



# Industry Sector

Hitachi IR Day 2019

**June 4, 2019**

**Masakazu Aoki**

**Executive Vice President and Executive Officer  
General Manager of Industry Business Division  
Hitachi, Ltd.**

**1 Seamless Solutions with Lumada**

**2 Global Expansion for Further Growth**

**3 Achieving Revenues of 1 Trillion yen in FY2021**

# Industry Sector

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- 1. About the Industry Sector**
- 2. Overview of 2018 Mid-term Management Plan**
- 3. Business Strategy for 2021 Mid-term Management Plan**
- 4. Lumada Digital Solution Customer Case**
- 5. Global Expansion for Further Growth**
- 6. Conclusion**

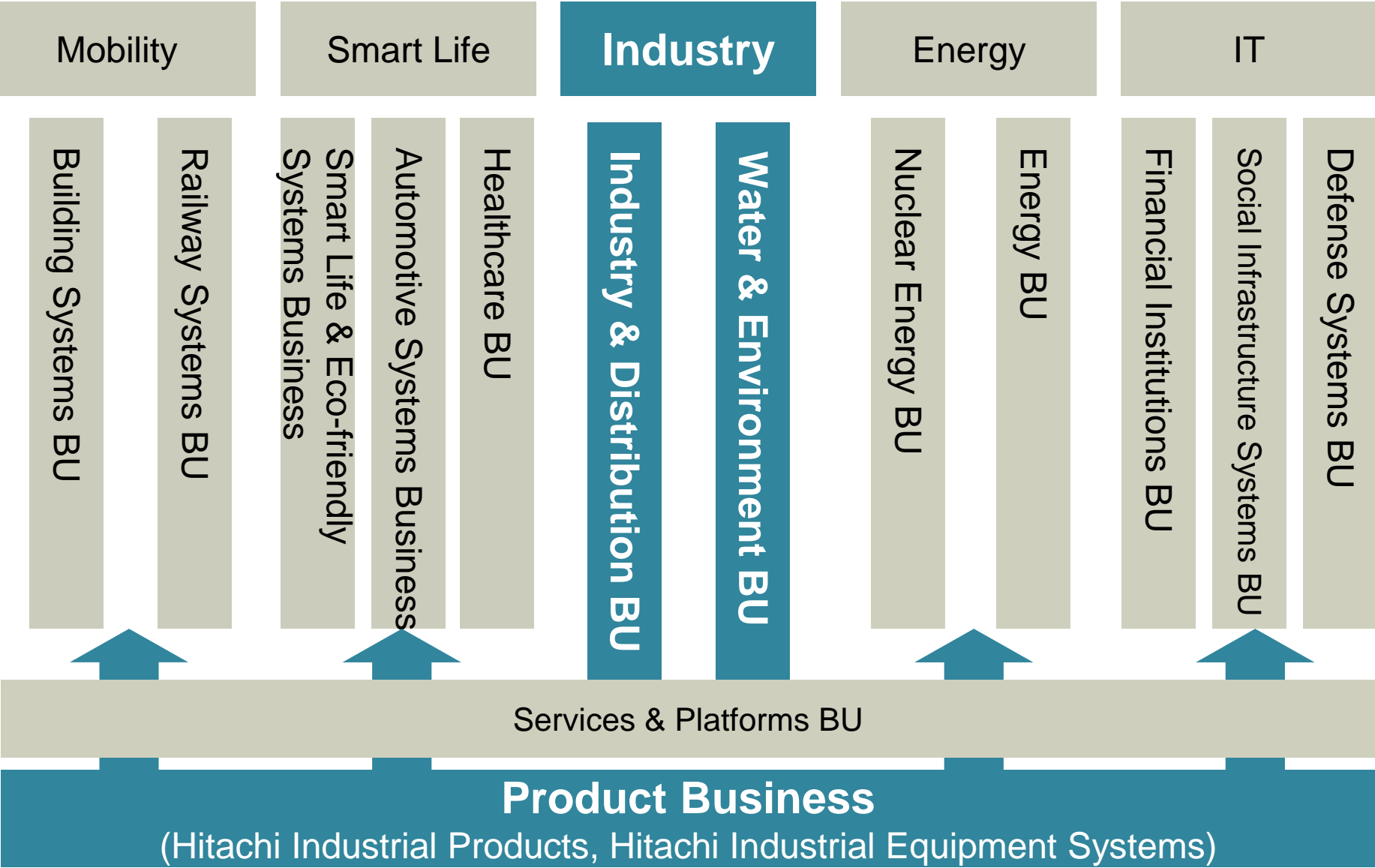
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# 1-1. Position of the Industry Sector



# 1-2. Business Overview

## Industrial Products Business

### Mass-production business (32%)

- Air compressors
- Drive systems
- Marking systems
- Power Substation equipment



### Built-to-order business (18%)

- Radial compressors
- Pumps
- Drive systems
- Transport systems



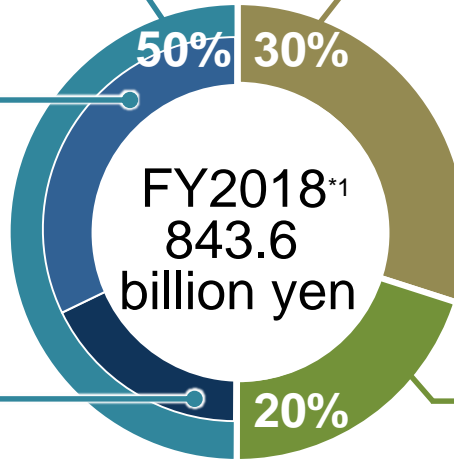
## Industry & Distribution BU

### Digital solution business



## Water & Environment BU

### Utility solution business\*2



## Social and Environmental Values

- Increasing the efficiency of customers' production and processing systems
- Providing safe, secure water environments
- Help reduce CO<sub>2</sub> emissions with energy-saving products

### Related SDGs



\*1 Impact of a large-scale overseas Engineering, Procurement, Construction (EPC) project of the Industry & Distribution BU is excluded. Figures for Hitachi Plant Services and Hitachi Plant Mechanics, which were transferred in FY2019 from the Industry & Distribution BU to Water & Environment BU and Hitachi Industrial Products, respectively, were corrected retroactively.

Figures for each subsegment include intersegment transactions. Figures for each BU include control systems business, which is posted in IT segment.

\*2 Air conditioning and water treatment facilities business for factories, social infrastructure, and so on.

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## Continuous reforms through integrated management since before the transition to the sector structure in FY2019

### Growth initiatives

#### Acceleration of global expansion

- ✓ Acquisition of Sullair
- ✓ Strengthening the business base mainly in North America
- ✓ Creating synergy by Products × OT × IT

#### Strengthening of digital solution business

- ✓ Strengthening with Lumada
- ✓ Collaborative creations with customers mainly in the manufacturing industry in Japan

#### Strengthening of product business

- ✓ Strengthening the business base by integrating large- and small-scale equipment businesses

### Profitability improvement initiatives

#### Promotion of business structural reform

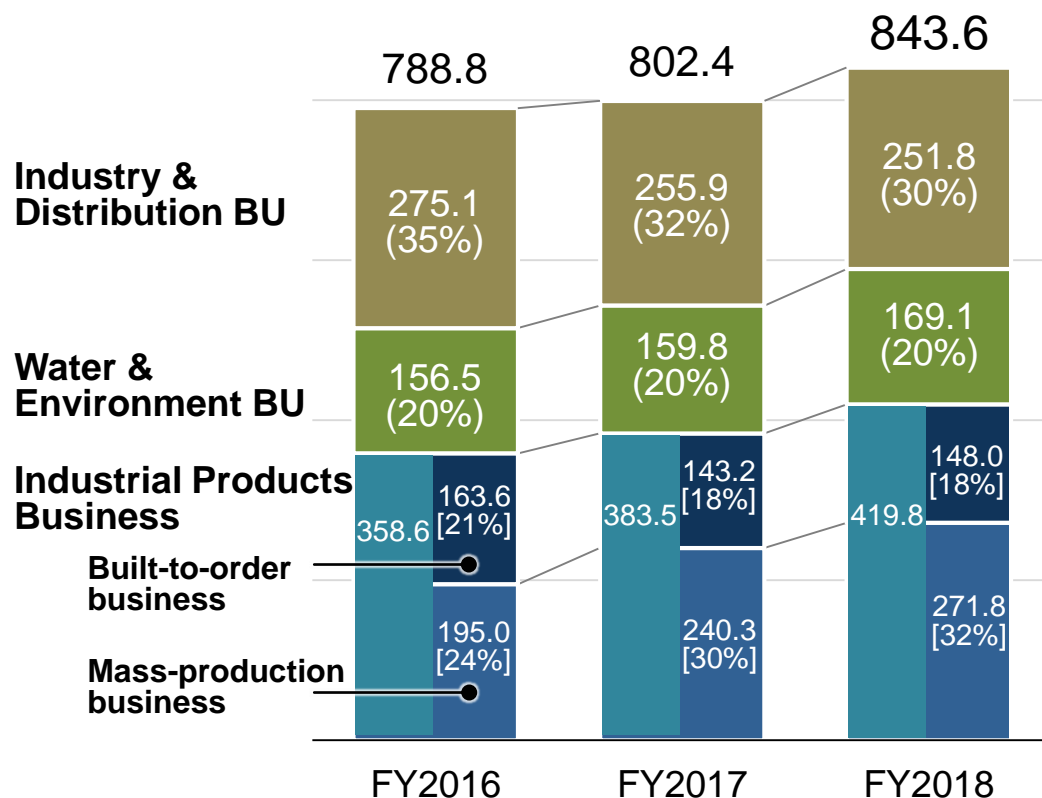
- ✓ Withdrawal from unprofitable businesses (overseas EPC business)
- ✓ Eliminating unprofitable projects by strengthening project management



