	55,274
Other	11,305	12,643	84,665
Total current liabilities	213,097	177,192	1,595,879
Long-Term Liabilities:			
Long-term debt (Notes 10 and 16)	4,087	24,095	30,613
Lease obligations (Notes 10 and 16)	5,292	5,619	39,638
Liability for retirement benefits (Note 11)	5,081	4,687	38,051
Deferred tax liabilities (Notes 13 and 23)	2,519	2,240	18,865
Other	1,732	1,792	12,976
Total long-term liabilities	18,713	38,435	140,145
Commitments and Contingent Liabilities (Notes 15, 17, and 18)			
Equity (Notes 12 and 24):			
Common stock, authorized, 600,000,000 shares; issued, 268,624,510 shares in 2023 and 2022	43,401	43,401	325,028
Capital surplus	54,392	54,392	407,340
Retained earnings (Note 23)	251,277	221,431	1,881,803
Treasury stock, 1,695,433 shares in 2023 and 1,694,095 shares in 2022	(1,410)	(1,407)	(10,561)
Accumulated other comprehensive income			
Net unrealized gain on available-for-sale securities	19,106	11,592	143,084
Deferred loss on derivatives under hedge accounting	(98)		(738)
Foreign currency translation adjustments	13,812	5,137	103,442
Defined retirement benefit plans	(854)	(976)	(6,401)
Total	31,965	15,753	239,387
Noncontrolling interests	7,200	6,769	53,921
Total equity	386,825	340,340	2,896,919
Total Liabilities and Equity	¥618,637	¥555,968	\$4,632,945

1 Message from the President and CEO

2 Value Creation Process

3 Management Strategy

4 Management Capital

5 Corporate Governance

6 Risk Management

Information

Consolidated Statement of Income

Yokogawa Electric Corporation and Consolidated Subsidiaries
Year Ended March 31, 2023

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Net Sales (Note 22)	¥456,479	¥389,901	\$3,418,554
Cost of Sales (Notes 14 and 19)	252,019	217,091	1,887,363
Gross profit	204,459	172,810	1,531,191
Selling, General, and Administrative Expenses (Notes 14 and 19)	160,050	142,142	1,198,612
Operating income (Note 23)	44,409	30,668	332,578
Other Income (Expenses):			
Interest and dividend income	3,029	2,391	22,689
Interest expense	(1,423)	(928)	(10,664)
Loss on valuation of investment securities (Note 5)		(1,758)	
Net gain on sales of investment securities and investment in affiliated companies (Note 5)	834	58	6,250
Foreign exchange (loss) gain-net	(1,009)	1,346	(7,563)
Net gain (loss) on sales and disposal of property, plant, and equipment (Note 19)	88	(339)	663
Loss on impairment of long-lived assets (Note 9)	(558)	(1,410)	(4,181)
Equity in earnings of affiliates	3,374	3,128	25,270
Gain on step acquisition	1,066		7,989
Net loss on sale of investment in affiliates		(139)	
Business structure improvement expense (Note 19)	(240)	(2,058)	(1,803)
Provision for allowance for doubtful accounts	(21)	(294)	(163)
Other-net	251	(572)	1,880
Other expenses-net	5,390	(576)	40,368
Income before Income Taxes (Note 23)	49,799	30,092	372,946
Income Taxes (Note 13):			
Current	11,662	8,165	87,338
Deferred	(3,799)	(1,732)	(28,451)
Total income taxes	7,863	6,432	58,886
Net income	41,936	23,659	314,059
Net income attributable to noncontrolling interests	3,015	2,392	22,584
Net income attributable to owners of the parent	¥38,920	¥21,267	\$291,474
	Yen		U.S. dollars
Per Share of Common Stock (Note 21):			
Basic net income	¥145.81	¥79.67	\$1.09
Cash dividends applicable to the year	34.00	34.00	0.25

See notes to consolidated financial statements.

Consolidated Statement of Comprehensive Income

Yokogawa Electric Corporation and Consolidated Subsidiaries
Year Ended March 31, 2023

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Net Income	¥41,936	¥23,659	\$314,059
Other Comprehensive Income (Note 20):			
Net unrealized gain on available-for-sale securities	7,529	221	56,388
Deferred loss on derivatives under hedge accounting	(98)		(738)
Foreign currency translation adjustments	8,826	12,971	66,101
Defined retirement benefit plans	57	81	429
Share of other comprehensive income in affiliates	63	356	477
Total other comprehensive income	16,378	13,630	122,658
Comprehensive Income	¥58,314	¥37,290	\$436,718
Total Comprehensive Income Attributable to:			
Owners of the parent	¥55,131	¥34,327	\$412,879
Noncontrolling interests	3,183	2,963	23,838

See notes to consolidated financial statements.

Consolidated Statement of Changes in Equity

Yokogawa Electric Corporation and Consolidated Subsidiaries
Year Ended March 31, 2023

	Millions of yen												
	Outstanding number of shares of common stock	Accumulated other comprehensive income									Total	Non controlling interests	Total equity
		Common stock	Capital surplus	Retained earnings	Treasury stock	Net unrealized gain on available-for-sale securities	Deferred loss on derivatives under hedge accounting	Foreign currency translation adjustments	Defined retirement benefit plans				
Balance, April 1, 2021	266,931,916	¥43,401	¥54,392	¥209,240	¥(1,404)	¥11,351		¥(7,568)	¥(1,088)	¥2,694	¥6,447	¥314,770	
Net income attributable to owners of the parent				21,267								21,267	
Cash dividends, ¥34 per share				(9,075)								(9,075)	
Purchase of treasury stock	(1,580)				(3)							(3)	
Disposal of treasury stock	79		0		0							0	
Net change in the year						241		12,706	111	13,059	321	13,381	
Balance, March 31, 2022	266,930,415	¥43,401	¥54,392	¥221,431	¥(1,407)	¥11,592		¥5,137	¥(976)	¥15,753	¥6,769	¥340,340	
Net income attributable to owners of the parent				38,920								38,920	
Cash dividends, ¥34 per share				(9,075)								(9,075)	
Purchase of treasury stock	(1,338)				(2)							(2)	
Net change in the year						7,513		¥(98)	8,674	122	16,211	16,642	
Balance, March 31, 2023	266,929,077	¥43,401	¥54,392	¥251,277	¥(1,410)	¥19,106		¥(98)	¥13,812	¥(854)	¥7,200	¥386,825	

	Thousands of U.S. dollars (Note 1)												
	Common stock	Accumulated other comprehensive income									Total	Non controlling interests	Total equity
		Capital surplus	Retained earnings	Treasury stock	Net unrealized gain on available-for-sale securities	Deferred loss on derivatives under hedge accounting	Foreign currency translation adjustments	Defined retirement benefit plans					
Balance, April 1, 2022	\$325,028	\$407,340	\$1,658,292	\$(10,539)	\$86,817		\$38,476	\$(7,316)	\$117,977	\$50,693	\$2,548,793		
Net income attributable to owners of the parent			291,474								291,474		
Cash dividends, \$0.25 per share			(67,964)								(67,964)		
Purchase of treasury stock				(22)							(22)		
Net change in the year					56,266		\$(738)	64,966	915	121,409	3,228	124,638	
Balance, March 31, 2023	\$325,028	\$407,340	\$1,881,803	\$(10,561)	\$143,084		\$(738)	\$103,442	\$(6,401)	\$239,387	\$53,921	\$2,896,919	

See notes to consolidated financial statements.

Consolidated Statement of Cash Flows

Yokogawa Electric Corporation and Consolidated Subsidiaries
Year Ended March 31, 2023

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2023	2022	2023
Operating Activities:			
Income before income taxes	¥49,799	¥30,092	\$372,946
Adjustments for:			
Income taxes paid	(11,080)	(8,528)	(82,977)
Depreciation and amortization	18,037	16,935	135,079
Goodwill amortization	1,659	1,020	12,424
Equity in earnings of affiliates	(3,374)	(3,128)	(25,270)
Net (gain) loss on sales and disposal of property, plant, and equipment	(88)	339	(663)
Loss on valuation of investment securities		1,758	
Gain on sales of investment securities and investment in affiliated companies	(834)	(58)	(6,250)
Gain on step acquisition	(1,066)		(7,989)
Loss on impairment of long-lived assets	558	1,410	4,181
Changes in assets and liabilities:			
(Increase) decrease in trade notes and accounts receivable	(13,692)	13,684	(102,542)
Increase in inventories	(5,415)	(4,906)	(40,558)
Increase in trade notes and accounts payable	3,421	858	25,624
Increase in other payables	587	714	4,403
Increase in allowance for doubtful accounts	128	185	965
Increase (decrease) in liability for retirement benefits	49	(64)	367
Decrease in provision for loss from program errors	(272)	(259)	(2,041)
Other assets and liabilities	2,216	(49)	16,601
Other-net	(211)	1,639	(1,580)
Total adjustments	(9,377)	21,551	(70,226)
Net cash provided by operating activities	40,422	51,644	302,720
Investing Activities:			
Purchases of property, plant, and equipment	(8,637)	(8,281)	(64,684)
Proceeds from sale of property, plant, and equipment	79	140	593
Acquisitions of intangible assets	(12,205)	(9,838)	(91,403)
Proceeds from sale of investment securities	1,087	807	8,144
Purchases of investment securities	(2,540)	(1,310)	(19,029)
Proceeds from business divestiture	428		3,211
Purchases of investments in subsidiaries with changes in consolidation scope	(6,744)	(9,330)	(50,507)
Purchases of investments in affiliates	(2,021)	(438)	(15,142)
Other-net	(2,385)	(76)	(17,863)
Net cash used in investing activities	(32,939)	(28,327)	(246,681)
Forward	¥7,482	¥23,316	\$56,038

(Continued)

Consolidated Statement of Cash Flows

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2023	2022	2023
Forward	¥7,482	¥23,316	\$56,038
Financing Activities:			
Net decrease in short-term loans payable	(1,144)	(1,388)	(8,569)
Net increase in commercial papers	5,000		37,444
Proceeds from long-term debt		4,000	
Repayments of long-term debt		(4,080)	
Repayments of lease obligations	(3,432)	(3,116)	(25,704)
Cash dividends paid	(9,078)	(9,072)	(67,987)
Cash dividends paid to noncontrolling shareholders	(2,274)	(2,261)	(17,036)
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation		(242)	
Other-net	(2)	(3)	(22)
Net cash used in financing activities	(10,932)	(16,165)	(81,875)
Foreign Currency Translation Adjustments on Cash and Cash Equivalents	4,286	7,186	32,101
Net Increase in Cash and Cash Equivalents	836	14,337	6,263
Cash and Cash Equivalents, Beginning of Year	115,541	101,204	865,287
Cash and Cash Equivalents, End of Year	¥116,378	¥115,541	\$871,551

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

Yokogawa Electric Corporation and Consolidated Subsidiaries
Year Ended March 31, 2023

1. Basis of Presentation of the Consolidated Financial Statements

The accompanying consolidated financial statements have been prepared in accordance with the provisions set forth in the Japanese Financial Instruments and Exchange Act and its related accounting regulations and in accordance with accounting principles generally accepted in Japan (“Japanese GAAP”), which are different in certain respects as to the application and disclosure requirements of International Financial Reporting Standards (“IFRS”).

In preparing these consolidated financial statements, certain reclassifications and rearrangements have been made to the consolidated financial statements issued in Japan in order to present them in a form which is more familiar to readers outside Japan. In addition, certain reclassifications have been made in the 2022 consolidated financial statements to conform to the classifications used in 2023.

The consolidated financial statements are stated in Japanese yen, the currency of the country in which Yokogawa Electric Corporation (the “Company”) is incorporated and operates. The translations of Japanese yen amounts into U.S. dollar amounts are included solely for the convenience of readers outside Japan and have been made at the rate of ¥133.53 to \$1, the approximate rate of exchange at March 31, 2023. Such translations should not be construed as representations that the Japanese yen amounts could be converted into U.S. dollars at that or any other rate.

Japanese yen figures less than a million yen and U.S. dollar figures less than a thousand dollars are rounded down to the nearest million yen and thousand dollars, except for per share data. As a result, totals in millions of yen and thousands of U.S. dollars may not add up exactly.

2. Summary of Significant Accounting Policies

a. Consolidation—The consolidated financial statements as of March 31, 2023 include the accounts of the Company and its 123 (116 in 2022) significant subsidiaries (together, the “Group”). Changes include i) purchases of Dublix Technology ApS and Yokogawa Votiva Solutions Pte. Ltd. (formerly Votiva Singapore Pte. Ltd.) and its five subsidiaries; ii) establishment of Yokogawa Digital Corporation and another subsidiary; iii) additional purchase of Yokogawa Fluence Analytics, Inc. (formerly, Fluence Analytics Inc.) accounted for by the equity method; and iv) liquidation of three subsidiaries.

Under the control and influence concepts, those companies in which the Company, directly or indirectly, is able to exercise control over operations are fully consolidated, and those companies over which the Group has the ability to exercise significant influence are accounted for by the equity method.

Investments in one (one in 2022) unconsolidated subsidiary and four (four in 2022) affiliated companies are accounted for by the equity method. Changes include i) purchase of SynCrest Inc. and ii) exclusion due to additional purchase of Yokogawa Fluence Analytics, Inc., (formerly Fluence Analytics Inc.)

