

Chapter

4

Business Strategies

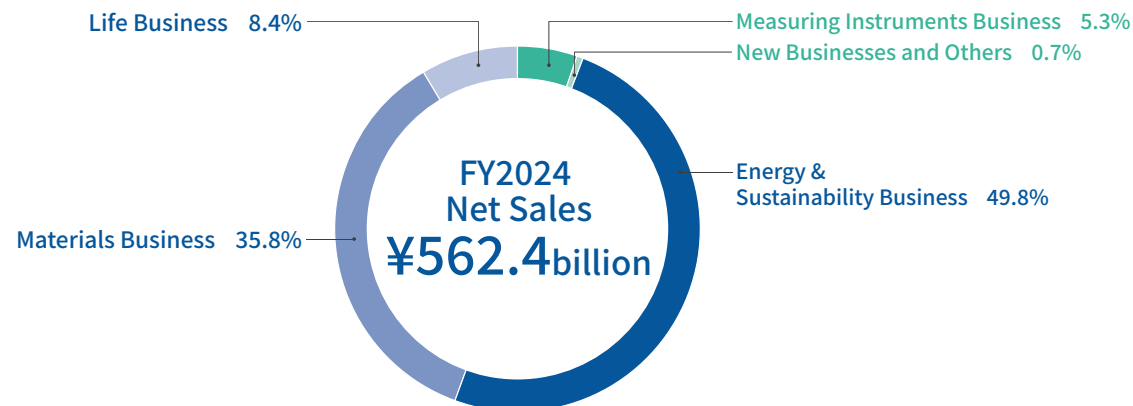
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Yokogawa's Business Portfolio

The Industrial Automation and Control Business is Yokogawa's mainstay, serving customers in a wide variety of industries, and it has the following three business subsegments: Energy & Sustainability, Materials, and Life.

The Measuring Instruments Business has been an integral part of Yokogawa's business since the Company's inception. We have contributed broadly to industrial and technological development by providing measuring instruments, which are known as the mother tools of industry, as well as measurement solutions.

With its New Businesses and Others segment, Yokogawa is venturing into new fields.



*From fiscal year 2024, the water business was reorganized from part of the Life Business to the Energy & Sustainability Business. Accordingly, the figure for the Energy & Sustainability Business in the graph above includes the water business.

Industrial Automation and Control Business

Energy & Sustainability Business

- Renewable energy
- Oil and gas (Upstream)
- Refining, petrochemicals (Downstream)
- Power
- Energy management systems (EMS)
- Energy storage
- Water & wastewater, industrial water

Materials Business

- Specialty and fine chemicals
- Biochemicals
- Fertilizers
- Mining & metals
- Mobility
- Electrical machinery, electronics & semiconductors
- Iron & steel, nonferrous metals
- Pulp & paper
- Fibers & textiles

Life Business

- Pharmaceuticals
- Healthcare
- Food & beverages

Measuring Instruments Business

- Energy
- Communications
- Healthcare

New Businesses and Others

- Imaging AI & IoT
- Bio-related
- Contract research, development, and manufacturing of active pharma ingredients, etc.



Yokogawa's Products and Solutions

Industrial Automation and Control Business Energy & Sustainability Materials Life

We provide products, services, and solutions that span every level of activity, from the collection of data generated in the field to the optimization of corporate management.

OpreX™

OpreX is the comprehensive brand of Yokogawa's Industrial Automation and Control Business.

IT
Information Technology

Level 4
Corporate management



Corporate strategy planning



Production planning optimization



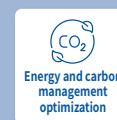
Feedstock Purchasing optimization



Supply chain and logistics optimization



ERP



Energy and carbon management optimization



Security

Level 3
Manufacturing execution control



Production management and optimization



Advanced control and optimization



Quality management and optimization



Asset lifecycle optimization



Safety management



Operational risk management

Collaborative information server
Yokogawa Cloud Industrial cloud applications and solutions

Level 2
Production control and safety systems



Distributed control systems (DCS)



Safety instrumented systems (SIS)



Edge controllers and programmable logic controllers

OT
Operational Technology

Level 1
Data generation and collection

Field instruments, Pressure, differential pressure, and temperature transmitters, Wireless transmitters, Coriolis, magnetic, and vortex flowmeters

Process analyzers
Process gas chromatographs

IIoT wireless sensors

Data acquisition systems
Paperless recorders and data loggers

Film/sheet thickness gauges

Distributed temperature sensors

Supporting customers across the equipment lifecycle to address business challenges and maximize business value

Consulting

Design & engineering
system integration

Installation

Training

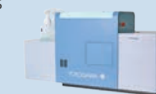
Lifecycle services

Life Business (Life Science)

This business segment supports bio-related food and pharmaceutical research & development through the provision of products and solutions that aid cell analysis.



Confocal scanner unit



High-Content Analysis System

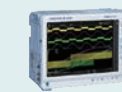


Subcellular sampling system

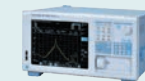
Measuring Instruments Business

This segment offers a broad range of measuring instruments and services that are essential for the benchmarking and optimization of customers' products and technologies.

Products of Yokogawa Test & Measurement Corporation



ScopeCorders



Optical spectrum analyzers



Precision power analyzers

New Businesses and Others

Businesses in this segment include IIoT-based services.

Products and services of amnimo Inc.

AI edge gateways



Edge gateway (outdoor type)

