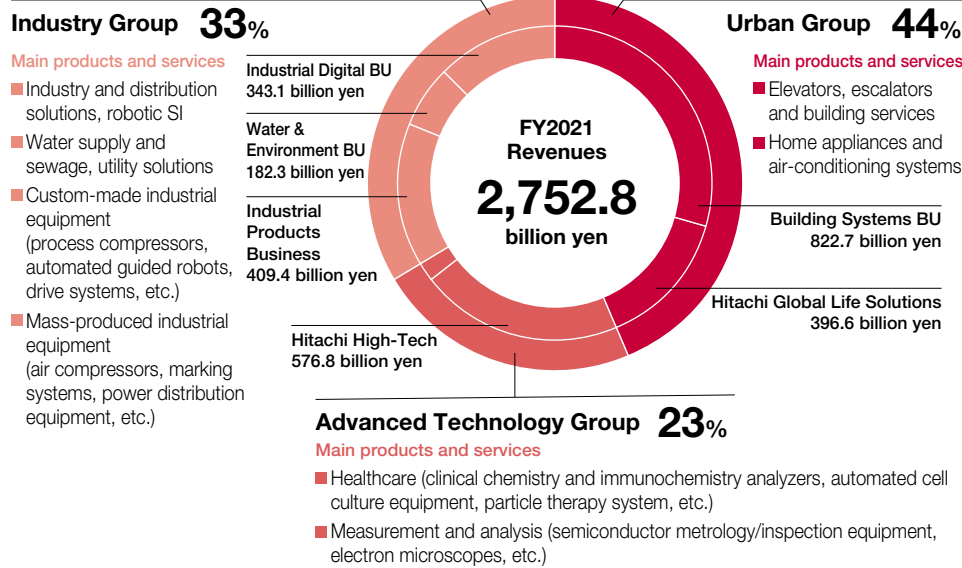Value Creation Initiatives —— Strategies by Sector
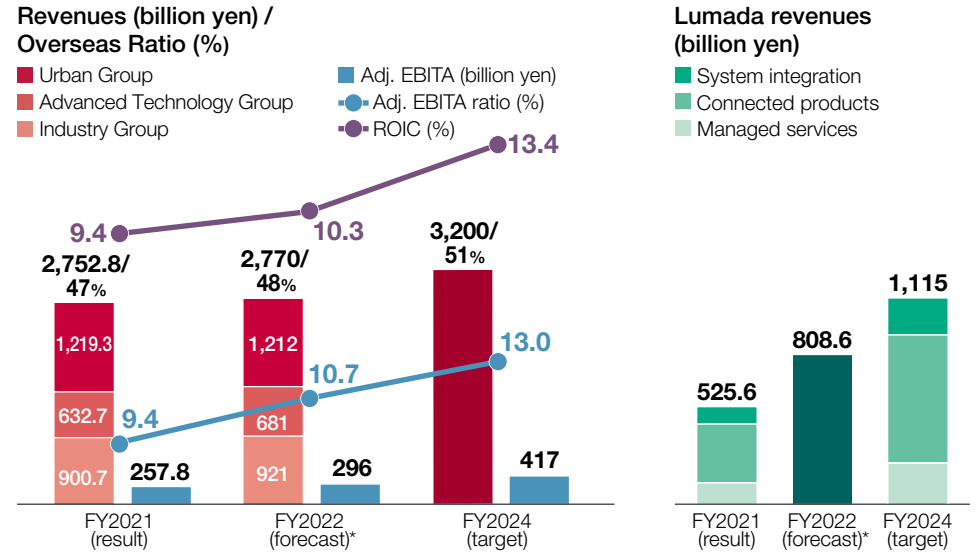
Connective Industries

"Connecting data, value, industry, and society."
This sector brings together Hitachi's unrivaled products, connects them to use digital, and offers them as solutions. We aim to be "sustainable value creators."