The excess of the cost of acquisition over the fair value of the net assets of the acquired subsidiary at the date of acquisition is being amortized on a straight-line basis over a period of up to 20 years. However, any insignificant amount of goodwill is amortized in full upon its recognition.

All significant intercompany balances and transactions have been eliminated in consolidation. All material unrealized profit included in assets resulting from transactions within the Group is also eliminated.

b. Unification of Accounting Policies Applied to Foreign Subsidiaries for the Consolidated Financial Statements—

Under Accounting Standards Board of Japan (ASBJ) Practical Issues Task Force (PITF) No. 18, “Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries for the Consolidated Financial Statements,” the accounting policies and procedures applied to a parent company and its subsidiaries for similar transactions and events under similar circumstances should in principle be unified for the preparation of the consolidated financial statements. However, financial statements prepared by foreign subsidiaries in accordance with either International Financial Reporting Standards or accounting principles generally accepted in the United States of America (Financial Accounting Standards Board Accounting Standards Codification—FASB ASC) tentatively may be used for the consolidation process, except for the following items which should be adjusted in the consolidation process so that net income is accounted for in accordance with Japanese GAAP unless they are not material: (1) amortization of goodwill; (2) scheduled amortization of actuarial gain or loss of pensions that has been directly recorded in equity through other comprehensive income; (3) expensing capitalized development costs of research and development; (4) cancellation of the fair value model of accounting for property, plant, and equipment and investment properties and incorporation of the cost model of accounting; and (5) recording a gain or loss through profit or loss on the sale of an investment in an equity instrument for the difference between the acquisition cost and selling price, and recording impairment loss through profit or loss for other-than-temporary declines in the fair value of an investment in an

equity instrument, where a foreign subsidiary elects to present in other comprehensive income subsequent changes in the fair value of an investment in an equity instrument.

● **c. Business Combinations**—Business combinations are accounted for using the purchase method. Acquisition-related costs, such as advisory fees or professional fees are accounted for as expenses in the periods in which the costs are incurred. If the initial accounting for a business combination is incomplete by the end of the reporting period in which the business combination occurs, an acquirer shall report in its financial statements provisional amounts for the items for which the accounting is incomplete. During the measurement period, which shall not exceed one year from the acquisition, the acquirer shall retrospectively adjust the provisional amounts recognized at the acquisition date to reflect new information obtained about facts and circumstances that existed as of the acquisition date and that would have affected the measurement of the amounts recognized as of that date. Such adjustments shall be recognized as if the accounting for the business combination had been completed at the acquisition date. The acquirer recognizes any bargain purchase gain in profit or loss immediately on the acquisition date after reassessing and confirming that all of the assets acquired and all of the liabilities assumed have been identified after a review of the procedures used in the purchase price allocation. A parent's ownership interest in a subsidiary might change if the parent purchases or sells ownership interests in its subsidiary. The carrying amount of noncontrolling interest is adjusted to reflect the change in the parent's ownership interest in its subsidiary while the parent retains its controlling interest in its subsidiary. Any difference between the fair value of the consideration received or paid and the amount by which the noncontrolling interest is adjusted is accounted for as capital surplus as long as the parent retains control over its subsidiary.

● **d. Cash Equivalents**—Cash equivalents are short-term investments that are readily convertible into cash and exposed to insignificant risk of changes in value. Specifically, cash equivalents represent time deposits that mature within three months of the date of placement.

● **e. Inventories**—Inventories are stated at the lower of cost or the net selling value. Cost is mainly determined by the specific identification method for finished goods and work in process, and by the average method for merchandise, raw materials, and supplies.

● **f. Investment Securities**—Investment securities comprised available-for-sale securities. Except for equity securities without market price, available-for-sale securities are reported at fair value, with unrealized gains and losses, net of applicable taxes, reported under accumulated other comprehensive income in a separate component of equity. Costs of securities sold are calculated primarily by the moving-average method.

Equity securities without market price are stated at cost determined by the moving-average method. For other-than-temporary declines in fair value, investment securities are reduced to net realizable value by a charge to income.

● **g. Property, Plant, and Equipment**—Property, plant, and equipment are stated at cost, less accumulated depreciation and any impairment loss. Depreciation of property, plant, and equipment is mainly calculated by the straight-line method over their estimated useful lives.

The estimated useful lives range principally from three to 50 years for buildings, and from four to 10 years for machinery and equipment. The estimated useful lives for leased assets are the terms of the respective leases.

● **h. Intangible Assets**—Intangible assets consist mainly of software, technology assets, customer-related intangible assets, and goodwill. Amortization of intangible assets is mainly calculated by the straight-line method over their estimated useful lives. The estimated useful lives range principally from five to 10 years for software for internal use and are amortized using the straight-line method over periods of future revenue to be generated (mainly 18 years) for customer-related intangible assets and technology assets.

● **i. Leases**—Finance lease transactions are capitalized by recognizing lease assets and lease obligations in the consolidated balance sheet.

Depreciation of leased assets is calculated by the straight-line method over their lease periods. The residual value of leased assets with residual value guarantee clause is the guaranteed amount and zero for leased assets without such clause.

Depreciation of right-of-use assets is calculated by the straight-line method over shorter of their lease periods or their estimated useful lives.

● **j. Long-lived Assets**—The Group reviews its long-lived assets for impairment whenever events or changes in circumstance indicate the carrying amount of an asset or asset group may not be recoverable. An impairment loss is recognized if the carrying amount of an asset or asset group exceeds the sum of the undiscounted future cash flows expected to result from the continued use and eventual disposition of the asset or asset group. The impairment loss is

measured as the amount by which the carrying amount of the asset exceeds its recoverable amount, which is the higher of the discounted cash flows from the continued use and eventual disposition of the asset or the net selling price at disposition.

● **k. Allowance for Doubtful Accounts**—The allowance for doubtful accounts is stated in amounts considered to be appropriate based on the Group's past credit loss experience and an evaluation of potential losses in the receivables outstanding.

● **l. Provision for Contract Loss**—When it is probable that the total construction costs will exceed total construction revenue, an estimated loss on the contract should be immediately recognized by providing for a loss on such construction contracts.

● **m. Retirement and Pension Plans**—The Company and most of its consolidated subsidiaries have defined contribution plans, and some other consolidated subsidiaries have defined benefit plans for employees. Certain overseas subsidiaries account for their pension plans in conformity with the accounting principles generally accepted in the United States of America ("US GAAP") or IFRS.

The main method used to attribute expected benefits to each period is the benefit formula basis.

Actuarial gains or losses are amortized on a straight-line basis over a period within the average remaining years of service of the employees from the following year in which they arise.

Prior service cost is amortized on a straight-line basis over a period within the average remaining years of service.

● **n. Research and Development Costs**—Research and development costs are charged to income as incurred.

● **o. Bonuses to Directors**—Bonuses to directors are accrued at the end of the year to which such bonuses are attributable.

● **p. Revenue Recognition**—The Group applied ASBJ Statement No. 29, "Accounting Standard for Revenue Recognition" and ASBJ Guidance No. 30, "Implementation Guidance on Accounting Standard for Revenue Recognition" from the beginning of the year ended March 31, 2021, as they become effective for the annual periods beginning on or after April 1, 2018. As a result, the Group recognizes revenue at the time of the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services based on the following five steps.

Step 1: Identify the contract(s) with a customer

Step 2: Identify the performance obligations in the contract

Step 3: Determine the transaction price

Step 4: Allocate the transaction price to the performance obligations in the contract

Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation

Regarding Step 4 above, the Group utilizes cost plus a margin approach in determining stand-alone selling prices and allocates transaction prices to performance obligations.

(1) Sales of Products

With regard to sales of products, such as field instruments and others which are placed at production sites, performance obligations are determined based on each product, and contract prices are used as a basis for transaction prices if one contract contains multiple products. Revenues are recognized at the time of delivery as the customers obtain control of the assets at the time of delivery and performance obligations are deemed to be satisfied at the same time. Revenues are recognized at the time of shipment if contracts satisfy requirements of Paragraph 98 of the guidance. Considerations for performance obligations are received approximately within one year after the performance obligations are satisfied.

(2) Construction Contracts

Transactions in the forms of construction contracts, including engineering, involve the creation of assets, which cannot be directed to another customer or assets with no alternative use and accompany rights to payments for the completed work. Percentage of progress regarding satisfaction of performance obligations for construction contracts is estimated and revenues are recognized based on the estimated percentage over certain period of time. The percentage of progress is determined based on a ratio of actual costs incurred against the estimated total costs to satisfy the performance obligation. Net sales recorded using this method was ¥200,146 million (U.S.\$1,498,888 thousand) for the year ended March 31, 2023. If order amounts or total construction costs to satisfy the performance obligation cannot be reliably estimated, a portion of actual costs incurred of which collection is probable is recognized as revenue. Considerations for performance obligations are generally received as the performance obligations are satisfied in accordance with contract milestones. Transactions arising from maintenance services are recognized over the contract periods.

● **q. Income Taxes**—The provision for income taxes is computed based on the pretax income included in the consolidated statement of income. The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Deferred taxes are measured by applying currently enacted income tax rates to the temporary differences.

The Company and certain domestic subsidiaries file their tax returns under the group tax sharing system from the fiscal year ended March 31, 2023, which allows these companies to base tax payments on the combined profits or losses of the parent company and its wholly owned subsidiaries in Japan.

With regard to differences under the group tax sharing system established by “Act on Partial Revision of the Income Tax Act (Act No. 8, 2020)” and differences under the single tax return filing system reexamined together with transition to the group tax sharing system, the Company and certain domestic subsidiaries calculated the amounts of deferred tax assets and deferred tax liabilities based on the Income Tax Act before the revision for the fiscal year ended March 31, 2022, not applying Paragraph 44 of ASBJ Guidance No. 28, “Implementation Guidance on Tax Effect Accounting,” issued on February 16, 2018, as permitted by Paragraph 3 of the PITF No. 39 “Practical Solution on the Treatment of Tax Effect Accounting for the Transition from the Consolidated Taxation System to the Group Tax Sharing System,” issued on March 31, 2020.

r. Foreign Currency Transactions—Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are translated into Japanese yen at the exchange rate as of that date. The foreign exchange gains and losses from translation are recognized in the consolidated statement of income.

s. Foreign Currency Financial Statements—The balance sheet accounts of the consolidated foreign subsidiaries are translated into Japanese yen at the prevailing exchange rate as of the balance sheet date except for equity, which is translated at the historical rate. Differences arising from such translation are shown as “Foreign currency translation adjustments” under accumulated other comprehensive income and noncontrolling interests in a separate component of equity. Revenue and expense accounts of consolidated foreign subsidiaries are translated into yen at the average exchange rate.

t. Fair Value Measurement—From the beginning of the year ended March 31, 2022, the Group adopted ASBJ Statement No. 30, “Accounting Standard for Fair Value Measurement,” issued on July 4, 2019, and other related standards and guidance. The new accounting policies as stipulated in these standards and guidance are applied prospectively in accordance with the transitional treatment as stipulated in Paragraph 19 of the “Accounting Standard for Fair Value Measurement” and Paragraph 44-2 of the ASBJ Statement No. 10, “Accounting Standard for Financial Instruments,” issued on July 4, 2019. The effects of applying these standards and guidance on consolidated financial statements were immaterial. From the beginning of the year ended March 31, 2023, the Group adopted ASBJ Guidance No. 31, “Implementation Guidance on

Accounting Standard for Fair Value Measurement,” revised on June 17, 2021. The new accounting policies applied prospectively in accordance with the transitional treatment as stipulated in Paragraph 27-2 of the “Implementation Guidance on Accounting Standard for Fair Value Measurement.” The effects of applying this guidance on consolidated financial statements were immaterial.

u. Derivatives and Hedging Activities—The Company and certain consolidated subsidiaries use a variety of derivative financial instruments, including foreign currency forward contracts, currency options, and interest rate swaps, as a means of hedging foreign currency and interest rate risks. The Group does not enter into derivatives for trading or speculative purposes.

Derivative financial instruments and foreign currency transactions are classified and accounted for as follows: a) all derivatives other than those which qualify for hedge accounting are measured at fair value, and gains or losses are recognized in the consolidated statement of income; and b) for derivatives used for hedging purposes, if the derivatives qualify for hedge accounting because of high correlation between the hedging instruments and the hedged items, gains or losses are deferred until maturity of the hedged transactions. These amounts are shown as “deferred gain on derivative under hedge accounting” under accumulated other comprehensive income in a separate component of equity.

Foreign currency forward contracts are utilized to hedge the foreign currency risk of trade receivables denominated in foreign currencies. If the forward contracts qualify for hedge accounting, these trade receivables are translated at the contracted rates. Interest rate swaps are utilized to hedge the interest rate risk of long-term debt. Those interest rate swaps that qualify for hedge accounting and meet specific matching criteria are not remeasured at market value, but the differential paid or received under the swap agreements is recognized and included in interest expense or income.

