

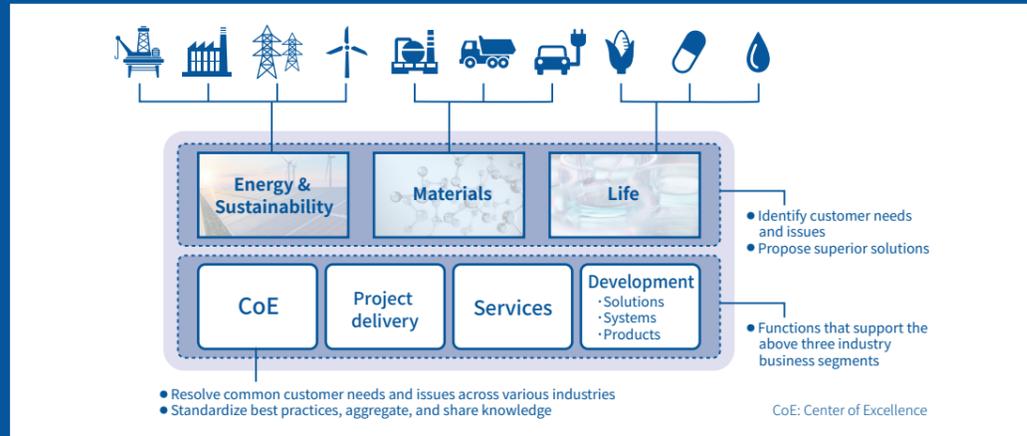
Chapter 3

Management Strategy

With the approach of IA2IA and Smart Manufacturing, we become the leading integrator in a world in which society as a whole functions as the SoS.

Reorganization of Business Segments

In fiscal year 2021, to realize Yokogawa's Purpose and sustainability goal of "Three goals" as a business, we shifted our control business from a product and function-based organization to a subsegment structure in which we develop our business based on the areas in which our customers operate. We have also established a CoE function, development function, delivery function, and service function as functions that commonly support the three sub-segments. In the past year, we believe that we have generally established that structure, and as these functions and the three sub-segments work together across the organization, we will implement the four basic strategies of our mid-term business plan "Accelerate Growth 2023" at unprecedented speed to create new value.

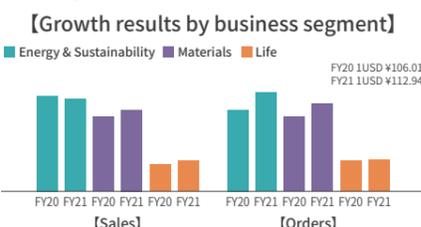


In the mainstay control business, we strengthened global collaboration on an industry basis through this organizational change, and achieved certain results in areas that each sub-segment should focus on.

Energy & Sustainability: Executed M&A deals in **renewable energy sector** and gained a foothold for growth
Materials: Established global collaborative organization. Achieved steady growth in **chemical, semiconductor, and electric vehicle** sectors
Life: Achieved growth in **pharmaceutical, food, and water** sectors. Executed biotechnology-related M&A. The first steps towards growth were taken.

	AG2023 CAGR		(Reference) Order growth	
	Market growth rate (Forecast*)	Sales growth Target	Results (FY21)	Results (FY21)
Energy & Sustainability	3.2%	4% or more	(2.7%) (7.5%*)	(9% or more) 22.6% (16.3%*)
Materials	3.5%	3% or more	9.7% (5.7%*)	(6% or more) 19.6% (14.9%*)
Life	2.9%	16% or more	14.0% (11.7%*)	(16% or more) 6.2% (4.4%*)

*1 Source: IIR Feb. 2021 *2 Organic growth (excluding impact of exchange rates)



Accelerate Growth 2023 Review of Basic Strategies

Accelerate Growth 2023 Review of Basic Strategies



1 "Implement IA2IA & Smart Manufacturing and Transform Value Provision"

From solutions that realize IA2IA/Smart manufacturing, we identified those that could be scaled up at an early stage, proceeded with the packaging, and released 50 solutions. The released solutions will enable efficient promotion development in a variety of industries globally in the future.

In addition, the IA2IA/Smart manufacturing business received 195 orders, and we will focus on scaling up overseas, a larger market, while leveraging the problem-solving business methods that have been successful in Japan. We will also accelerate this by utilizing and deploying new solutions.