Hitachi Integrated Report 2022 | Introduction | What's Hitachi | Value Creation | **Business Strategies** | Sustainability | Corporate Governance | Data | 65

Digital Systems & Services   Green Energy & Mobility   Connective Industries   Hitachi Astemo

Connective Industries Business Structure

Industry Group **33**%

Main products and services
- Industry and distribution solutions, robotic SI
- Water supply and sewage, utility solutions
- Custom-made industrial equipment (process compressors, automated guided robots, drive systems, etc.)
- Mass-produced industrial equipment (air compressors, marking systems, power distribution equipment, etc.)

Industrial Digital BU 343.1 billion yen

Water & Environment BU 182.3 billion yen

Industrial Products Business 409.4 billion yen

Hitachi High-Tech 576.8 billion yen

FY2021 Revenues 2,752.8 billion yen

Urban Group **44**%

Main products and services
- Elevators, escalators and building services
- Home appliances and air-conditioning systems

Building Systems BU 822.7 billion yen

Hitachi Global Life Solutions 396.6 billion yen

Advanced Technology Group **23**%

Main products and services
- Healthcare (clinical chemistry and immunochemistry analyzers, automated cell culture equipment, particle therapy system, etc.)
- Measurement and analysis (semiconductor metrology/inspection equipment, electron microscopes, etc.)

Results and Forecasts

Revenues (billion yen) / Overseas Ratio (%)

- Urban Group
- Advanced Technology Group
- Industry Group
- Adj. EBITA (billion yen)
- Adj. EBITA ratio (%)
- ROIC (%)

	FY2021 (result)	FY2022 (forecast)*	FY2024 (target)
ROIC (%)	9.4	10.3	13.4
Total revenues / Overseas ratio	2,752.8 / 47%	2,770 / 48%	3,200 / 51%
Urban Group	1,219.3	1,212	
Industry Group	632.7	681	
Advanced Technology Group	900.7	921	
Adj. EBITA ratio (%)	9.4	10.7	13.0
Adj. EBITA (billion yen)	257.8	296	417

*Announced on July 29, 2022

Lumada revenues (billion yen)

- System integration
- Connected products
- Managed services

FY2021 (result)	FY2022 (forecast)*	FY2024 (target)
525.6	808.6	1,115

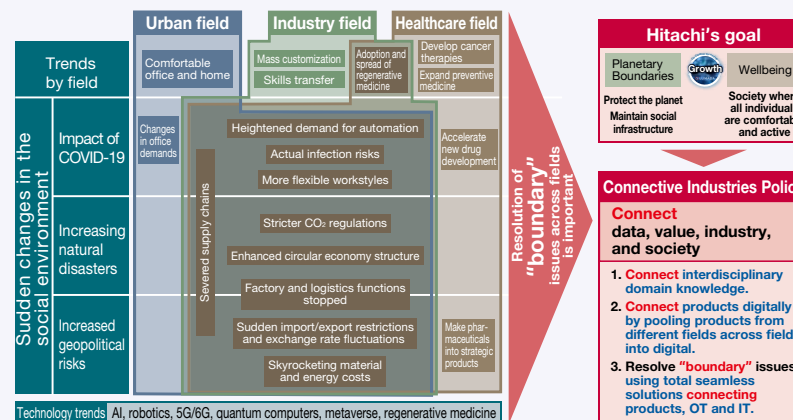## Strengths

Social issues, including the impact of COVID-19, natural disasters and increased geopolitical risks, impact all business areas and are becoming increasingly sophisticated and complex. Given these conditions, in addition to resolving issues that exist between organizations and companies, it is also important to comprehensively resolve interdisciplinary "boundary" issues.

Hitachi will focus efforts on planetary boundaries and wellbeing as its most critical themes. At the same time, in the Connective Industries sector, we will connect interdisciplinary domain knowledge across fields, connect products digitally by pooling products from different fields across fields, and resolve "boundary" issues using total seamless solutions connecting products, OT and IT.

