# Choose your job and get a guaranteed position.

We expect that joining a new company without your job information would cause you a lot of concern. Hitachi has a solution for those concerns.
Hitachi believes that, in looking for employment, you will want to spend a bit of time and effort to learn more about the nature of the job and the way in which you will perform it.

## You choose your desired business field in Hitachi's very own employment process

# Hitachi Job Matching

*In this journal, we introduce science career opportunities and matching bases.

## Hitachi's Job Matching has the following three features

### 01 Choose your own Matching Basis

With Job Matching, you engage in interviews with employees working in your chosen matching basis to give each side an opportunity to see how the nature of work in your matching basis matches up with our hiring needs. With Hitachi active in such a wide range of fields and employing people in many different occupations, you are bound to find the job you are looking for.

Note: Matching bases described in this issue are current as of March 1, 2024.
Future updates will be provided on your My Page after your registration or on our website.

### 02 Your assigned field will be decided at the same time as when you get your preliminary job offer (nainaitei)

Once a job match has been found and credentials have been completely checked, you will receive a nainaitei preliminary job offer. Your assigned matching basis identified in the job matching process will be confirmed at the time of your preliminary job offer. As formal notifications are sent out in October, you will be able to enjoy the rest of your student life without the worry of looking for a job.

### 03 You can also apply to some Hitachi Group companies

You can use Job Matching to apply to 7 Hitachi Group companies in addition to Hitachi, Ltd. Hitachi, Ltd. were split into separate companies or through alliances and tie-ups with other companies. These companies work in specific business fields such as home appliances, ATM or measurement instruments that Hitachi, Ltd. does not deal with directly. You can apply to those companies if your interests matches. Furthermore, the subsequent recruiting process will be handled independently by each company.

