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Mid-term Management Plan 2024 | Digital Strategy

Digital transformation (DX), which uses digital technology to solve problems and transform society for the better, is drawing increased worldwide demand as various social challenges come to light. Hitachi moved swiftly to focus on the Social Innovation Business, which aims to improve quality of life (QoL) and contribute to sustainable social and economic development by leveraging know-how and ideas with data and digital technology at its core. In April 2022,

it established Hitachi Digital in Silicon Valley to further accelerate Lumada's expansion into the global DX market. Serving as a command post, Hitachi Digital will formulate and execute Hitachi's global Groupwide digital strategy and target growth by creating synergies through the cross-fertilization of OT (control and operation technology), IT, and products.

Overview of Lumada

Concept

Launched in 2016, Lumada is a coined term that combines the words "illuminate" and "data." It expresses Hitachi's desire to create value from data using digital technology to meet the needs of customers and society, as well as to help address issues and grow our businesses.
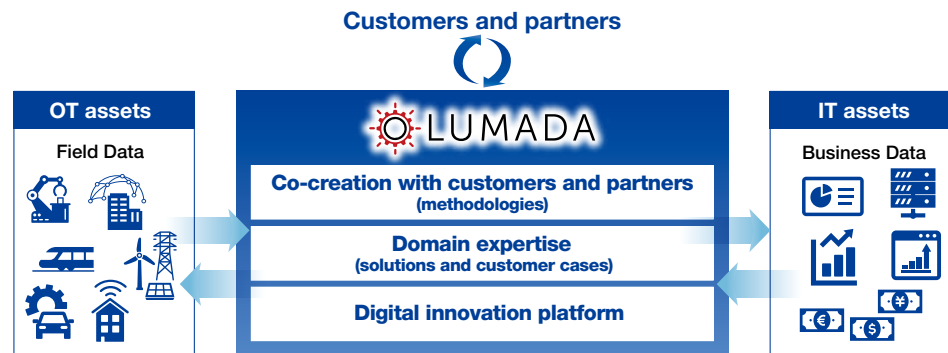
Lumada Overview

1 Digital innovation platform

Lumada's digital innovation platform brings together advanced digital technologies, such as AI and analytics. It uses AI tools and other technologies implemented on the cloud (cyberspace) to visualize and analyze data gathered from the real world, then feed back solutions to the real world in real time. The digital innovation platform creates and accelerates this cycle. It's "openness" is strong point of Lumada architecture. It connects not only Hitachi's original technologies, but also other companies' products and platforms so that it can provide combination of multiple digital technologies, products, and platforms.