Urban field
- Comfortable office and home
- Changes in office demands

Industry field
- Mass customization
- Skills transfer

Healthcare field
- Develop cancer therapies
- Expand preventive medicine
- Adoption and spread of regenerative medicine

Trends by field

Sudden changes in the social environment
- Impact of COVID-19
- Increasing natural disasters
- Increased geopolitical risks

- Heightened demand for automation
- Actual infection risks
- More flexible workstyles
- Stricter CO_2 regulations
- Enhanced circular economy structure
- Factory and logistics functions stopped
- Sudden import/export restrictions and exchange rate fluctuations
- Skyrocketing material and energy costs
- Severed supply chains
- Accelerate new drug development
- Make pharmaceuticals into strategic products

Resolution of "boundary" issues across fields is important

Hitachi's goal
Planetary Boundaries — Growth — Wellbeing
Protect the planet Maintain social infrastructure | Society where all individuals are comfortable and active

Connective Industries Policy
Connect data, value, industry, and society
1. **Connect** interdisciplinary domain knowledge.
2. **Connect** products digitally by pooling products from different fields across fields into digital.
3. **Resolve "boundary"** issues using total seamless solutions connecting products, OT and IT.

Technology trends AI, robotics, 5G/6G, quantum computers, metaverse, regenerative medicine

Mid-term Management Plan 2024: Vision

In the Connective Industries sector, comprising the Urban Group, the Advanced Technology Group, and the Industry Group, Hitachi aims to digitally connect highly competitive products, including elevators/escalators, home appliances, measurement and analysis equipment, medical equipment and industrial equipment with the aim of achieving growth through total seamless solutions and recurring business. Revenue will expand, from 2.7 trillion yen in fiscal 2021, to 3.2 trillion yen in fiscal 2024, of which Lumada revenue will increase from 0.5 trillion yen in fiscal 2021, to 1.1 trillion yen in fiscal 2024. We will also expand business in North America as a focus area for global growth in an effort to increase green value.

Hitachi Integrated Report 2022 | Introduction | What's Hitachi | Value Creation | **Business Strategies** | Sustainability | Corporate Governance | Data | 66

Digital Systems & Services   Green Energy & Mobility   Connective Industries   Hitachi Astemo

Connective Industries Growth Strategy

In the Connective Industries sector, Hitachi will implement three priority measures to expand business based on the Lumada growth model, in which the cycle of co-creation of value with customers is driven by data. In digital engineering, we aim to strengthen front engineering capacity, and in system integration, we aim to evolve and expand total seamless solutions. In connected products and managed services, we will strengthen recurring business by expanding and enhancing the functions of connected products.

Strengthening Front Engineering Capacity

Hitachi creates specific objects and policies by utilizing various methods of business concepts and issues analysis and provides integrated solutions and services. To accelerate the creation of digital synergies in this sector, in April 2022, Hitachi doubled its number of digital consulting staff in response to DX needs, to about 120 people. Strengthening front engineering capacity will further increase mobility, which drives the Lumada business cycle.

Developing and Expanding Total Seamless Solutions

"Boundaries" issues exist in all areas, including vertical boundaries between management and workplaces, horizontal boundaries between supply chains, and boundaries between different industries. It has become particularly important to provide places in industry, urban, healthcare and other fields facilitating connections in response to increasingly sophisticated and complex challenges in recent years. Given these conditions, Hitachi will model operations using cyber-physical systems (CPS) based on domain knowledge obtained from products to develop and advance total seamless solutions resolving "boundary" issues in the industry, urban and healthcare fields.
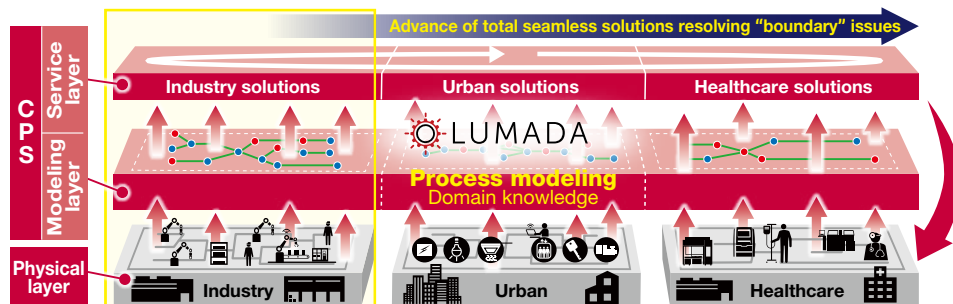
Strengthening Recurring Business by Expanding and Enhancing the Functions of Connected Products