If the hedging relationships qualify for the application of ASBJ PITF No. 40 “Practical Solution on the Treatment of Hedge Accounting for Financial Instruments that Reference LIBOR,” the special treatment as prescribed in the PITF No. 40 is applied to those hedging relationships. The hedging relationships to which the PITF No. 40 is applied are the interest rate swaps that meet specific matching criteria.

v. Per Share Information—Basic net income per share is computed by dividing net income attributable to common shareholders by the weighted-average number of common shares outstanding for the period.

Cash dividends per share presented in the accompanying consolidated statement of income are dividends applicable to the respective years including dividends to be paid after the end of the year.

w. New Accounting Pronouncements—ASBJ Statement No. 27, “Accounting Standard for Current Income Taxes,” ASBJ Statement No. 25, “Accounting Standard for Presentation of Comprehensive Income” and ASBJ Guidance No. 28, “Guidance on Accounting Standard for Tax Effect Accounting” were revised on October 28, 2022. ASBJ issued ASBJ Statement No. 28 “Partial Amendments to Accounting Standard for Tax Effect Accounting” and related guidance (“Statement No. 28, etc.”) in February 2018 and transfer of the practical guidance on tax effect accounting issued by Japanese Institute of Certified Public Accountants to ASBJ has been completed. ASBJ issued the results of the deliberations for the following two issues which have been identified during the process of initial

deliberation for further examination after the issuance of Statement No. 28, etc.

—Presentation of income tax expenses (income taxes on items of other comprehensive income)

—Tax effects on sales of shares of subsidiaries and other companies (shares of subsidiaries and affiliates) when the group tax sharing system has been applied

The standards and guidance will be applied from the beginning of the fiscal year ending March 31, 2025.

The Group is currently in the process of determining the effects of applying the standards and guidance on the consolidated financial statements.

3. Significant Accounting Estimates

Provision for contract loss

(1) Carrying amounts

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Provision for contract loss	¥7,380	¥6,499	\$55,274

(2) Information on the significant accounting estimate

Provision for contract loss is provided when it is probable that the total construction costs will exceed total construction revenue and if the outcome of a construction contract can be estimated reliably. The amount of provision for contract loss is calculated as the excess amount (contract loss) deducted by profit or loss already recognized for the construction contract. Variation in the estimated amount of contract loss due to profitability, production, and quality issues that may arise in future may have a material impact on the future consolidated financial statements.

Goodwill

(1) Carrying amounts

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Goodwill	¥14,614	¥11,993	\$109,450

4. Additional Information

The Company is continuously reducing its business in Russia considering the prolonged conflict between Russia and Ukraine and it is expected that the situation will continue for some time.

(2) Information on the significant accounting estimate

Goodwill is recognized if acquisition costs exceeded the amount allocated for all of the assets acquired and all of the liabilities assumed. The Group annually determines whether impairment indicators exist for its goodwill based on changes in business environment and deteriorated business results. Whenever the circumstance indicates the carrying amount of goodwill may not be recoverable, undiscounted future cash flows are estimated based on business plans. An impairment loss is recognized if the carrying amount of goodwill exceeds the sum of the undiscounted future cash flows and the carrying amount of the goodwill is reduced to its recoverable amount. Any changes in assumptions including growth rates and discount rates used in estimation of future cash flows may have a material impact on the future consolidated financial statements.

Impairment losses of ¥261 million (U.S.\$1,959 thousand) related to Yokogawa RAP Limited and ¥1,084 million related to Grazper Technologies ApS have been recognized for the years ended March 31, 2023 and 2022, respectively.

Allowance for doubtful accounts has been recorded by reflecting the effects of this situation.

5. Investment Securities

Investment securities as of March 31, 2023 and 2022, consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Noncurrent:			
Equity securities	¥51,022	¥37,990	\$382,106

The cost and aggregate fair values of investment securities at March 31, 2023 and 2022, were as follows:

March 31, 2023	Millions of yen			
	Cost	Unrealized gain	Unrealized loss	Fair value
Securities classified as:				
Available-for-sale:				
Equity securities	¥6,202	¥26,736	¥(118)	¥32,819

March 31, 2022	Millions of yen			
Securities classified as:				
Available-for-sale:				
Equity securities	¥5,883	¥15,968		¥21,851

March 31, 2023	Thousands of U.S. dollars			
	Cost	Unrealized gain	Unrealized loss	Fair value
Securities classified as:				
Available-for-sale:				
Equity securities	\$46,447	\$200,227	\$(888)	\$245,786

The information for available-for-sale securities sold during the years ended March 31, 2023 and 2022, was as follows:

2023	Millions of yen		
	Proceeds	Realized gain	Realized loss
Available-for-sale:			
Equity securities	¥1,087	¥834	

2022	Millions of yen		
	Proceeds	Realized gain	Realized loss
Available-for-sale:			
Equity securities	¥893	¥58	

2023	Thousands of U.S. dollars		
	Proceeds	Realized gain	Realized loss
Available-for-sale:			
Equity securities	\$8,144	\$6,250	

Impairment losses are recognized for available-for-sale securities except for equity securities without market price if declines in fair value are 50% or more. If declines in fair value are 30% to 50%, impairment losses may be recognized for amount deemed to be irrecoverable considering the declines are other than temporary. Impairment losses for equity securities without market price may be recognized for amounts deemed to be irrecoverable if declines in fair value are 50% or more considering the declines are other than temporary.

Loss on valuation of investment securities for the years ended March 31, 2023 and 2022, was nil and ¥1,758 million, respectively.

6. Inventories

Inventories at March 31, 2023 and 2022 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Merchandise and finished goods	¥18,467	¥16,662	\$138,304
Work in process	4,932	4,584	36,940
Raw materials and supplies	25,006	21,758	187,275
Total	¥48,407	¥43,005	\$362,520

7. Expected Loss on Construction Contracts

The Group recognizes an expected loss on construction contracts when it is probable that total contract costs will exceed total contract revenue. The inventory and the expected loss on construction contracts are not offset, but are separately presented in the consolidated balance sheet.

The balance of inventories relating to the expected loss on construction contracts for the years ended March 31, 2023 and 2022, was as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Merchandise and finished goods	¥518	¥255	\$3,884
Work in process	46	148	345
Total	¥564	¥403	\$4,230

8. Property, Plant, and Equipment

Accumulated depreciation on property, plant, and equipment as of March 31, 2023 and 2022, was ¥150,406 million (U.S.\$1,126,390 thousand) and ¥148,739 million, respectively.

9. Long-lived Assets

The Group reviewed its long-lived assets for impairment as of and for the years ended March 31, 2023 and 2022. As a result, impairment losses of ¥558 million (U.S.\$4,181 thousand) and ¥1,410 million were recognized for the years ended March 31, 2023 and 2022, respectively.

The main components of loss on impairment of long-lived assets for the year ended March 31, 2023, were as follows:

Location	Use	Category	Millions of yen	Thousands of U.S. dollars
			Impairment loss	
United Kingdom	Business assets	Goodwill	¥261	\$1,959
Norway	Business assets	Other intangible assets	296	2,222
		Total	¥558	\$4,181

The Group's business assets are grouped in accordance with management accounting classification.

The carrying amount of business assets (goodwill) arising at the time of acquisition of shares of the UK-based subsidiary, Yokogawa RAP Limited, has been reduced to their respective recoverable amounts as the business results of Yokogawa RAP Limited are expected to fall below initially forecasted business plans in line with changes made to the company's positioning with respect to business expansion. The differences between the carrying amounts and recoverable amounts have been recorded as impairment losses.

Business assets are measured at their recoverable amounts, which are value in use that is calculated by discounting future cash flows at 10%.

The book value of business assets (other intangible assets) arising at the time of acquisition of shares of the Norway-based subsidiary, Yokogawa TechInvent AS, has been reduced to their respective recoverable amounts as the business results of Yokogawa TechInvent AS fell below initially forecasted business plans due to changes in its business environment surrounding the company. The differences between the book values and recoverable amounts have been recorded as impairment losses.

Business assets are measured at their recoverable amounts, which are value in use that is calculated by discounting future cash flows at 10%.

The main components of loss on impairment of long-lived assets for the year ended March 31, 2022, were as follows:

Location	Use	Category	Millions of yen
			Impairment loss
Denmark	Business assets	Goodwill	¥1,084
Japan	Business assets	Buildings and structures	7
		Machinery, equipment, and vehicles	8
		Tools, furniture, and fixtures	50
		Software	68
United States	Idle asset	Right-of-use assets	191
		Total	¥1,410

The Group's business assets are grouped in accordance with management accounting classification. Idle assets are valued on the basis of individual assets.

The book value of business assets (goodwill) arising at the time of acquisition of shares of the Denmark-based subsidiary, Grazper Technologies ApS, has been reduced to the respective recoverable amount as the business results of Grazper Technologies ApS fell below initially forecasted business plans due to changes in its business environment. The differences between the book values and recoverable amounts have been recorded as impairment losses.

Business assets are measured at their recoverable amounts, which are value in use that is calculated by discounting future cash flows at 10%.

The book value of the idle assets was reduced to recoverable amounts (net selling price at disposition) as the future use of the assets was no longer planned. The differences between the book value and the recoverable amounts have been recorded as impairment losses.

10. Short-term Loans, Commercial Papers, Lease Obligations, and Long-term Debt

Short-term bank loans at March 31, 2023 and 2022, included bank overdrafts. The annual average interest rates on the short-term bank loans were 3.612% and 3.088% for the years ended March 31, 2023 and 2022, respectively.

The annual average interest rates on commercial papers were 0.003% and (0.007)% for the years ended March 31, 2023 and 2022, respectively.

Long-term debt as of March 31, 2023 and 2022, consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Loans from banks and other financial institutions	¥24,102	¥24,109	\$180,500
Lease obligations	7,512	8,378	56,257
Total	31,614	32,487	236,757
Less: Current portion	22,233	2,772	166,505
Long-term debt, less current portion	¥9,380	¥29,715	\$70,251

Annual maturities of long-term loans from banks and other financial institutions at March 31, 2023, were as follows:

Year ending March 31	Millions of yen	Thousands of U.S. dollars
2024	¥20,014	\$149,886
2025	87	657
2026	Nil	Nil
2027	4,000	29,955
2028 and thereafter	Nil	Nil
Total	¥24,102	\$180,500

The annual average interest rates on long-term loans (excluding current portion) from banks were 0.434% and 0.340% for the years ended March 31, 2023 and 2022, respectively.

Annual maturities of leases obligations at March 31, 2023, were as follows:

Year ending March 31	Millions of yen	Thousands of U.S. dollars
2024	¥2,219	\$16,618
2025	2,159	16,175
2026	1,074	8,046
2027	541	4,056
2028 and thereafter	1,516	11,359
Total	¥7,512	\$56,257

The annual average interest rates on lease obligations (excluding current portion) were 3.233% and 3.249% for the years ended March 31, 2023 and 2022, respectively.

Collateral and secured debt at March 31, 2023 and 2022, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Collateral:			
Deposits	¥12	¥12	\$93
Investment securities	4	4	34
Assets in consolidated subsidiaries outside Japan*	10,829	10,602	81,104
Total	¥10,847	¥10,619	\$81,233

*"Assets in consolidated subsidiaries outside Japan" represents the aggregate amount of accounts receivable and other assets of such subsidiaries.

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Secured debt:			
Trade notes and accounts payable	¥25	¥19	\$188

The Group's interest-bearing debt includes financial covenants which require the Company to maintain certain levels of equity and income on a consolidated basis. The balance of such debt as of March 31, 2023 and 2022, was ¥20,000 million (U.S.\$ 149,779 thousand) and ¥20,000 million, respectively.

11. Retirement and Pension Plans

The Company and most of its consolidated subsidiaries have defined contribution plans, while some other subsidiaries have defined benefit plans. In certain circumstances, additional payments are made upon the retirement of employees.

The simplified method is used to calculate defined benefit obligation for certain consolidated subsidiaries.

(a) The changes in defined benefit obligation for the years ended March 31, 2023 and 2022, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Balance at beginning of year	¥12,492	¥12,784	\$93,552
Current service cost	780	544	5,843
Interest cost	287	231	2,156
Recognized prior service cost	(24)	(32)	(184)
Actuarial gain	(818)	(504)	(6,132)
Benefits paid	(885)	(712)	(6,632)
Others	886	180	6,637
Balance at end of year	¥12,717	¥12,492	\$95,241

(b) The changes in plan assets for the years ended March 31, 2023 and 2022, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Balance at beginning of year	¥8,238	¥8,664	\$61,698
Expected return on plan assets	432	328	3,241
Actuarial loss	(855)	(448)	(6,406)
Contributions from the employer	468	380	3,511
Benefits paid	(784)	(589)	(5,875)
Others	539	(97)	4,037
Balance at end of year	¥8,039	¥8,238	\$60,206

(c) Reconciliation between the liability recorded in the consolidated balance sheet and the balances of defined benefit obligation and plan assets as of March 31, 2023 and 2022, was as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Funded defined benefit obligation	¥12,717	¥12,492	\$95,241
Plan assets	(8,039)	(8,238)	(60,206)
Total	4,678	4,253	35,034
Net liability for defined benefit obligation	¥4,678	¥4,253	\$35,034

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Liability for retirement benefits	¥5,081	¥4,687	\$38,051
Asset for retirement benefits	(402)	(434)	(3,017)
Net liability for defined benefit obligation	¥4,678	¥4,253	\$35,034

(d) The components of net periodic benefit costs for the years ended March 31, 2023 and 2022, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Service cost	¥780	¥544	\$5,843
Interest cost	287	231	2,156
Expected return on plan assets	(432)	(328)	(3,241)
Amortization of actuarial loss	121	74	909
Amortization of prior service cost	(24)	(32)	(184)
Others	270	175	2,022
Net periodic benefit costs	¥1,002	¥664	\$7,506

(e) Amounts recognized in other comprehensive income (before income tax effect) in respect of defined retirement benefit plans for the years ended March 31, 2023 and 2022, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Actuarial gain	¥84	¥130	\$635

(f) Amounts recognized in accumulated other comprehensive income (before income tax effect) in respect of defined retirement benefit plans as of March 31, 2023 and 2022, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Unrecognized actuarial loss	¥(1,163)	¥(1,248)	\$(8,712)

(g) Plan assets as of March 31, 2023 and 2022, were as follows:

(1) Components of plan assets

Plan assets:

	2023	2022
Equity investments	2%	2%
Debt investments	65	68
Cash and cash equivalents	28	25
Others	5	5
Total	100%	100%

(2) Method of determining the expected rate of return on plan assets

The expected rate of return on plan assets is determined based on the expected long-term rates of return for the various plan asset components.