In March 2021, we conducted a joint field test with ENEOS Material Corporation (formerly JSR Corporation elastomer business unit) and became the first company in the world to successfully operate a chemical plant for 35 consecutive days under autonomous control using AI. We have received inquiries from many chemical manufacturers in Japan and abroad. In addition, we are seeing steady results in our advanced initiatives, such as being selected as a MAC for a biofuel refining project, realizing a Digital Twin with a comprehensive solution from our group and KBC (a higher-level production optimization solution, RIOS), and starting to roll it out laterally after successful demonstration experiments to optimize the entire production process, including the supply chain, and improve earnings. We will continue to accelerate our efforts to "move IA2IA concept to the implementation phase" and to "expand the scope of smart manufacturing solutions provided for customers."

2 "Strengthen Industry Responsiveness and Expand Cross-Industry Business"

In the Energy & Sustainability business, we are focusing on the renewable energy industry, and in fiscal year 2021 we received orders of ¥4.5 billion, up 15% from the previous fiscal year. In addition, we entered the MGC and DERMS fields in earnest with the acquisition of PXISE Energy Solutions, LLC. We are off to a good start, receiving many inquiries due to synergies with our group.

In the materials business, we are focusing on the functional chemicals industry and, using the strength of solutions we have cultivated in Japan, we aim to increase orders overseas. In fiscal year 2021, overseas orders were ¥14.6 billion, up 61% from the previous fiscal year.

In the Life business, the entire business is a focus area, but especially in the pharmaceutical and food industry, the Manufacturing Execution System (MES) and productivity improvement businesses performed well, resulting in orders of ¥20.8 billion in fiscal year 2021, up 12% from the previous fiscal year. The Group also focused on overseas expansion of its water business, winning 14 deals for wide-area water distribution management or seawater desalination projects. In addition, the company is actively taking on the challenge of creating new value, such as the successful demonstration of optimizing the operation of a sewage treatment plant for the drinking use of recycled water.

On the other hand, we recognize that there are challenges to scaling up in the bioprocessing business. We will continue to accelerate our efforts to "provide new value to customers who are making the shift to being integrated energy companies," and to "expand other industry and cross-industry business."

3 "Ensure Profitability and Sound Growth"

Although we have been able to absorb some of the effects of higher logistics costs and component prices, as well as increased man-hours to deal with parts procurement difficulties through each initiative, we need to further enhance and accelerate our ability to implement each initiative to secure profitability for growth.

As for the Cash Conversion Cycle (CCC), we recognize that there are challenges because the sales ratio in Japan and the Middle East, which have long payment periods as regional business practices, is high. In addition to our efforts to shorten the collection period, we will also make company-wide improvements to ensure seamless business processes throughout the supply chain.

4 "Optimize Internal Operations and Transform Mindsets"

Our persistent efforts to optimize operations and improve our information infrastructure over the medium to long term to achieve sustainable growth are producing results. A change in mindset is needed to gain a different dimension of speed and execution for all initiatives, and we will continue to accelerate our efforts, such as strengthening strategic planning functions, cultivating a corporate and organizational culture that encourages an entrepreneurial spirit, strengthening internal DX and transforming business models, and improving employee skill conversion and engagement.

AG2023 Basic Strategy Review Summary



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

Main activities

- Develop solution portfolio to scale up IA2IA/Smart manufacturing and promote this business globally
- Establish a global foothold in ERP system integration (SI) business
- Expand integration capacity through MAC/MAIC
- Promote shift to new business models (recurring model, subscription model, etc.)

Progress and results Good start to value expansion ○:Going well

- Developed solution map based on IA2IA/Smart manufacturing strategy.
- Made steady progress in packaging solutions and expect to soon scale up these businesses.
- Many results achieved with field trials in collaboration with customers
- ERP System Integration business has progressed outside Japan
- Progress has been slower in transitioning to new business models. Further acceleration is needed.

- ▶ **Number of new solutions released by IA2IA/Smart manufacturing business**
FY21 results **50 solutions**
FY23 target 150 solutions
- ▶ **Number of Orders received for IA2IA/Smart manufacturing business***
FY21 results **195 orders** (outside Japan)
- ▶ **In a world first, used AI to autonomously control a chemical plant**
- successful field test collaboration with ENEOS Material Corporation -
"Case Study" P. 42 →

Distillation columns at the ENEOS material corporation chemical plant

*Formerly JSR Corporation elastomer business unit
 *IA2IA: The transition from Industrial Automation to Industrial Autonomy by incorporating DX-related technologies such as AI, Digital Twins, and robotics
 *Smart manufacturing: The achievement of autonomy and improvement of productivity in production operations, enterprises, and supply chains through DX and IA2IA



3 Ensure Profitability and Sound Growth

Profitability and growth in value provision

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

Main activities

- Improve efficiency in large projects through knowledge aggregation and horizontal deployment
- Shift resources from product maintenance to new products and technologies
- Strengthen cost competitiveness of projects
- Improve efficiency of the entire supply chain
- Further improve production efficiency

