

# 4 Social

- Social
- **Innovation Management**
  - Executive Summary
  - Innovation Strategy
  - Research and Development
  - Intellectual Property
- Human Capital
- Human Rights
- Value Chain Management
- Community
- Social Data



## Innovation Management

GRI 103-2



### Why

— Why it matters —

Throughout its history of over 100 years, Hitachi has pursued its Mission “to contribute to society through the development of superior, original technology and products” aiming at creating innovation leading into the future. We view the approach of leveraging data and technology even further to produce strong, robust products, solutions, and business models as essential in realizing a sustainable society and business amid the increasingly diverse and complex social issues we face. Accordingly, we are backcasting from 2050 to bolster research and development aimed at creating radical innovation and working to protect and effectively utilize intellectual property (IP).



### Innovation Strategy

#### What

— What we are doing —

- Expanding Investments in Innovation
- Generating digital service businesses with the Lumada growth model
- Backcasting from 2050 to create radical innovation
- Accelerating outside-in innovation through startup investments

#### How

— How we are doing it —

Policy and promotion structure	The newly established Innovation Growth Strategy Division will formulate innovation investment strategies that will inspire the next growth for customers, and under this strategy, promote the creation of digital service businesses and radical innovation. We are also working to build an innovation promotion structure fully leveraging Hitachi Group’s technology platforms, human capital, and customer network to achieve growth worldwide.
<b>Achievements in FY 2021</b>	
Backcasting from 2050 to create radical innovation	Identified three social issues, “an environmentally-neutral society” “a society which supports an active 100-year lifespan of its citizens” and “the co-evolution of digital technologies, people and society”, that must be resolved by 2050 and strived to create radical innovation to help resolve them
Accelerating outside-in innovation through startup investments	Launched a second fund and invested in a total of 17 startup companies



### Research and Development

#### What

— What we are doing —

- Accelerating value co-creation
- Creating growth drivers
- Evolving Lumada further
- Creating the next pillars of growth
- Bolstering recruitment and development of digital talent
- Observing AI ethics

#### How

— How we are doing it —

Policy and promotion structure	In April 2022, the Global Center for Social Innovation and the Center for Technology Innovation were integrated and reorganized as the Center for Digital Services and the Center for Sustainability. We are working to enhance value creation through DX/GX to promote worldwide business growth.
<b>Achievements in FY 2021</b>	
R&D investment	Hitachi Group R&D expenditure: 317.3 billion yen (R&D expenditure as a percentage of revenue: 3.1%)
Accelerating value co-creation	Promoted activities, including holding forums and roundtables with universities in and outside Japan, to identify signs of change in society and customers, formulate visions and design business scenarios.
Bolstering recruitment and development of digital talent	Digital talent: Approx. 67,000 people <b>Target</b> 98,000 people by fiscal 2024
AI ethics observance	Published a special issue of <i>Hitachi Review</i> , “AI Governance and Ethics in Social Innovation Business”

# 4 Social

Social

➤ Innovation Management

- Executive Summary
- Innovation Strategy
- Research and Development
- Intellectual Property

Human Capital

Human Rights

Value Chain Management

Community

Social Data



## Intellectual Property

### What

— What we are doing —

- Deploying IP activities globally based on our IP strategy
- Engaging in IP activities aimed at creating environmental value
- Enhancing our reward system for employee inventions
- Promoting design and brand protection activities

### How

— How we are doing it —

Policy and promotion structure	In fiscal 2022, the name of the Intellectual Property Division was changed to the Global Intellectual Property Group with the intention of strengthening collaboration with companies outside of Japan and promoting further global deployment of our IP activities. We also created the position of Chief Intellectual Property Officer (CIPO) to strengthen our global intellectual property management framework.
<b>Achievements in FY 2021</b>	
Global deployment of IP activities based on our IP strategy	Globally implemented an intellectual property strategy comprising three pillars: Competition, Collaboration, and IP for society.
IP activities aimed at creating environmental value	Established the new Environmental IP Enhancement Center and began considering measures to contribute to the improvement of environmental value from the perspective of intellectual property Newly registered our wind-generation technology that contributes to resolving climate change issues with WIPO GREEN, a platform for environmental technology operated by the World Intellectual Property Organization (WIPO)
Awards for IP	Selected for inclusion in Clarivate Plc's Derwent Top 100 Global Innovators (2021) list for the 11th consecutive year

# 4

## Social

## Social

### ➤ Innovation Management

Executive Summary

– Innovation Strategy

Research and Development

Intellectual Property

Human Capital

Human Rights

Value Chain Management

Community

Social Data

## Innovation Strategy

### Approach to Generation of Innovation

#### Approach

Over a history of more than a 100 years, Hitachi has pursued the company Mission “to contribute to society through the development of superior, original technology, and products,” and generating innovation for the future by pursuing cutting-edge technologies.