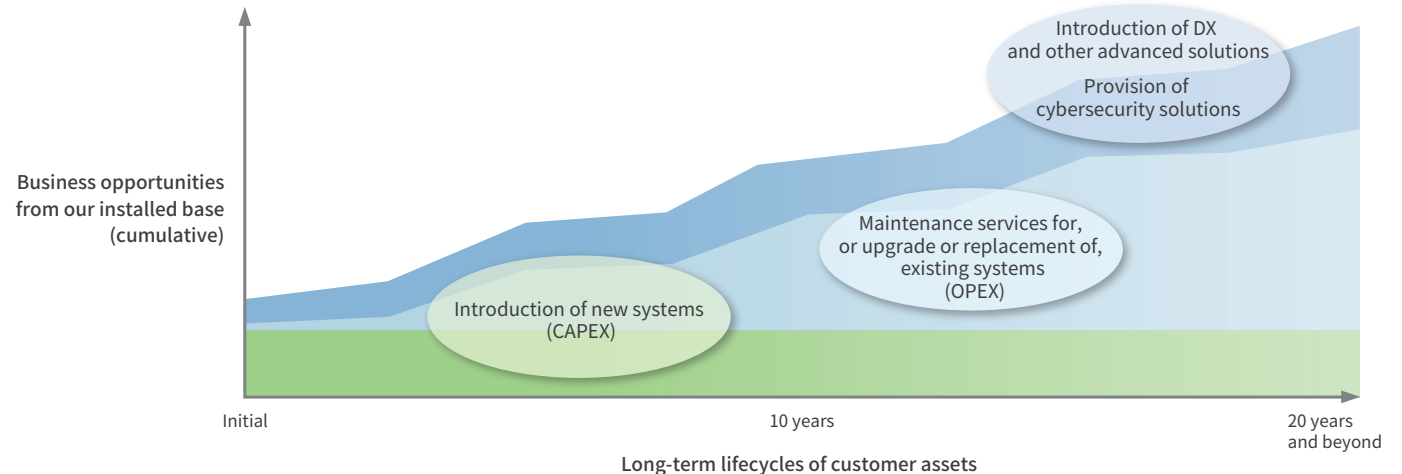


Business Model of Industrial Automation and Control Business

Partnering with Customers to Build a Business Foundation with Long-Term Stability and Forge New Business Opportunities

Our customers operate plants whose asset lifecycles are long, spanning 10 to 20 years or more.

As a partner they can rely on, Yokogawa provides services and solutions for long-term stable operation throughout these long lifecycles. We also continue to support customers' operation by further productivity improvements and optimization driven by leading-edge DX and advanced solutions, as well as by offering cybersecurity solutions to meet growing needs. These relationships of trust we have built with our customers over the years have served as a stable foundation for our business operations and have led to the development of new business opportunities.



Services Provided by Yokogawa

Consulting



As a company specializing in manufacturing, Yokogawa analyzes problems that individual customers face and proposes solutions leveraging its outstanding expertise while also applying its solid methodology and meticulous attention to detail.

Project delivery



With outstanding project execution capabilities developed through a wealth of project experience in countries around the world, as well as advanced system integration capabilities enabling IT/OT convergence, we bring projects, ranging from small to large and complex, to successful completion.

Training



We provide comprehensive training programs that enable effective acquisition of the knowledge on measurement, control, and information that is needed to operate plants. In addition to hands-on training focused on actual work, we also offer e-learning courses.

Lifecycle services



To ensure the long-term stable operation of customers' plants, we provide solutions for maintaining and enhancing the soundness of these plants and help to drastically enhance efficiency in their service and maintenance work.



Service Structure of Industrial Automation and Control Business

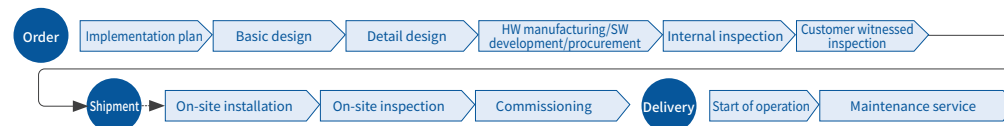
Outstanding Project Execution Structure and Global 24-7 Service Network



Global Delivery Structure Ensuring Project Execution

Yokogawa's project delivery is supported by three types of organizations operating hand in hand: (1) ten regional centers in Japan and overseas that perform contractual obligations at the front line of customer engagement; (2) Global Delivery Centers that work together with the regional centers to offer efficient, high-quality engineering services; and (3) the global headquarters, which spearheads the control and standardization of operations. This structure has enabled us to build a strong track record in delivering projects, small and large, with globally consistent quality. Harnessing our excellent project execution capabilities underpinned by extensive experience and system integration capability enabling IT/OT convergence, we bring all projects to completion regardless of their size or contractual complexity.

<Project Delivery Flow>



Global 24-7 Service Network

Response Centers

We offer a reliable support system through a network of nine Regional Response Centers (RRCs) worldwide and local service engineers in respective countries, with the Global Response Center (GRC) at the global headquarters in Musashino, Tokyo, at its core.

Security Operation Centers & Competence Laboratories

Through a full line of IT and OT security services ranging from the remote monitoring of security conditions of customers' plants to assessment, prevention, and incident response, our Security Operation Centers (SOCs) have a structure in place to speedily provide services that address a wide range of issues concerning customer assets.

In addition, our Security Competence Laboratories (SCLs) conduct OT security validation by combining the latest OT knowledge with Yokogawa systems, and perform monthly verification tests to assess the impact of the latest OS patches and antivirus pattern files on our products, thereby supporting the delivery of reliable security services.

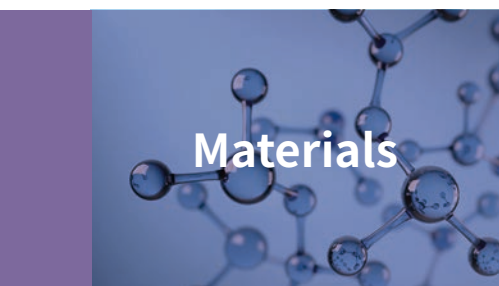
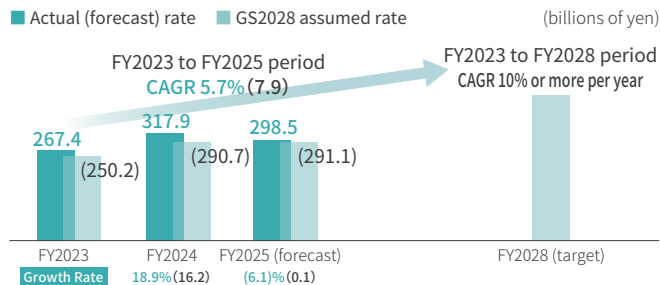