Progress and results Contribution in absorbing cost increases in a tough business environment. Further acceleration is necessary to improve profitability. △:Slightly behind expectations

- Launched and horizontally deployed CoE (Center of Excellence) function to aggregate experience in each region. Progress is on track.
- Reduced maintenance work in product development while addressing parts procurement difficulties. Steadily shifted resources to new product and technology development.
- Cost reduction efforts throughout the global supply chain contributed to absorbing the impact of parts price hikes.
- Deterioration of operation rates in the project execution sector. Need to optimize resource allocation.
- Production efficiency of our manufacturing operations has steadily improved.

- ▶ **Improve efficiency in product development by shifting resources.**
Maintenance man-hours*
FY21 results **-14%** vs FY19
FY23 target **-50%** vs FY19
- ▶ **Project delivery procurement cost reduction Approx. ¥0.9B**
• Procurement cost reduction and global standardization of business processes
• Improvement of global supply chain efficiency
- ▶ **CCC**
• FY20 149 days → FY21 **142days (-7days)**

* Work related to the maintenance of existing products. Example: a design change due to the discontinuation of a part.



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

Main activities

- Establish a solution business to optimize energy management for complex energy supply chains, including renewable energy and storage battery.
- Expand solution business, targeting the functional chemicals market.
- Strengthen solutions and expand business in the pharmaceutical and food industries.
- Strengthen global sales capabilities for OPEX solutions, utilizing extensive installed base.
- Develop emerging markets.

Progress and results Launched and steadily expanded three industry business segments ○:Going well

- Increased orders in focus industries (renewable energy, functional chemicals, food, and pharmaceuticals)
- Full entry into MGC, DERMS* fields, which integrate renewable energy, storage batteries, and other distributed energy resources and optimize entire systems
- Progress achieved water business outside Japan
- With Life business, facing challenges in scaling up new business in bioprocessing
- OPEX solutions are growing. Need to strengthen efforts for higher growth.

- ▶ **Orders received in focus industries (FY21 results)**
• Energy & Sustainability
Renewable energy **¥4.5B** (YoY +15%)
• Materials / functional chemicals outside Japan **¥14.6B** (YoY +61%)
• Life / Pharmaceuticals and foods **¥20.8B** (YoY +12%)
- ▶ **Acquisition of PXiSE Energy Solutions LLC**
Steady progress with startup due to synergy effects
- ▶ **Number of orders for water business outside Japan**
FY21 results **14 orders**
- ▶ **Successful completion of the proof of concept for optimization of operations at US wastewater reclamation facility that produces potable water**
Project receives Transformational Innovation award from the Water Reuse Association

Tapia Water Reclamation Facility (California, USA)
(Photo credit: Las Virgenes Municipal Water District)

*MGC: Micro Grid Control DERMS: Distributed Energy Resource Management Systems



4 Optimize Internal Operations and Transform Mindsets

Strengthen the corporate base

- Strengthen strategic planning functions
- Strengthen internal DX and transform business models
- Cultivate a corporate and organizational culture that encourages entrepreneurial spirit
- Undertake skill transformation and improve engagement of human resources

Main activities

- Allocate resources based on management strategy
- Undertake skill transformation and improve engagement of human resources
- Develop Yokogawa into a DX use case
- Continuously forecast and uncover focus areas and themes

Progress and results Steadily carrying out the optimization of operations to ensure sustained growth ○:Going well

- To foster global cooperation and optimize operations, we are integrating and maintaining individual processes and building new systems. Acceleration of these efforts is needed to achieve long-term growth and improve profitability.
- Although efforts to convert the skills of our human resources and improve their engagement are progressing smoothly, more effort is necessary to promote HR system reforms and transform mindsets.

- ▶ **Digital process ratio**1**
FY21 results **49%**
FY23 target 63%
- ▶ Providing the proof of concept for IIoT services in minimum three days from customer request - Establishment of Agile Development Methodology and Culture Reform for DX to Improve Speed -
- ▶ **Engagement score rate**
GEES (Global Employee Engagement Survey) average of key factors**2 (all employees)
FY21 results **80pts**
FY23 target 81pts
- ▶ **Japan Telework Association**
22nd Telework Promotion Award, Award of Excellence

*1 The denominator is the number of sub-processes defined for all business processes (e.g., marketing, SCM, accounting, etc.), and the numerator is the number of digitized sub-processes operated in a standard global manner.

*2 Ratio of positive responses (4 or 5 on a scale of 1 to 5) for 7 questions related to the formation of sustainable engagement.