In addition to providing products and services, we will expand recurring businesses such as maintenance and services, repairs and modifications, and replacements and recycling. The aim is to achieve a recurring business revenue CAGR of 6% from fiscal 2021 to fiscal 2024, exceeding overall sector revenue CAGR and driving growth.

One measure for strengthening recurring business involves the development of new services combining connected products and digital technologies. First, by substantially expanding the number of connected products, from about 0.8 million units in fiscal 2021, to approximately two million units in fiscal 2024, we will be able to gain a deeper understanding of the realities of customer issues. And in the second phase, we will also merge and strengthen advanced recurring service applications utilizing product data collected through IoT platforms. Through these efforts, Hitachi will develop and provide new services based on product business knowledge and digital capabilities to expand recurring business.
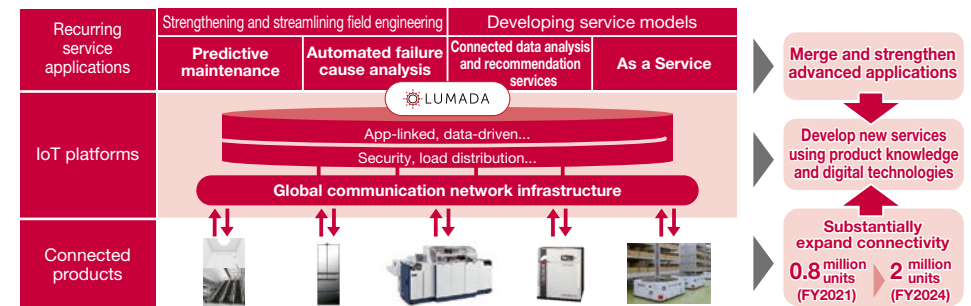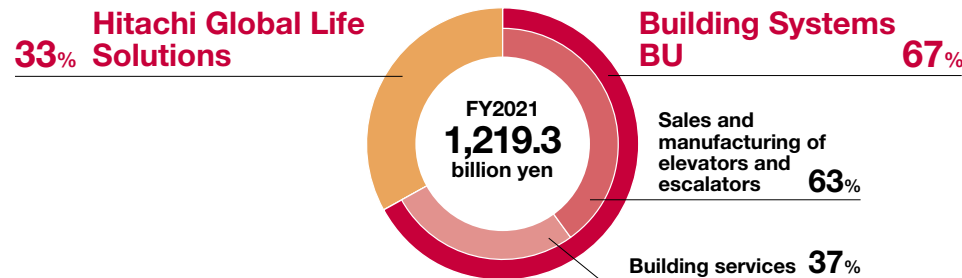

Global Business Strategy

Hitachi plans to increase its overseas revenue ratio from 47% in fiscal 2021, to 51% in fiscal 2024. In particular, we will proactively invest in North America, our key region in the global market, and aim for high growth of 22% CAGR between fiscal 2021 and 2024. In addition to strengthening the integration of robotic SI and digital technologies through the acquisition of JR Automation, we will launch a total seamless solution in North America to further expand our business by connected products such as air compressors, for which the business has been acquired from Sullair; semiconductor manufacturing and measurement equipment; and particle therapy systems.