Review of the GS2028 Business Strategies

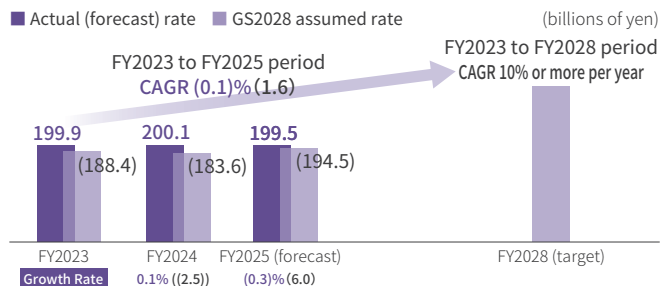
Trends in Orders by Segment



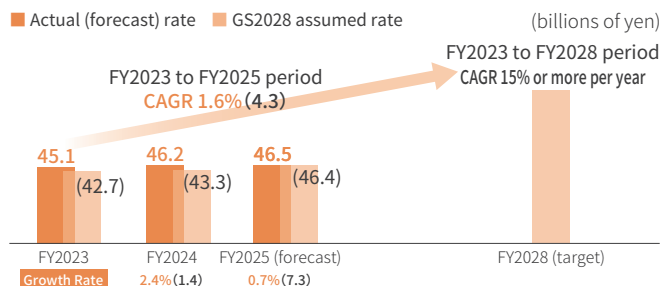
Energy & Sustainability



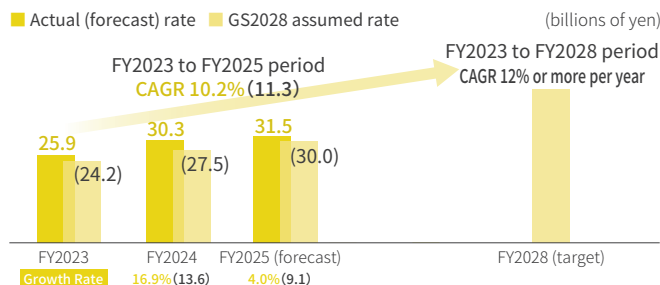
Materials



Life



Measuring Instruments



Exchange rates (US\$1)	FY2023 Actual	FY2024 Actual	FY2025 Forecast	GS2028 Planned
	¥145.31	¥152.55	¥140.00	¥130.00

Achievements and Results

- Accurately identified diversifying customer needs including cybersecurity, labor-saving measures, safety enhancement, and emissions reduction, and significantly outperformed order plans, primarily in the oil and gas fields
- Steadily enhanced solution delivery value through M&A and strategic partnerships, including the acquisition of BaxEnergy and investment in GridBeyond

Future challenges

- Accelerate differentiation from competitors and new product launches to contribute to customers' business transformation
- Recruitment of highly skilled professionals with expertise and experience to expand new solutions such as System of Systems, as well as L3 business

Achievements and Results

- Although field instruments struggled due to the impact of China's economic slowdown, businesses including control systems and solution-oriented businesses performed steadily
- Global business grew in the chemical sector driven by the global application of Japanese expertise, including the acquisition of major projects in India
- Performed steadily in the mining sector, supported by outcomes of global CoE*1 activities, with growth centered in Australia, South America, and the Middle East

Future challenges

- Development of new business with mid-sized and small potential customers globally, in addition to major chemical manufacturers, through expansion of channel partnerships
- Strengthening of global sales structure and proposal capabilities in industry domains where our core strengths can be leveraged

*1 CoE: Center of Excellence (an organization that brings together people and know-how to promote projects)

Achievements and Results

- Achieved record-high orders and sales for life science products
- Accelerated global deployment of successful domestic L3/L4 businesses
- Developed and launched new products, including CellVoyager High-Content Analysis System CQ3000 and OpreX Quality Management System

Future challenges

- Strengthening of bio-business activities through offerings such as the Bio-Digital Twin*2 and OpreX Bio Pilot*3

*2 A simulation technology for optimizing bioprocesses by modeling cellular metabolism

*3 A tool that supports process developers in solving challenges and promoting standardization and automation

Achievements and Results

- The launch of new products for the optical communication device market, centered on the continuing boom in AI data center demand, contributed to increased orders
- Orders for power analyzers and ScopeCorders were steady in growing markets such as automotive electrification and consumer electronics
- Transition from product-based to solution-based sales through the deployment of handbooks (approximately 50 types) summarizing examples of issues and solutions in each industry made successful contribution
- Orders for optical spectrum analyzers supporting a wide wavelength range recovered, in response to R&D investments in laser devices used in healthcare and environmental analysis

Future challenges

- Timely acquisition of information and responsive action to follow the decentralization of customer production bases previously concentrated in China

* Figures in parentheses are based on GS2028 rates. From fiscal year 2024, the water business was reorganized from the Life Business to the Energy & Sustainability Business. The results of the water business in fiscal 2023 are included under the Energy & Sustainability Business.

* L1: Data generation and collection level, L2: Production control and safety system level, L3: Manufacturing execution control level, L4: Corporate management level



Industrial Automation and Control Business

Energy & Sustainability Business

Vision

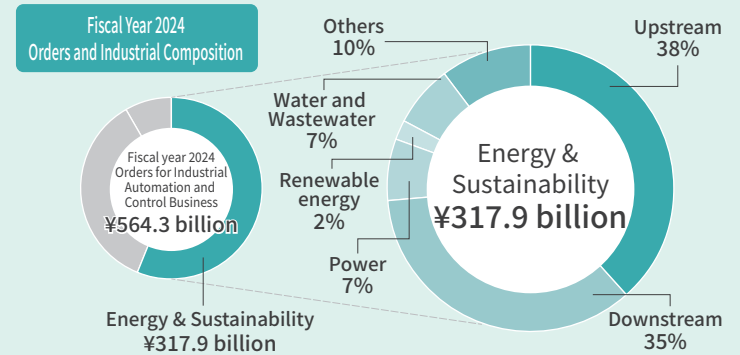
Our business contributes to realizing a resilient and sustainable society and to enhancing corporate value by supporting safe and optimal operations of the entire value chain of production, supply, utilization and recycling of diversified energy and water.

Business Overview

Our business covers the entire energy supply chain, ranging from the production, refining, and transportation of oil & gas to the optimal control of electricity and renewable energy generation facilities and power transmission and distribution networks. By supporting our customers to operate safely and optimally across their energy value chains, we help address the continuing increase in energy demand and contribute to the creation of a low-carbon society. At the same time, we also make contributions to water business, which is essential for people's well-being (a prosperous life for all).

Yokogawa's Strengths

- Integration capabilities in comprehensive systems including other companies' products, and excellent project execution capabilities
- A globally distributed, large installed base and long-term relationship of trust with customers
- Solutions that can contribute to energy transition across customers' entire value chains



Initiatives for GS2028

Strategy Overview

In the oil & gas field, which accounts for approximately 70% of the orders received in this business, a stable demand increase is expected until around 2040, driven by heightened awareness of energy security and population growth. Particularly in the LNG sector, investment activity remain strong, as it serves as a base energy source that complements renewable energy. It continues to be our key focus industry.

In the low-carbon energy field, we leverage the expertise of acquired companies to support the utilization of renewable energy and the commercialization of clean energy, while contributing to our customers' business transformation tailored to the policies and regional characteristics of respective countries. In particular, CCS*¹ and CCUS*², which are primarily requested by existing oil & gas customers, are considered the closest to commercialization, and we are focusing on their development.