During the Mid-term Management Plan 2021, we opened Kyōsō-no-Mori and expanded co-creation with customers, while reorganizing technology platforms and acquiring business models through startup investment and collaborations. To further accelerate these initiatives, the newly established Innovation Growth Strategy Division in April 2022 will formulate innovation investment strategies that will inspire the next growth for customers, and under this strategy, promote the creation of digital service businesses and radical innovation.

### Strategies for Generation of Innovation

#### Strategy

#### Expanding Investments in Innovation

Under the Mid-term Management Plan 2024, we will expand investments in innovation across the entire Hitachi Group for further growth. A cumulative total of 100.0 billion yen will be invested in advanced research during the three-year plan, expanding Group-wide R&D investment to 1.1 trillion yen. We will also invest an additional 50.0 billion yen in corporate venturing (CV). Through these investments, Hitachi aims to create radical innovation to solve future societal issues.

#### Generating Digital Service Businesses with the Lumada Growth Model

Under the Mid-term Management Plan 2024, we will further develop the Lumada growth model to co-create innovation together with customers, and promote digital services that address our customers’ next management challenges. To ramp up the Lumada growth cycle, we will deepen our understanding of captured signs and changes in society and customers, draft together with our customers visions for new growth, and provide innovations to realize that growth. In the Lumada growth model, we will promote the categorization of business segment characteristics and operations as well as work with the global front teams to strengthen marketing activities, to materialize and scale up through co-creation.

#### Backcasting from 2050 to Generate Radical Innovation

In formulating the 2024 Mid-term management plan, we explored future social issues through repeated discussions with international organizations, universities, customers, and startups. Based on these discussions, we understood that the societal challenges that need to be addressed as we approach 2050 are: “an environmentally-neutral society,” “a society which supports an active 100-year lifespan of its citizens,” and “the co-evolution of digital technologies, people and society,” and set them as areas of focus. We are addressing these concerns through such initiatives as “energy storage and supply” and “direct air capture” to realize a carbon negative society; “minimally invasive cancer treatment” and “designed cells” to overcome cancer and intractable and infectious diseases; and “Ultra Big Data Management” and “silicon quantum computers” to facilitate

a data economy and computing innovation. Hitachi will be taking on the challenge of creating radical innovation to resolve future issues by backcasting from 2050.

#### Accelerating Outside-in Innovation through Startup Investments

Through investments and collaborations with startup companies, Hitachi will achieve radical innovation and acquire groundbreaking business models contributing to the expansion of the Lumada business. In 2019, we established Hitachi Ventures GmbH (HVG) and launched the first fund. We have now launched a second fund and invested in 17 companies.

Under the Mid-term Management Plan 2024, we will expand innovation ecosystems with customers, startup companies, academia and others. Specifically, we will focus on three areas identified in backcasting from 2050: “achieving a decarbonized and carbon-negative society,” “overcoming cancer and intractable and infectious diseases,” and “promoting the co-evolution of digital technologies, people and society.”

In May 2022, HVG CEO Stefan Gabriel was ranked 19th on the Top 50 Powerlist by Global Corporate Venturing.

P081 Research and Development

P085 Intellectual Property

# 4 Social

Social

➤ **Innovation Management**

- Executive Summary
- Innovation Strategy
- Research and Development
- Intellectual Property