Digital Systems & Services   Green Energy & Mobility   **Connective Industries**   Hitachi Astemo

Urban Group

Comprising the Building Systems BU and Hitachi Global Life Solutions, this group aims to utilize digital technologies to provide connected products and strengthen solution capabilities.

Revenue

33% **Hitachi Global Life Solutions**

FY2021
1,219.3
billion yen

Building Systems BU **67**%

Sales and manufacturing of elevators and escalators **63**%

Building services **37**%

Building Systems BU

This business unit manufactures and sells elevators and escalators, and develops building services (comprehensive elevator and escalator maintenance services and modernization, as well as building solutions). As building-related needs become increasingly sophisticated due to changing market environments, Hitachi aims to become a smart building solutions provider resolving social issues such as prompting green buildings and the new normal.

In Japan, we will attempt to expand business by capturing the recovery in demand for elevator and escalator modernizations that had slumped due to the pandemic. Further, in May 2022, we comprehensively renovated our control centers, comprising the core systems and facilities that enable the remote monitoring and maintenance services for elevators, escalators and other building equipment, including the dashboard facilitating the digital transformation of building management, significantly enhancing quality and expanding menu options related to remote monitoring and maintenance services.

Outside Japan, we will accelerate the creation of synergies with Yungtay Engineering Co., Ltd., which became a wholly owned subsidiary in April 2022 (renamed Hitachi Yungtay Elevator Co., Ltd., in May). In addition to firmly maintaining a top share in terms of orders received in China, the largest market in the world, accounting for more than 60% of demand for new elevators and escalators, we will work to expand the maintenance service and modernization business, areas in which market growth is expected.
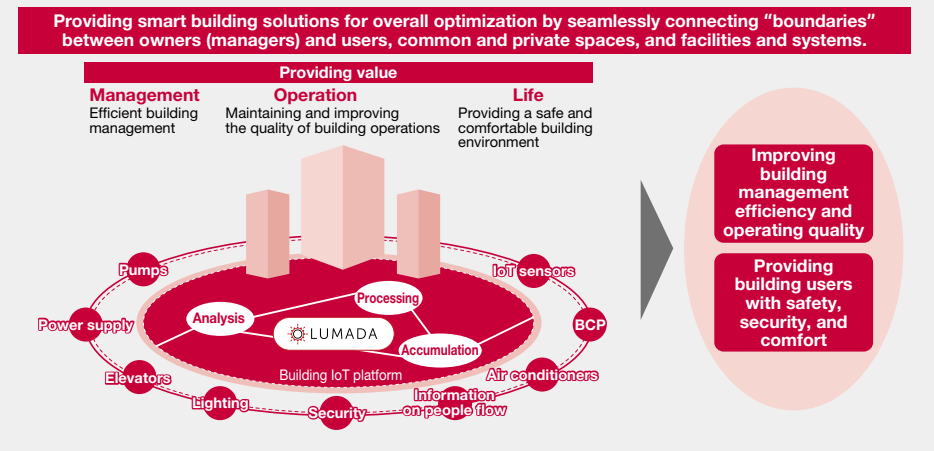
Additionally, by leveraging strengths in these core business areas, as well as combining building IoT platforms with strong products and services of the sector and Hitachi Group companies, we will provide smart building solutions supporting green buildings and the new normal to contribute to improving people's quality of life.

Hitachi Global Life Solutions

In addition to home appliances, air-conditioning systems and other product businesses, as well as the provision of maintenance services, we offer solutions utilizing digital technologies. With a long history of developing products from the consumer's perspective, this business is engaged in four areas: enriching life (connected home appliances), advancing and enriching medical care (cleanroom solutions), circular economy (recycling technologies, environmentally friendly products) and low environmental impact (air-conditioning solutions with low environmental impact). Specifically, this business focuses efforts on connected home appliances, including refrigerators and washing machines that can be controlled and managed with smartphones, air-conditioning remote diagnostics and maintenance systems using IoT, and the creation of solutions utilizing digital technologies. Further, through a joint venture with Arçelik in the overseas home appliance business, we will expand sales of Hitachi-brand products and accelerate the overseas expansion of the solutions business.