(h) Assumptions used for the years ended March 31, 2023 and 2022, were as follows:

	2023	2022
Discount rate	3.51%	3.63%
Expected rate of return on plan assets	3.81%	3.85%

(i) Payments to defined contribution plans amounted to ¥4,114 million (U.S.\$30,809 thousand) and ¥4,886 million for the years ended March 31, 2023 and 2022, respectively.

12. Equity

Japanese companies are subject to the Companies Act of Japan (the "Companies Act"). The significant provisions in the Companies Act that affect financial and accounting matters are summarized below:

(a) Dividends

Under the Companies Act, companies can pay dividends at any time during the fiscal year in addition to the year-end dividend upon the passing of a resolution at the shareholders' meeting. For companies that meet certain criteria such as; (1) having a board of directors, (2) having independent auditors, (3) having an audit and supervisory board, and (4) prescribing a one-year term of service for directors (rather than the conventional two-year term) in its articles of incorporation, the board of directors may declare dividends (except for dividends in kind) at any time during the fiscal year if the company has prescribed so in its articles of incorporation.

Semiannual interim dividends may also be paid once a year upon resolution by the board of directors if the articles of incorporation of the company so stipulates. The Companies Act provides certain limitations on the amounts available for dividends or the purchase of treasury stock. The limitation is defined as the amount available for distribution to the shareholders, but the amount of net assets after dividends must be maintained at no less than ¥3 million.

(b) Increases/decreases and transfer of common stock, reserve, and surplus

The Companies Act requires that an amount equal to 10% of dividends must be appropriated as a legal reserve (a component of retained earnings) or as additional paid-in capital (a component of capital surplus) depending on the equity account charged upon the payment of such dividends until the aggregate amount of legal reserve and additional paid-in capital equals 25% of the common stock. Under the Companies Act, the total amount of additional paid-in capital and legal reserve may be reversed without limitation. The Companies Act also provides that common stock, legal reserve, additional paid-in capital, other capital surplus, and retained earnings can be transferred among the accounts under certain conditions upon resolution of the shareholders.

(c) Treasury stock and treasury stock acquisition rights

The Companies Act also provides for companies to purchase treasury stock and dispose of such treasury stock by resolution of the board of directors. The amount of treasury stock purchased cannot exceed the amount available for distribution to the shareholders which is determined by a specific formula. Under the Companies Act, stock acquisition rights are presented as a separate component of equity. The Companies Act also provides that companies can purchase both treasury stock acquisition rights and treasury stock. Such treasury stock acquisition rights are presented as a separate component of equity or deducted directly from stock acquisition rights.

13. Income Taxes

The tax effects of significant temporary differences and tax loss carry forwards that resulted in deferred tax assets and liabilities at March 31, 2023 and 2022, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Deferred tax assets:			
Provision for bonuses	¥3,203	¥2,710	\$23,994
Write-down of inventories	1,920	1,705	14,384
Unrealized profit of inventories	2,717	2,060	20,354
Impairment loss on investment securities	795	1,342	5,957
Tax losses carryforwards (Note b)	5,808	6,653	43,496
Other	14,453	12,079	108,239
Subtotal	28,899	26,552	216,427
Less: Valuation allowance for tax loss carryforwards (Note b)	(2,397)	(5,834)	(17,951)
Less: Valuation allowance for temporary differences	(7,704)	(8,128)	(57,701)
Total valuation allowance (Note a)	(10,101)	(13,962)	(75,653)
Total	¥18,797	¥12,590	\$140,774
Deferred tax liabilities:			
Net realized gain on available-for-sale securities	¥(7,661)	¥(4,451)	\$(57,375)
Undistributed earnings of consolidated subsidiaries outside Japan	(2,285)	(780)	(17,118)
Intangible assets recognized on business combination	(197)	(285)	(1,479)
Property, plant, and equipment	(457)	(464)	(3,423)
Other	(1,793)	(1,694)	(13,432)
Total	(12,395)	(7,675)	(92,828)
Net deferred tax assets	¥6,402	¥4,914	\$47,945

Notes:

- (a) Valuation allowance decreased by ¥3,860 million (U.S.\$28,909 thousand). Major reasons are a decrease in valuation allowance for tax loss carryforwards in relation to expiration of tax loss carryforwards due to maturity and a decrease in valuation allowance due to recognition of deferred tax assets.
- (b) The expiration of tax loss carryforwards, the related valuation allowances, and the resulting net deferred tax assets as of March 31, 2023 and 2022, were as follows:

	Millions of yen						
	2023						
	One year or less	After one year through two years	After two years through three years	After three years through four years	After four years through five years	After five years	Total
Deferred tax assets relating to tax loss carryforwards*	¥717	¥1,791	¥594	¥271	¥124	¥2,309	¥5,808
Less valuation allowance for tax loss carryforwards	(76)	(264)	(217)	(163)	(29)	(1,645)	(2,397)
Net deferred tax assets relating to tax loss carryforwards	641	1,527	376	108	94	663	3,411

Millions of yen							
2022							
	One year or less	After one year through two years	After two years through three years	After three years through four years	After four years through five years	After five years	Total
Deferred tax assets relating to tax loss carryforwards*	¥1,651	¥498	¥1,655	¥463	¥376	¥2,008	¥6,653
Less valuation allowance for tax loss carryforwards	(1,588)	(480)	(1,582)	(452)	(134)	(1,594)	(5,834)
Net deferred tax assets relating to tax loss carryforwards	62	17	72	10	242	414	819

Thousands of U.S. dollars							
2023							
	One year or less	After one year through two years	After two years through three years	After three years through four years	After four years through five years	After five years	Total
Deferred tax assets relating to tax loss carryforwards*	\$5,374	\$13,416	\$4,448	\$2,034	\$929	\$17,293	\$43,496
Less valuation allowance for tax loss carryforwards	(572)	(1,978)	(1,627)	(1,224)	(223)	(12,324)	(17,951)
Net deferred tax assets relating to tax loss carryforwards	4,801	11,437	2,821	809	706	4,968	25,545

*Deferred tax assets relating to tax loss carryforwards were calculated by applying the normal effective statutory tax rate.

A reconciliation between the normal effective statutory tax rate and the actual effective tax rate reflected in the accompanying consolidated statement of income for the years ended March 31, 2023 and 2022, was as follows:

	2023	2022
Normal effective statutory tax rate	30.6%	30.6%
Inhabitant taxes per capita	0.3	0.9
Permanent difference		
Expenses not deductible for income tax purposes	1.4	2.6
Foreign withholding taxes	2.4	2.2
Loss on impairment of long-lived assets	0.3	1.1
Changes in valuation allowance	(8.6)	(3.2)
Lower income tax rates applicable to certain consolidated subsidiaries outside Japan	(9.5)	(8.8)
Equity in earnings of affiliates	(2.1)	(3.2)
Other-net	1.0	(0.8)
Actual effective tax rate	15.8%	21.4%

The Company and certain domestic subsidiaries file their tax returns under the group tax sharing system from the fiscal year ended March 31, 2023. The PITF No. 42, "Practical Solution on the Accounting and Disclosure Under the Group Tax Sharing System," issued on August 12, 2021, is applied with regard to accounting treatment and disclosures of national and local taxes and tax effect accounting.

14. Research and Development Costs

Research and development costs were ¥30,492 million (U.S.\$228,356 thousand) and ¥28,520 million for the years ended March 31, 2023 and 2022, respectively and were included in the cost of sales and selling, general, and administrative expenses in the consolidated statement of income.

15. Leases

The Group leases certain tools, furniture, and fixtures; and other assets. Right-of-use assets comprised primarily of building and structures.

16. Financial Instruments and Related Disclosures

(1) Information regarding financial instruments

(a) Group policy on financial instruments

In accordance with the Group's capital expenditure program for the industrial automation and control business and the test and measurement business, the Group uses financial instruments such as bank loans to obtain necessary funding. Cash surpluses are invested in low-risk financial assets. Short-term bank loans are used to fund ongoing operations. Derivatives are used to manage exposure to financial risks as described in Note 17 and are not used for speculative purposes.

(b) Nature of the financial instruments and risk management

Receivables such as trade notes and trade accounts, are exposed to customer credit risk. Those securities are mainly issued by the Group's customers and suppliers, and are managed by regularly monitoring market value and the financial position of the issuers.

Investment securities are exposed to the risk of market price fluctuations. The Group reviews its holdings of these securities, whose issuers are mainly its customers and suppliers, by regularly checking their market value and the financial position of the issuers.

Payment terms of payables such as trade notes and trade accounts, are less than one year.

Long-term debt is used for capital expenditures and investments. In order to manage exposure to market risks from fluctuations in interest rates, the Group principally uses fixed-rate contracts; otherwise, interest rate swap contracts are used for variable rate loans.

Lease obligations are used primarily for capital expenditures and are exposed to liquidity risk at the time of settlement. The Group manages the risk by reviewing funding plan monthly by the group companies.

Foreign currency trade receivables and payables are exposed to market risk resulting from fluctuations in foreign currency exchange rates. Such foreign exchange risk is hedged principally by foreign currency forward contracts and range forward options.

Basic policies on derivative transactions are set out in the Group's internal guidelines. The guidelines prescribe a control policy, designate authorized departments, specify the purpose of the transactions, define the basis for selecting financial institutions, and specify the reporting route.

The fair value of financial instruments is based on the quoted price in an active market. If a quoted price is not available, other valid valuation techniques are used instead.

(2) Fair value of financial instruments

The carrying amounts in the consolidated balance sheet, fair value, and unrealized gain (loss) as of March 31, 2023 and 2022, were as detailed below. Equity securities without market price and investments in partnerships are not included.

Millions of yen			
2023			
	Carrying amount	Fair value	Difference
Investment securities	¥32,819	¥32,819	
Total	¥32,819	¥32,819	
Long-term debt (*2)	¥24,102	¥24,014	¥(87)
Lease obligations (*3)	7,512	7,298	(213)
Total	¥31,614	¥31,312	¥(301)
Derivatives (*4)	¥(500)	¥(500)	

Millions of yen			
2022			
	Carrying amount	Fair value	Difference
Investment securities	¥21,851	¥21,851	
Total	¥21,851	¥21,851	
Long-term debt (*2)	¥24,109	¥24,034	¥(75)
Lease obligations (*3)	8,378	8,358	(19)
Total	¥32,487	¥32,392	¥(95)
Derivatives (*4)	¥(1,435)	¥(1,435)	

Thousands of U.S. dollars			
2023			
	Carrying amount	Fair value	Difference
Investment securities	\$245,786	\$245,786	
Total	\$245,786	\$245,786	
Long-term debt (*2)	\$180,500	\$179,843	\$(657)
Lease obligations (*3)	56,257	54,654	(1,602)
Total	\$236,757	\$234,497	\$(2,259)
Derivatives (*4)	\$(3,747)	\$(3,747)	

(*1) Disclosure of cash and cash equivalents, trade notes receivable, accounts receivable, trade notes and accounts payable, electronically recorded obligations-operating, commercial papers, payables-other, income taxes payable is omitted since their carrying amounts approximate their fair values because of their short maturities.

(*2) Long-term debt includes current portion of long-term debt which is presented on the consolidated balance sheet.

(*3) Current portion of lease obligations is included.

(*4) Assets/liabilities arising from derivative transactions are disclosed as the net amount, and the net payable is shown in parentheses.

(*5) Investments in partnerships are not included in the above table in accordance with Paragraph 24-16 of ASBJ Guidance No. 31, "Implementation Guidance on Accounting Standard for Fair Value Measurement," revised on June 17, 2021 (Paragraph 27 of the guidance issued on July 4, 2019 in the year ended March 31, 2022). The carrying amounts of investments in partnerships were ¥295 million (U.S.\$2,215 thousand) and ¥198 million as of March 31, 2023 and 2022, respectively.