Human Capital

Human Rights

Value Chain Management

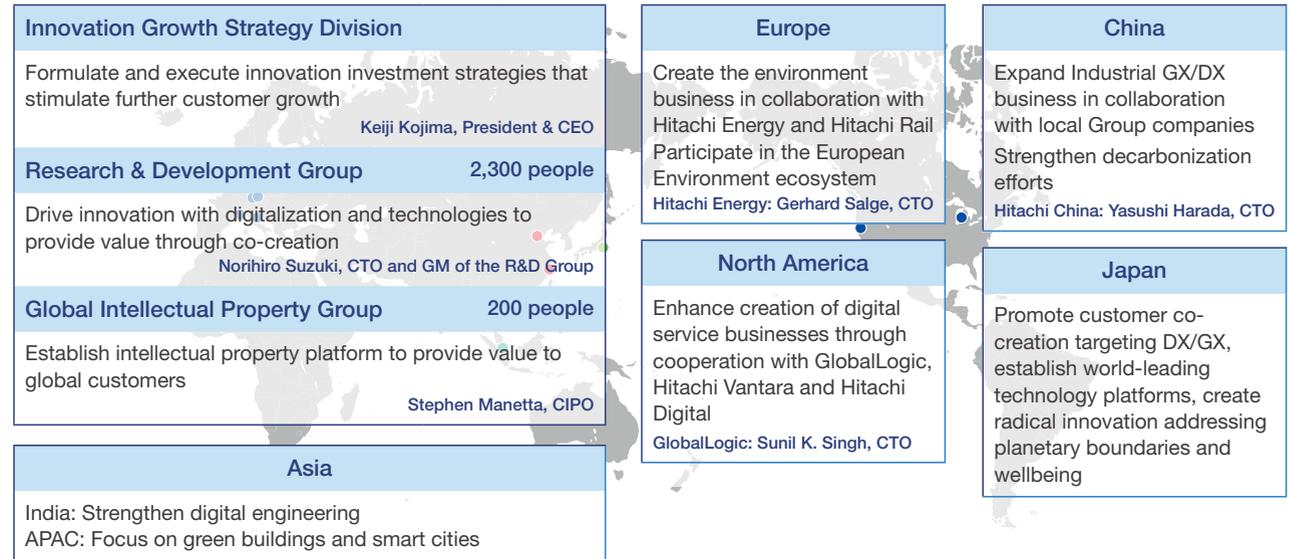
Community

Social Data

## Innovation Promotion Structure for DX/GX Global Growth

**Structure**

Fully leveraging the Hitachi Group's technology platforms, human capital and the customer network, we will create DX/GX innovations under a global structure. The Research & Development Group with a highly diversified workforce of 2,300 people, will be leading the creation of innovation through digitalization and other technologies. Together with Hitachi Ventures GmbH (HVG), we will work to create innovation that will solve issues faced by customers and society through collaborations with leading startups in a wide-range of fields. The Global Intellectual Property Group is promoting the establishment of a new intellectual property platform to provide value to global customers under experienced global leadership. We will accelerate global business growth together with Hitachi Energy, GlobalLogic, and business units in each region.



DX: Digital Transformation, GX: Green Transformation

# 4 Social

Social

➤ Innovation Management

Executive Summary

Innovation Strategy

– Research and Development

Intellectual Property

Human Capital

Human Rights

Value Chain Management

Community

Social Data

## Research and Development

### Approach to R&D

Policy Approach

Hitachi's R&D strength is that it has established a value creation cycle based on owning platform technologies for OT × IT × Products, and know-how, and pursuing technology development through co-creation with customers and partners, adding to greater know-how.

Under the Mid-term Management Plan 2024, Research & Development will work closely with Hitachi Digital, the Global Environment Division and the Innovation Growth Strategy Division that are leading the growth strategy across the Hitachi Group. We will accelerate initiative for the co-creation of value to further advance the Social Innovation Business, focusing on "Digital," "Green" and "Innovation" as the growth drivers. By generating innovation which will drive the Lumada growth model, we will contribute to the growth of our global business as well as create the next pillars of growth through radical innovation backcasted from 2050.

In fiscal 2022, R&D will be conducted under the following policy.

#### R&D Policy for Fiscal 2022

**Basic Policy: "Generate innovation through 'Digital' and 'Green' solutions for global business growth"**

- Accelerate co-creation of value: Create OT × IT × Products value through digital technology
- Create growth drivers: Contribute to global business growth through Innovative products × Digital
- Establish the next pillars of growth: Generate radical innovations by backcasting from 2050

➤ [Research & Development](https://www.hitachi.com/rd/index.html)

<https://www.hitachi.com/rd/index.html>

### Structure to Promote R&D

Structure

To execute on the R&D policy, the Research & Development Group was reorganized on April 1, 2022. The Global Center for Social Innovation, which was responsible for generating value-driven innovation, together with front line Business Units (BUs), and the Center for Technology Innovation, which was responsible for development of world-leading technology to support value creation, were integrated and reorganized as the Center for Digital Services and the Center for Sustainability, to enhance value creation through DX/GX. Together with the Center for Exploratory Research, responsible for laying key stones for the future, and research laboratories in North America, Europe, China, India, and Asia-Pacific (APAC), we will work as one global organization to drive innovation.

#### ➤ Global R&D Structure (As of April 2022)

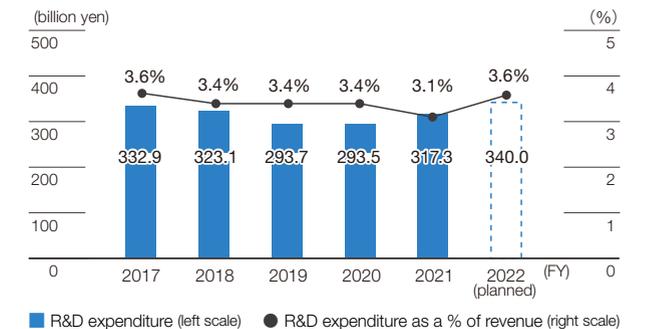


### R&D Investment

Activities

Hitachi is actively investing in R&D. We are strengthening our Digital systems & Services, Green energy & Mobility, and Connective industries businesses, and working to reinforce mid-to long-term initiatives for future growth. With regard to the Research & Development Group, a corporate division, it is expanding digital technology platforms and enhancing research resources outside of Japan to expand the Lumada business, Hitachi's growth engine and global deployment, as well as investing in co-creation to resolve issues faced by customers and society and the creation of world-leading technology and radical technology. In fiscal 2021, the R&D expenditure of the Hitachi Group was 317.3 billion yen, and R&D expenditure as a percentage of revenue was 3.1%.