## Scope of Job Matching

### Hitachi, Ltd.

Implementing the "Job Matching", which is divided into each business area



### Group company

Split Company/Joint Venture



**Hitachi Recruiting My Page**
URL : https://www.e2r.jp/ja/hitachi2025/

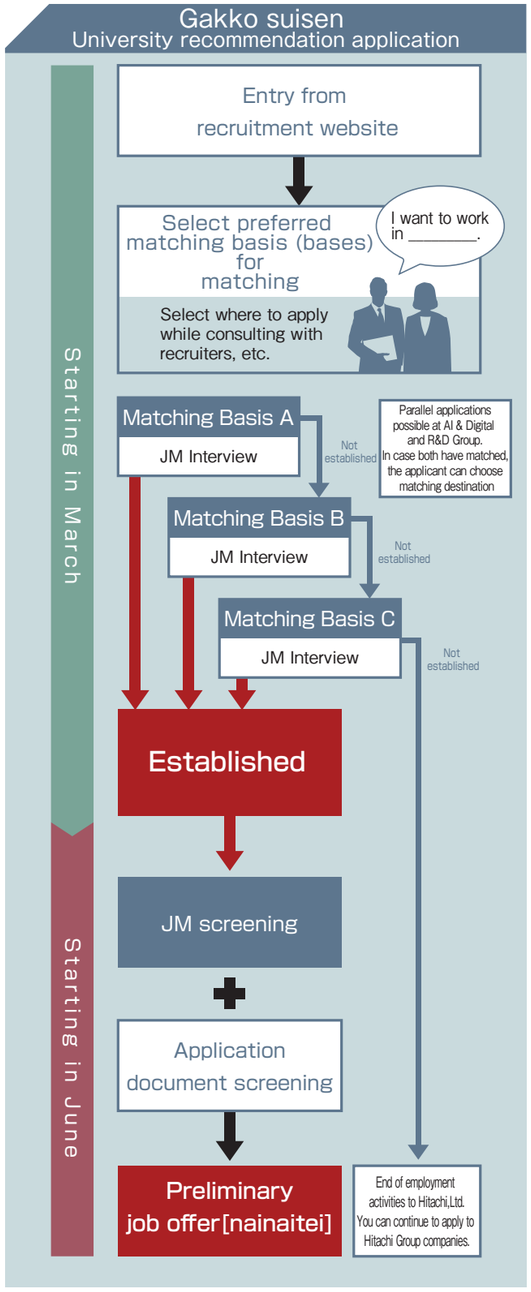
## Job Matching Flow Chart

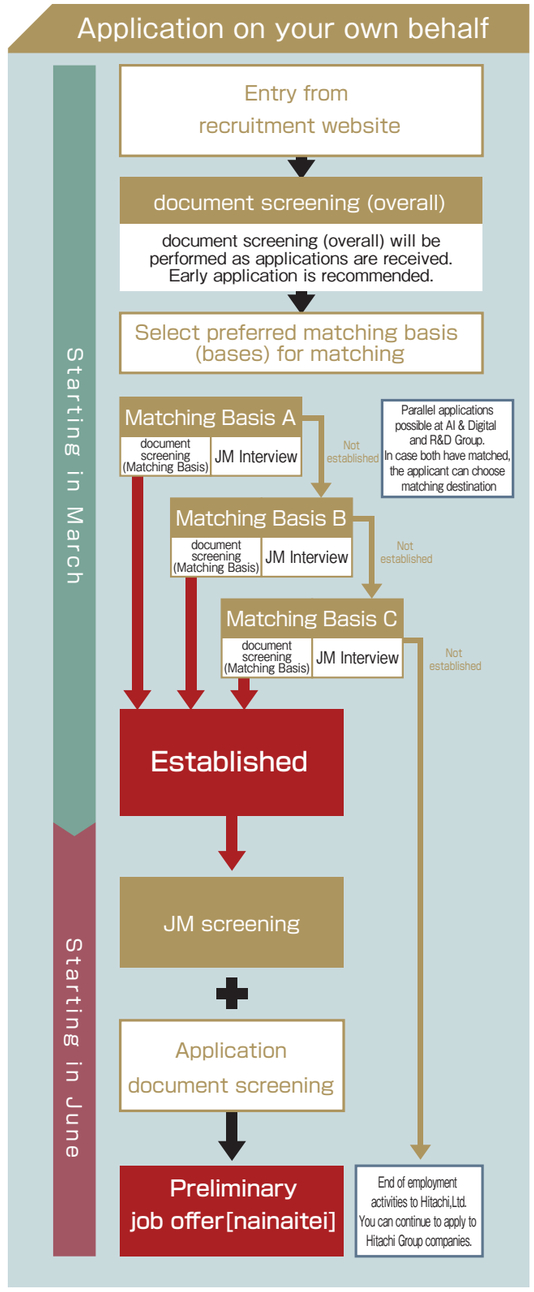
### How to apply

- Apply in order of preferred matching basis (bases) –
- You can apply for up to 3 Matching Bases of Hitachi, Ltd, and you can apply for an unlimited number of Matching Bases of Hitachi Group companies.
- Matching Bases of Hitachi Group companies can be applied in parallel with Matching Bases of Hitachi, Ltd. *However, parallel applications between Hitachi Group companies are not allowed.

### After matching is established

- If you wish to join the company, apply for the JM screening in June.



# BUSINESS DOMAIN

## Supporting society, energizing industry, and creating a comfortable way of life

Hitachi's businesses extend across a wide range of fields that are related to people's lives, and its products and technologies are found in many different situations.
The "Business Domain" section provides a sector-by-sector overview of these businesses.
Hitachi is always looking for people who can resolve various types of social issues which we face and realize the "good" desired by people throughout the world.
please find out matching bases where you can show the most of your individuality and knowledge.

### FINANCIAL INFORMATION SYSTEMS

Hitachi's financial digital solutions enable Hitachi to work with financial institutions and customers in other industries, combining their ideas with Hitachi's own to contribute to the creation of new financial services through collaborative creation by utilizing various data such as intercompany transaction data, medical big data, IoT data and open data, and innovative digital technologies such as AI, blockchain and biometric authentication technology. Hitachi has been focusing on the financial field as one of the core areas of the Social Innovation Business, and based on our financial business results and know-how cultivated in a wide range of fields, we will further accelerate the creation of socially innovative financial services.

### GOVERNMENT & PUBLIC CORPORATION INFORMATION SYSTEMS

By combining new digital solutions with the know-how cultivated over more than 50 years, such as management of large projects in the public sector including national and local government offices, and research and educational institutions, we create new social innovations through "collaborative creation" with customers. This is not limited to Japan. It is our mission to provide the know-how cultivated in Japan to other countries facing similar issues, and to bring about social innovation around the world.