In the water field, we aim to expand our business by emphasizing innovative solutions, including leakage management for non-revenue water*³ reduction and water recycling, in addition to water distribution and desalination of seawater.

Furthermore, we seek to broaden our portfolio and achieve overall business growth through the acquisition of new expertise in specialized areas and the expansion of sales channels.

Key Measures

		Market	
		Existing	New
Products & solutions	New	Accelerate the deployment of solutions that utilize our capabilities in the consulting, IT, and OT areas • Apply our consulting capabilities and simulation technology for the downstream market, construct a system for value chain optimization and realize value provision through SoS • Provide MES-ERP to enable better visualization and management of logistics and inventory for customers in the energy industry • Propose productivity improvement and optimization through autonomous control AI (FKDPP*⁴), supporting customer operations.	Expand solution offerings for the renewable energy and water markets • Further capitalize on the products and technologies of the products and technologies of the acquired companies and enhance regional office sales structure • Make a full-scale entry into the facilities management business that helps customers operate their facilities safely and optimally. • Globally expand the water business
	Existing	Maintain strong relationships with existing oil & gas customers to expand business and capture needs in growth areas • Support the energy transformation (EX) of customers aiming to transform themselves from IOCs to integrated energy companies (IECs) • Expand business in the Indian and African markets, where high growth is expected • Leverage the installed base to further strengthen the OPEX business • Expand business in the fields of low-carbon hydrogen (hydrogen with low-CO₂ emissions during production, transportation, and use, produced utilizing renewable energy, CCS or CCUS) and hydrogen derivatives (such as ammonia and methane)	

*1 CCS: Carbon dioxide Capture and Storage *2 CCUS: Carbon Capture, Utilization and Storage *3 Non-revenue water: Water that has been produced and is lost before reaching the customer due to leaks, theft, or metering inaccuracies. It represents a major challenge for utilities in improving efficiency and reducing costs. *4 FKDPP: Factorial Kernel Dynamic Policy Programming, an algorithm jointly developed by Yokogawa Electric Corporation and the Nara Institute of Science and Technology (NAIST)



Energy & Sustainability Business

	Business Opportunities and Risks	Key Measures and Focus Regions	GS2028 Achievements and Challenges to Date
Upstream/Downstream CAGR target of 5% or more	Business Opportunities - Forecasted increase in total project investment, with growing demand and investment in LNG as a long-term base energy source - Successful materialization of carbon-neutral investments, such as CCS/CCUS, achievable alongside oil & gas production - Increased investment in DX for operational efficiency improvement, unmanned and remote operations, and other purposes (especially for cybersecurity enhancement) Risks - Global recession concerns - Intensifying price competition in new projects (particularly in North America, India, and China)	Key Measures - Focusing on CAPEX project orders driven by strong demand and investments. Prioritizing gas and LNG sectors, due to their particularly high demand - Supporting energy transformation of customers transitioning from IOC to IEC - Strengthening the OPEX business through collaboration with the Solution Services Division - Expanding know-how gained from AI and digital transformation (DX) projects, mainly in the Middle East, to other regions. Focusing on the global deployment of the autonomous control AI (FKDPP) - Building a system to optimize the value chain and delivering value through System of Systems (SoS) Focus Regions Middle East, Southeast Asia, North America, India, China	Achievements - Secured multiple large-scale projects primarily in the Middle East - Implemented cybersecurity and management systems for thermal power plants in India - Introduced a predictive emission monitoring system across ten gas fields scattered in the Middle East, contributing to human workload reduction and net-zero emissions Challenges - Further strengthening our proposal capabilities to secure CAPEX in regions with intense price competition
Low carbon energy	Business Opportunities - Achievement of low-carbon in the oil & gas sector - Promotion of the practical application of low-carbon hydrogen and low-carbon ammonia - Focus on the adoption of CCS/CCUS technologies for capturing, utilizing, and storing CO₂ Risks - Lowered investment appetite due to delays in technology development and high costs - Concern over stagnation of government support	Key Measures - Focusing on CCS/CCUS projects by leveraging oil & gas installed base - Supporting the decarbonization of current hydrogen production and utilization plants - Promoting initiatives to improve efficiency among multiple industries that are beneficial to achieving low-carbon emissions (cross-industry collaboration) Focus Regions Europe, North America, China, Australia	Outcomes - Order received for FEED*1 related to control, telecoms, and overall system integration for the Aramis Project, the largest carbon capture and storage project in northwest Europe Challenges - Responding swiftly to customers' technological innovations and low-cost requirements
Renewable energy CAGR target 20% or more	Business Opportunities - Diversification of regions, customers, applications, and so forth - Need for optimal utilization of power generation facilities to enhance operational efficiency and profitability Risks - Business withdrawal and postponement of FID (final investment decision) due to high costs attributed to inflation - Concern over stagnation of government support	Key Measures - Further increasing our market share in waste and biomass power plants by leveraging the products and technologies of the acquired companies - Providing comprehensive solutions, including L3 solution, and expanding business into solar power, wind power, and batteries - Implementing further portfolio expansion while allocating dedicated personnel at each location to support global business expansion Focus Regions Japan, Europe, Southeast Asia, North America, India	Achievements - Further expanded our business into the L3 solution domain - Provided an integrated automation, energy control and monitoring system for green hydrogen production and storage pilot plant at CrossWind's offshore wind power farm in Europe Challenges - Increasing global recognition and market share - Addressing lack of resources for large-scale projects
Water and Wastewater CAGR target 10% or more	Business Opportunities - Improvement of water infrastructure facilities such as water leakage management toward reduction of non-revenue water - Growing need for measures against per- and poly-fluoroalkyl substances (PFAS) - Activation of initiatives to utilize reuse water as a source of green hydrogen production and supply Risks - Many competitors exist in each region and country - Concern over stagnation of government support	Key Measures - Developing the water PPP (Public-Private Partnership) market in Japan - Further strengthening presence in seawater desalination projects - Developing the market for water leakage management in Southeast Asia - Increasing our share of the water market by leveraging the acquisition of Adept Fluidyne Pvt. Ltd., a flowmeter manufacturer in India Focus Regions Japan, Middle East, North America, Southeast Asia, Australia	Achievements - Delivered CI servers, Exaquantum, etc. to 10 sites of Melbourne Water. Concluded a 7-year long-term service contract - Acquired price competitiveness in the low-priced water market through the purchase of Adept Challenges - Increasing global recognition and market share - Establishing an organizational structure for expanding the global market

Topic Acquisition of BaxEnergy, a provider of renewable energy management solutions

In June 2024, the Company acquired BaxEnergy, a company providing renewable energy management solutions. This acquisition has enabled us to offer comprehensive support to customers with power generation facilities worldwide, covering everything from consulting and implementation to after-sales services. Additionally, in May of the same year, we launched "Farsight," the industry's first freemium*2 asset management service, which has already begun securing major contracts. Starting with renewable energy, the company is accelerating its digital transformation (DX) business, establishing a new pillar for growth.