#### ➤ Investment in R&D



# 4 Social

Social

➤ Innovation Management

- Executive Summary
- Innovation Strategy
- Research and Development
- Intellectual Property

Human Capital

Human Rights

Value Chain Management

Community

Social Data

## Accelerating Value Co-creation

**Activities**

Hitachi considers its most important issue to be realizing a sustainable society, while respecting planetary boundaries and human wellbeing. Aiming to realize societal and economic development that protects the Earth, Hitachi will deliver “Green,” “Digital,” and “Innovation” as the solutions for future growth to society and customers to realize a society and economy that protects the Earth, and to achieve happiness in everyday life and workstyles. We will develop Hitachi’s unique co-creation approach, NEXPERIENCE, into a methodology to resolve societal issues and deploy the Lumada growth model. Through activities such as those in our university joint laboratories, we are capturing the kizashi (signs) of change in society and customers, to develop visions and business scenarios.

[About NEXPERIENCE](#)

<https://www.hitachi.com/rd/research/design/nexperience/>

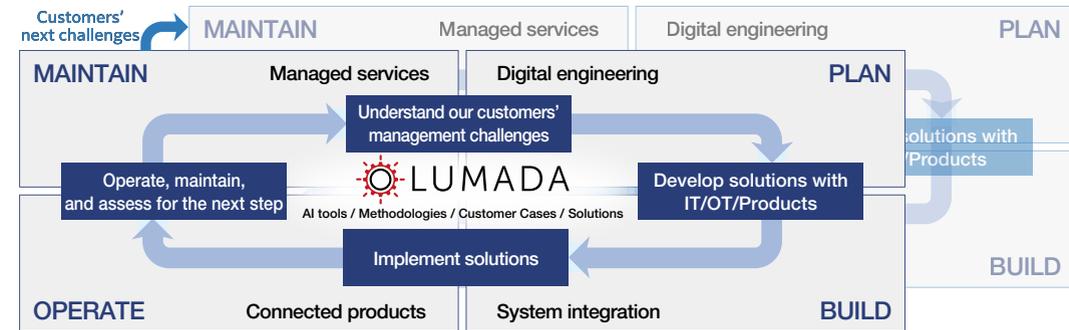
### Achievements in Fiscal 2021

Hitachi participated in the Transition to Zero Pollution panel discussion hosted by Imperial College London in the United Kingdom to promote consensus-building on expectations and issues regarding a decarbonized, recycling-oriented society. Transition to Zero Pollution aims to achieve net zero emissions by 2050 (the state where the amount of CO<sub>2</sub> produced is equivalent to that removed from the atmosphere). Additionally, forums and roundtables were held at the H-UTokyo Lab. and Tsinghua University in China to discuss the realization of a carbon neutral society in each region.

## Creating Growth Drivers

**Strategy** **Activities**

Hitachi is developing data-driven solutions under the Lumada growth model. By implementing the Lumada four-quadrant value co-creation cycle, our goal is to create growth drivers that support customer businesses. In Research & Development, we are furthering our understanding of customers’ next business challenges while promoting the co-creation of innovations and digital services to resolve these issues. The Lumada growth model will be deployed worldwide together with GlobalLogic and others.



▶ Examples of Value Co-creation in Finance and Public Services

	Current issue: Operational excellence	Next challenge: Create new demand
<b>PLAN</b>	Optimize work processes with design thinking	Design cross-industry financial and public service products based on OT know-how
<b>BUILD</b>	Increase work process system efficiency using “AI (RPA, dialogues, automated responses),” awarded first place in an international competition (SemEval2020)	Launch of Sustainable Finance Platform as inter-industry coordinated services using IoT and blockchain technology, implement an inter-industry coordinated IoT information distribution system
<b>OPERATE</b>	Hitachi’s “Explainable AI” analyzes and evaluates operational data, and supports the implementation of AI in work systems, continuous operations and improvements	Data analysis with assured security in DFFT and Blockchain/NFT discussed at first GTGS hosted by the World Economic Forum
<b>MAINTAIN</b>	Hitachi’s sensitivity analysis service automatically analyzes the voice of customers, and provides customer service improvements through product planning, sales strategies, risk countermeasures, and so on.	Offer value distribution services leveraging metaverse and Web 3.0

AI: Artificial Intelligence, RPA: Robotics Process Automation, GTGS: Global Technology Governance Summit, DFFT: Data Free Flow with Trust, NFT: Non-Fungible Token

# 4 Social

Social

➤ Innovation Management

Executive Summary

Innovation Strategy

– Research and Development

Intellectual Property

Human Capital

Human Rights

Value Chain Management

Community

Social Data

▶ Examples of the Value Creation Cycle in the Fields of Energy, Railway and Transport