### INFORMATION & TELECOMMUNICATION SYSTEMS

We provide IT services to meet various customer needs through the whole system life cycle - from consulting to system construction, application, maintenance and support - by combining advanced IT with a wealth of expertise gained in a wide range of business fields.

### POWER SYSTEMS

Through the provision of energy solutions that leverage on the strengths of "OT x IT x Products", such as nuclear power generation systems, renewable energy power generation systems, power grid systems for receiving, transforming and transmitting electricity, and predictive diagnosis and remote monitoring services for facilities, we contribute to the stable supply of energy, efficient equipment management, reduction of CO2 emissions, and the realization of a low-carbon and decarbonized society.

### RAILWAY SYSTEMS

Helping people travel more safely and comfortably from city to city. Hitachi provides advanced solutions for railway vehicle design and manufacturing, operation management, monitoring and control, information services, maintenance, and road and airport management and control. Although there are no railway tracks that stretch indefinitely, as railways expand and evolve, the surrounding cities also evolve together. In order to connect people and contribute to regional revitalization, Hitachi uses advanced IT to provide world-class rolling stocks and railway systems. Furthermore, we also work on the creation of new services that link railways with various social infrastructures and enrich the lives of people.

### INDUSTRY & DISTRIBUTION SYSTEMS

From solutions in the form of factory-oriented production control systems, energy saving solutions and physical security, to construction of factory facilities, to industrial machinery in the form of compressors, power electronics products and information control components, we provide total systems contributing to the optimization of management and production.

### WATER SYSTEMS

We provide comprehensive water solutions globally, with a rich line-up featuring water purification/desalination systems, water treatment systems, industrial waste water treatment systems, drainage recycling systems, pump facilities and information / control systems. In recent years, we have also been focusing on service businesses such as operation/maintenance and business management.

### URBAN PLANNING & DEVELOPMENT SYSTEMS

Elevators and escalators are now indispensable for urban life as buildings continue to become taller and larger. Hitachi is therefore promoting the development of ultra high speed elevators that are safe, comfortable, and energy-saving, and providing them globally, including in Japan, Asia and the Middle East. By fusing advanced IT and urban service infrastructure that we have cultivated so far, we will continue to further contribute to the development of safe, comfortable and convenient cities.

### HEALTHCARE SYSTEMS

The environment surrounding the medial and healthcare fields are changing dramatically, with the rapidly aging society and the increase in lifestyle diseases and national medical expenses. Hitachi considers healthcare to be an indispensable infrastructure that supports the society of the 21st century, and we provide innovative technological development and related systems, solutions and services that make full use of our comprehensive capabilities in order to create a society where every person can live healthy and safe lives.

### HOME APPLIANCES

We provide solution services such as kitchen/household products, lighting and home equipment, and refrigeration/air-conditioning equipment to solve the issues of life. We also work continuously and thoroughly to improve the energy-conserving performance of products, and contribute to reducing environmental load.

### ELECTRONIC DEVICES

We use the cutting-edge technology to provide semiconductor manufacturing equipment that supports information society and the healthcare solutions that support people's healthy living such as measuring/analyzing equipment.

### AUTOMOTIVE SYSTEMS

In order to create new value in people, cars and society, and to contribute to a prosperous society, we are working to support the needs of society - such as environmental conservation, accident prevention and reduced congestion - by accelerating research and development in the fields of environment and safety, and evolving advanced vehicle control systems combining Hitachi Group information/safety technology with social infrastructure services.