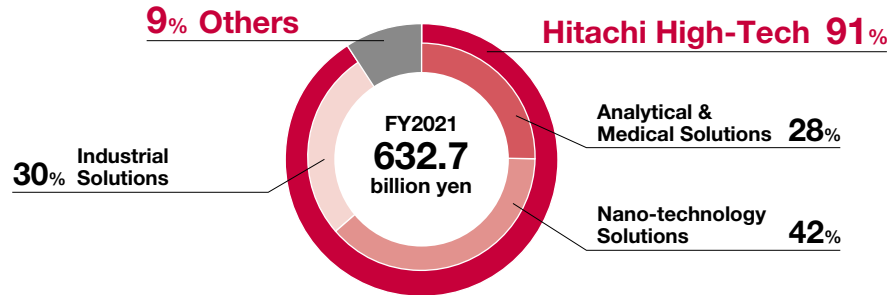### Total Seamless Solutions Business Example (Urban Field)

We connect building IoT platforms (including building IoT solutions and worker solutions) with products and systems in the Connective Industries sector, such as elevators, security, air-conditioning equipment, lighting, pumps and power supplies, to visualize and analyze all building data. This increases building management efficiency, improves operational quality and provides building users with safety, security and comfort.

Providing smart building solutions for overall optimization by seamlessly connecting "boundaries" between owners (managers) and users, common and private spaces, and facilities and systems.

Providing value

Management
Efficient building management

Operation
Maintaining and improving the quality of building operations

Life
Providing a safe and comfortable building environment

Pumps
IoT sensors
Power supply
Processing
Analysis
☀ LUMADA
BCP
Accumulation
Elevators
Building IoT platform
Air conditioners
Lighting
Security
Information on people flow

Improving building management efficiency and operating quality

Providing building users with safety, security, and comfort

Hitachi Integrated Report 2022   Introduction   What's Hitachi   Value Creation   **Business Strategies**   Sustainability   Corporate Governance   Data   68

Digital Systems & Services   Green Energy & Mobility   Connective Industries   Hitachi Astemo

Advanced Technology Group

Comprised mainly of Hitachi High-Tech, this group aims to expand business by enhancing proprietary technologies for the healthcare and semiconductor fields and strengthening business creation capabilities.

Revenue

9% Others

Hitachi High-Tech 91%

FY2021
632.7
billion yen

30% Industrial Solutions

Analytical & Medical Solutions **28%**
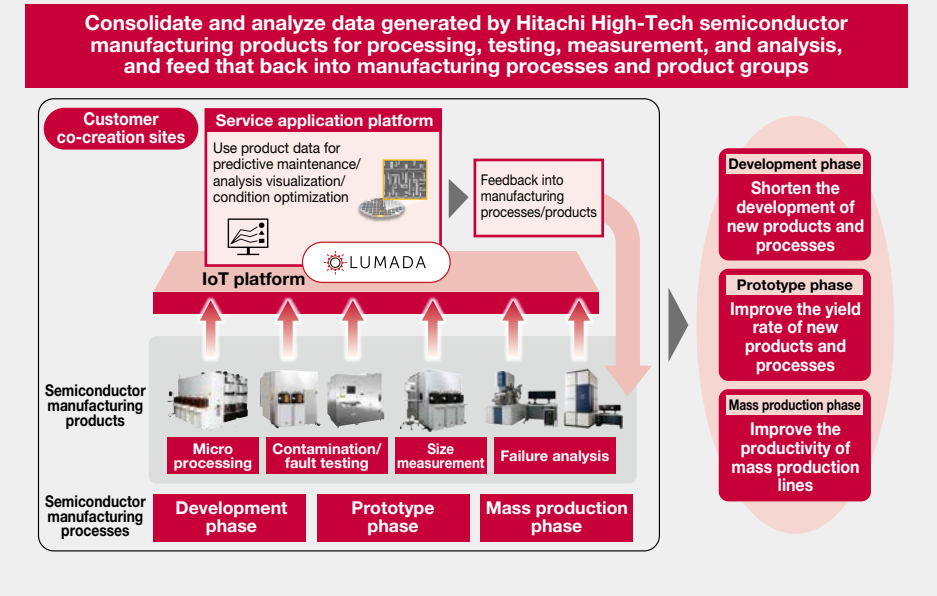
Nano-technology Solutions **42%**