Notes:

(a) Equity securities without market price as of March 31, 2023 and 2022, are as follows:

	Carrying amount		Thousands of U.S. dollars
	Millions of yen		
	2023	2022	
Equity securities without market price	¥37,670	¥31,191	\$282,112

Equity securities without market price include unlisted equity securities which are not subject to the fair value disclosure in accordance with Paragraph 5 of ASBJ Guidance No. 19, "Implementation Guidance on Disclosures about Fair Value of Financial Instruments," revised on March 31, 2020.

(b) Maturity analysis for financial assets and securities with contractual maturities as of March 31, 2023, is as follows:

	Millions of yen		Thousands of U.S. dollars	
	2023		2023	
	Due in one year or less	Due after one to five years	Due in one year or less	Due after one to five years
Cash and cash equivalents	¥121,438		\$909,447	
Trade notes receivables	10,318		77,276	
Accounts receivable	133,088	¥565	996,696	\$4,233
Total	¥264,846	¥565	\$1,983,420	\$4,233

(c) Fair value measurement of financial instruments and breakdown by level of fair values

Fair values of financial instruments are categorized into following three levels depending on observability and materiality of inputs used for the measurement of fair values.

Level 1: Fair values determined based on unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2: Fair values determined based on inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.

Level 3: Fair values determined based on unobservable inputs for the asset or liability.

If multiple inputs that have significant impact on the fair value measurement are used, the fair value is categorized in the level of the lowest-level input used in the fair value measurement.

(i) Financial assets and liabilities whose fair values are presented as carrying amounts in the consolidated balance sheets

	Millions of yen			
	2023			
	Fair value			
	Level 1	Level 2	Level 3	Total
Investment securities:				
Equity securities	¥32,603			¥32,603
Total	¥32,603			¥32,603
Derivatives				
Foreign exchange related		¥(122)		¥(122)
Currency related		(377)		(377)
Total		¥(500)		¥(500)

	Millions of yen			
	2022			
	Fair value			
	Level 1	Level 2	Level 3	Total
Investment securities:				
Equity securities	¥21,748			¥21,748
Total	¥21,748			¥21,748
Derivatives				
Foreign exchange related		¥(462)		¥(462)
Currency related		(973)		(973)
Total		¥(1,435)		¥(1,435)

	Thousands of U.S. dollars			
	2023			
	Fair value			
	Level 1	Level 2	Level 3	Total
Investment securities:				
Equity securities	\$244,165			\$244,165
Total	\$244,165			\$244,165
Derivatives				
Foreign exchange related		\$(919)		\$(919)
Currency related		(2,828)		(2,828)
Total		\$(3,747)		\$(3,747)

Investment trusts are not included in the above table in accordance with Paragraph 24-3 of ASBJ Guidance No. 31, "Implementation Guidance on Accounting Standard for Fair Value Measurement," revised on June 17, 2021 (Paragraph 26 of the guidance issued on July 4, 2019 in the year ended March 31, 2022). The carrying amounts of investment trusts were ¥216 million (U.S.\$1,621 thousand) and ¥103 million as of March 31, 2023 and 2022, respectively.

(ii) Financial assets and liabilities whose carrying amounts in the consolidated balance sheets are not based on fair values

Millions of yen				
2023				
Fair value				
	Level 1	Level 2	Level 3	Total
Long-term debt		¥24,014		¥24,014
Lease obligations		7,298		7,298
Total		¥31,312		¥31,312

Millions of yen				
2022				
Fair value				
	Level 1	Level 2	Level 3	Total
Long-term debt		¥24,034		¥24,034
Lease obligations		8,358		8,358
Total		¥32,392		¥32,392

Thousands of U.S. dollars				
2023				
Fair value				
	Level 1	Level 2	Level 3	Total
Long-term debt		\$179,843		\$179,843
Lease obligations		54,654		54,654
Total		\$234,497		\$234,497

Explanation on techniques and inputs used for fair value measurement

Investment securities:

The fair values of listed equity shares are determined based on quoted market prices and categorized in Level 1 as they are actively traded on stock exchanges.

Long-term debt and lease obligations:

The fair values of long-term debt and lease obligations are determined by discounting cash flows related to the debt at the Group's assumed corporate borrowing rate and categorized in Level 2.

Derivatives:

The fair values of derivatives are determined by discounting cash flows using observable inputs, including interest rates, foreign exchange rates and others and categorized in Level 2.

17. Derivatives

Derivative transactions are used to manage foreign exchange risk and the risk of market rate fluctuations that occur in the normal course of business. The Group does not use derivatives for speculative purposes or for highly leveraged transactions.

(1) Derivative transactions to which hedge accounting was not applied at March 31, 2023 and 2022, are as follows:

Millions of yen				
2023				
	Contract amount		Fair value	Unrealized gain (loss)
	Total	Due after one year		
Forward exchange contracts				
Selling contracts				
U.S. dollar	¥10,244		¥2	¥2
Others	3,979		20	20
Buying contracts				
U.S. dollar	440		(23)	(23)
Currency swaps				
	13,289		(377)	(377)
Total	¥27,953		¥(378)	¥(378)

Millions of yen				
2022				
	Contract amount		Fair value	Unrealized gain (loss)
	Total	Due after one year		
Forward exchange contracts				
Selling contracts				
U.S. dollar	¥7,180		¥(332)	¥(332)
Others	3,493		(129)	(129)
Currency swaps				
	15,191		(973)	(973)
Total	¥25,865		¥(1,435)	¥(1,435)

Thousands of U.S. dollars				
2023				
	Contract amount		Fair value	Unrealized gain (loss)
	Total	Due after one year		
Forward exchange contracts				
Selling contracts				
U.S. dollar	\$76,717		\$19	\$19
Others	29,798		152	152
Buying contracts				
U.S. dollar	3,300		(179)	(179)
Currency swaps				
	99,526		(2,828)	(2,828)
Total	\$209,342		\$(2,835)	\$(2,835)

Note: The contract amount, fair value and unrealized gain (loss) on the above tables include those for currency and interest rate related derivative transactions that are executed for hedging foreign exchange and other risks associated with receivables and payables between consolidated companies which are eliminated on the consolidated balance sheets.

(2) Derivative transactions to which hedge accounting was applied at March 31, 2023 and 2022, are as follows:

		Millions of yen		
		2023		
Hedged item		Contract amount		Fair value
		Total	Due after one year	
Forward exchange contracts				
Buying contracts				
U.S. dollar	Payables	¥2,533	¥330	¥(121)
Interest rate swaps				
Pay fixed/receive floating	Long-term debt	¥20,000		Note (b)

		Millions of yen		
		2022		
Hedged item		Contract amount		Fair value
		Total	Due after one year	
Interest rate swaps				
Pay fixed/receive floating	Long-term debt	¥20,000	¥20,000	Note (b)

		Thousands of U.S. dollars		
		2023		
Hedged item		Contract amount		Fair value
		Total	Due after one year	
Forward exchange contracts				
Buying contracts				
U.S. dollar	Payables	\$18,975	\$2,475	\$(911)
Interest rate swaps				
Pay fixed/receive floating	Long-term debt	\$149,779		Note (b)

Notes:

- (a) The above interest rate swaps, which qualify for hedge accounting and meet specific matching criteria are not remeasured at market value, but the differential paid or received under the swap agreements is recognized and included in interest expense or income.
- (b) The fair value of such interest rate swaps is included in that of hedged items disclosed in Note 16.

The contract or notional amounts of the derivatives shown in the above table do not represent the amounts exchanged by the parties and are not a measure of the Group's exposure to credit or market risk.

18. Commitment Line Agreements

The Company has commitment line agreements with financial institutions in order to obtain funds for stable and efficient operation.

The commitment line of credit as of March 31, 2023 and 2022, was as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Total commitment line of credit	¥45,000	¥45,000	\$337,002
Outstanding borrowings	Nil	Nil	Nil
Unused credit line	¥45,000	¥45,000	\$337,002

19. Other Notes to Consolidated Statement of Income

(1) Provision for contract loss

The following provision for contract loss was included in the cost of sales in the consolidated statement of income:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Provision for contract loss	¥672	¥(1,293)	\$5,032

(2) Selling, general, and administrative expenses

The major components of selling, general, and administrative expenses were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Salaries	¥48,403	¥43,457	\$362,493
Net periodic retirement benefit costs	4,428	3,963	33,162
Provision for bonuses	7,531	5,809	56,402
Allowance for doubtful accounts	379	1,900	2,840
Research and development costs	30,169	28,319	225,935

(3) Net gain (loss) on sales and disposal of property, plant, and equipment

The net gain (loss) on sales and disposal of property, plant, and equipment was as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Buildings and structures	¥(314)	¥(235)	\$(2,355)
Machinery, equipment, and vehicles	5	(13)	42
Tools, furniture, and fixtures	(12)	(19)	(91)
Other intangible assets	409	(72)	3,068
Total	¥88	¥(339)	\$663

(4) Gain on step acquisition

Gain on step acquisition was recorded due to the step acquisition of shares of Yokogawa Fluence Analytics, Inc. (formerly Fluence Analytics Inc.) for the year ended March 31, 2023.

(5) Business structure improvement expense

Business structure improvement expense was recorded for special initiatives taken for optimization of the Group. For the year ended March 31, 2022, business structure improvement expense was mainly associated with sales of aviation equipment business.

20. Other Comprehensive Income

The components of other comprehensive income for the years ended March 31, 2023 and 2022, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Net unrealized gain on available-for-sale securities:			
Gains (losses) arising during the year	¥11,574	¥(1,210)	\$86,678
Reclassification adjustments to profit or loss	(834)	1,559	(6,250)
Amount before income tax effect	10,739	348	80,428
Income tax effect	(3,210)	(127)	(24,039)
Total	¥7,529	¥221	\$56,388
Deferred loss on derivatives under hedge accounting:			
Losses arising during the year	¥(132)		\$(994)
Reclassification adjustments to profit or loss			
Amount before income tax effect	(132)		(994)
Income tax effect	34		256
Total	¥(98)		\$(738)
Foreign currency translation adjustments:			
Adjustments arising during the year	¥8,825	¥13,031	\$66,091
Reclassification adjustments to profit or loss	1	(60)	9
Amount before income tax effect	8,826	12,971	66,101
Income tax effect			
Total	¥8,826	¥12,971	\$66,101
Defined retirement benefit plans:			
Adjustments arising during the year	¥(12)	¥88	\$(90)
Reclassification adjustments to profit or loss	96	41	725
Amount before income tax effect	84	130	635
Income tax effect	(27)	(48)	(205)
Total	¥57	¥81	\$429
Share of other comprehensive income in affiliates:			
Gains arising during the year	¥187	¥378	\$1,407
Reclassification adjustments to profit or loss	(124)	(21)	(930)
Total	¥63	¥356	\$477
Total other comprehensive income	¥16,378	¥13,630	\$122,658

21. Per Share Information

Basic net earnings per share (EPS) for the years ended March 31, 2023 and 2022, were as follows:

	Millions of yen	Thousands of shares	Yen	U.S. dollars
	Net income attributable to owners of the parent	Weighted-average shares	EPS	
2023				
Basic EPS				
Net income attributable to common shareholders	¥38,920	266,929	¥145.81	\$1.09
2022				
Basic EPS				
Net income attributable to common shareholders	¥21,267	266,931	¥79.67	

Diluted net income per share was not disclosed because there were no dilutive securities for the years ended March 31, 2023 and 2022.

Per share information for the year ended March 31, 2023 reflects the significant revision of initial allocation of acquisition costs upon finalization of provisional accounting treatment as described in 23. Business Combination.

22. Revenue Recognition

Breakdown of revenue arising from contracts with customers for the years ended March 31, 2023 and 2022, was as follows:

	Millions of yen			
	2023			
	Reportable segment			
	Industrial automation and control	Measuring instruments	New business and others	Consolidated
Goods transferred at one point of time	¥201,878	¥25,049	¥3,844	¥230,772
Service transferred over certain period of time	225,691	16		225,707
Sales to customers	¥427,569	¥25,065	¥3,844	¥456,479

	Millions of yen			
	2022			
	Reportable segment			
	Industrial automation and control	Measuring instruments	Aviation and other	Consolidated
Goods transferred at one point of time	¥168,173	¥21,218	¥6,274	¥195,665
Service transferred over certain period of time	194,235	0		194,235
Sales to customers	¥362,408	¥21,218	¥6,274	¥389,901

	Thousands of U.S. dollars			
	2023			
	Reportable segment			
	Industrial automation and control	Measuring instruments	New business and others	Consolidated
Goods transferred at one point of time	\$1,511,857	\$187,591	\$28,792	\$1,728,241
Service transferred over certain period of time	1,690,191	121		1,690,313
Sales to customers	\$3,202,049	\$187,713	\$28,792	\$3,418,554

Basic information to understand the revenue arising from contracts with customers are disclosed in Note 2, "Summary of Significant Accounting Policies."

The amounts of contract liabilities as of March 31, 2022 and 2021, for which revenue was recognized during the years ended March 31, 2023 and 2022, were ¥35,085 million (U.S.\$ 262,757 thousand) and ¥30,300 million, respectively.

As of March 31, 2023 and 2022, the amounts of revenue expected to be recognized in future for performance obligations, which are fully or partially unsatisfied, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2023	2022	2023
Within one year	¥278,674	¥224,398	\$2,086,978
After one year	84,342	66,562	631,634
Total	¥363,016	¥290,961	\$2,718,612

23. Business Combination

Business divestiture

The Company transferred the aviation equipment business of the Company and Yokogawa Manufacturing Corporation, a consolidated subsidiary of the Company, to Oki Electric Industry Co., Ltd. ("Oki Electric") on April 1, 2022.