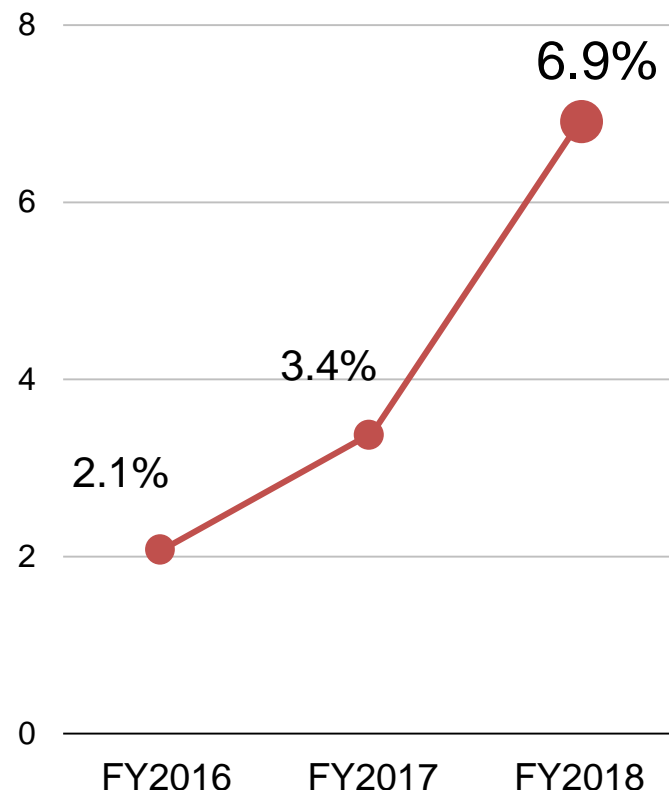
# 2-2. Results of the 2018 Mid-term Management Plan

## Profitability was improved through structural reform and growth strategy

Revenues [billion yen]\*



Adjusted operating income ratio\*



\* Impact of a large-scale overseas EPC project of the Industry & Distribution BU is excluded.

Figures for Hitachi Plant Services and Hitachi Plant Mechanics, which were transferred in FY2019 from the Industry & Distribution BU to Water & Environment BU and Hitachi Industrial Products, respectively, were corrected retroactively.

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## 2-3. Preparations for Integrated Operation of the Industry Sector

### 1. Clarifying the business domain of each BU/company

Industry & Distribution BU

Digital solution business

Water & Environment BU

Utility solution business

Hitachi Industrial Products

Built-to-order business

Hitachi Industrial Equipment Systems

Mass-production business

➔ **Strengthening business domains of Products, OT and IT and organization restructuring for providing seamless solutions**

### 2. Strengthening the function to manage the Industry Sector

✓ Establishment of **Industry Business Division**

➔ **Strengthening the function to connect business domains**

**Strengthening integrated operation of the sector**

# 2-4. Structure of the Industry Sector

## Industry Sector

Masakazu Aoki  
Executive Vice President  
and Executive Officer



843.6 billion yen



Jun Abe, CEO



Hideshi Nakatsu, CEO



Keizo Kobayashi,  
President



Yutaka Araya,  
President and Director

**Industry &  
Distribution BU**

251.8 billion yen **30%**

**Digital solution  
business**

**Water &  
Environment BU**

169.1 billion yen **20%**

**Utility solution  
business**

**Hitachi Industrial  
Products**

419.8 billion yen **50%**

**Built-to-order  
business**

**Hitachi Industrial  
Equipment Systems**

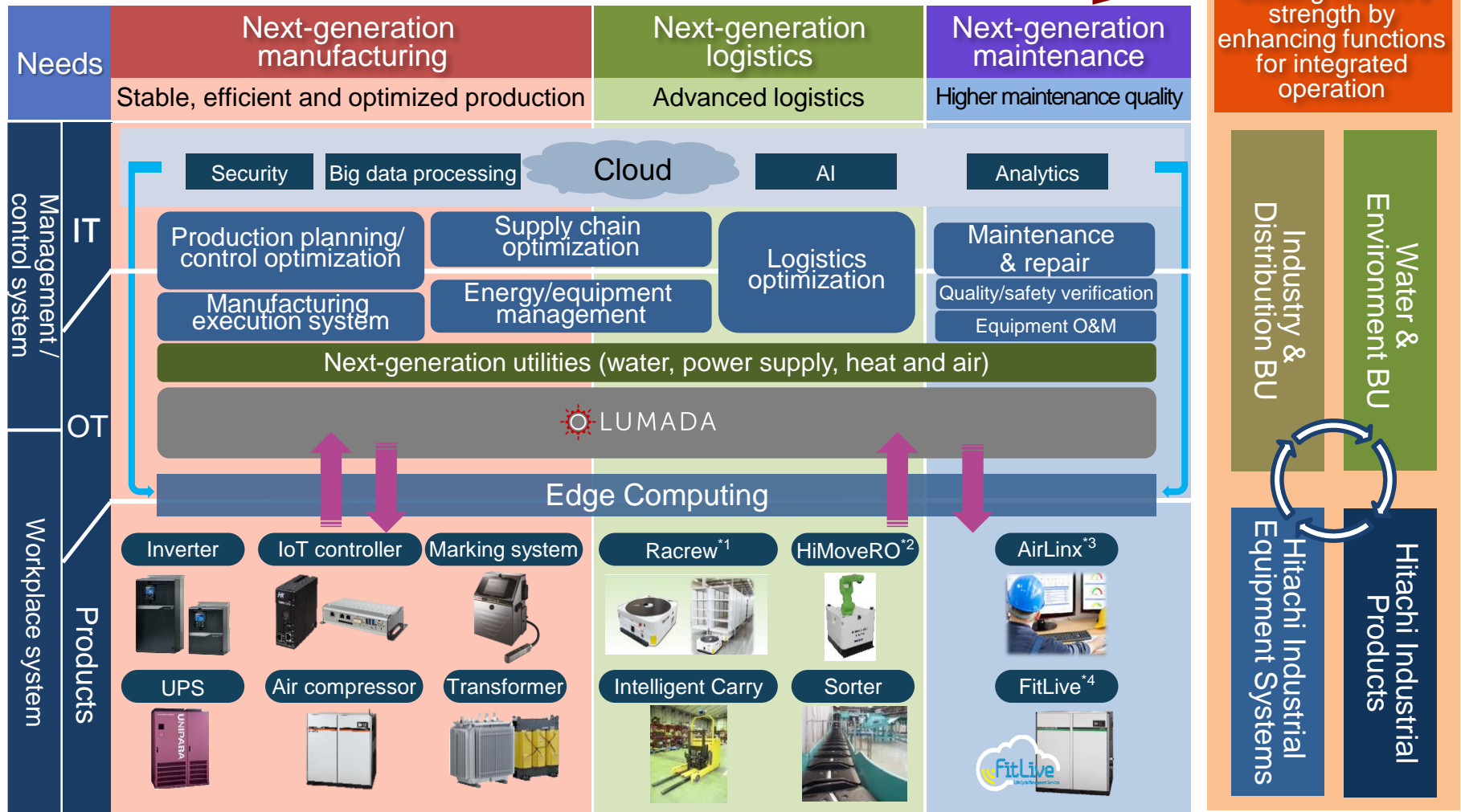
**Mass-production  
business**

Figures above indicate revenues (FY2018 results).