2 Domain expertise (solutions and customer cases)

Hitachi has knowledge and expertise in a wide range of industries and businesses, including electric power, railways, manufacturing, and finance, as well as digital solutions that have proven their value through co-creation with customers. To enable rapid deployment and utilization of these assets, we gather universal solutions and customer cases as models and accumulate them into Lumada. The number and scope of applicable fields are growing every year, and Hitachi is using Lumada's accumulated customer cases and solutions to quickly propose and provide solutions to resolve issues faced by customers and society.
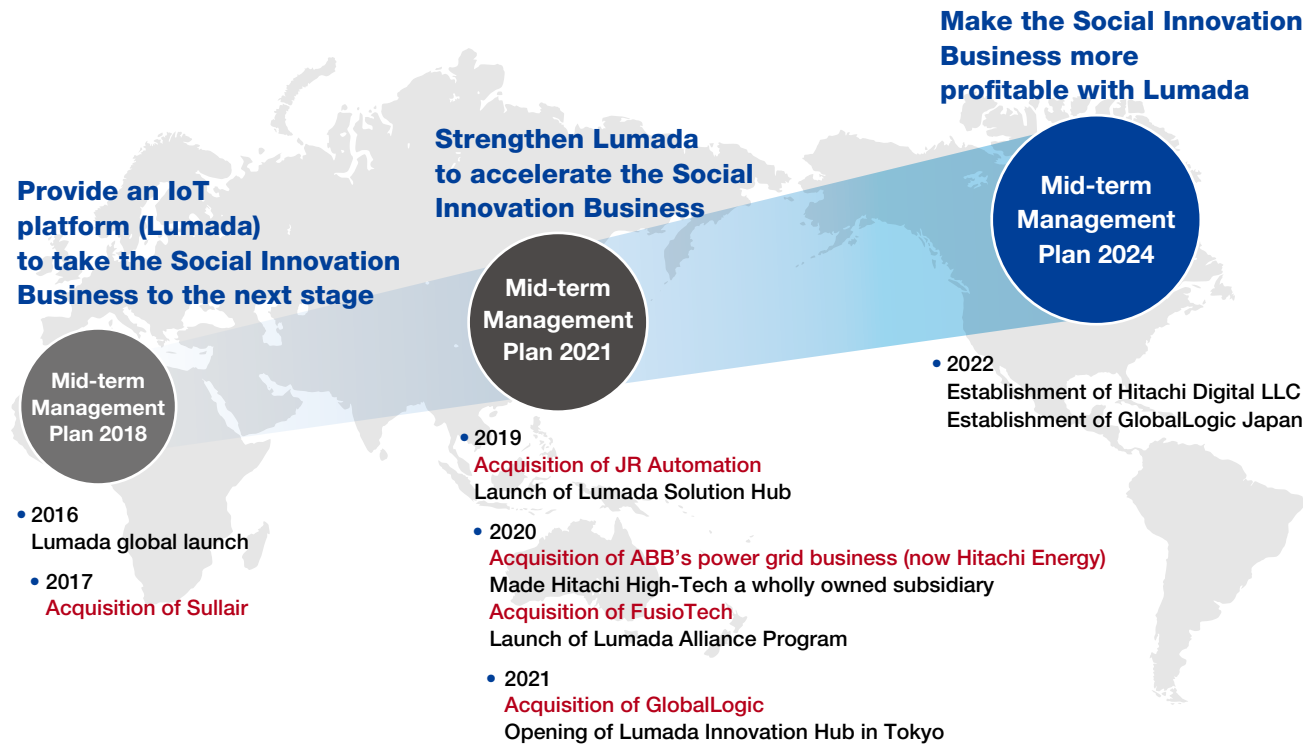
3 Co-creation with customers and partners (methodologies)

Hitachi has created value in various forms by activating co-creation with customers and partners through the following three initiatives. With GlobalLogic joining our ranks in July 2021, we have gained two new capabilities—design and digital engineering—enabling us to understand upstream issues and create solutions to them more quickly.

Ways to Accelerate Co-creation

Lumada Alliance Program	Together with partners who agree with the purpose of our Social Innovation Business, we are building an ecosystem to accelerate open innovation. This ecosystem is expanding, with approximately 50 participating partners and 50 other candidate companies in discussions to join as of March 31, 2022.
Lumada Innovation Hub	In April 2021, we opened Lumada Innovation Hub in Tokyo as a flagship base to accelerate innovation by sharing wisdom and ideas with our customers and partners. It will accelerate DX by serving as a hub to connect diverse domestic and international co-creation sites and human resources. As of March 31, 2022, over 5,100 people from more than 300 companies have used the service, making it a place for active innovation.
Lumada Solution Hub	We provide Lumada solutions that combine technologies and know-how cultivated through co-creation with our customers, as well as mechanisms to promote the reuse of applications.

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Efforts to Strengthen Lumada

Make the Social Innovation Business more profitable with Lumada

Strengthen Lumada to accelerate the Social Innovation Business

Provide an IoT platform (Lumada) to take the Social Innovation Business to the next stage

Mid-term Management Plan 2024

Mid-term Management Plan 2021

Mid-term Management Plan 2018

• 2022
Establishment of Hitachi Digital LLC
Establishment of GlobalLogic Japan

• 2019
Acquisition of JR Automation
Launch of Lumada Solution Hub

• 2016
Lumada global launch

• 2020
Acquisition of ABB's power grid business (now Hitachi Energy)
Made Hitachi High-Tech a wholly owned subsidiary
Acquisition of FusioTech
Launch of Lumada Alliance Program