	Current issues: Innovations in asset management	Next challenge: Promote user transition to CN
<b>PLAN</b>	Optimize facility costs with design thinking	Consider asset optimization, including gas and hydrogen, based on a CN scenario created through shared understanding of issues with stakeholders in an industry-academia co-creation forum hosted by H-UTokyo Lab.
<b>BUILD</b>	Deploy Hitachi's digital maintenance platform and digital twin equipment diagnoses and management systems to maintain and improve analysis accuracy in line with changes in equipment status	Co-create and verify using the area energy management verification environment created at Kyōsō-no-Mori by combining Hitachi power generation, power storage, and equipment maintenance technologies
<b>OPERATE</b>	Implement remote and automated equipment inspections using "image diagnostics AI technology" that has achieved the highest level in an international competition (TRECVID2020)	Introduce DERMS to implement grid-edge control systems using technology such as Hitachi's grid edge solution for distributed energy sources
<b>MAINTAIN</b>	Provide condition-based services with Hitachi's APM which was selected as a Leader in the IDC MarketScape 2020-2021 Vendor Assessment	Provide multi-energy optimization service with EaaS and MaaS

APM: Asset Performance Management, CN: Carbon Neutrality, DERMS: Distributed Energy Resource Management System, EaaS: Energy as a Service, MaaS: Mobility as a Service

### Hitachi Product Strengths

Hitachi is promoting the provision of value to customers through OT x IT x Products. In terms of products, during the Mid-term Management Plan 2021, we were able to establish the top global technologies, winning prominent awards for high-speed railways, in-vehicle inverters, particle beam cancer treatment systems, and biochemical immune-assay systems.

In the Automotive System business, we are working on gearless, high-efficiency drive systems and multi-port EVs realizing the industry's most substantial size and weight reductions. Regarding the drive system (in-wheel motor), we aim to reduce energy loss by 30% compared to previous motors, and have been selected for support by the Japanese government's Green Innovation (GI) Fund, aiming for even higher efficiency.

In the measurement and analysis systems business (Hitachi High-Technologies), we will enhance the

competitiveness of our semiconductor inspection and manufacturing equipment while integrating and analyzing data generated from equipment in processing, inspection, measurement and analysis to provide feedback on manufacturing processes and products to realize customer process innovations. Through co-creation with customers, we will use the data generated from products for predictive diagnostics, analytics visualization and optimizing operating conditions to contribute to reduced development time, improved yields in manufacturing, and increased productivity for customers.

### Further Evolution of Lumada

In conducting R&D to further evolve Lumada, Hitachi is engaged in the creation of Lumada cyber-physical systems (CPS) that link the digital and physical spaces in real time. We are also focusing on the key technologies of AI, 5G, beyond 5G, security, electrification, metaverse/Web 3.0.

For the area of security, we are developing Public Biometric Infrastructure (PBI) technologies realizing data free flow with trust (DFFT) and promoting enhanced security for crypto assets. Regarding metaverse/Web 3.0 which will support future societal infrastructure, we will accelerate co-creations with startup companies.

### Creating the Next Pillars of Growth

#### Activities

By backcasting from 2050, Hitachi is taking on the challenge to generate radical innovation for the next pillars of growth: "an environmentally-neutral society," "a society which supports an active 100-year lifespan of its citizens," and "the co-evolution of digital technologies, people and society."

#### Toward the realization of an environmentally-neutral society

To realize a decarbonized and carbon negative society, we are working to realize a large-scale, low-cost hydrogen production system, high-efficiency artificial photosynthesis, and a fuel production cycle fed directly by CO<sub>2</sub>.

#### Toward the realization of a society which supports an active 100-year lifespan of its citizens

For "overcoming cancer, intractable and infectious diseases," we are working to develop even more advanced cancer therapy through technology such as automated positioning of particle beam radiotherapies. Furthermore, we are developing designed cells based on genetic modification and cell measurement technologies.

# 4

## Social

## Social

### ▶ Innovation Management

Executive Summary

Innovation Strategy

– Research and Development

Intellectual Property

Human Capital

Human Rights

Value Chain Management

Community

Social Data

### Toward the realization of the co-evolution of digital technologies, people and society

We will further enhance ultrahigh-speed database engines to realize data extraction performance speeds more than 100-times faster than conventional systems.

We are also accelerating developments for bio transformation (BX) and quantum transformation (QX), which will follow DX and GX.

### Digital Human Resource Development

#### Activities

To respond to the recent progress of digitalization, Hitachi is strengthening our digital human resources, including top-class AI experts. In the Research & Development Group, we are placing particular emphasis on developing top-class AI researchers\*<sup>1</sup> and established the Lumada Data Science Lab. to bring together digital human resources to foster and develop them. This helped us to realize our target (350 top-class AI researchers by fiscal 2021) ahead of schedule, with currently 399 at the end of fiscal 2021.

\*<sup>1</sup> Top-class researchers who use AI/analytics, and data scientists who received internal certification.

P097 Bolstering Recruitment and Development of Digital Talent

### AI Ethics

#### Activities

In February 2021, Hitachi released Principles guiding the ethical use of AI in Social Innovation Business and a white paper on Hitachi's activities in the area of AI ethics. Its goal is to ensure human-centric AI development and societal implementation.

Since then, we have striven toward the development, societal implementation, and proper utilization of human-centric AI that is safe and secure. And in the AI development stage, we are working to curb the various risks that arise when using AI.