# 2-5. Business Domains

## Providing digital solutions with the strength of Products X OT X IT

Creating customer value in value chains



\*1 Compact and low-floor automated guided robot \*2 Autonomous moving robot (Mounted robot made by FANUC) \*3 Air compressor remote monitoring service

\*4 Air compressor cloud monitoring service

OT: Operational Technology

O&M: Operation and Maintenance

UPS: Uninterruptible Power System

# Industry Sector

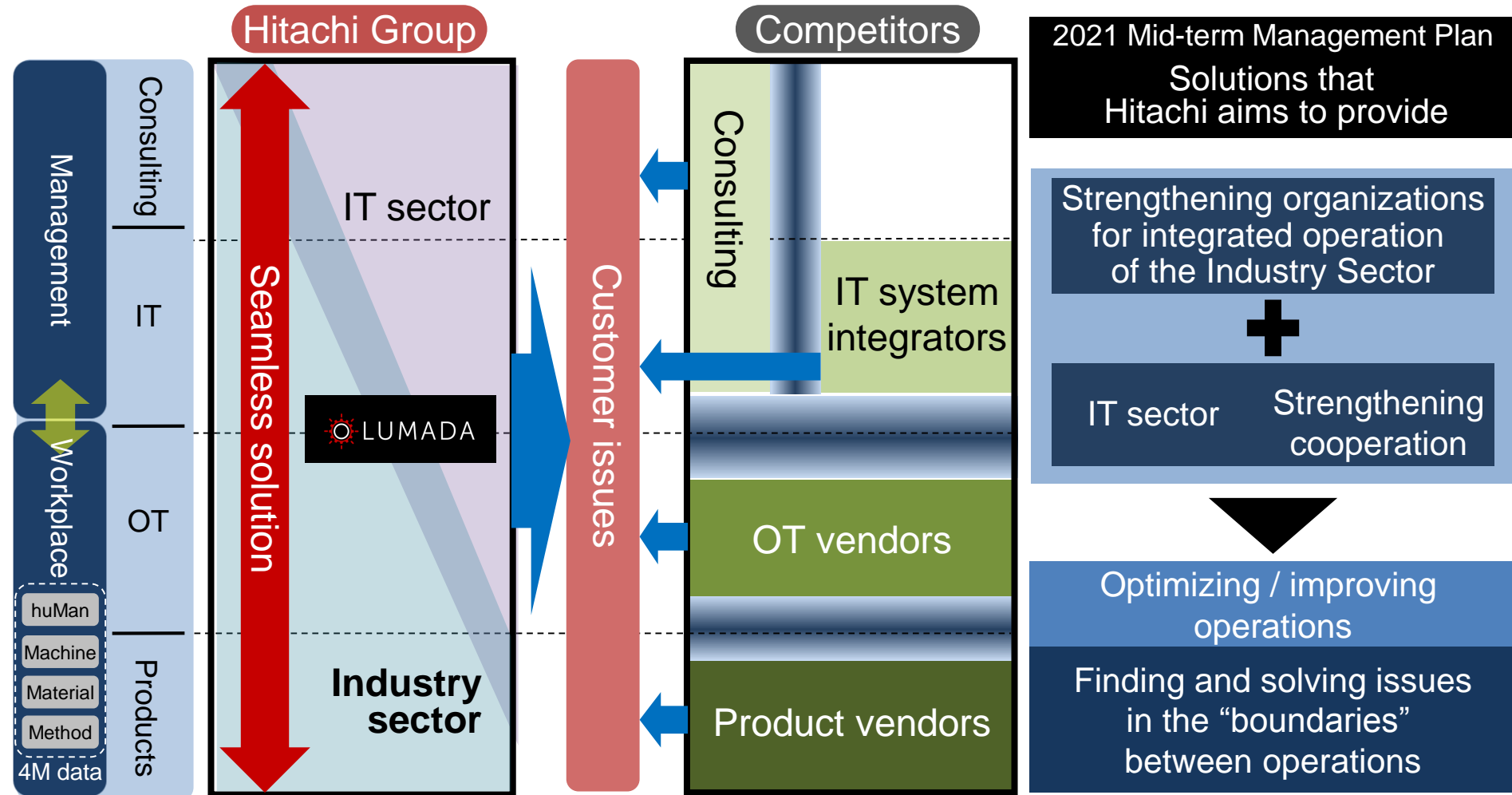
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# 3-1. Vision of the Industry sector

**Taking advantage of its strength of owning Products × OT × IT, Hitachi will build business structure that connects workplace and the management seamlessly**



### Basic Policy

- Seamless solutions with digital connections

Next-generation  
manufacturing

Next-generation  
logistics

Next-generation  
maintenance

Next-generation  
utilities

Connected  
products

- Global expansion for further growth

### Best Solution Partner for Customers in the Industry and Distribution Field

Solving issues of diverse customers with digital technologies  
by focusing on “boundaries” that exists in value chain of the future manufacturing  
that is connected in an advanced way

**FY2021 Goal**

**Revenues:**

**1 trillion yen**

**Adjusted operating income:**

**100.0 billion yen**

**Adjusted operating income ratio: 10%**

Market needs become diverse and accelerated.  
Creating new business value by solving customers' issues of  
“boundaries” between companies and organizations

Toward realizing Seamless solution

### Lumada Digital Solution Strategy

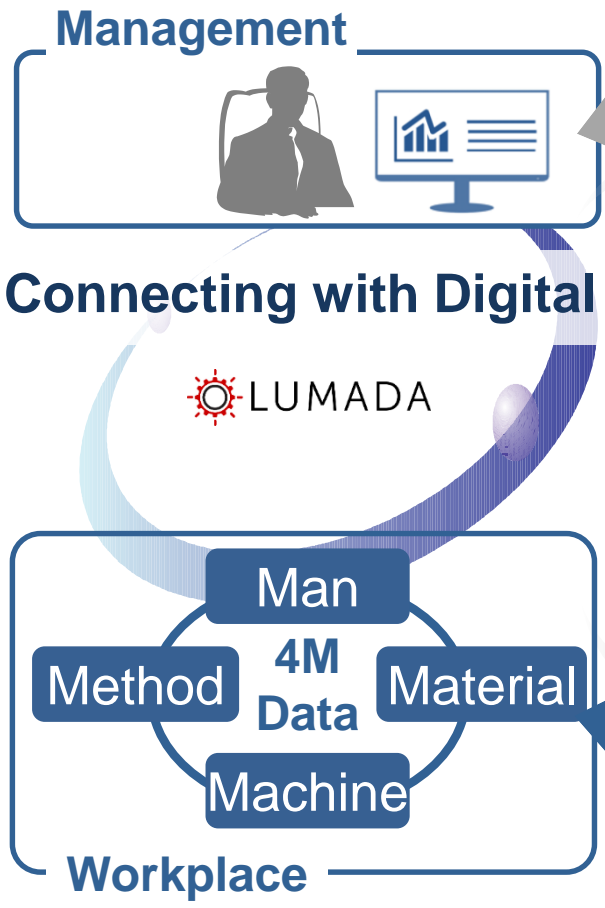
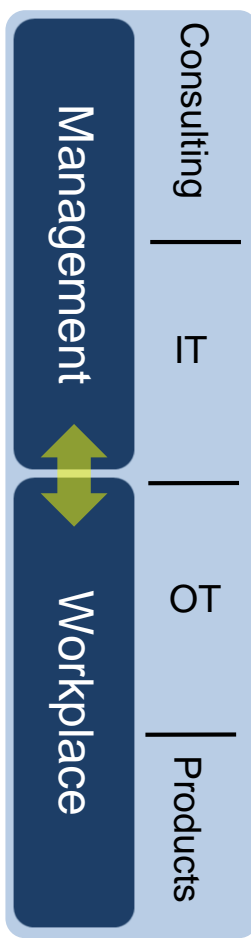
- 1 Connect “boundaries” between workplace and management **vertically**
- 2 Connect “boundaries” between operations and companies within supply chain **horizontally**
- 3 Provide connected **place** through open innovation and connect “boundaries” between different industries



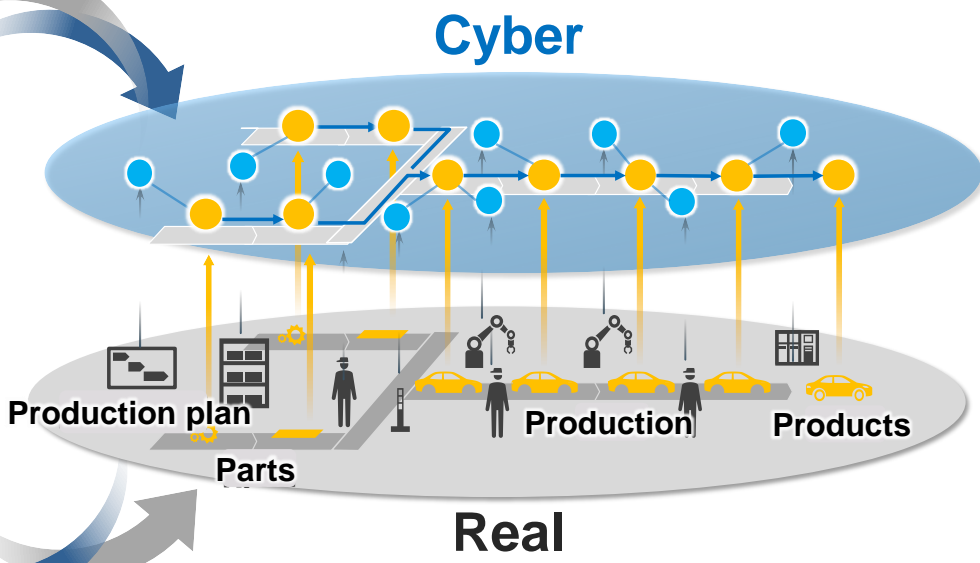
# (1) Connect “boundaries” between workplace and management vertically