• 2017
Acquisition of Sullair

• 2021
Acquisition of GlobalLogic
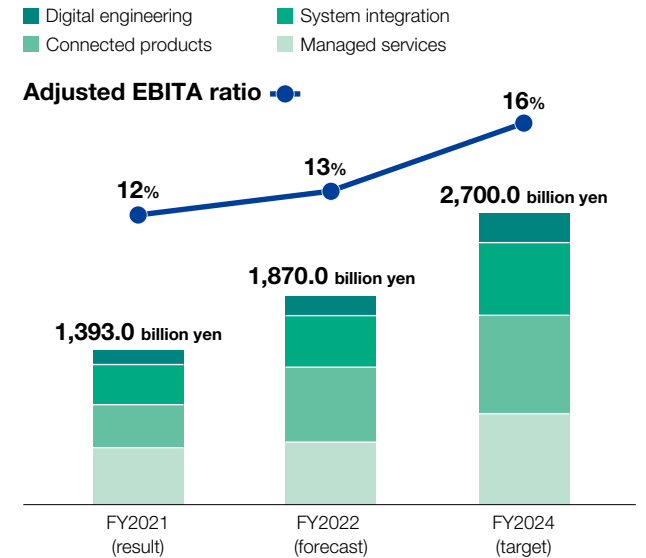Opening of Lumada Innovation Hub in Tokyo

External evaluations

2021 • Received DX Grand Prix award in "Digital Transformation Brand 2021"
• Named a leader in the "2021 Gartner® Magic Quadrant™ for Industrial IoT Platforms" report (second consecutive year)

2022 • Received DX Grand Prix award in "Digital Transformation Brand 2022" (second consecutive year)
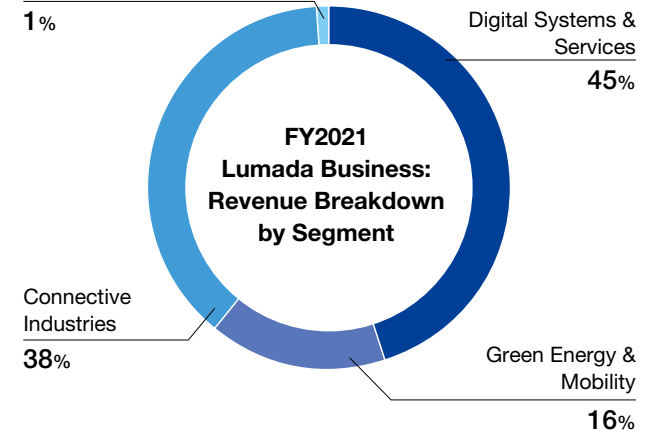
DX銘柄2022 Digital Transformation

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Lumada Performance Highlights

Lumada Business revenues *Excludes listed subsidiaries

■ Digital engineering   ■ System integration
■ Connected products   ■ Managed services

Adjusted EBITA ratio ●

12%

13%

16%

2,700.0 billion yen

1,870.0 billion yen

1,393.0 billion yen

FY2021 (result)   FY2022 (forecast)   FY2024 (target)

FY2021 Lumada Business: Revenue Breakdown by Segment

Hitachi Astemo 1%

Digital Systems & Services 45%

Connective Industries 38%

Green Energy & Mobility 16%

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Evolution of Lumada

Shift to Cyclical Business Model

As the term VUCA* implies, we are in an era of rapid change, symbolized by technological advances, diversification of customers' lifestyles and values, and market volatility, while the focus of business is shifting from the sale of goods to subscription-type solutions, and service-type businesses are emerging at an ever-increasing rate. To address such changes in customer needs and business conditions, we will evolve Lumada into a cyclical business model that continuously provides value by utilizing digital technologies, such as data analysis and AI. Specifically, as shown on the right, Lumada will continuously implement a cycle of understanding customer issues (PLAN: first quadrant), creating and implementing solutions (BUILD: second quadrant), operating (OPERATE: third quadrant), and maintaining (MAINTAIN: fourth quadrant) to enhance value for our customers. In this way, we will continue increasing value for customers.

*Acronym for "volatility," "uncertainty," "complexity," and "ambiguity" (coined term)

Leveraging GlobalLogic's Capabilities

Design thinking and digital engineering skills are extremely effective in capturing the needs and challenges of customers and society, incorporating them into agile solutions, and increasing value for customers. With this in mind, we acquired GlobalLogic, which has design thinking and digital engineering capabilities. To date, we have strengthened and developed our business by leveraging our customer base and capabilities in each of the four quadrants. With the addition of GlobalLogic, we can now connect each quadrant more seamlessly and accelerate the cycle continuously. We have also expanded our global footprint. We will leverage this cycle to capture repeat orders and grow Lumada in response to the expanding market.

Leveraging the strengths of Hitachi Energy, Hitachi Vantara, and GlobalLogic, we are already producing outcomes from OT and IT synergy projects and have initiated a cycle of digital business development, co-provisioning, demonstration, and implementation.

Secure data management and hybrid cloud support
Hitachi Vantara, Hitachi Systems, etc.