In fiscal 2021, we checked approximately 800 AI projects in the planning phase, identified risks and took measures against them.

Hereafter, we will continue to promote the establishment of AI governance, and help to stimulate discussions throughout society. We are continually working to improve the substance and operation of this effort, while incorporating the opinions of stakeholders and changes in the external environment.

#### Achievements in Fiscal 2021

In fiscal 2021, we published a special issue of *Hitachi Review*, AI Governance and Ethics in Social Innovation Business. It provides an in-depth explanation of Hitachi's approach to AI ethics and governance for AI implementation in research, PoC, and product development.

[AI Governance and Ethics in Social Innovation Business](https://www.hitachi.com/rev/archive/2022/r2022-sp/index.html?WT.mc_id=XR-E101)

[https://www.hitachi.com/rev/archive/2022/r2022-sp/index.html?WT.mc\\_id=XR-E101](https://www.hitachi.com/rev/archive/2022/r2022-sp/index.html?WT.mc_id=XR-E101)

[Principles guiding the ethical use of AI in Social Innovation Business](https://www.hitachi.co.jp/products/it/lumada/about/ai/ldsl/document/ai_document_en.pdf)

[https://www.hitachi.co.jp/products/it/lumada/about/ai/ldsl/document/ai\\_document\\_en.pdf](https://www.hitachi.co.jp/products/it/lumada/about/ai/ldsl/document/ai_document_en.pdf)

[AI Ethics White Paper](https://www.hitachi.co.jp/products/it/lumada/about/ai/ldsl/document/ai_whitepaper_en.pdf)

[https://www.hitachi.co.jp/products/it/lumada/about/ai/ldsl/document/ai\\_whitepaper\\_en.pdf](https://www.hitachi.co.jp/products/it/lumada/about/ai/ldsl/document/ai_whitepaper_en.pdf)

### Major External Recognitions in Fiscal 2021

In the environmental sector, we received the 68<sup>th</sup> Okochi Memorial Prize and the 2021 Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology Awards for Science and Technology (Development Category) for the development of a compact and high power density inverter for EVs and PHVs, together with Hitachi Astemo. In the digital sector, together with the National Research Institute for Earth Science and Disaster Resilience, we were awarded the R&D World Magazine's R&D100 Award for the SIP4D: Shared Information Platform for Disaster Management, together with the National Research Institute for Earth Science and Disaster Resilience, Japan.

With regard to products, Hitachi's Urban Ace HF standard elevator was recognized in Nikkan Kogyo Shimbun's 64<sup>th</sup> (2021) Best Ten Greatest New Products Award, and the EMU3000 rolling stock built for Taiwan Railways Administration, MOTC, was awarded the Good Design Award 2021, Best 100.

Recognition was also given by the Japan Association of Technology Executives to Dr. Shizu Takeda, Corporate Chief Scientist, for outstanding achievement in training female engineers and researchers with the 7<sup>th</sup> Distinguished Service Award for fostering female technologists.

# 4 Social

Social

➤ Innovation Management

- Executive Summary
- Innovation Strategy
- Research and Development
- Intellectual Property

Human Capital

Human Rights

Value Chain Management

Community

Social Data

## Intellectual Property

### Approach to Intellectual Property

**Approach**

Hitachi has positioned intellectual property (IP) activities as one of its key business strategies, and has established a basic policy for the protection of IP and brand in the Hitachi Group Codes of Conduct. Under the Mid-term Management Plan 2021, in line with the stated vision of becoming a global leader driving enhanced value through the use of intellectual property and the goal of realizing IP-driven social innovations, we engaged in value-based (Environment, Safety & Security, Resilience) intellectual property activities. In the Mid-term Management Plan 2024, we established a new vision to become a global leader that resolves societal issues and grows our DX and GX businesses using intellectual property. We will achieve further advances and growth in the our Social Innovation Business through the protection and use of intellectual property centered on Green, Digital and Innovative initiatives.

[The Hitachi Group Codes of Conduct](https://www.hitachi.com/corporate/about/conduct/index.html#ank8071860)  
<https://www.hitachi.com/corporate/about/conduct/index.html#ank8071860>

### Intellectual Property Strategy

**Strategy**

Hitachi has formulated and implemented an IP strategy that consists of three pillars: Competition, Collaboration, and IP for society.

#### IP Strategy for Competition

The IP strategy for Competition is centered on acquiring and utilizing patents and other IP rights. “IP Master Plans” customized for the nature of each business are formulated and implemented to enforce competitiveness.