**Value** Achieve highly flexible operations that respond immediately to market needs



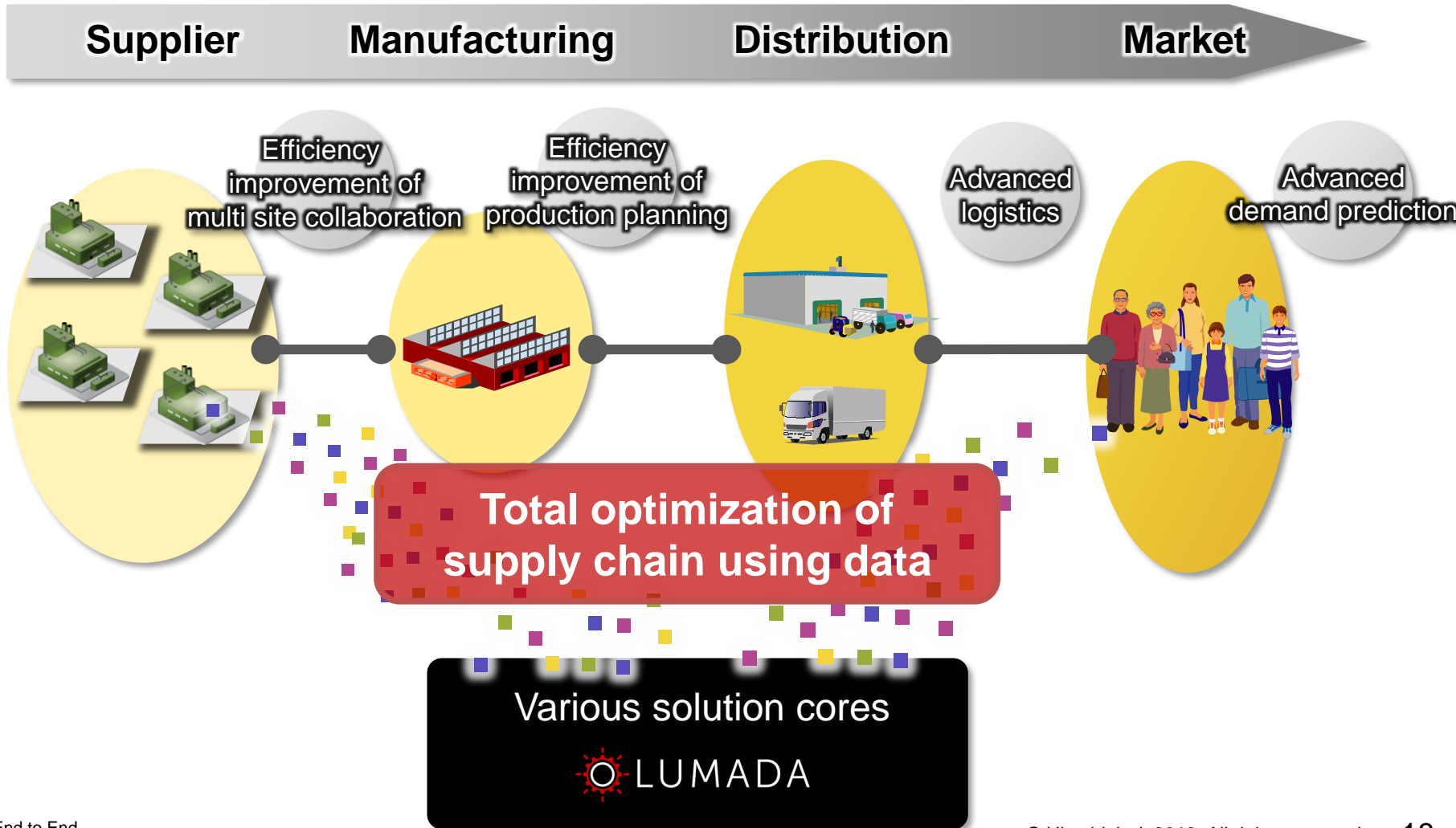
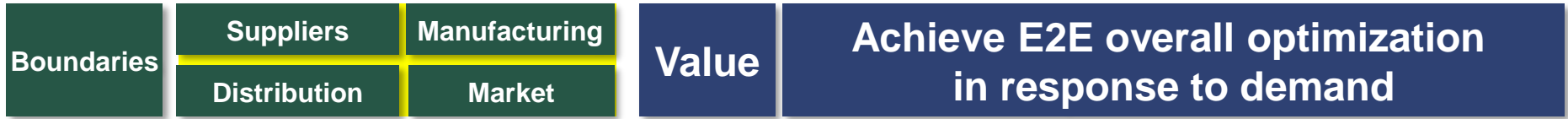
**Prompt management decisions responding to diversifying market needs**



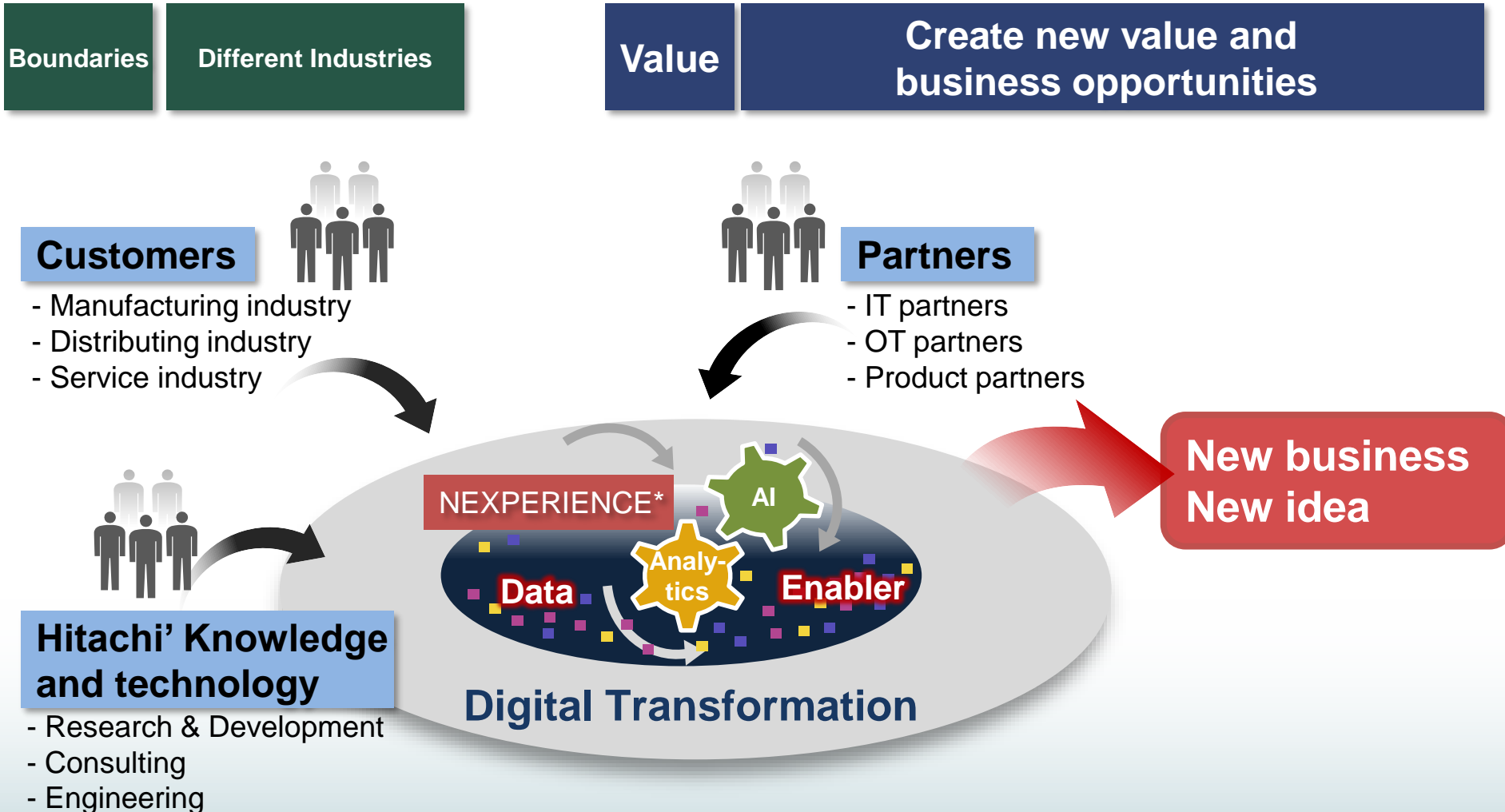
**Establish high efficient production**

- Changing producing lines flexibly
- Shorter product development cycle
- High mix, variable volume, mixed-flow production

# (2) Connect “boundaries” between operations and companies within supply chain horizontally



# (3) Provide connected place through open innovation and connect “boundaries” between different industries



Create new business model through co-creation with customers and partners

\* Method of co-creation with customers that systematized method of creating new service, IT tool and space by design thinking

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# 4. Lumada Digital Solution Customer Case

Customer  
Case1

Connect **vertically** 【Next-generation manufacturing】  
AMADA CO.,LTD.