Six Contribution Areas and Focus Areas toward Achieving the Three Goals

The main initiatives of the Energy & Sustainability Business are particularly linked to "Achieving carbon neutrality" and "Improving health and safety," among the six contribution areas. Our focus areas are threefold: (1) **Expanding value delivery for renewable energy market;** (2) **supporting utilization of clean energy (low-carbon hydrogen and ammonia);** and (3) **providing new value for water-related area (reuse water, PFAS).** We will redouble our efforts to enhance corporate value so that achieving our business goals will also contribute to society and the environment.



*1 FEED: Front End Engineering Design, basic design that takes place after the conceptual design and feasibility study during the project initiation phase

*2 Freemium: A revenue model that offers basic services and products for free, while providing more advanced services and products for a fee

Industrial Automation and Control Business

Materials Business

Vision

We will contribute to the realization of a convenient and comfortable material society and a recycling-oriented society that can coexist with the global environment, helping customers in the materials and other industries transform their business by building on the relationships of trust we have developed with them.

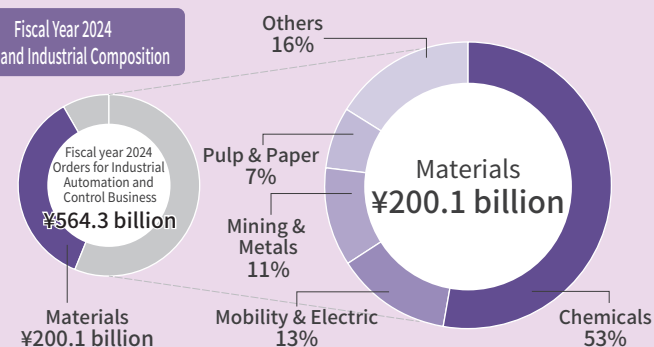
Business Overview

Our business covers a broad range of industries centered on materials. We serve both existing markets, including chemicals and mining, and new markets such as EVs, batteries, semiconductor materials, and logistics by combining products, services, and solutions to meet their respective needs. Our business contributes to the realization of a new circular society that enables both the development of a comfortable society and coexistence with the global environment. It provides solutions to customer challenges such as efficient energy use in production processes, recycling, and the shift to environmentally friendly materials.

Yokogawa's Strengths

- High-quality, high-reliability sensors and measuring instruments, along with ability to make proposals that lead to solutions of complex challenges and ability to execute, including engineering (IT/OT convergence)
- A large installed base combined with a globally integrated sales and service structure
- Extensive experience and know-how across various industries, cultivated through long-term partnerships with world-leading companies, including Japanese chemical companies

Fiscal Year 2024
Orders and Industrial Composition



Initiatives for GS2028

Strategy Overview

Building upon growth in existing markets, we will aggressively approach new markets aiming for a CAGR of 10% or more both in orders and net sales, including inorganic growth achieved through M&A. Specifically, we will endeavor to further expand the customer base with focus on the chemical industry, which accounts for half of our net sales. This will be achieved by providing smart manufacturing and IA2IA solutions (including batch solutions) to customers, and leveraging channel sales, through an approach to identifying and resolving customer challenges. In the mining industry, where market growth is expected, demand for mineral resources, which are used in storage batteries and other applications, is on the rise against the backdrop of decarbonization. Among this area, Yokogawa's strength in measurement and control can be leveraged for DX, environmental impact mitigation, safety, and remote operation. To capitalize on this industry trend, we will aim for business expansion by providing solutions that allow for such improvements as the optimal, automated operations of mining. Furthermore, as a new market, we will strive to develop business by expanding into mobility-related customers such as those in the EVs, batteries, and semiconductor materials industry, and by optimizing the supply chain (including logistics) in the materials industry.

Key Measures

		Market	
		Existing	New
Products & Solutions	New	Expand value through consulting and solution-based business • Enhance batch solutions for mid-sized customers in the specialty chemicals market • Expand DX solution offerings for mining customers • Expand energy management and decarbonization solutions that utilize manufacturing data	Optimize enterprise supply chains, including logistics • Optimize logistics and other parts of the supply chain for enterprises in the fields including EVs, batteries, and semiconductor materials
	Existing	Realize the expansion of the customer base in the chemical and mining industries • Increase penetration of Yokogawa technologies and solutions among mid-sized companies • Expand distribution and sales channel partners	Leverage our foothold in the chemical industry to develop solutions for the EV, battery, and semiconductor material fields • Deploy products and solutions for the industries, making the most of Yokogawa's comprehensive capabilities, including its products and measuring instruments



Materials Business

	Business Opportunities and Risks	Key Measures and Focus Regions	GS2028 Achievements and Challenges to Date
Chemicals CAGR target 10% or more	Business Opportunities - Steady CAGR is projected across the chemical industry through 2030, driven by growth in the Specialty and Fine Chemicals field - Increasing demand for high-mix, low-volume production (batch manufacturing) - Acceleration of initiatives for decarbonization, including the development of recycled materials and related technologies Risks - In the chemical industry as a whole, trends primarily among DCS vendors - In Specialty and Fine Chemicals (batch production), in addition to global competition with DCS vendors, small-scale systems also face global competition from PLC vendors	Key Measures - Broadening the customer base, especially in overseas markets - Enhancing batch solutions for the Specialty and Fine Chemicals market to win mid-sized customers Focus Regions Japan, China, South Korea, Southeast Asia, India, Europe, and the United States	Achievements - Deployment of MES (Manufacturing Execution System) tailored for batch manufacturing in the chemical industry (OpreX Batch MES), and portfolio enhancement - Globally leveraged expertise from Japan. This led to increased orders, including a major project in India, through network-building activities and other initiatives Challenges - Expansion of batch production and small-to-medium-sized business operations - Extending coverage to L3/L4 layers to support IT/OT convergence - Expanding the channel partner network
Mining & Metals CAGR target 10% or more	Business Opportunities - Demand for mineral resources—including copper and rare metals—is increasing, primarily driven by the expansion of EVs and storage battery applications. The market remains buoyant, with continued growth in overall size. - Growing need for optimized and autonomous operations across entire mining sites. This includes enhanced safety, advanced control and maintenance, and remote operation capabilities. Risks - Trends among competitors (PLC vendors with strong capabilities in the equipment industry, major vendors with longstanding expertise in the heavy electrical field, etc.)	Key Measures - Expanding our customer base - Expanding the provision of DX solutions Focus Regions Australia, South America, the Middle East, Southeast Asia, and Africa	Achievements - Contributing to both the establishment of a Mining Center of Excellence (CoE) and the expansion of business, including increased order intake - Secured orders for solution projects from multiple clients in South America - Accelerated the development of end-to-end optimization solutions, covering all processes from mining to shipment Challenges - Strengthening global account capabilities - Mining industry solutions (Proven track record in AI applications) - Increasing industry recognition through academic-industrial collaboration