## Business Domain Index

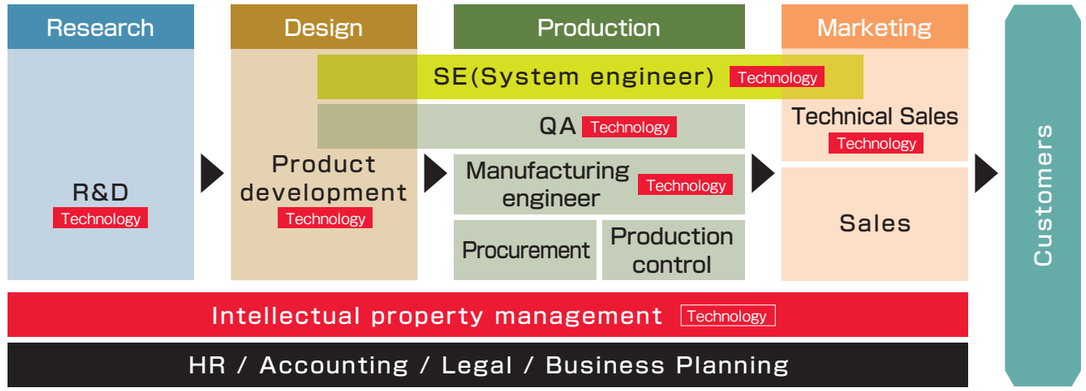
| Matching Basis/Company Name | Power Systems | Industry & Distribution Systems | Water Systems | Urban Planning & Development Systems | Railway Systems | Financial Information Systems | Government & Public Corporation Information Systems | Information & Telecommunication Systems | Healthcare Systems | Home Appliances | Automotive Systems | Electronic Devices |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AI & Digital | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Research & Development Group | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Railway Systems Solution | | | | | ● | | | | | | | |
| Industry, Distribution IoT & Robotics Solution | | ● | | | | | | | | | | |
| Water Environment Solution | | ● | ● | | | | ● | | | | | |
| Energy Solution | ● | | | | | | | | | | | |
| Information & Communication Technology Solution | ● | ● | | | ● | ● | ● | ● | | | ● | |
| Defense Systems Solution | | ● | | | | | ● | ● | | | | ● |
| Social Infrastructure Control System | ● | ● | ● | | ● | | | ● | ● | | | ● |
| IT Strategy & Digital Integration Division | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| MONOZUKURI Strategy Division | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Intellectual Property Division | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Hitachi Industrial Products, Ltd. | ● | ● | ● | ● | ● | | ● | | | | | |
| Hitachi Global Life Solutions Inc. | | ● | | ● | | | | | | ● | | ● |
| Hitachi Channel Solutions, Corp. | | ● | | | | ● | ● | ● | ● | | | ● |
| Hitachi High-Tech Corporation | | | | | | | | | ● | | | ● |
| Hitachi Building Systems Co., Ltd. | | ● | | ● | | | ● | | | | | |
| Hitachi Management Partner Corp. | | | | | | | | ● | | | | |
| Hitachi Vantara Ltd. | | | | | | | | ● | | | | |

*From April 1, 2024, within Hitachi's Healthcare Business Division, Digital Healthcare Field, In-Vitro Diagnostic & Analysis System Field, Advanced Medical Systems Field, and Advanced R&D Equipment Field (excluding Equipment for Nuclear Fusion Experiments) will be integrated into HITACHI HIGH-TECH CORPORATION, Advanced R&D Equipment Field (Equipment for Nuclear Fusion Experiments) will be integrated into ENERGY SOLUTION.

# JOB CATEGORIES

There are a wide variety of job categories in Hitachi, all of which are part of the diverse types of collaboration that generate new businesses and technologies. There are several types of engineering occupations suitable for those with a background in science and technology. These include Research and Development, Product Development, and System Engineer among the broad range of areas to contribute.
You will be able to find a job that matches the nature and type of work you are looking for.

## Introduction of job categories




### RESEARCH AND DEVELOPMENT

The role of this job is the development of technologies which is indispensable to business development, materials research with specific goals, research linked to product development, or the development of integrated systems for building global networks. The tasks taken on by the engineers in R&D departments cover an extremely wide range of topics, extending from basic to applied research, and they demand people who are creative and keen to take on challenges. This research is primarily carried out at five international bases (Japan, USA, Europe, China, and APAC) and collaborating with one another globally.

### PRODUCT DEVELOPMENT

The role of Product Development is to deliver new value to the marketplace by incorporating constantly evolving technologies into new products. Utilizing its core technical capabilities, Hitachi responds quickly to constantly changing market trends and societal needs, with an involvement in everything from the planning and development of devices and systems through to product commercialization. Examples include the development and commercialization of server hardware and software for the information and telecommunications sector, power generation plant, and transportation systems for the electric power and social and industrial infrastructure sectors, and escalators and elevators for urban development.

### SYSTEM ENGINEER (SE)

The role of System Engineers is to share a vision for the future with corporations and with national and local government, and then to plan, design, and develop the systems needed to realize this future. Their work extends beyond designing systems, however, and includes work on the services and businesses themselves. This includes dealing with questions such as what services to develop and how they can be made to fit in with the people who use and work with them. It is a job that frequently requires you to get away from your desk and go out to consult with people. System Engineers include those who draw on their specialist skills to create new Hitachi technologies. It is a job that offers scope for a variety of different types of professionals.