Customer  
Case2

Connect **horizontally** 【Next-generation manufacturing】  
Suntory Beverage & Food Limited

Customer  
Case3

Connect **horizontally** 【Next-generation logistics】  
FP Corporation

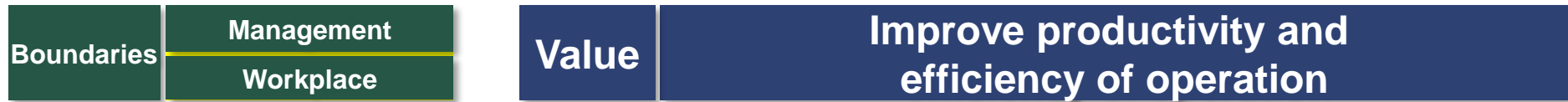
Customer  
Case4

Connect **horizontally** 【Next-generation maintenance】  
Sullair

Customer  
Case5

Connect **in the place** 【Next-generation maintenance】  
Chemical manufacturers  
Tokio Marine & Nichido Fire Insurance Co., Ltd.

# Customer Case 1 Connect vertically 【Next-generation manufacturing】



Servos, compressors for equipment, cranes


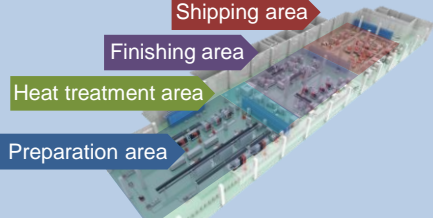


Servo system\* for pressing



Crane system  
<Fujinomiya Works>

Optimizing production equipment by applying robotics

Shipping area  
Finishing area  
Heat treatment area  
Preparation area

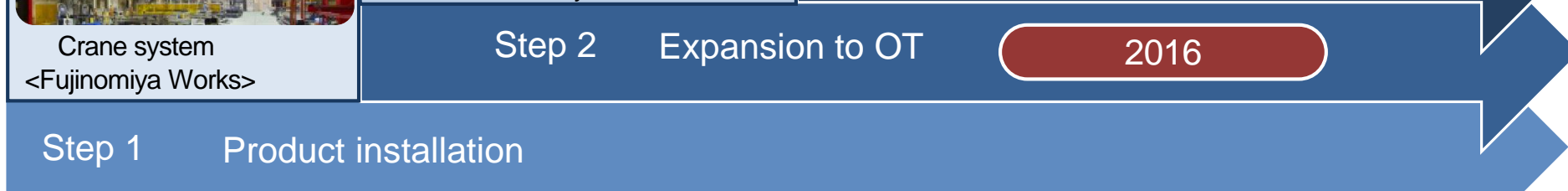
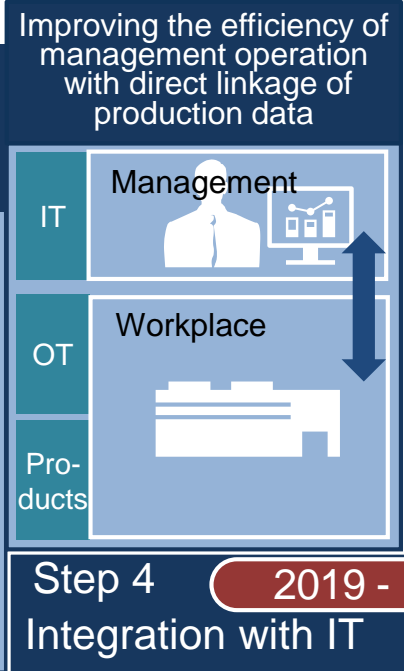
Total unmanned IoT line working 365 days  
Establish a same-day delivery system within 3 hours minimum  
<T876 Factory, Toki Works>

LUMADA

Achieving a higher level of production site by using IoT

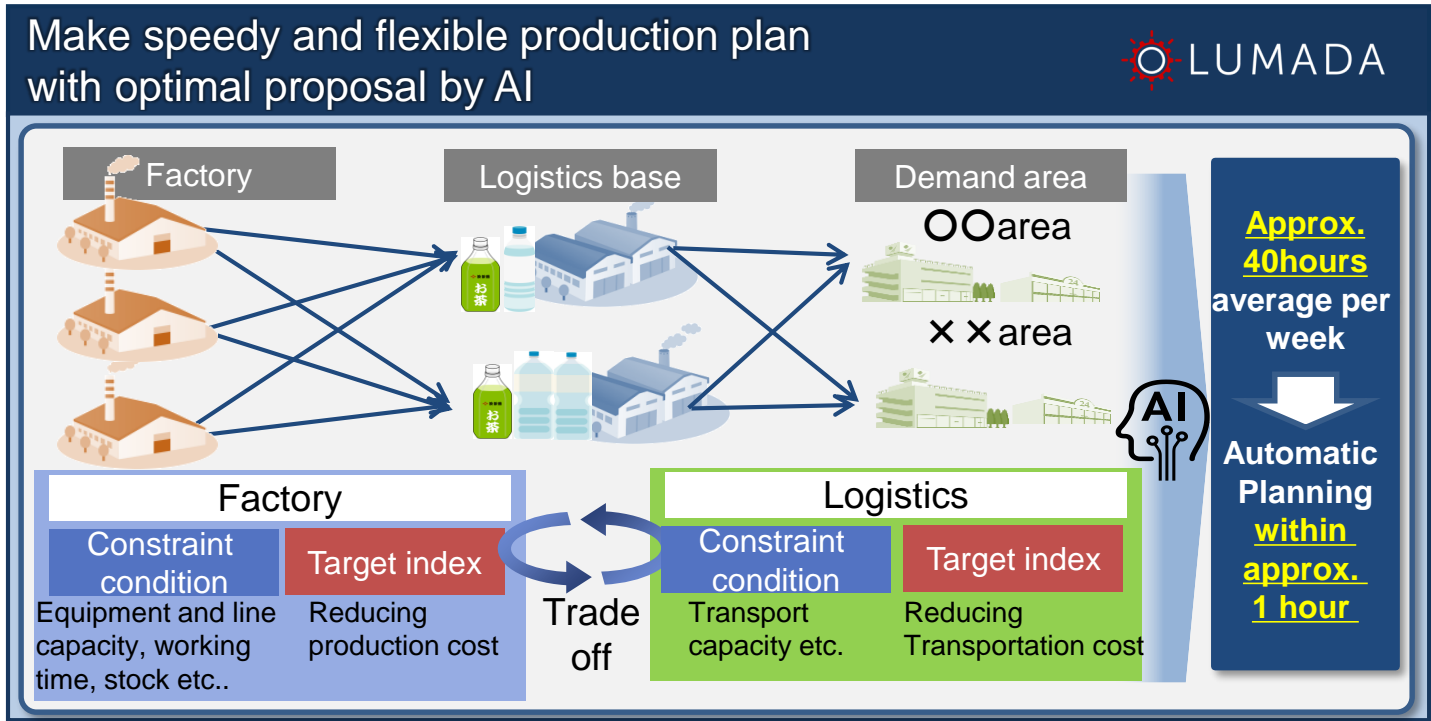


Assembly navigation system  
Establish a human-friendly next-generation manufacturing model  
<Fujinomiya Works>



\*A control system that can follow a desired position, speed, etc.

# Customer Case 2 Connect horizontally 【Next-generation manufacturing】





# Customer Case 3 Connect horizontally 【Next-generation logistics】



 FP CORPORATION

**HITACHI**  
Inspire the Next

Improving efficiency of sorting and delivery operations by automatic transport equipment



Kanto region distribution center

Step2 Expansion to OT

Enhancing retailer service by automation delivery center expansion



Hachioji distribution center




Fukuyama distribution center

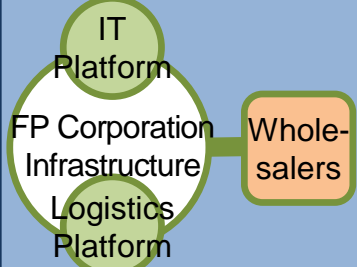
Environmental / ecological enhancement

Enhancing maintenance after-service with the expansion of automatic transport equipment

Step3 Strengthening OT expansion and maintenance after service

 LUMADA

Strengthening collaboration with wholesalers utilizing IT and logistics



Usage of IT and logistics infrastructure of FP Corporation by wholesalers

Step4 2019 - SCM coordination

Operational reform by ERP system installation

Product of FP Corporation Food tray



Step1 System Installation



# Customer Case 4 Connect horizontally 【Next-generation maintenance】

Boundaries

Product

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After service

Value

Improve efficiency of maintenance of air compressor, stable operation



Improving product competitiveness  
(Organic + M&A)



Enhancing the lineup with synergy  
between Sullair and Hitachi

Expanding sales channels to  
robotic SI customers



Linkage with Robotic SI business

Step 2 Linkage with OT

Providing next-generation maintenance services utilizing AI and IoT



Utilizing KDDI's  
"IoT Worldwide Architecture"



Expanding Lumada solutions

Step 3  
Responding to the shift to IoT

2020 -

2019 -

Step 1 Strengthening products

2017 -

# Customer Case 5 Connect in the place 【Next-generation maintenance】

Boundaries Different industries


Value Minimize plant operation risk

Chemical Manufacturers


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Tokio Marine & Nichido Fire Insurance Co., Ltd.