Design thinking, digital engineering capabilities
GlobalLogic, etc.

MAINTAIN — Managed services | Digital engineering — PLAN
Understand our customers' management challenges
Predictive Maintenance | Design Thinking
Operate, maintain, and assess for the next step | Develop solutions with IT/OT/Products
LUMADA — AI tools / Methodologies / Customer Cases / Solutions
Remote/Automation | Digital Twin
Implement solutions
OPERATE — Connected products | System integration — BUILD

Product, OT knowledge, customer base
Hitachi Energy, Hitachi Rail, JR Automation, etc.

Highly reliable system integration
Hitachi Vantara, Hitachi Solutions, etc.

Cycle Configuration

- Digital engineering business: Driving problem resolution through design thinking
- System integration business: Building IoT systems for data collection and analysis
- Connected products business: Improving productivity and reducing operating costs by introducing Internet-connected products and remote/automated solutions
- Managed services business: Using operation monitoring and predictive failure diagnosis to achieve advances in operation and maintenance while creating and embracing new business opportunities in such areas as ticketing and digital payment utilizing secure data management

Hitachi's Strengths

Hitachi's major strength, which other companies cannot immediately emulate, is its ability to provide continuous value to customers and society by linking the capabilities of each quadrant. In addition to GlobalLogic's design thinking and engineering capabilities, such capabilities include the system integration capabilities that our Front Business Unit, Hitachi Solutions, and Hitachi Vantara have developed over many years in Japan and overseas, as well as the customer bases and expertise of Hitachi Energy, Hitachi Rail, and JR Automation and the hybrid cloud support of Hitachi Vantara and Hitachi Systems.

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Hitachi Digital: Spearheading Development and Execution of Digital Strategies across the Hitachi Group

In April 2022, we established Hitachi Digital as a command post to accelerate the deployment of Lumada globally.

Hitachi Digital is based in North America, where the market is particularly large. Targeting the rapidly growing global DX market, it will spearhead the formulation and execution of Hitachi's Groupwide digital strategy. In North America, the speed of progress and evolution of technologies and solutions is extremely high, so Hitachi Digital will play a role in incorporating best local practices and promoting the expansion of Lumada globally. In addition to Hitachi Vantara and GlobalLogic, we will accelerate the expansion of Lumada across the Hitachi Group by driving synergy co-creation with group companies in the OT sector, including Hitachi Energy, Hitachi Rail, and JR Automation.

To this end, the Digital Systems & Services (DSS) sector plans to invest 200 billion yen in growing Lumada under Mid-term Management Plan 2024. For example, we will look to invest in creating synergies with Hitachi Energy and Hitachi Rail, as well as go-to-market initiatives, such as green transformation (GX) of social infrastructure, while leveraging Hitachi's own assets to develop solutions and attract digital talent.

Hitachi Digital will lead the development and implementation of the digital strategies across the Hitachi Group

Provide customers of all the Hitachi Group with innovative values based on OT × IT × Products

Green Energy & Mobility
Connective Industries
Hitachi Astemo

Digital Systems & Services

Hitachi Digital

Develop and implement the digital strategies across the Hitachi Group

Organize Groupwide projects with locally-led decisions to accelerate the speed of value creation and provision

Investments in growth for the global expansion of the Lumada business
Continuously invest in the resources and capabilities necessary for business expansion at each quadrant of the customer's problem-solving cycle

| Co-creation, Digital engineering | Global delivery | Cloud, Managed services |

Interview with CEO of Hitachi Digital

My mission is to expand the scale of Lumada's business in the Hitachi Group from 1.4 trillion yen to 2.7 trillion yen. The challenging part of this mission is to grow Lumada's business in fields where its presence is not high, such as the Green Energy & Mobility and Connective Industries sectors.

As a former member of Hitachi's Control System Platform Division, I have gained personal experience in OT, and I was also involved with Hitachi Global Life Solutions, which focuses on consumer electronics (products). One of my important roles is to expand new business opportunities fields that bring together OT/products and digital technologies. Using differing business timelines, business models, and KPIs, I will continue striving to connect OT/products and digital to achieve business successes.

I will chair a Board meeting attended by the CEOs of Hitachi Vantara, GlobalLogic, Hitachi Energy, Hitachi Rail, and other companies. At the meeting, we will share each company's digital strategy, determine areas of focus and investment, and make decisions on how to approach customers and develop sales and marketing activities.