### MANUFACTURING ENGINEER

Manufacturing Engineers take on the role of expanding production volume and improving production efficiency through the use of technology. Yoko-hama Research Laboratory is the base for research in this field, with teams working on production technology in each of its departments. These teams play a central role in the development and commercialization of technology for improving production efficiency and in enhancing product cost-performance. This field also includes software production technology engineers who are engaged in improving the productivity of information system implementation, and who can be found working across all fields of activity.

### QUALITY ASSURANCE

Quality assurance staffs check the safety and security of products and systems. They prevents problems from occurring by checking from the upstream process to ensure that products and systems meet the specified performance, durability, and other requirements.The job also includes the development and implementation of quality assurance practices based on the motto, "quality is the essence of a Hitachi's product". All business groups and departments perform rigorous checking.

### TECHNICAL SALES

The role of this job is supporting sales activities from the technical side. The job also includes creating solutions for technical issues so that customer needs are satisfied, and building the base of the solution design, in collaboration with internal stakeholder departments. Not just delivering product, but seeking out the hidden issues and needs our customers are yet unaware of, Techical Sales produce a detailed solution that utilizes the full strength of the Hitachi Group.

### INTELLECTUAL PROPERTY MANAGEMENT

Work in intellectual property management includes identifying the company's copyrights, trade secrets, and other intellectual property to protect or utilize. The scope of this business extends throughout the world, and in addition to their day-to-day work on issues such as technical collaborations or M&A, this field is also a critical part of the company's corporate strategy. Hitachi's practices are a subject of interest around the world. While legal knowledge is a prerequisite, the job also demands a broad spectrum of skills, including an interest in advanced technology, language skills, and external negotiating skills.

## Job Index

| Matching Basis/Company Name | Research and Development | Product Development | SE (System Engineer) | Manufacturing Engineer | Quality Assurance | Technical Sales | Intellectual Property Management | Other |
|---|---|---|---|---|---|---|---|---|
| AI & Digital | ● | | ● | | | | | |
| Research & Development Group | ● | | | | | | | |
| Railway Systems Solution | | ● | | ● | ● | ● | | |
| Industry, Distribution IoT & Robotics Solution | | ● | ● | | | | | ● |
| Water Environment Solution | | ● | ● | | | ● | | |
| Energy Solution | | ● | | ● | ● | ● | | |
| Information & Communication Technology Solution | | ● | ● | | ● | | | |
| Defense Systems Solution | | ● | ● | | ● | | | |
| Social Infrastructure Control System | | ● | ● | | ● | | | |
| IT Strategy & Digital Integration Division | | | ● | | | | | |
| MONOZUKURI Strategy Division | | ● | ● | ● | | | | |
| Intellectual Property Division | | | | | | | ● | |
| Hitachi Industrial Products, Ltd. | | ● | | ● | ● | ● | | |
| Hitachi Global Life Solutions Inc. | | ● | | ● | ● | ● | | ● |
| Hitachi Channel Solutions, Corp. | | ● | ● | | ● | ● | | ● |
| Hitachi High-Tech Corporation | ● | ● | | ● | ● | ● | | ● |
| Hitachi Building Systems Co., Ltd. | ● | ● | ● | | | | | |
| Hitachi Management Partner Corp. | | | ● | | | | | |
| Hitachi Vantara Ltd. | | ● | ● | | ● | | | |

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# AI & DIGITAL

## Creating value from various types of data and accelerating digital innovation.

In recent years, as a result of the development of IoT, the amount of data generated by society and business has been increasing at ever faster speeds. This data is what will become the source of new value for businesses.
Now, Hitachi is working on digital innovations that will create value for the next society along with customers in various business areas. We will swiftly launch and spread new businesses through the research and development of digital technologies, including data science, media processing, artificial intelligence, services computing, and computing architecture, as well as leveraging the data.
Hitachi promotes social innovation business, which leads to the improved corporate value of our customers and to improvements in people's quality of life.