Topic Toward the Future of Smart Mining Minera Arqueros Copper Mine Project in Chile



Yokogawa has been selected as a partner in the copper mine project implemented by Compañía Minera Arqueros S.A., a group company of Nittetsu Mining Co., Ltd. We will be providing DCS (Distributed Control System) to ensure the safe and efficient operation of the entire plant. Yokogawa was chosen for its high reliability and flexibility, as well as our emphasis on on-site dialogue. We are also supporting the development of human resources in preparation for the start of operations.

In this project, Minera Arqueros plans to introduce technology to enable the reuse of approximately 80% of the process water, and the company is working to ensure environmentally-friendly operations. Yokogawa will partner with and support the customer aiming to operate mines in a sustainable manner and live in harmony with local communities. In this way, we aim to realize a recycling-oriented society that can coexist with the global environment.



Minera Arqueros plant under construction
The commercial operation is scheduled to start during FY2026
(Taken in May 2025; photo by Compañía Minera Arqueros S.A.)

Chosen for its Trustworthiness and Flexibility, Yokogawa

We first considered cost-effectiveness to compare multiple companies, but the next priority was whether the partner was flexible and trustworthy. Yokogawa listened to our needs and presented various proposals throughout the process. That helped build a deep level of trust. In addition, Yokogawa's proven track record of improving operations at other mining sites in Chile, where systems are currently operating smoothly, was also a strong point.



Mr. Yoshiharu Tsukayama
Chief Executive Officer at
Compañía Minera Arqueros S.A.



Mr. Omar Fernandez
General Project Manager at
Compañía Minera Arqueros S.A.

Six Contribution Areas and Focus Areas toward Achieving the Three Goals

The main initiatives of the Materials Business are particularly linked to “Achieving carbon neutrality,” “Improving efficiency in society & industry,” and “Creating a resource-recycling ecosystem,” among the six contribution areas. Our focus areas are threefold: (1) supporting decarbonization in the materials industry (chemicals and steel); (2) optimizing the mobility supply chain; and (3) promoting the supply and utilization of sustainable materials. We will redouble our efforts to enhance corporate value so that achieving our business goals will also contribute to society and the environment.



Industrial Automation and Control Business

Life Business

Vision

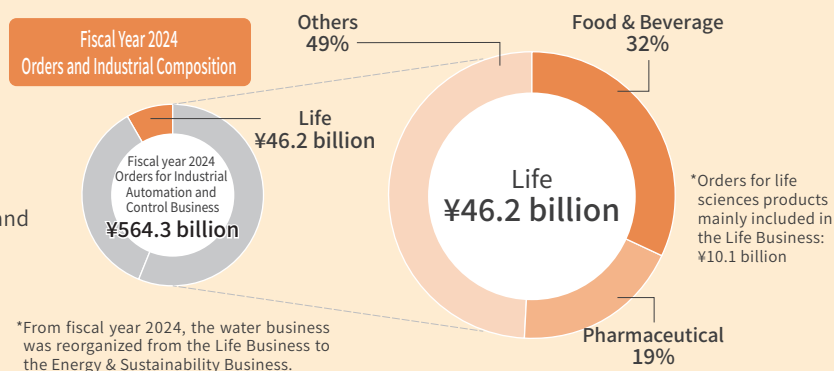
We will lead the world in advancing "Bio Industrial Autonomy (BIA)" and contribute to a future embracing global harmony.

Business Overview

We engage in business serving the life sciences, pharmaceutical, food & beverage, and bio industries. The growing global population is expected to put a strain on the production and supply of food. Demand for pharmaceuticals is also rising steeply. We contribute to the supply of pharmaceuticals that save people's lives and health, and safe food everyone can eat with peace of mind. The Life Business provides solutions that support people's lives and protect their health and safety.

Yokogawa's Strengths

- Relationships of trust built working side by side with customers and a strong track record in Japan
- The ability to make effective proposals possessed by our personnel who also have extensive knowledge and insights and fully understand characteristics unique to individual customers.
- A wide-ranging portfolio of products that help resolve customer challenges.



Initiatives for GS2028

Strategy Overview

We expect that the markets for our business serving the life sciences, pharmaceutical, food & beverage, and bio industries will continue to grow stably, especially overseas. To expand our market share and increase sales as these markets grow, we will place the highest priority on enhancing the marketing capabilities of overseas bases and expediting product and solution development for the Life Business overall. As part of this effort, our overseas bases will be allocated more specialists in specific fields (SME*¹) and sales staff and provided with greater support from global headquarters with a view to business expansion. In particular, we are strengthening the global rollout of our L3/L4 problem-solving solution business, which has been successful in Japan. Moreover, to expand business not only in existing markets but also into new markets, we will work to broaden our product and solution portfolio through M&A and alliances, on top of development and functional upgrades. Earning even greater trust from customers while increasing our visibility in the market through these initiatives, we will do our utmost to achieve the GS2028 targets.