Jun Taniguchi,
Vice President and Executive Officer,
CEO of Hitachi Digital LLC

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Our Approach to Lumada's Business Expansion

From the perspectives of customers' digital utilization and Hitachi's business opportunities, we will broadly divide our approach into the following two target areas.

Target Area 1

In the technology, financial services, retail, telecommunications, and media industries, where customers are increasingly using digital technology, the DSS sector will take the lead in approaching GlobalLogic's customer base. Meanwhile, Hitachi Vantara and GlobalLogic will collaborate to jointly develop powerful IT solutions and expand their business through cross-selling. In fiscal 2021, we combined GlobalLogic's design thinking and digital engineering services with Hitachi Vantara's expertise in cloud services and system operation and maintenance, enabling us to provide end-to-end solutions that meet customers' DX needs.

Target Area 2

In industries with large assets, such as energy, mobility, automobiles, manufacturing, and healthcare, we expect digital technology to be the driver of future growth. Here, we will combine OT, IT, and products to provide customers with end-to-end solutions and services, including grid automation, MaaS, Industrial Internet of things (IIoT), and digital healthcare, demonstrating the true power of "One Hitachi." For example, Hitachi Energy, Hitachi Vantara, and GlobalLogic are working together to expand digital solutions in the energy sector by upgrading asset management software and developing next-generation energy platforms.

Lumada Synergy Case Study

Asset Management Innovation

Hitachi Energy, Hitachi Vantara, and GlobalLogic have launched a project to promote next-generation green digital services by leveraging their respective strengths. Targeting the facility asset management segment of the social infrastructure, public utilities, and manufacturing industries, the three companies aim to provide end-to-end services covering everything from customer experience design to solution development, delivery, and maintenance. Among their initiatives, Hitachi Energy and Hitachi Vantara took the lead in collaborating on a project called "Lumada Asset Management" in fiscal 2020. Here, Hitachi Energy has integrated Digital Enterprise, a suite of asset and field operational management solutions provided mainly to electric power companies, into Lumada, and both companies are now offering large-scale solutions and engaging in marketing activities targeting the electric power sector in North America and other regions. GlobalLogic joined the project in July 2021, leveraging its design thinking and digital engineering expertise to provide product development and service design capabilities.

This has strengthened Lumada Asset Management, which is now expanding its business with the development of facility inspection solutions using diagnostic imaging.


APM: Asset Performance Management
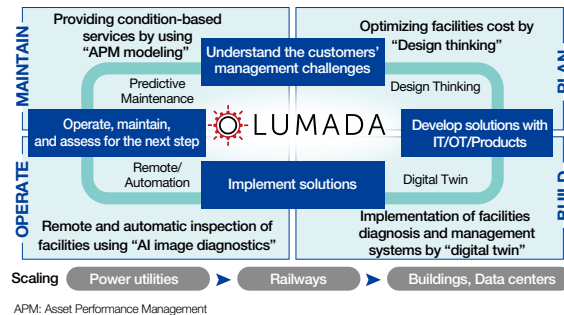
Comments from Project Leaders (Hitachi Energy and Hitachi Vantara)

The partnership with Hitachi Vantara is a collaboration in go-to-market as well as product development support. Traditionally, Hitachi Energy has focused on customers in the utility and transportation sectors, but through our collaboration with Hitachi Vantara, we have been able to strengthen our presence in sectors such as mining, as well as expand into other manufacturing industries where we had little or no presence.
Just looking back over the past year, we have been able to reach a large number of customers. Hitachi Vantara has been a strong value-delivery partner for Hitachi Energy.

Bryan Friehauf,
Senior Vice President, Enterprise Software Solutions, Hitachi Energy

We are working together in three areas. First, on initiatives that complement each other's Lumada software capabilities. This includes Hitachi Energy's Asset & Works Management software, and Hitachi Vantara's IoT-related capabilities that connect devices and data to gain actionable insights. These software capabilities are very complementary, and are industry leading elements of Lumada.
The second is an effort to accelerate and extend the development of both companies' capabilities. GlobalLogic is also collaborating on this. The third is the market deployment of these capabilities. The sales forces from Hitachi Energy and Hitachi Vantara are working together on this.
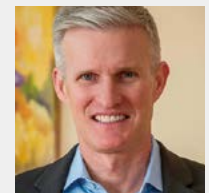
Phil Gruber,
Energy Industry Leader, Hitachi Vantara