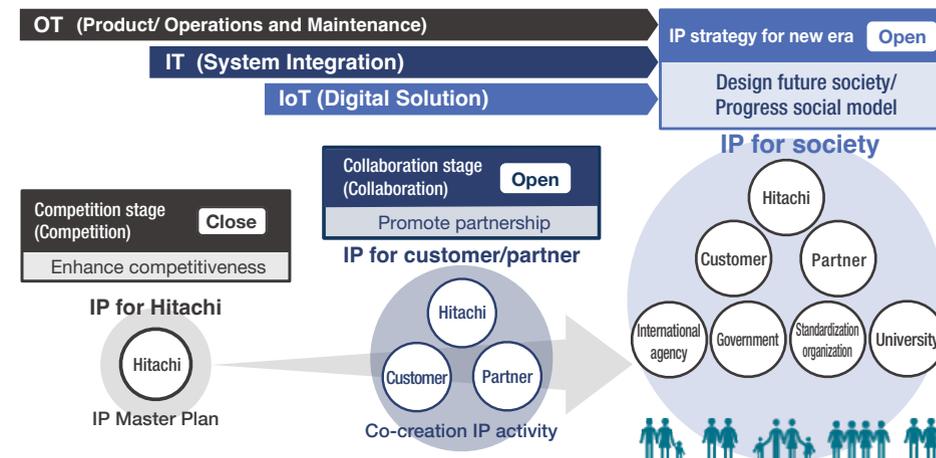
#### IP Strategy for Collaboration

As opportunities for co-creation with our customers and partners increase through the use of our IoT platform,

Lumada, we are expanding the scope of our IP activities to include not only copyrights, patents, and trade secrets as well as information assets such as data and information, and are using IP to promote partnerships and build ecosystems.

#### IP for society

Hitachi is strategically engaged in IP activities that contribute to solving social issues. In fiscal 2019, we introduced the “IP for society” concept, in which we promote the use of IP in certain highly public domains to maintain and evolve social norms. We will work in cooperation with external organizations (national governments, municipalities, universities, organizations in the United Nations, international standards organizations, etc.) through the use of IP to make contributions to businesses aimed at achieving SDGs.



# 4

## Social

## Social

### ➤ Innovation Management

Executive Summary

Innovation Strategy

Research and Development

– Intellectual Property

Human Capital

Human Rights

Value Chain Management

Community

Social Data

### Global Deployment of Intellectual Property

Approach   Structure

We are contributing to the globalization of Hitachi's business by strengthening international patent applications (PCT applications) that cover inventions that were developed through open innovation with our customers and partners in addition to inventions from our own R&D activities. We will work to promote further globalization of our IP by working in cooperation with new members of the Hitachi Group, including Hitachi Energy and GlobalLogic.

#### Framework to Promote Global Deployment

In fiscal 2022, we changed the name of the Intellectual Property Division to the Global Intellectual Property Group. Our intent was to strengthen collaboration with companies outside of Japan and promote further global deployment of our IP activities.

Moreover, we have created the new role of Chief Intellectual Property Officer (CIPO) to serve as the Hitachi Group's metaphorical control tower with regards to IP. We have also established a new CIPO Office within the Global Intellectual Property Group that will work to support the formulation and execution of CIPO strategy. The highly experienced Stephen Manetta, who comes from outside the company, has been appointed CIPO to hasten the enhancement of our system for global IP management (which promotes the protection and utilization of global IP, including at group companies outside of Japan).

Specifically, we cover our globalized business in collaboration with our IP offices in the United States (Santa Clara and Farmington Hills), China (Beijing), United Kingdom (London), Singapore, Switzerland, and India.

### New Initiatives Linked to Innovation

Activities

Hitachi is promoting activities that contribute to innovation by analyzing IP information. In the Environment field, for example, we analyze the degree of market maturity for each theme. This involves estimating the market's scale and growth potential based on the compound annual growth rate of the most recent inventions worldwide. We also use IP information and other data to estimate and analyze the degree of technological superiority Hitachi has for each theme. We contribute to innovation through these processes by identifying markets with high growth potential, areas where we have the greatest technological advantages, and providing our findings to business divisions.

### Intellectual Property Activities Aimed at Creating Environmental Value

Activities

We are working to create solutions that utilize IP to enhance environmental value.

In fiscal 2021, we newly established an Environmental IP Enhancement Center within the Intellectual Property Division. With it, we have begun considering policies (solution creation contributing to environmental value realization, construction of IP libraries, etc.) aimed at improving environmental value from the perspective of IP. In order to maximize Hitachi's business—especially environmental value—by accumulating and utilizing knowledge of the results of IP activities that contribute to improving environmental value, Hitachi established guidelines and deployed them internally. With regard to IP libraries in particular, our hope is to link the IP we possess internally with the environmental value that the utilization of such IP may bring about, to visualize them and promote their use both within the company and externally.

#### Achievements in Fiscal 2021

Hitachi has registered our wind-generation technology that contributes to solving issues of climate change with WIPO GREEN a platform for environmental technology operated by the World Intellectual Property Organization (WIPO). We also share our ambition to inspire innovation by accelerating the application of environmental IP through collaboration with WIPO GREEN, and have shared this message in a video.