Key Measures

		Market	
		Existing	New
Products & solutions	New	Provide value through problem-solving solutions • Expand the provision of laboratory automation solutions for experimentation and testing • Create new value by connecting R&D and production processes • Develop products that support life sciences research, and also develop sales channels	Create new value by developing new technologies for the growing fields of biotechnology and regenerative medicine • Expand life sciences-related business by targeting the personalized medicine market • Take on the challenge of developing business in new areas such as regenerative medicine and bio-DX
	Existing	Accelerate our penetration and activities with industry-leading companies • Intensify sales activities for life sciences products (e.g., CSU*² and HCA*³) • Solidify our businesses serving the pharmaceutical and food & beverage industries in Japan	Establish the Industrial Automation and Control Business overseas and expand sales activities for life sciences products • Establish the Industrial Automation and Control Business in the pharmaceutical, food & beverage, and bio industries, and provide comprehensive solutions (L1 through L4) for entire factories • Increase the number of subject matter experts (SMEs) and salespeople in the regions

*1 SME: Subject Matter Expert (an expert in a specific industry)

*2 CSU: Confocal Scanner Unit *3 HCA: High Content Analysis

Life Business

	Business Opportunities and Risks	Key Measures and Focus Regions	GS2028 Achievements and Challenges to Date
Food & Beverage and Pharmaceutical CAGR target 15% or more	Business Opportunities ● Rising need for data integrity compliance ● Growing momentum toward continuous processing to enhance production efficiency ● Emerging markets relating to regenerative medicine and peptide-based therapies ● Progress of remote operations, automation, autonomization, and digital transformation (DX) ● Expansion of the biopharmaceutical market Risks ● Presence of global suppliers among major Western manufacturers, alongside numerous small and mid-sized regional players ● Presence of overseas market leaders specializing in information systems	Key Measures ● Establish overseas IA business ● Provide comprehensive solutions (L1 through L4 products) that cover entire factory operations ● Accelerate global rollout of the problem-solving solution business ● Recruit and develop subject matter experts (SMEs) to strengthen our marketing capabilities for L3 and L4 products ● Boost recognition through exhibitions and events focused on key regions ● Strengthen activities in bio businesses Focus Regions Europe, North America, China, India, Japan	Achievements ● Expanded global implementation of L3/L4 systems ● Launched the “OpreX Quality Management System” in February 2025 to support the acceleration of digital transformation (DX) of quality assurance processes in pharmaceutical and food & beverage manufacturing Challenges ● Strengthening engineering resources ● Enhancing recognition and expanding implementation track record globally
Life Sciences CAGR target 15% or more	Business Opportunities ● Growing demand for automation aligned with Pharma4.0, from laboratories to production ● Increasing need for sophisticated and automated laboratory experimentation ● Acceleration of digital transformation (DX) utilization ● Advancement and increasing complexity of data analysis Risks ● Two major competitors holding broad portfolios and significant market share in the laboratory automation market, as well as the presence of strong players in individual segments	Key Measures ● Expanding the provision of laboratory automation solutions for experimentation and testing ● Intensifying sales activities and enhancing service plans for life sciences products (e.g., CSU, HCA, and single-cell analysis tools) ● Strengthening marketing activities to improve visibility and recognition Focus Regions North America, Europe, China, Japan	Achievements ● Achieved record-high orders and sales in FY2024 ● Launched the CellVoyager High-Content Analysis System CQ3000 in July 2024 Challenges ● Enhancing recognition and expanding implementation track record globally ● Strengthening production capacity in response to strong order and sales performance

Topic Contribution to Cancer Research through Lipid Analysis Using Single Living Cells

Emerging Technological Needs for Personalized Cancer Treatment

Because the characteristics of cancer cells vary from patient to patient, a single treatment approach may not be universally effective. To address this challenge, the medical field is increasingly turning to technologies that enable analysis of cancer cells at the single-cell level. Yokogawa has contributed to cancer research at the University of Surrey in the United Kingdom by providing its Single Cellome™ System SS2000, a cellular sampling system that enables lipid analysis at the level of individual cells.

Advancing Cancer Research with SS2000 Intracellular Sampling Technology

The SS2000, developed by Yokogawa, is an innovative system that enables fully automated, direct intracellular sampling at the single-cell level. Using ultra-fine glass capillaries with an inner diameter of 3 to 10 micrometers, approximately one-tenth the thickness of a human hair, this system allows researchers to observe living cells under a confocal microscope while precisely targeting and extracting specific sites or regions within the cell.

Yokogawa's proprietary technology, which enables the precise handling of highly diverse cells, has been formally recognized and adopted by the University of Surrey in the United Kingdom for its cancer research. With the implementation of the SS2000, researchers are now able to conduct lipid analyses--one of the essential components of living organisms--at the single living cell level, a capability that had previously been extremely challenging to achieve. This opens up new avenues for the design of optimal personalized treatments based on individual differences in the nature of cancer cells.

The University of Surrey's research has been published in a prestigious journal of the American Chemical Society and highlighted by major media, including the BBC, earning strong international acclaim.



Six Contribution Areas and Focus Areas toward Achieving the Three Goals

The main initiatives of the Life Business are particularly linked to “Improving efficiency in society & industry,” among the six contribution areas. Our focus areas are twofold: (1) improving productivity and quality for pharmaceutical, food & beverage, and bio industries, and (2) improving efficiency and quality of drug discovery & development. We will redouble our efforts to enhance corporate value so that achieving our business goals will also contribute to society and the environment.



Measuring Instruments Business

Vision

We will contribute to the realization of a sustainable society by providing measuring instruments, which are known as the mother tools of industry, and thereby assisting the growth of industries that facilitate the advancement of a digital society and support people's comfortable lifestyles, and aiding the innovation of electrical equipment in terms of energy saving and loss reduction.

Business Overview

Our business provides a wide variety of unique high-precision measurement solutions: electrical measuring instruments that gauge electricity, etc.; optical measuring instruments that quantify the wavelengths and power of light; manometers; and software-based measurement systems. Through the provision of these solutions, we contribute to solving our customer's challenges in improving the energy efficiency of various devices, innovating data communications, laying fiber optic cables, and maintaining their plants.

We focus on three fields: the next-generation communications field where all-photonics networks and other revolutionary technological advances are being made; the field contributing to realizing a decarbonized society, the primary examples being new energy, EVs, and batteries; and the industrial field that supports people's well-being through such services as the assessment of environmental and healthcare devices.

Yokogawa's Strengths

- High-precision sensing technology refined over many years of business operations
- Highly reliable product design technologies developed in the IA field that are capable of long-term stable operation and resistant to environmental changes
- Capability to deliver total solutions by accurately identifying customers' latent needs and integrating optical, electrical, and pressure-based technologies

Initiatives for GS2028

Strategy Overview

Under GS2028, we will continue, as we did under the previous medium-term business plan, to shift from a product-based business to a solution business that offers system products and comprehensively resolves customer challenges. To that end, we will focus not only on addressing the problems that customers are actually facing but also on identifying challenges that are yet to emerge but are likely to do so in the future, with the aim of generating new value through co-creation with customers.

At the same time, we will strategically invest in core technology development so that we can offer competitive solutions. To enable the early acquisition of technologies, we will actively develop open innovation in addition to making in-house development efforts.