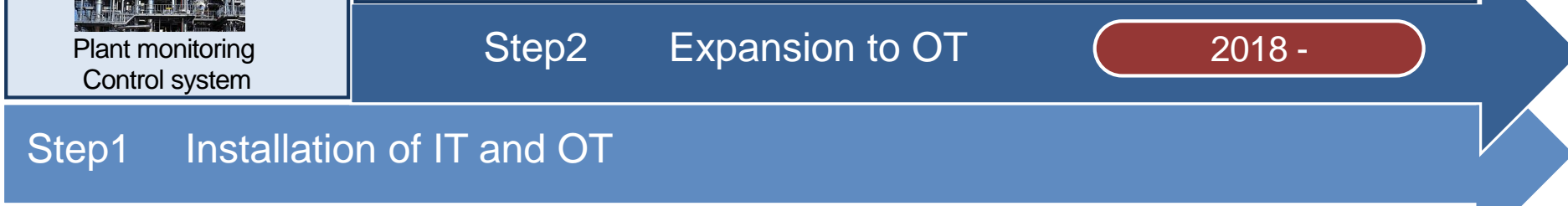
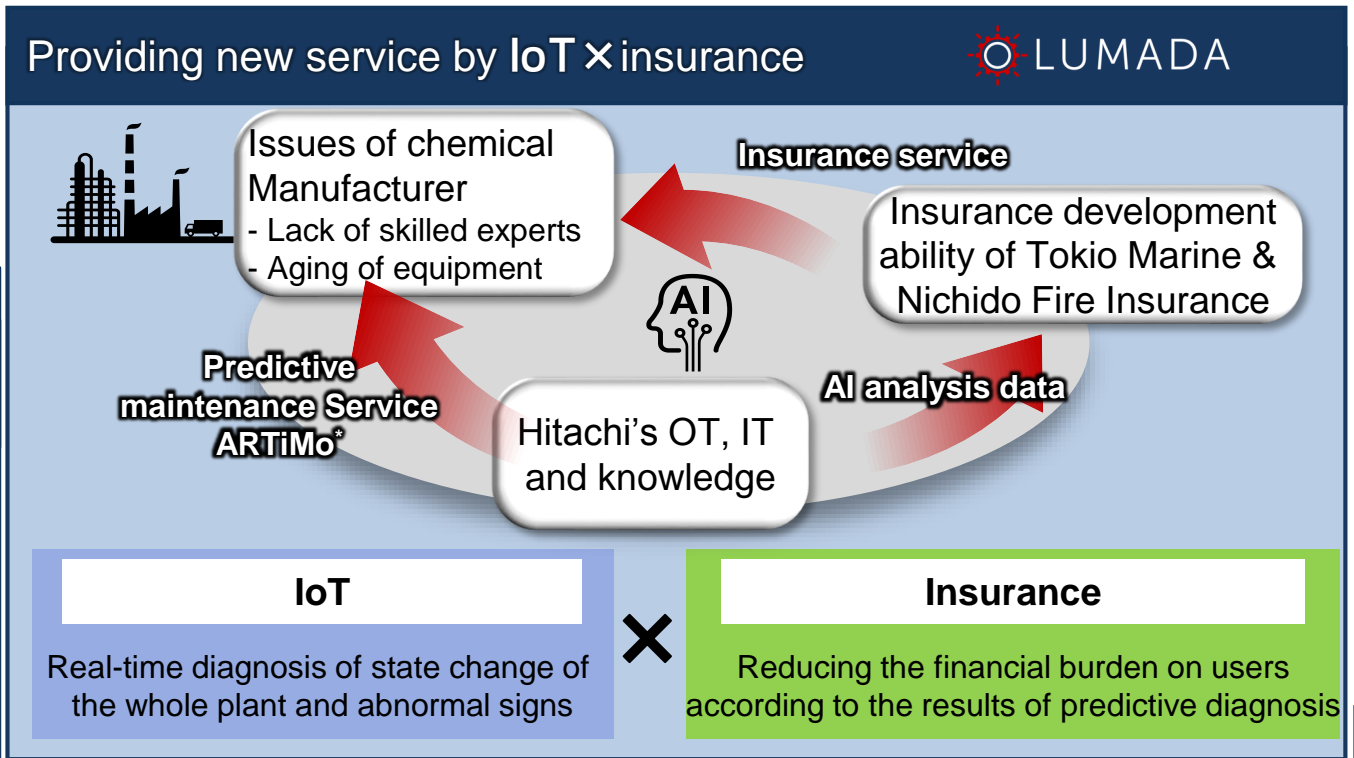
Motor, inverter, and plant monitoring control system for chemical plant



Motor Inverter



Plant monitoring Control system



\* Predictive maintenance service for plants utilizing AI

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# 5-1. Manufacturing evolution Hitachi will provide


Optimizing manufacturing by using robot  
Acquisition of two robotic system integrators in Japan and the United States

**JR AUTOMATION™**  
**KEC**  
株式会社ケーイーシー

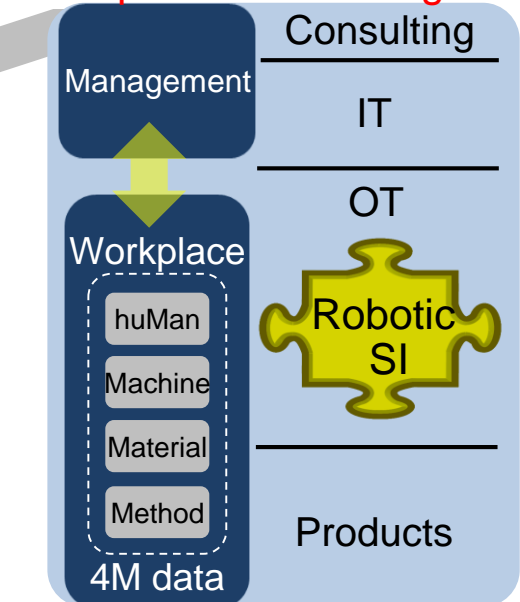
[Now-on]  
Robot applied manufacturing



[Current]  
Manufacturing  
by people and machine



[Future]  
Manufacturing linking  
workplace and management



Seamless collaboration between  
workplace and management,  
optimization of management efficiency

Line-building SI using robot + Total data SI

Field operation capability accumulated with people

## 5-2. Outline of JR Automation

**Provide diverse robotic solutions in a wide range of industries with the strength of proposal ability, technology, and customer base**

<b>Company name</b>	JR Automation Technologies, LLC	<b>Main business</b>	Robotic SI business (building production lines and logistics systems)
<b>Sales</b>	US\$ 603 million (approx. 67 billion yen) (consolidated: 2018)	<b>Main Customer Field</b>	<ul style="list-style-type: none"> <li>•Automotive</li> <li>•Aircraft</li> <li>•E-Commerce</li> <li>•Medical equipment and others</li> </ul>
<b>Head Office</b>	Holland, MI (US)	<b>CEO</b>	Bryan Jones
<b>Established</b>	1980	<b>Employees</b>	Approx. 2,000

**Capability of making suggestions for diverse lines**

**Technological capabilities for achieving high quality**

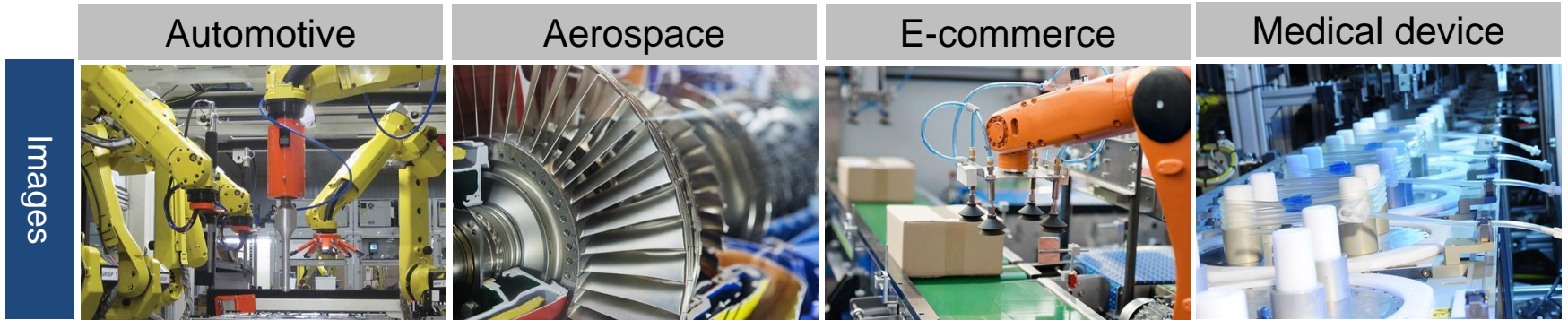
**High-quality customer base**

# 5-3. Target market focused by JR Automation

Robotic SI market expands with high growth rate, JR Automation's target industries have huge opportunities