(1) Outline of the business divestiture

(a) Name of the successor company

Oki Electric Industry Co., Ltd.

(b) Outline of the divested business

Aviation equipment business

(c) Major reason for the business divestiture

Under its "Accelerate Growth 2023" mid-term business plan, the Company is aiming to create new value by focusing on the energy and sustainability, materials, and life industry business areas. Oki Electric, on the other hand, is focusing on possibilities of developing new products that combine the technological assets held by Oki Electric and the Company and opening up new markets by leveraging the Company's aviation equipment technology and know-how as well as its customer base. The Company has decided to transfer its aviation equipment business to Oki Electric since both Oki Electric and the Company share interest in continued growth of this business.

(d) Date of the business divestiture

April 1, 2022

(e) Other matters regarding the outline of the business divestiture, including legal form

Transfer of business with consideration received only in forms of assets such as cash

(2) Outline of the accounting treatment

(a) Amount of gain on the share transfer

	Millions of yen	Thousands of U.S. dollars
Gain on sale of investment in a subsidiary	Nil	Nil

Loss on share transfer and other expenses relating to the business divestiture of ¥1,390 million was included in business structure improvement expense in other expenses for the year ended March 31, 2022.

(b) Details of consolidated balance sheet amount of assets and liabilities of divested business

	Millions of yen	Thousands of U.S. dollars
Current assets	¥1,443	\$10,810
Non-current assets	39	295
Total assets	¥1,483	\$11,106

(c) Accounting treatment

The business divestiture is accounted for in accordance with the ASBJ Statement No. 7, "Accounting Standard for Business Divestitures," issued on September 13, 2013, and the ASBJ Guidance No.10, "Implementation Guidance on Accounting Standard for Business Combinations and Accounting Standard for Business Divestitures," issued on January 16, 2019.

(3) Reportable segment in which the divested business was included

Aviation and other

The name of reportable segment was changed to new business and others from the year ended March 31, 2023.

(4) Estimated income or loss of the divested business included in the consolidated statement of income for the year ended March 31, 2023

Income or loss of the divested business is not included in the consolidated statement of income for the year ended March 31, 2023 since the business divestiture was executed on April 1, 2022.

Finalization of provisional accounting treatment for business combinations

For business combination of Insilico Biotechnology AG on December 31, 2021, a provisional accounting treatment had been applied for the year ended March 31, 2022 and it was finalized for the year ended March 31, 2023.

Following the finalization of the provisional accounting treatment, comparative information included in the consolidated financial statements for the year ended March 31, 2023 reflected the significant revision of initial allocation of acquisition costs.

As a result, the amount of goodwill totaled ¥3,460 million, which is a decrease of ¥362 million from the provisional amount of ¥3,823 million. The decrease in goodwill was due to increase in intangible assets (technology related assets) of ¥522 million and deferred tax liabilities of ¥159 million.

In addition, goodwill and retained earnings decreased by ¥385 million and ¥15 million, respectively, and other intangible assets and deferred tax liabilities increased by ¥532 million and ¥162 million, respectively, as of March 31, 2022.

For business combination of PXiSE Energy Solutions, LLC on December 1, 2021, a provisional accounting treatment had been applied for the year ended March 31, 2022 and it was finalized for the year ended March 31, 2023.

As a result, the amount of goodwill totaled ¥2,502 million, which is a decrease of ¥3,203 million from the provisional amount of ¥5,706 million. The decrease in goodwill was due to increase in intangible assets (technology related assets) of ¥3,203 million.

The financial statements of PXiSE Energy Solutions, LLC are prepared in conformity with the US GAAP and Accounting Standards Updates ("ASU") 2015-16 is applied. Comparative information did not reflect the revision of initial allocation of acquisition costs because ASU 2015-16 requires the acquiring company to recognize adjustments to the provisional accounting treatment recognized in the measurement period in the reporting period of such adjustments were determined.

As a result, operating income and income before income taxes increased by ¥557 million (U.S.\$4,173 thousand) for the year ended March 31, 2023.

Business combination by acquisition

A subsidiary of the Company agreed with Fluence Analytics Inc. (Headquarters: Texas, U.S.A.) on January 21, 2023, to start the procedures to acquire shares of Fluence Analytics Inc. and make it a wholly owned subsidiary and acquired the shares on January 30, 2023.

(1) Outline of the business combination

(a) Name of acquired company and its business outline

Name:	Fluence Analytics Inc.
Business outline:	Development and provision of real-time analytics solutions to development and manufacturing of polymer and bio-pharmaceutical industry

(b) Major reason for the business combination

The Company and Fluence Analytics Inc. have been exploring potential business opportunities since signing investment and collaboration agreements in August 2021. Through this acquisition, Fluence Analytics Inc. will integrate its operations with existing business of the Group and further enhance its technological capabilities.

- (c) Date of the business combination
January 30, 2023 (date of share acquisition)
January 1, 2023 (deemed date of acquisition)

- (d) Legal form of the business combination
Share acquisition in consideration for cash

- (e) Name of the company after the business combination
Yokogawa Fluence Analytics, Inc.

- (f) Ratio of voting rights acquired

Ratio of voting rights held by the Company immediately before the acquisition:	19.40%
Ratio of voting rights additionally acquired on the date of business combination:	80.60%
Ratio of voting rights after the acquisition:	100.00%

- (g) Basis for determining the acquirer
It is based on the fact that a subsidiary of the Company acquired shares in consideration for cash.

(2) Period for which the acquired company's business results are included in the consolidated financial statements

Business results of the acquired company for the period from January 1, 2023 to March 31, 2023, are included in the consolidated financial statements. Business results before January 1, 2023, are reflected in equity in earnings of affiliates as the deemed acquisition date is January 1, 2023.

(3) Details of acquisition cost and consideration by type

	Millions of yen	Thousands of U.S. dollars
Market value of stock held before acquisition as of the acquisition date	¥1,325	\$9,876
Additional purchase consideration	cash 5,395	40,215
Purchase price	¥6,720	\$50,092

Note: Contingent consideration (fair value) for acquisition is included in the consideration for acquisition.

(4) Difference between cost of acquisition and total of individual transactions leading to the acquisition

Gain on step acquisition: ¥1,066 million (U.S.\$7,989 thousand)

(5) Details and amounts of main acquisition costs

Advisory fees: ¥399 million (U.S.\$2,989 thousand)

(6) Amount, reason, and amortization method and period of goodwill recognized

- (a) Amount of goodwill recognized
¥6,093 million (U.S.\$45,630 thousand)
At March 31, 2023, allocation of the acquisition cost has not been completed since identifiable assets and liabilities as of the business combination date have not been identified and measurement of the fair values has not been completed. Accordingly, the provisional accounting treatment has been applied for the amount of goodwill based on the reasonable information available at that time.
- (b) Reason for goodwill recognized
The future excess earning power expected as a result of business development going forward
- (c) Method and period of amortization
Straight-line method over six years

(7) Outline of contingent considerations defined in the business combination contract and accounting policy applied effective from the fiscal year ended March 31, 2023

- (a) Summary of contingent considerations
The Company, as the acquirer, shall pay an additional consideration in proportion to reaching a specified milestone.
- (b) Accounting policy applied effective from the fiscal year ended March 31, 2023
Changes in contingent consideration above are recorded in accordance with US GAAP.

(8) Details of assets acquired and liabilities assumed at the acquisition date

	Millions of yen	Thousands of U.S. dollars
Current assets	¥329	\$2,464
Noncurrent assets	615	4,607
Total assets	¥944	\$7,071
Current liabilities	¥115	\$865
Long-term liabilities	201	1,507
Total liabilities	¥316	\$2,372

(9) Estimated impact on the consolidated statement of income for the year ended March 31, 2023, assuming the business combination was completed at the beginning of the current fiscal year

The information is not disclosed because the estimated impact is immaterial.

24. Subsequent Events

Appropriation of retained earnings

The board of directors proposed the following appropriation of retained earnings at March 31, 2023, which was approved at the general meeting of the shareholders of the Company held on June 27, 2023.

	Millions of yen	Thousands of U.S. dollars
Year-end cash dividends, ¥17.0 (U.S.\$0.12) per share	¥4,537	\$33,983

Acquisition of treasury stock

At the meeting of the Board of Directors held on May 9, 2023, the Company resolved the following matters concerning the acquisition of treasury stock, pursuant to the provisions of Article 156 of the Companies Act, as applied by replacing the relevant terms pursuant to the provisions of Article 165, paragraph (3) of the same Act.

(1) Reason for the acquisition of treasury stock

In order to enhance shareholder return and improve capital efficiency as well as to enable execution of flexible capital policy in response to changes in business environment.

(2) Details of the acquisition of treasury stock

- (a) Class of shares to be acquired: Common stock
- (b) Total number of shares to be acquired: Up to 16,000,000 shares
(6.0% of issued and outstanding number of shares, excluding treasury stock)
- (c) Total amount of acquisition price of shares: Up to ¥20,000 million (U.S.\$149,779 thousand)
- (d) Period of acquisition: From May 22, 2023 through December 29, 2023

(e) Method of acquisition: Through market purchase on the Tokyo Stock Exchange

Sale of investment securities

The Company resolved to sell part of investment securities it holds at the meeting of the Board of Directors held on February 7, 2023 and the transaction has been completed as described below:

(1) Reason for the sale of investment securities

In order to improve capital efficiency by reevaluating cross-shareholdings.

(2) Detail of the sale of investment securities

(a) Description of securities sold: One issue of unlisted shares held by the Company

(b) Date of the transaction: May 18, 2023

(c) Gain on sales of investment securities: ¥16,500 million (U.S.\$123,570 thousand)

25. Segment Information

Under ASBJ Statement No. 17, "Accounting Standard for Segment Information Disclosures," and ASBJ Guidance No. 20, "Guidance on Accounting Standard for Segment Information Disclosures," an entity is required to report financial and descriptive information about its reportable segments. Reportable segments are operating segments or aggregations of operating segments that meet specified criteria. Operating segments are components of an entity about which separate financial information is available and such information is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. Generally, segment information is required to be reported on the same basis as is used internally for evaluating operating segment performance and deciding how to allocate resources to operating segments.

(1) Description of reportable segments

The Group's reportable segments are those for which separate financial information is available and regular evaluation by the Company's management is being performed in order to decide how resources are allocated among the Group. The Group operates in three business segments: industrial automation and control, measuring instruments, and new business and others.

The industrial automation and control business offers comprehensive solutions, including field instruments such as flow meters, differential pressure/pressure transmitters, and process analyzers; control systems and programmable controllers; various types of software to enhance productivity; and services that minimize plant life cycle costs.

The measuring instruments business mainly offers waveform measuring instruments; optical communications measuring instruments; signal generators; and electric voltage, current, and power measuring instruments.

The new business and others mainly offer services that utilize IoT and AI, and manufacturing and distribution of biomass materials, etc.

(2) Accounting methods for each reportable segment's sales, income (loss), assets, and other items

The accounting policies for each reportable segment are consistent with those disclosed in Note 2, "Summary of Significant Accounting Policies."

The aggregate of the income or loss for each reportable segment corresponds to the operating income or loss in the consolidated statement of income.

The assets of a reportable segment consist of trade notes receivable; accounts receivable; contract assets; inventories; property, plant, and equipment; and intangible assets.

(3) Changes in reportable segments

As a result of transfer of aviation equipment business, the name of reportable segment has been changed from aviation and other to new business and others. There are no change in business segment classifications due to this change.

(4) Information on segment assets

During the year ended March 31, 2023, the aviation equipment business of the Company and Yokogawa Manufacturing Corporation, which comprised the aviation and other business, was transferred. As a result, segment assets of the new business and others decreased by ¥1,483 million compared to the segment assets as of March 31, 2022.

(5) Information about sales, income (loss), assets, and other items

	Millions of yen				
	2023				
	Reportable segment				Consolidated
Industrial automation and control	Measuring instruments	New business and others	Eliminations/Corporate		
Sales to customers	¥427,569	¥25,065	¥3,844		¥456,479
Intersegment sales					
Total sales	¥427,569	¥25,065	¥3,844		¥456,479
Segment income (loss)	¥41,081	¥4,632	¥(1,304)		¥44,409
Segment assets	373,695	12,491	7,585		393,772
Depreciation and amortization	17,081	784	172		18,037
Loss on impairment of long-lived assets	558				558
Increase in property, plant, and equipment and intangible assets	28,395	996	190		29,582
Amortization of goodwill	1,659				1,659
Goodwill	14,614				14,614

	Millions of yen				
	2022				
	Reportable segment				Consolidated
Industrial automation and control	Measuring instruments	Aviation and other	Eliminations/Corporate		
Sales to customers	¥362,408	¥21,218	¥6,274		¥389,901
Intersegment sales					
Total sales	¥362,408	¥21,218	¥6,274		¥389,901
Segment income (loss)	¥29,753	¥3,419	¥(2,504)		¥30,668
Segment assets	331,534	12,462	10,742		354,740
Depreciation and amortization	15,889	815	230		16,935
Loss on impairment of long-lived assets	191		1,219		1,410
Increase in property, plant, and equipment and intangible assets	30,019	969	396		31,385
Amortization of goodwill	885		135		1,020
Goodwill	11,993				11,993

Thousands of U.S. dollars					
2023					
	Reportable segment				Consolidated
	Industrial automation and control	Measuring instruments	New business and others	Eliminations/Corporate	
Sales to customers	\$3,202,049	\$187,713	\$28,792		\$3,418,554
Intersegment sales					
Total sales	\$3,202,049	\$187,713	\$28,792		\$3,418,554
Segment income (loss)	\$307,653	\$34,692	\$(9,767)		\$332,578
Segment assets	2,798,587	93,550	56,804		2,948,942
Depreciation and amortization	127,919	5,871	1,289		135,079
Loss on impairment of long-lived assets	4,181				4,181
Increase in property, plant, and equipment and intangible assets	212,653	7,465	1,425		221,544
Amortization of goodwill	12,424				12,424
Goodwill	109,450				109,450

Note: Segment information for the year ended March 31, 2022 reflects the significant revision of initial allocation of acquisition costs upon finalization of provisional accounting treatment as described in 23. Business Combinations.