[Contribution to Environment through Intellectual Property - Hitachi](https://www.youtube.com/watch?v=sk18jbfqqSk)

<https://www.youtube.com/watch?v=sk18jbfqqSk>

# 4 Social

Social

➤ Innovation Management

- Executive Summary
- Innovation Strategy
- Research and Development
- Intellectual Property

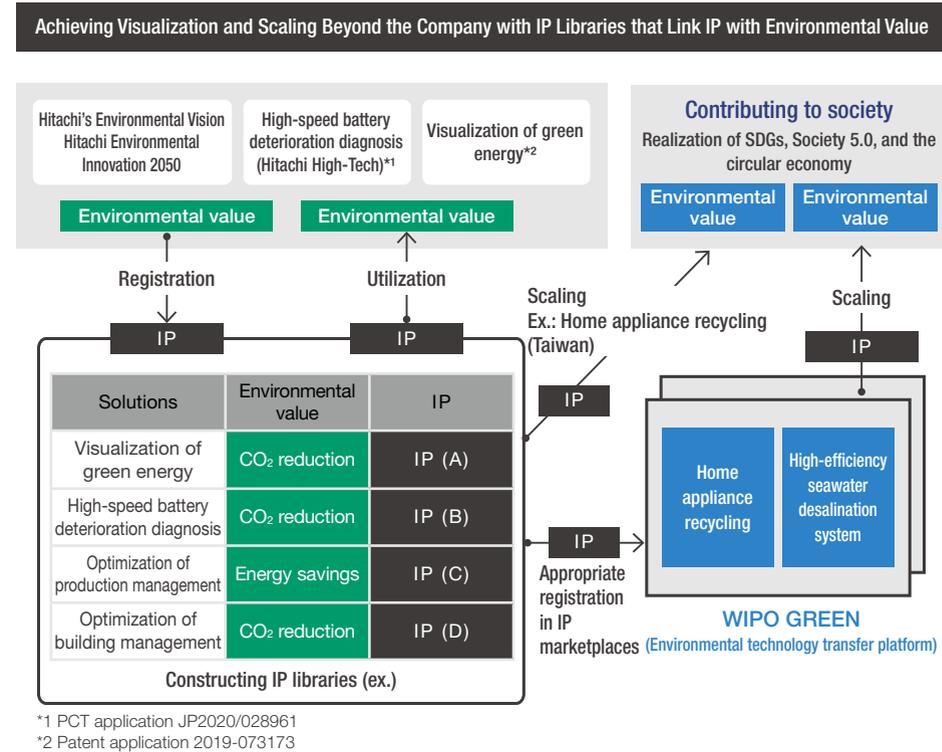
Human Capital

Human Rights

Value Chain Management

Community

Social Data



## Reward System for Employee Inventions

**System**

We motivate employees in the R&D field with an ample reward system for new inventions. To make this reward system as fair and transparent as possible, we set standards to evaluate inventions and disclose these standards to employees. We also have a mechanism for receiving inquiries about the rewards that was paid to employees, as well as opinions on the reward system.

We have established a special department within the Intellectual Property Division to plan and operate this system, while an internal Invention Management Committee made up of R&D, legal affairs, personnel management, and IP experts ensures that the system operates effectively across the whole Group.

▶ Internal Rewards for Inventors

<b>Invention Information System</b>	System allowing inventors to check the evaluation standards used to calculate rewards for inventions
<b>Arbitration Committee for Invention Rewards</b>	Committee to which inventors can appeal if they disagree with the amount they have been awarded
<b>Business Contribution Awards Annual Top 100</b>	President's awards to the top 100 inventors based on patent rewards received
<b>Patent Contribution Awards Top 50</b>	Ranking of the top 50 young inventors (under 35 years of age) based on patent rewards received within five years of their joining Hitachi

## Awards for Intellectual Property

**Activities**

We are proud of Hitachi, Ltd.'s inclusion in Clarivate Plc's Derwent Top 100 Global Innovators list for the past 11 years consecutively.

	Organizer	Award	Object of Award
FY 2021	Clarivate Plc	Selected for inclusion in Derwent Top 100 Global Innovators (2021) list (for 11th consecutive year)	The most innovative companies and institutions in the world
FY 2020	Japan Patent Office, Ministry of Economy, Trade and Industry	Award from Minister of Economy, Trade and Industry at the Intellectual Property Achievement Awards	Excellent company that utilizes the IP rights system
FY 2019		Imperial Invention Prize (top prize) at the National Commendation for Invention	Designs concerning UK high-speed rail vehicles
FY 2018	Japan Institute of Invention and Innovation	The Japan Patent Attorneys Association Chairman Award at the National Commendation for Invention	Inventions concerning x-ray fluoroscopy systems
FY 2017		Imperial Invention Prize (top prize) at the National Commendation for Invention	Inventions concerning particle beam therapy systems

## Protecting Our Designs and Brand

**Activities**

To protect Hitachi's designs and brand, we take resolute measures against such infringements as making and selling counterfeit goods, copying our designs or carrying the Hitachi brand, and illegally applying for or registering trademarks of such goods.

In recent years, we are intensifying our efforts to identify counterfeiting networks, whose manufacturing methods and sales channels have become more sophisticated and diverse. We are also working with e-commerce site operators on countermeasures against online counterfeit sales.