Global robot-based automation market CAGR (2018-2023)  
**More than 10%\***

	Growth drivers	Business opportunities
Automotive	<ul style="list-style-type: none"> <li>- Shift to electric vehicles</li> <li>- Increasing labor cost</li> </ul>	<ul style="list-style-type: none"> <li>- Strong demand for automation</li> </ul>
Aerospace	<ul style="list-style-type: none"> <li>- Expanding aircraft market</li> <li>- Weight reduction with new material</li> </ul>	<ul style="list-style-type: none"> <li>- Increasing the number of Tier1-3 suppliers</li> </ul>
E-commerce	<ul style="list-style-type: none"> <li>- High-frequency deliveries, increasing number of warehouses</li> <li>- Labor shortage</li> </ul>	<ul style="list-style-type: none"> <li>- Automation of the entire process (Picking, etc.)</li> </ul>
Medical device	<ul style="list-style-type: none"> <li>- Medical device innovation</li> </ul>	<ul style="list-style-type: none"> <li>- Compliance with strict FDA standards</li> </ul>

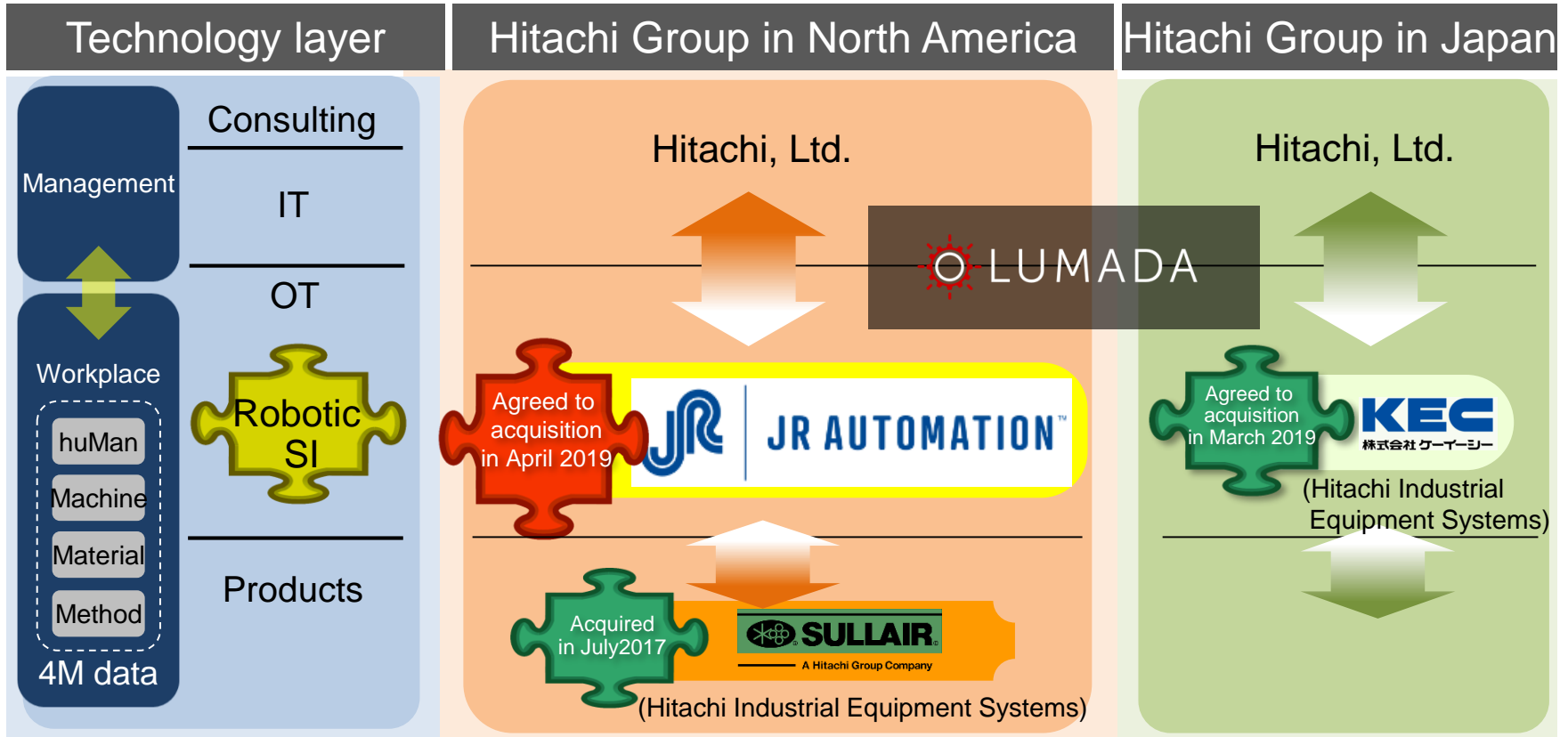


Images

\*Source: Hitachi estimate based on IFR 2017 Report and other data



## Expanding Lumada solutions globally utilizing acquired customer bases, knowledge, and expertise



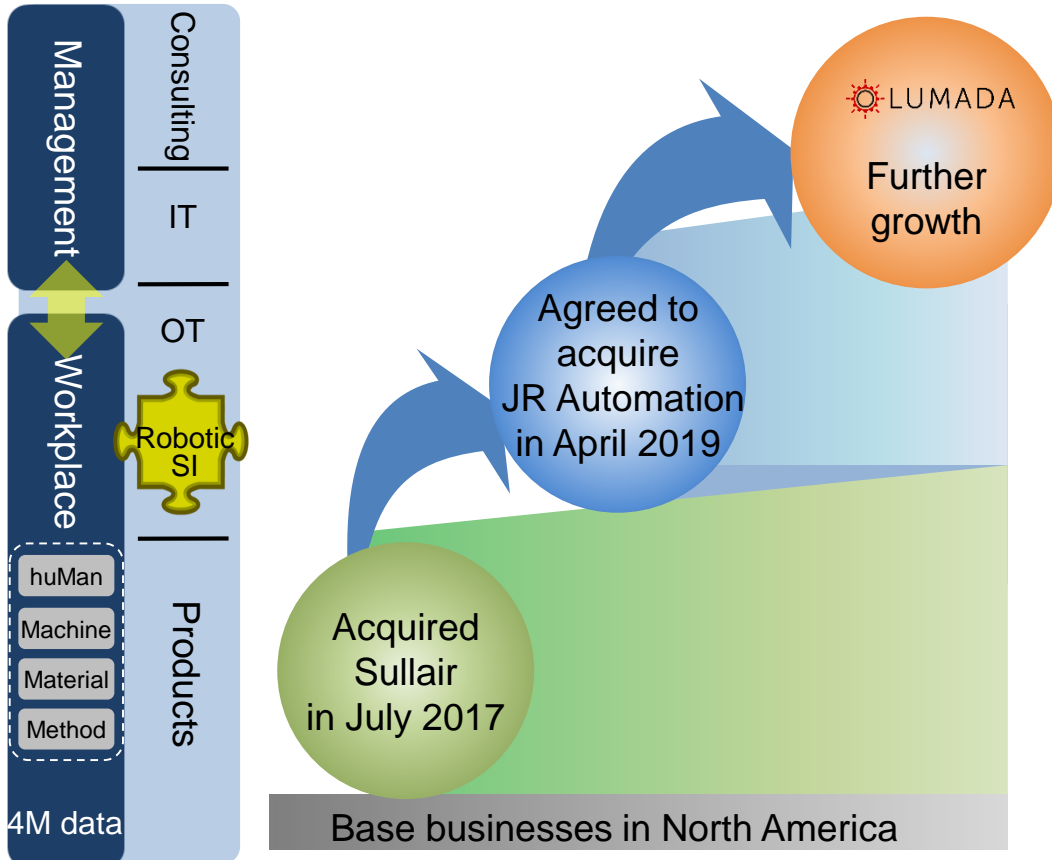
Realize a higher level value chain by integrating Hitachi's IT and AI technologies with OT of robotic SI in response to the increasingly diverse, sophisticated market needs

# 5-5. Business Expansion in North America

## Strengthening the business base in North America by means of M&A

Global revenues of Industry Sector's group companies in North America:  
Approx. 73.0 billion yen (FY2018)

Target revenues:  
Approx. 200.0 billion yen (FY2021)



Improve social, environmental, and economic values of customers by connecting workplace with the management

Expand the digital solution business by acquiring a customer base

Increase revenues by expanding recurring business\* (connected products)

\* Cycling business that exist after sale service market and continual replace demand such as replacement parts



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# 6-1. Intensive investment policy of Industry Sector

Make Industry Sector high-value added and high profitability through  
Strengthening Portfolio/Expanding to growth area/ Improving efficiency of operation

Strengthening Portfolio

Expanding to growth area

Improving efficiency  
of operation

## Details of intensive investment

### ■ Expanding Investment for seamless solution

- Developing Lumada solution cores
- Expanding recurring business

### ■ Investment for global business

- Strengthening the front business especially in North America (Delivery structure, customer base)

### ■ Strengthening management base

- Operational reforms (Optimizing the operating process, upgrading the production system)