(6) Information about geographical areas

(a) Sales

Millions of yen									
2023									
Japan	Southeast Asia, Far East	China	India	Europe	Russia	North America	Middle East, Africa	Middle and South America	Total
¥124,329	¥73,064	¥74,865	¥19,528	¥38,298	¥7,199	¥44,475	¥59,730	¥14,987	¥456,479
Millions of yen									
2022									
Japan	Southeast Asia, Far East	China	India	Europe	Russia	North America	Middle East, Africa	Middle and South America	Total
¥118,960	¥60,708	¥61,044	¥15,407	¥33,012	¥13,239	¥33,160	¥43,409	¥10,959	¥389,901
Thousands of U.S. dollars									
2023									
Japan	Southeast Asia, Far East	China	India	Europe	Russia	North America	Middle East, Africa	Middle and South America	Total
\$931,094	\$547,178	\$560,666	\$146,248	\$286,814	\$53,920	\$333,073	\$447,317	\$112,240	\$3,418,554

Note: Sales are categorized in each country or area based on the location of end users.

(b) Property, plant, and equipment

Millions of yen									
2023									
Japan	Southeast Asia, Far East	China	India	Europe	Russia	North America	Middle East, Africa	Middle and South America	Total
¥53,426	¥10,498	¥6,740	¥1,668	¥8,980	¥324	¥2,621	¥2,980	¥317	¥87,559
Millions of yen									
2022									
Japan	Southeast Asia, Far East	China	India	Europe	Russia	North America	Middle East, Africa	Middle and South America	Total
¥53,774	¥10,346	¥6,860	¥1,306	¥8,694	¥481	¥2,283	¥2,790	¥405	¥86,943
Thousands of U.S. dollars									
2023									
Japan	Southeast Asia, Far East	China	India	Europe	Russia	North America	Middle East, Africa	Middle and South America	Total
\$400,110	\$78,621	\$50,478	\$12,497	\$67,258	\$2,430	\$19,633	\$22,319	\$2,381	\$655,731

(7) Information about major customers

No customer accounts for 10% or more of total sales of the Group.

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of
 Yokogawa Electric Corporation:

Opinion

We have audited the consolidated financial statements of Yokogawa Electric Corporation and its consolidated subsidiaries (the "Group"), which comprise the consolidated balance sheet as of March 31, 2023, and the consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies, all expressed in Japanese yen.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of March 31, 2023, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with accounting principles generally accepted in Japan.

Convenience Translation

Our audit also comprehended the translation of Japanese yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made in accordance with the basis stated in Note 1 to the consolidated financial statements. Such U.S. dollar amounts are presented solely for the convenience of readers outside Japan.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in Japan. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the provisions of the Code of Professional Ethics in Japan, and we have fulfilled our other ethical responsibilities as auditors. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Estimation of the total costs of construction contracts	
Key Audit Matter Description	How the Key Audit Matter Was Addressed in the Audit
<p>The Group sells products and provides services related to engineering and maintenance in the Industrial Automation and Control business, which is a core business of the Group. As described in Note 2(p), "Summary of Significant Accounting Policies - Revenue Recognition" to the consolidated financial statements, the Group recognizes revenue based on the progress measured if the progress towards satisfaction of performance obligations for construction contracts related to engineering services can be reasonably measured. Of the total net sales of 456,479 million yen for the year ended March 31, 2023, 200,146 million yen was revenue recognized in accordance with this accounting policy.</p> <p>In addition, as described in Note 2(l) "Summary of Significant Accounting Policies - Provision for Contract Loss" to the consolidated financial statements, an estimated loss on the contract is provided for as a provision for contract loss when it is probable that the estimated total costs of the construction contract will exceed total construction revenue and the excess amount can be reasonably estimated. Provision for contract loss as of March 31, 2023, was 7,380 million yen.</p> <p>The progress towards satisfaction of performance obligations, which is used to recognize revenue for certain construction contracts that contain engineering services, is measured on the basis of the percentage of actual costs incurred up to the end of the year against the estimated total future costs. In addition, the provision for contract loss is calculated by deducting the amount of profit or loss already recognized from the excess, if any, of the total estimated cost of construction over the contract amount. Therefore, the estimation of total costs of construction contracts has a significant impact on both revenue recognition and the calculation of the provision for contract loss.</p> <p>Some construction contracts are large scale and have a wide scope, and others involve a high degree of complexity, such as those requiring advanced system integration. Therefore, events that were not anticipated at the beginning of the construction may occur during the construction period, and conversion costs, such as labor and subcontracting costs as well as expenses related to the event, could be incurred. In such instances, estimating the total costs of a construction contract may involve a high degree of uncertainty.</p> <p>Therefore, we determined that the estimation of</p>	<p>Our audit procedures related to the estimation of the total costs of construction contracts that may affect both the revenue recognition of construction contracts and the calculation of the provision for contract loss included the following, among others:</p> <p>(1) Evaluation of internal controls</p> <p>We tested the design and operating effectiveness of the following controls over the estimation of the total costs of construction contracts.</p> <ul style="list-style-type: none"> Internal controls to monitor the progress of construction with qualitative or quantitative significance on a regular basis in order to keep track of any changes in the status after the commencement of construction and to take corrective measures in a timely manner Internal controls to ensure the reasonableness of the estimated total costs of construction contracts at the commencement of construction and to revise such costs in a timely manner in accordance with any changes in circumstances after the commencement of construction Internal controls to ensure the completeness of the provision for contract loss for the construction contracts of which the estimated total costs will exceed the total construction revenue <p>(2) Evaluation of the reasonableness of the estimated total costs of construction contracts</p> <p>We obtained the relevant documents related to controls that monitor the progress of construction contracts, selected contracts in which the estimated total costs significantly increased or are expected to increase in the future in comparison with the initial total costs estimated at the commencement of construction, and performed the following procedures for the selected construction contracts:</p> <ul style="list-style-type: none"> We assessed the reasonableness of the assumptions used by the Group by making inquiries of the personnel in charge of monitoring the progress of construction regarding their estimates for additional conversion costs, which are labor and subcontracting costs, and expenses that are required to respond to events that cause a significant increase in total construction costs.

the total costs of construction contracts that contain engineering services was a key audit matter as it affects both the measurement of the progress towards satisfying performance obligations, which is used to recognize revenue for certain construction contracts, and the calculation of the provision for contract loss.	<ul style="list-style-type: none"> We compared the estimated total costs of construction with the latest construction schedule plan, the cost calculation sheet, and other related documents to evaluate their consistency. We compared the estimated total costs of construction at the end of the year with the initial estimated total costs of construction at the commencement of construction or with the estimated total costs after the change if there was a change during the year to evaluate the accuracy of the estimated total costs of construction.
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and requires a high level of management judgment because it may be affected by external factors, such as future demand trends and the competitive environment. Therefore, it is determined as a significant assumption.	specialists, we evaluated the appropriateness of the valuation model adopted by management, the appropriateness of the discount rates, the mathematical accuracy of the calculation, and examined whether the present value calculation by management was within an acceptable range developed by the auditor.
As the fair value of intangible assets identified in connection with the business combinations is calculated using a professional valuation model based on information that includes significant assumptions involving uncertainties, we determined that the validity of the fair value measurement in the business combinations was a key audit matter.	

Validity of fair value assessment of intangible assets identified in business combination	
Key Audit Matter Description	How the Key Audit Matter Was Addressed in the Audit
<p>As described in Note 23, "Business Combination - Finalization of provisional accounting treatment for business combinations" to the consolidated financial statements, the Group applied provisional accounting for the business combinations with Insilico Biotechnology AG ("Insilico") and PXiSE Energy Solutions, LLC ("PXiSE") in the previous year during which the Group made them subsidiaries through the acquisition of shares. In the current year, the Group finalized the provisional accounting and revised the original allocation of the acquisition costs.</p> <p>As a result, the preliminary goodwill amount of 3,823 million yen for Insilico decreased by 362 million yen while other intangible assets consisting primarily of technology-related assets increased by 522 million yen. In addition, the preliminary goodwill amount of 5,706 million yen for PXiSE decreased by 3,203 million yen while technology-related assets increased by 3,203 million yen.</p> <p>The acquisition cost must be allocated to the acquired assets and assumed liabilities from the acquired company within one year after the date of the business combination based on the fair value of the identifiable assets and liabilities as of the date of the business combination. In particular, the fair value of intangible assets is determined using a professional valuation model because there is no observable market price. The Group uses the excess earnings method to determine fair value by discounting the future cash flows to be generated in relation to the intangible assets to the present value. The estimation of discount rates requires a high degree of expertise, and its validity can have a significant impact on the calculation of fair values.</p> <p>In addition, the future outlook for sales growth rates included in the forecasts of the future cash flows is subject to uncertainty in the estimates</p>	<p>Our audit procedures related to the validity of the fair value measurement of intangible assets identified in the business combinations included the following, among others:</p> <p>(1) Internal control assessment</p> <p>We tested the design and operating effectiveness of the internal controls related to the allocation of the acquisition costs in the business combinations, including the estimation of the future cash flows of the acquired company and the selection of discount rates.</p> <p>(2) Consideration of significant assumptions included in the forecasts of the future cash flows</p> <p>In order to assess the appropriateness of the future outlook for the sales growth rate included in the future cash flow plans, we performed the following procedures:</p> <ul style="list-style-type: none"> We understood the management estimation process and measures to achieve the business plans and assessed the feasibility of the measures by making inquiries of management and personnel in the relevant departments and inspecting the related meeting minutes. We assessed the appropriateness of the assumptions by comparing them with available external data, such as relevant market statistics. <p>(3) Test of the present value calculated using the excess earning method</p> <p>We evaluated the capabilities, competence, and objectivity of the external experts used by management.</p> <p>In addition, with the assistance of our fair value</p>

Other Information

Management is responsible for the other information. Audit & Supervisory Board members and the Audit & Supervisory Board are responsible for overseeing the Directors' execution of duties relating to the design and operating effectiveness of the controls over the other information. The other information comprises the information included in the Integrated Report (Yokogawa Report), but does not include the consolidated financial statements and our auditor's report thereon. The Integrated Report (Yokogawa Report) is expected to be made available to us after the date of this auditor's report.

Our opinion on the consolidated financial statements does not cover the other information and we will not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Responsibilities of Management and Audit & Supervisory Board Members and the Audit & Supervisory Board for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern in accordance with accounting principles generally accepted in Japan and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Audit & Supervisory Board members and the Audit & Supervisory Board are responsible for overseeing the Directors' execution of duties relating to the design and operating effectiveness of the controls over the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with auditing standards generally accepted in Japan will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with auditing standards generally accepted in Japan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks. The procedures selected depend on the auditor's judgment. In addition, we obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain, when performing risk assessment procedures, an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate whether the overall presentation and disclosures of the consolidated financial statements are in accordance with accounting principles generally accepted in Japan, as well as the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with Audit & Supervisory Board members and the Audit & Supervisory Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide Audit & Supervisory Board members and the Audit & Supervisory Board with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with Audit & Supervisory Board members and the Audit & Supervisory Board, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Interest Required to Be Disclosed by the Certified Public Accountants Act of Japan

Our firm and its designated engagement partners do not have any interest in the Group which is required to be disclosed pursuant to the provisions of the Certified Public Accountants Act of Japan.

Deloitte Touche Tohmatsu LLC
August 10, 2023

Fiscal Year 2022 in Review

Management Topics

April 2022

- Commencement of business of Pharmira Co., Ltd., a joint venture for contract development and manufacturing of active pharmaceutical ingredients and intermediates (Shionogi Pharma/Chiyoda/Taisei/Fujimoto Chemicals/Takenaka/Yokogawa/Nagase & Co.)