Healthcare, Measurement & Analysis Systems Business

In fields such as healthcare, nanotechnology (semiconductor), and social and industrial infrastructure, Hitachi provides solutions that resolve customer issues utilizing technological capabilities based on measurement, diagnostics, analysis and global sales capabilities.

In the healthcare field, Hitachi High-Tech boasts the world's largest market share in clinical chemistry and immunoassay analyzers, with more than 20 billion tests conducted each year throughout the world. In May 2022, Hitachi High-Tech entered into a strategic partnership with Invivoscribe, Inc. (United States), a global provider of blood cancer testing kits and services, with the aim of accelerating the molecular diagnostics business. Hitachi also enjoys a strong market share in particle therapy systems, which are able to treat cancer while maintaining quality of life with less physical burdens caused by treatment. In the semiconductor field, Hitachi High-Tech has strengths in plasma etching systems that enable ultrafine processing of semiconductors, as well as high-resolution, high-speed inspection equipment, built on a foundation comprising electron microscopes and other high-precision measurement and analysis technologies. In advanced CD measurement SEM, in particular, Hitachi High-Tech holds a global top share.

Total Seamless Solutions Business Example (Semiconductor Field)
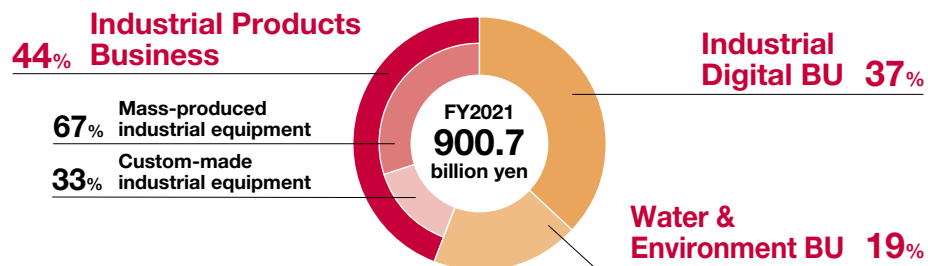
We are engaged in utilizing product data and improving development and manufacturing efficiency through co-creation with customers to handle increasingly complicated challenges in semiconductor device structuring and manufacturing processes. As a result, the development period for new products and processes can be shortened in the development phase, yields can be improved in the prototype phase, and line productivity can be improved in the mass production phase. At present, we are already accelerating the creation of solutions at co-creation sites located near customers, and in 2022, a new engineering co-creation site was established in the United States located in Hillsboro, Oregon.

Consolidate and analyze data generated by Hitachi High-Tech semiconductor manufacturing products for processing, testing, measurement, and analysis, and feed that back into manufacturing processes and product groups

Customer co-creation sites

Service application platform

Use product data for predictive maintenance/ analysis visualization/ condition optimization

Feedback into manufacturing processes/products

LUMADA

IoT platform

Semiconductor manufacturing products

Micro processing | Contamination/ fault testing | Size measurement | Failure analysis

Semiconductor manufacturing processes

Development phase | Prototype phase | Mass production phase

Development phase
Shorten the development of new products and processes

Prototype phase
Improve the yield rate of new products and processes

Mass production phase
Improve the productivity of mass production lines

Digital Systems & Services   Green Energy & Mobility   Connective Industries   Hitachi Astemo

Industry Group

The Industrial Digital BU, the Water & Environment BU and the Industrial Products business (Hitachi Industrial Products and Hitachi Industrial Equipment Systems) strengthen the global × digital business.