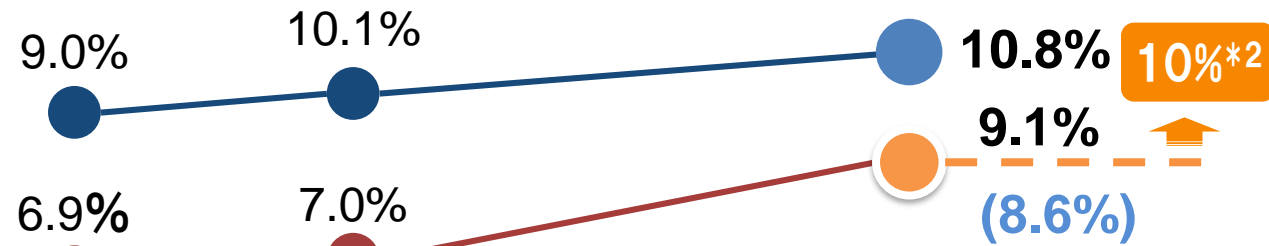
Be the high-value added,  
high profitability sector

### Management index

- ROIC(Return on Invested Capital)
- Adjusted operating income ratio
- Revenues /Overseas revenue ratio

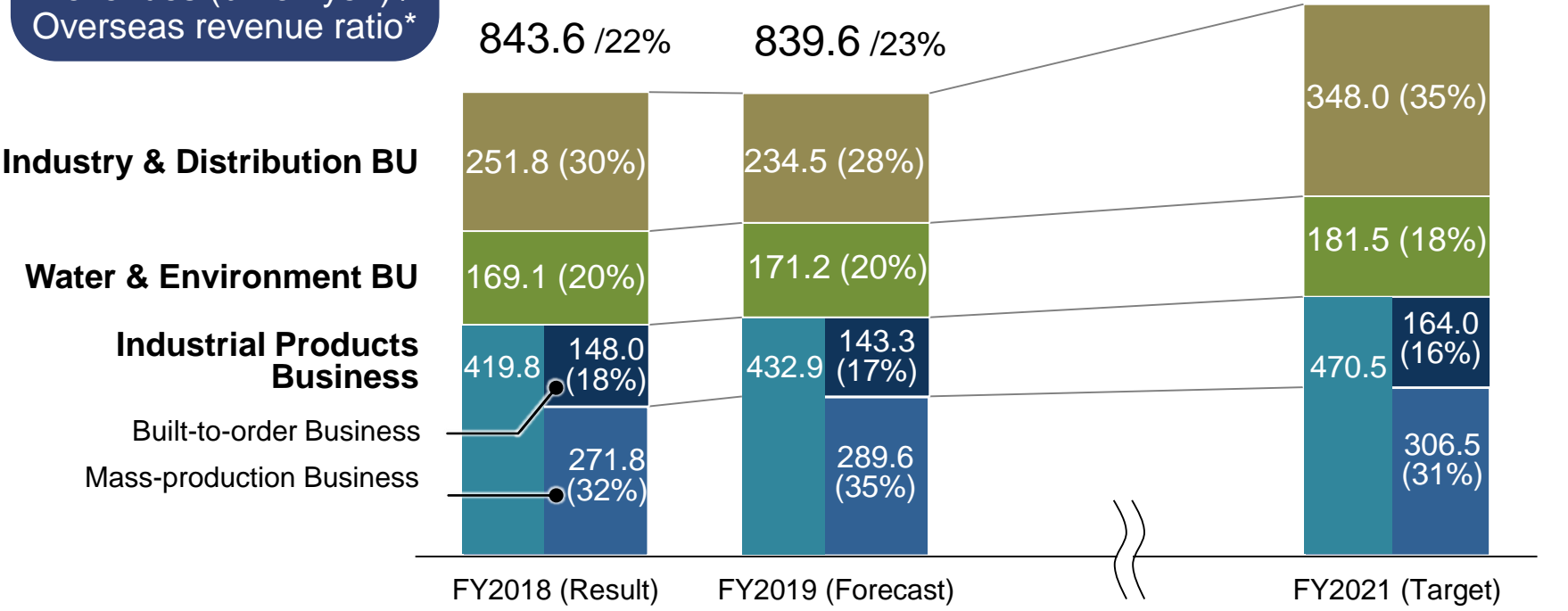
# 6-2. Target of FY 2021

**ROIC\*1**  
(Return on Invested Capital)



**Adjusted operating income ratio\*1**  
( ) EBIT ratio\*1

**Revenues (billion yen) / Overseas revenue ratio\***



\*1 Impact of a large-scale overseas EPC project of the Industry & Distribution BU is excluded.

Figures for each subsegment include intersegment transactions. Figures for each BU include control systems business, which is posted in IT segment.

\*2 Stretch target EBIT: Earnings before Interest and Taxes

### For Further Growth

- Strengthen and Expand Seamless Solution
- Accelerate global expansion
- Expand recurring business

**Be the Best Solution Partner for Customers  
in the Industry and Distribution Field**

*Hitachi Social Innovation is*  
**POWERING GOOD**

# Cautionary Statement

Certain statements found in this document may constitute “forward-looking statements” as defined in the U.S. Private Securities Litigation Reform Act of 1995. Such “forward-looking statements” reflect management’s current views with respect to certain future events and financial performance and include any statement that does not directly relate to any historical or current fact. Words such as “anticipate,” “believe,” “expect,” “estimate,” “forecast,” “intend,” “plan,” “project” and similar expressions which indicate future events and trends may identify “forward-looking statements.” Such statements are based on currently available information and are subject to various risks and uncertainties that could cause actual results to differ materially from those projected or implied in the “forward-looking statements” and from historical trends. Certain “forward-looking statements” are based upon current assumptions of future events which may not prove to be accurate. Undue reliance should not be placed on “forward-looking statements,” as such statements speak only as of the date of this document.

Factors that could cause actual results to differ materially from those projected or implied in any “forward-looking statement” and from historical trends include, but are not limited to:

- economic conditions, including consumer spending and plant and equipment investment in Hitachi’s major markets, particularly Japan, Asia, the United States and Europe, as well as levels of demand in the major industrial sectors Hitachi serves;
- exchange rate fluctuations of the yen against other currencies in which Hitachi makes significant sales or in which Hitachi’s assets and liabilities are denominated;
- uncertainty as to Hitachi’s ability to access, or access on favorable terms, liquidity or long-term financing;
- uncertainty as to general market price levels for equity securities, declines in which may require Hitachi to write down equity securities that it holds;
- fluctuations in the price of raw materials including, without limitation, petroleum and other materials, such as copper, steel, aluminum, synthetic resins, rare metals and rare-earth minerals, or shortages of materials, parts and components;
- the possibility of cost fluctuations during the lifetime of, or cancellation of, long-term contracts for which Hitachi uses the percentage-of-completion method to recognize revenue from sales;
- credit conditions of Hitachi’s customers and suppliers;
- fluctuations in product demand and industry capacity;
- uncertainty as to Hitachi’s ability to implement measures to reduce the potential negative impact of fluctuations in product demand, exchange rates and/or price of raw materials or shortages of materials, parts and components;
- uncertainty as to Hitachi’s ability to continue to develop and market products that incorporate new technologies on a timely and cost-effective basis and to achieve market acceptance for such products;
- uncertainty as to Hitachi’s ability to attract and retain skilled personnel;
- increased commoditization of and intensifying price competition for products;
- uncertainty as to Hitachi’s ability to achieve the anticipated benefits of its strategy to strengthen its Social Innovation Business;
- uncertainty as to the success of acquisitions of other companies, joint ventures and strategic alliances and the possibility of incurring related expenses;
- uncertainty as to the success of restructuring efforts to improve management efficiency by divesting or otherwise exiting underperforming businesses and to strengthen competitiveness;
- the potential for significant losses on Hitachi’s investments in equity-method associates and joint ventures;
- general socioeconomic and political conditions and the regulatory and trade environment of countries where Hitachi conducts business, particularly Japan, Asia, the United States and Europe, including, without limitation, direct or indirect restrictions by other nations on imports and differences in commercial and business customs including, without limitation, contract terms and conditions and labor relations;
- uncertainty as to the success of cost structure overhaul;
- uncertainty as to Hitachi’s access to, or ability to protect, certain intellectual property;
- uncertainty as to the outcome of litigation, regulatory investigations and other legal proceedings of which the Company, its subsidiaries or its equity-method associates and joint ventures have become or may become parties;
- the possibility of incurring expenses resulting from any defects in products or services of Hitachi;
- the possibility of disruption of Hitachi’s operations by natural disasters such as earthquakes and tsunamis, the spread of infectious diseases, and geopolitical and social instability such as terrorism and conflict;
- uncertainty as to Hitachi’s ability to maintain the integrity of its information systems, as well as Hitachi’s ability to protect its confidential information or that of its customers; and
- uncertainty as to the accuracy of key assumptions Hitachi uses to evaluate its employee benefit-related costs.

The factors listed above are not all-inclusive and are in addition to other factors contained in other materials published by Hitachi.

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