May 2022

- Yokogawa acquires Dublix, a provider of optimization technologies for waste-to-energy and biomass power plants

June 2022

- Yokogawa selected as “Noteworthy DX Company for 2022” by METI and the Tokyo Stock Exchange
- Yokogawa joins HAKUTO-R Commercial Lunar Exploration Program as a Supporting Company
- Held the 2022 Annual General Meeting of Shareholders



July 2022

- Yokogawa Digital Corporation established to support DX in manufacturing

September 2022

- Yokogawa acquires Votiva to accelerate ERP business growth in Southeast Asia

February 2023

- Yokogawa acquires Fluence Analytics, a pioneer in digitalizing monitoring of polymerization reaction processes

March 2023

- Factorial Kernel Dynamic Policy Programming (FKDPP) autonomous control AI algorithm takes highest honor in Japan Industrial Technology Awards
- Yokogawa acquires Science Based Targets (SBT) Certification for greenhouse gas emission reduction targets
- Otsuka Chemical and Yokogawa Electric to launch SynCrest Inc., a joint venture targeting the CRDMO business for middle-molecular drugs

After April 2023

- Received Digital Transformation Certification based on guidelines of the Ministry of Economy, Trade and Industry.



Orders Received/R&D/Products & Solutions Topics

April 2022

- Yokogawa to release Equipment/Quality Predictive Detection Tool for SMARTDAC+ paperless recorders and data loggers

May 2022

- Yokogawa and DOCOMO successfully conduct test of remote control technology using 5G, cloud, and AI

July 2022

- Yokogawa Test & Measurement releases AQ6375E and AQ6376E near/mid-infrared band optical spectrum analyzers



August 2022

- Yokogawa completes installation of IoT system for integrated remote performance management at Kenya's Olkaria geothermal complex, the largest in Africa

September 2022

- Yokogawa selected as MAC for construction of Europe's Largest Renewable Hydrogen Plant

November 2022

- Yokogawa to Provide Integrated Control System for Australian Green Hydrogen Project

December 2022

- (Cosmo Oil/Denka/Iwatani/JFE Steel/JNC/KH Neochem/Maruzen Petrochemical/UBE Elastomer/Ube Material Industries/Yokogawa) Signing of MoU on joint study of activities for the realization of a carbon neutral industrial complex in Japan's Chiba Prefecture

January 2023

- Yokogawa Solution Service and NTT Communications to start providing “Autopilot” that enables automatic plant operation with AI that learns from operators, a first in Japan

February 2023

- Yokogawa launches autonomous control AI service for use with edge controllers



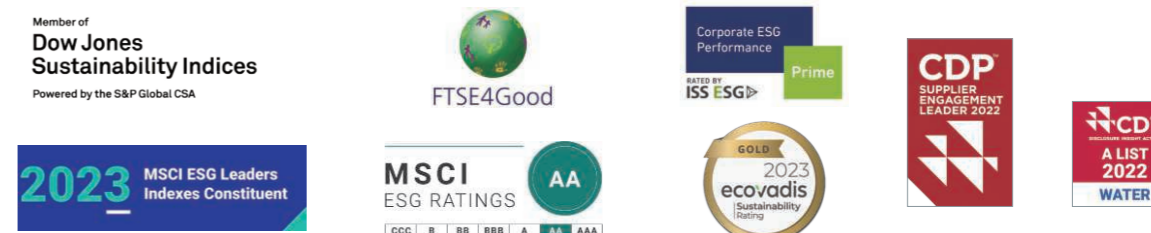
March 2023

- In a world first, Yokogawa's autonomous control AI is officially adopted for use at an ENEOS Materials chemical plant
- Yokogawa releases new software Gas Chromatograph AI Maintenance Support

ESG Indexes

- Included in major ESG indexes

Global



Japan



IR Activities

Major Activities

Major Initiatives	FY2022	Objectives	Contents
For analysts and investors			
Financial results briefings	4 times	Understanding of financial results and management policies and strategies	Quarterly financial results briefings *1 (presentation by the president and the vice president in charge of IR in the 2nd and 4th quarters, and presentation by the vice president in charge of IR in the 1st and 3rd quarters)
Meetings with president	10 times (about 20)		Meetings with analysts and investors in Japan and overseas *1,2 (including small meetings)
Meetings with IR staff	Approximately 350		Meetings with analysts and investors in Japan and overseas *1,2 (Approximately 250 in Japan and 100 overseas)
Business briefings/IR DAY /Sustainability meetings	1 time	Understanding of business	Sustainability initiatives (2019), Industrial automation to industrial autonomy *2 (2020), Bio economy initiatives, *2 and business outline and strategies for the control subsegments “Energy & Sustainability Business/Materials Business/Life Business” and DX goals, results, progress, etc. *2 (2021), the progress of management by industry, E&S Business, and Yokogawa's approach to DX and its Progress *2 (2022)briefings (explanations by directors in charge and members of management team)
Tours of customer/ Yokogawa plants	— *3		Tour of JXTG's Mizushima oil refinery (2018), tour of Singapore office (2018), tours of Suzhou (China) factory and a customer's pharmaceutical plant (2019), and tours of Kofu factory (2013 to 2019)
For individual investors			
IR information email service	12 times	Understanding of efforts to enhance corporate value over medium to long term	Disclosure of information on financial results briefings, business briefings, website updates, etc.
Corporate briefings	— *3		Holding of regular corporate briefings to promote dialogue
Media appearance	1 time		President Nara appeared on Nikkei CNBC's “Top Interview”, a program for individual investors (2023)

*1: Use of teleconferencing *2: Use of remote tools *3: Not implemented after FY2020 due to COVID-19

Evaluations from Outside the Company

Evaluations Related to IR Activities	
Designation as “Excellent Integrated Report” and “Highly Improved Integrated Report” (Government Pension Investment Fund)	Excellent Integrated Report (FY2017 to FY2019, FY2021, and FY2022) Highly Improved Integrated Report (FY2017, FY2018, and FY2021)
Commendation of Annual Securities Report as “Best Practice in Disclosure of Descriptive Information” (Financial Services Agency)	Listed in 5. “Management's Analysis of Financial Position, Operating Results, and Cash Flow (MD&A)” (2) Analysis and Review of Cash Flow Status (FY2020), and 3. “Management Policy, Business Environment, and Issues to be Addressed” (FY2022)
IR Award (Japan Investor Relations Association)	IR Special Award (FY2019 and FY2022)
Internet IR Commendation Award (Daiwa Investor Relations Co., Ltd.)	Excellence Award (FY2013 to FY2015 and FY2018 to FY2020)
All Japanese Listed Companies' Website Ranking (Nikko Investors Relations Co., Ltd.)	Overall ranking : AAA (FY2016 to FY2021 (6 consecutive years)) Overall ranking : AA (FY2013 and FY2015) Overall ranking : A (FY2014)
Gomez IR Site Ranking (BroadBand Security, Inc.)	Silver Award (FY2019 and FY2020) Bronze award (FY2013 to FY2018 and FY2021)

Please visit our website for more details about ESG indexes and evaluations from outside the company.

<https://www.yokogawa.com/about/ir/>

Corporate Data/Principal Subsidiaries and Affiliates/ Stock Information

As of March 31, 2023

Corporate Data

- Corporate Name** Yokogawa Electric Corporation
- President and CEO** Hitoshi Nara
- Headquarters** 2-9-32 Nakacho, Musashino-shi, Tokyo 180-8750, Japan
- Founded** September 1, 1915
- Incorporated** December 1, 1920
- Paid-in Capital** 43,401 million yen
- Number of Employees** 17,084 (consolidated)
2,342 (non-consolidated)
- Subsidiaries and Affiliates** 115 outside Japan, 13 in Japan

Yokogawa Employees Worldwide



Principal Subsidiaries and Affiliates

Japan

- Yokogawa Electric Corporation
- Yokogawa Solution Service Corporation
- YOKOGAWA & Co., Ltd.
- Yokogawa Manufacturing Corporation
- Yokogawa Test & Measurement Corporation

Asia/Oceania

- Singapore**
Yokogawa Engineering Asia Pte. Ltd.
Yokogawa Electric Asia Pte. Ltd.
- Thailand**
Yokogawa (Thailand) Ltd.
- Indonesia**
P.T. Yokogawa Indonesia
- Australia**
Yokogawa Australia Pty. Ltd.

China

- Yokogawa China Co., Ltd.
- Yokogawa Sichuan Instrument Co., Ltd.
- Korea**
Yokogawa Electric Korea Co., Ltd.
- India**
Yokogawa India Limited

North America/South America

- United States**
Yokogawa Corporation of America
- Brazil**
Yokogawa America do Sul Ltda.

Europe/CIS

- Netherlands**
Yokogawa Europe B.V.
- United Kingdom**
KBC Advanced Technologies Limited

Middle East/Africa

- Bahrain**
Yokogawa Middle East & Africa B.S.C.(c)
- Saudi Arabia**
Yokogawa Saudi Arabia Company L.L.C.

Investor Information

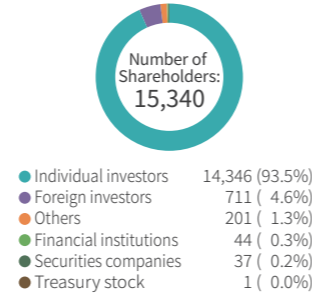
- Number of Shares Authorized** 600,000,000
- Number of Shares of Common Stock Issued** 268,624,510
- Number of Shareholders** 15,340
- Stock Exchange Listing** Tokyo Stock Exchange
- Administrator of the Register of Shareholders** Mizuho Trust & Banking Co., Ltd. 2-8-4 Izumi, Suginami-ku, Tokyo 168-8507, Japan
- Annual General Meeting of Shareholders** The annual general meeting of shareholders of the Company is held in June.
- Accounting Auditor** Deloitte Touche Tohmatsu LLC

Major Shareholders (Top 10)

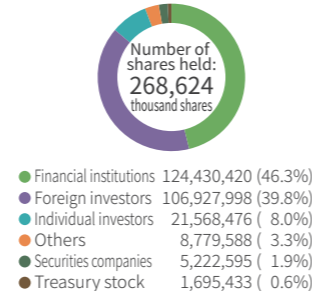
Shareholders	Number of shares held (thousand shares)	Shareholding ratio (%)
Master Trust Bank of Japan Limited (trust account)	59,448	22.3
Custody Bank of Japan, Ltd. (trust account)	19,648	7.4
The Dai-ichi Life Insurance Company, Limited	15,697	5.9
Nippon Life Insurance Company	13,484	5.1
State Street Bank and Trust Company 505223	8,445	3.2
Retirement Benefit Trust in Mizuho Trust & Banking Co., Ltd. (Mizuho Bank, Ltd. account); Custody Bank of Japan, Ltd. as a Trustee of Retrust	6,141	2.3
Yokogawa Electric Employee Shareholding Program	5,001	1.9
BNYM as AGT/CLTS 10 Percent	4,481	1.7
State Street Bank West Client-Treaty 505234	4,286	1.6
BBH (LUX) for Fidelity Funds-Global Technology Pool	4,273	1.6

Notes: 1. The Company holds 1,695 thousand shares of treasury stock.
2. The shareholding ratio is calculated after deducting treasury stock.

Shareholders by Category



Shareholding by Category



Editorial Policy

This report is designed to provide shareholders, institutional investors, and other stakeholders with an integrated understanding of Yokogawa Group's efforts to realize a sustainable society and increase corporate value over the medium- to long-term in the context of its value creation story.

In our editorial work, we draw on the International Integrated Reporting Framework advocated by the Value Reporting Foundation and, since 2019, the Guidance for Collaborative Value Creation (Comprehensive Disclosure and Dialogue Guidance for Collaborative Value Creation) advocated by the Ministry of Economy, Trade and Industry. This report is made in collaboration with multiple organizations. We are also working to improve and expand our disclosure by incorporating comments received from external evaluation organizations and other sources, as well as feedback received through dialogue with shareholders and institutional investors.

The first half of the report explains the current state of Yokogawa. We have tried to make the information easy to understand so that you can deepen your understanding of what kind of value we provide to our customers and what kind of strengths we have, and we have tried to enhance the content by introducing specific examples of our initiatives.

In the latter half of the report, we present our medium- to long-term growth strategy for sustainable growth, its progress and results, and share with you the future of Yokogawa as a company that will grow sustainably by leveraging our strengths. In addition, we have enhanced the report to give readers a more lively sense of Yokogawa by having the management members talk directly about management capital, which is the foundation for value creation, corporate governance, which is the mechanism that supports and ensures sustainable growth, and risk management.

We hope this report will be a useful and valuable tool that helps you understand the Yokogawa Group's contributions to realizing a sustainable society and our initiatives for enhancing corporate value.



Positioning of this report



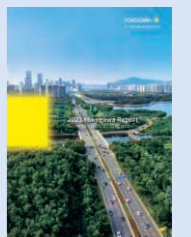
Further information is available on our website:

- Website of Yokogawa Electric Corporation:** <https://www.yokogawa.com/>
- Investor Relations website:** <https://www.yokogawa.com/about/ir/>
- Sustainability website:** <https://www.yokogawa.com/about/sustainability/>
- Corporate Governance website:** <https://www.yokogawa.com/about/ir/governance/>
- Yokogawa Report website:** <https://www.yokogawa.com/about/ir/reports/annual/>

Cover Concept

The cover expresses that Yokogawa is a company that:

- is directly linked to the SDGs and contributes to solving social issues, and
- fulfills a role to "connect" customers and society as a whole.



Yokogawa Electric Corporation

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