Improving electric energy efficiency is a must in realizing a sustainable society, and generative AI is causing exponential growth in data communications traffic. These two factors will serve as strong growth drivers for our business. We will firmly seize this window of opportunity in the market and develop unique measurement solutions that meet customer needs in order to accelerate our growth and thereby achieve the GS2028 targets.

Key Measures

		Market	
		Existing	New
Products & solutions	New	Provide measurement solutions to improve energy efficiency • Provide comprehensive measurement systems that utilize multiple measuring instruments for the renewable energy and EV industries	Create new business using spectroscopic application technology • Develop high-speed waveform measurement equipment required for next-generation optical communications • Support the realization of "all-photonics networks" researched as the next-generation network by providing photonics-electronics convergence measurement solution.
	Existing	Pursue highly profitable business by developing and providing one-of-a-kind products • Develop new products that contribute to next-generation communications, decarbonization, and well-being • Propose solutions rapidly through co-creation with customers • Strengthen service to increase customer loyalty and expand the product business	Expand business areas by applying core technologies • Expand the measurement business for battery development • Provide new wavelength-range optical measuring instruments that meet the evolving needs of environmental analysis, healthcare, and semiconductor technology by applying existing core technology



Measuring Instruments Business, New Businesses and Others

	Business Opportunities and Risks	Key Measures and Focus Regions	GS2028 Achievements and Challenges to Date
Measuring Instruments Business CAGR target 12% or more	Business Opportunities - Projected annual growth of approximately 30% in shipments of optical transceivers for data centers, driven by the spread of AI - Business opportunities in electrical measurement for high-efficiency power supplies and energy-saving devices in data centers facing power consumption challenges - Promotion of new technology development in response to growing demand for plug-in hybrid vehicles (PHEV) driven by automotive electrification, as well as expansion of investment in low-power home appliances such as air conditioners and refrigerators Risks - Sluggish investment in client industries due to the U.S. tariff policy and other factors	Key Measures - Launching measurement system businesses focused on the renewable energy field - Expanding implementation of measurement solutions for photonics-electronics convergence devices in the optical communications market - Strengthening relationships with industry-leading companies to uncover latent needs and accelerate development of advanced products Focus Regions China, India	Achievements - Achieved the highest order volume in the past five years - Released a total of nine new products and solutions as of September 2025, including the SL2000, a base product for measurement systems used with electric energy conversion equipment, and the AQ6361 optical spectrum analyzer for production testing Challenges - Accelerating the transformation toward a solutions-based business model - Systematizing the collection of latent customer needs and strengthening relationships with executive-level stakeholders of customers

Key New Products

- Launched the AQ6361 optical spectrum analyzer for production testing (February 2025)
Half the size and triple the measurement speed, compared to previous models
Primary markets: optical communication device manufacturers, optical communication equipment manufacturers



- Launched the AQ2300 Multi-Application Test System (September 2024)
A test system supporting comprehensive testing in optical device production
Primary markets: optical communication device manufacturers, optical communication equipment manufacturers, universities



- Launched the AQ6377E optical spectrum analyzer for high-speed, high-precision measurement of mid-wave infrared light (January 2025)
Measures mid-wave infrared light with high resolution
Primary markets: universities, research institutions, optical semiconductor manufacturers



- Developed and launched the SL2000 high-speed data acquisition unit (May 2025)
A base product for measurement systems used with electric energy conversion equipment
Primary markets: automotive manufacturers, automotive electrical component manufacturers, electric power utilities

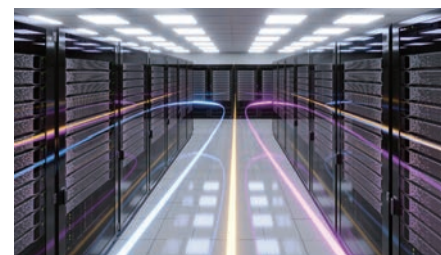


- Launched the CT1000S AC/DC split-core current sensor (June 2024)
Current sensor unit with high-precision and easy measurement for applications including Electronic Vehicles
Primary markets: automotive manufacturers, automotive electrical component manufacturers, motor manufacturers



Development and performance evaluation of optical communication devices and power equipment for AI data centers

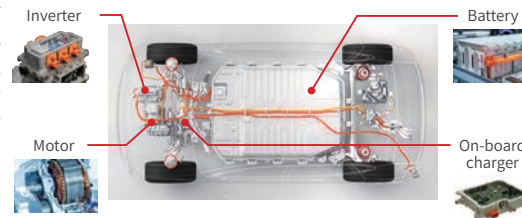
AI data centers handle high-speed, high-volume data, generating massive data traffic and requiring substantial amounts of power. Yokogawa's products are used in the development, performance evaluation, and production processes of devices and equipment for AI data centers (including optical communication equipment such as optical transceivers and optical fibers, as well as the power equipment that supports center-wide power supply), contributing to the advancement of AI-driven society.



Contributing to EV Development through High-Precision Integrated Measurement of Powertrains

Improving the efficiency of powertrains is critically important in the development of various types of EVs, including plug-in hybrid vehicles (PHEVs), as it directly impacts energy consumption, cost, and environmental footprint. Yokogawa's products are used in EV development for designs to improve power efficiency and performance evaluation of components such as motors and inverters*. By providing an integrated measurement solution, from voltage and current sensors to data acquisition units, we contribute to the development of a decarbonized society through the electrification of vehicles.

*A device that converts electric power from direct current (DC) to alternating current (AC)



New Businesses and Others

Setting its sights on providing an environment that allows the industrial Internet of Things (IIoT) to be used with ease, the Yokogawa Group is developing a solutions business that provides the necessary hardware, software, and cloud environment that are easy to use for service providers and that minimize operational load.

Areas for Exploration: Disaster prevention, space, and the ocean

We are exploring new initiatives on a global scale aimed at disaster prevention, disaster mitigation, and the realization of a recycling-oriented society. These include monitoring sea level changes and verifying the utilization of hydrogen on the lunar surface.

Six Contribution Areas and Focus Areas toward Achieving the Three Goals

The main initiatives of the Measuring Instruments Business are particularly linked to "Achieving carbon neutrality," "Improving efficiency in society & industry," and "Improving health and safety," among the six contribution areas. Our focus areas are threefold: (1) supporting adoption and improvement of efficiency of renewable energy and electric vehicles (2) supporting improved efficiency of next-gen communication systems; and (3) contributing to environment and health through measurement. We will redouble our efforts to enhance corporate value so that achieving our business goals will also contribute to society and the environment.