Revenue

Industrial Products Business 44%

67% Mass-produced industrial equipment

33% Custom-made industrial equipment

FY2021
900.7
billion yen

Industrial Digital BU 37%

Water & Environment BU 19%

Industrial Digital BU

This business unit provides digital solutions and robotic SI integrating IT and OT in the industry and distribution fields. In Japan, we aim to establish a recurring growth model with Lumada, which will lead to sustainable innovation, by strengthening upstream consulting functions, expanding the SI business constituting the core business, and strengthening service businesses. Globally, we will focus on the North American market and accelerate business development combining the robotic SI of JR Automation, acquired in 2019, with digital technologies. Further, by integrating KEC, which handles robotic SI business centered on automobiles, with Hitachi Industrial Equipment Systems' robotic SI business engaged in assembly and conveyor lines for various manufacturers, Hitachi Automation was established in April 2022 to strengthen the robotic SI business in Japan and the ASEAN region.

Water & Environment BU

This business unit provides a wide range of utility solutions, from social infrastructure facilities for water supply, sewerage, etc., to air-conditioning and industrial plant facilities. We will further strengthen environmental and clean technologies with the aim of creating and expanding next-generation utilities business in electronics, semiconductors, pharmaceuticals, biotechnology and other key markets. Through the development of total seamless solutions originating in OT, we will maximize value across customer value chains and respond to increasingly complex social issues.

Regarding overseas markets, we are targeting global expansion rooted in local communities centered in the ASEAN region, which is our focus market.

Industrial Products Business

This business provides a broad lineup of custom-made and mass-produced industrial equipment that supports industrial and social infrastructure globally.

In the custom-made industrial equipment business, we aim to become a highly profitable business entity contributing to green initiatives. We will work to expand products, services and recurring business that reduces environmental burdens through electrified products, centrifugal compressors and logistics.

In the mass-produced industrial equipment business, we aim to establish a strong product business that contributes to the Social Innovation Business. While positioning air compressors and marking systems as global priority businesses, we are focusing efforts on expanding connected solutions (businesses including IoT controllers and location communication functions) and green products. Moreover, with regard to air compressors, we will pursue synergies with Sullair, acquired in 2017, and in marking systems, we are accelerating global developments with the April 2022 acquisition of Photon Energy (Germany), which has strengths in innovative laser marking systems, and Telesis Technologies (United States), which handles industry-leading laser markers, acquired in July 2022.

Total Seamless Solutions Business Example (Industry Field)

In collaborative creation with Suntory Beverage & Food, we have achieved enhanced product safety and security with the traceability of single bottle at a next-generation factory that continues to evolve. Massive volumes of data are collected from each line, which are then integrated and aggregated in various data formats used to trace and visualize factory data. Based on this effort, we have realized an IoT platform for overall optimization leading to the pursuit of safety, security and workstyle reforms. Further, we are contributing to system enhancement with products that include marking systems enabling high-speed special printing even on physical layers, as well as compact and low-floor automated guided robots.

IoT infrastructure that collects and consolidates data from production equipment and IT systems to be utilized for overall optimization

Suntory Kita-Alps Shinano-no-Mori Water Plant

SUNTORY SUNTORY BEVERAGE & FOOD

3. Utilization
Utilize integrated and collected data for traceability, visualizing of factory data, etc.

Single bottle tracing | Visualization of factory data | Other applications

Applications

IoT platform
◇LUMADA

4. Action
Pursue safety and security, workstyle reforms, promote advances in factory management

High-speed special printing | Automated in-factory transportation

2. Connection
Integrate and collect various formats of data

Various information

1. Collection
Data collection

Equipment | Procurement | Production | Quality management | Shipment

Marking system | Automated guided robot

Better product safety and security with single bottle traceability

Realize evolving next-generation factory model