**Job Categories**
Research and Development | Product Development | System Engineer (SE) | Manufacturing Engineer | Quality Assurance | Technical Sales | Intellectual Property Management | Other

**Faculty / Department**
Mechanical Engineering | Electric/ Electronic/ Communications Engineering | Computer Sciences | Chemistry | Physics | Mathematics | Industrial and Management Engineering | Civil Engineering/ Construction/ Environmental Engineering | Energy/ Resource Engineering | Other

**Business Fields**
Power Systems | Industry & Distribution Systems | Water Systems | Urban Planning & Development Systems | Railway Systems | Financial Information Systems | Government & Public Corporation Information Systems | Information & Telecommunication Systems | Healthcare Systems | Home Appliances | Automotive Systems | Electronic Devices

## Job Categories

### Research & Development

Through the development of technology for digital innovation that creates new value, we will work to make our core technologies the best in the world, and will accelerate solutions that combine IT,OT, and products.
We will become a global leading company, and try our hand at innovation that no one has achieved heretofore.

### Data Scientist

In order to achieve the next vision of society and the next business for our customers in various industries, we create value from data, coordinate various elements connected to the business, and provide total support for big data utilization.
Job responsibilities range from analysis of issues faced by customers and construction of analysis environment for data utilization, data analysis using statistics and computer science, providing value to solve management issues faced by customers through creation of business actions and feedback on analysis results, to the development of services and software based on data utilization for the market.

### DX Consulting

This job involves consulting for customers and planning and development of solutions originating from DX. As a DX Partner who accompanies customers, we play a role in realizing company value improvement and value creation while utilizing the capabilities of the entire Hitachi Group including GlobalLogic Inc. toward realizing DX of customers. We connect customers with relevant parties inside and outside Hitachi Group, get involved until the execution of issue solving, and lead Hitachi' s Hsocial innovation business.

### Location

| | |
|---|---|
| Kokubunji Site | 280, Higashikoigakubo 1-chome, Kokubunji-shi, Tokyo 185-8601, Japan |
| Ibaraki Site Omika District | 1-1, Omikacho 7-chome, Hitachi-shi, Ibaraki 319-1292, Japan |
| Ibaraki Site Katsuta District | 832-2, Horiguchi, Hitachinaka-shi-, Ibaraki 312-0034, Japan |
| Yokohama Site | 292, Yoshida-cho, Totsuka-ku, Yokohama-shi, Kanagawa 244-0817, Japan |
| [Data Scientist] Primary Locations | Work location varies depending on the department to which you are assigned.<br>Tokyo and Kanagawa |
| *In addition, you may be stationed at customer sites. | |
| [DX Consulting] Primary Location | Tokyo |

### Contact Information

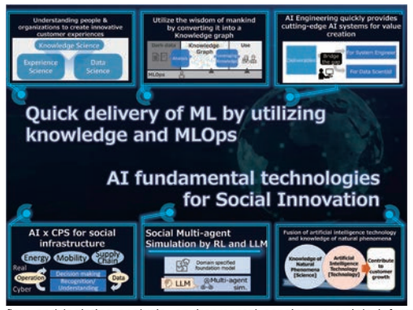
【Research and Development】
talent.acquisition_rdg.gv@hitachi.com
【Data Scientist】
saiyou.job.bt@hitachi.com



## Business Activities

### RESEARCH & DEVELOPMENT (Advanced AI/Data Science field)

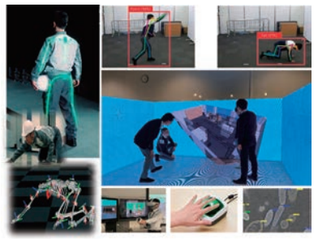
#### Data Science Research




We are engaged in research and development of intelligent information processing for prediction, judgment, optimization, decision support (machine learning, reinforcement learning, swarm intelligence, optimal solution search, etc.) and its applications (cooperative control, human flow and logistics analysis, environmental sensing, materials informatics, CPS (Cyber Physical System), etc.) using artificial intelligence. Through customer cooperative creation, we will create new value by applying artificial intelligence technology to social issues.

[Main Research Area]
Machine Learning, Reinforcement Learning, Deep Learning, Generative AI, LLM, IoT Data Analysis, Satellite Data Analysis, Human Flow and Logistics Analysis, Machine Operation Advancement, Modeling Simulator, Digital Twin, Simulation-Based Optimization, Integration and Application Technology of Optimization and Machine Learning

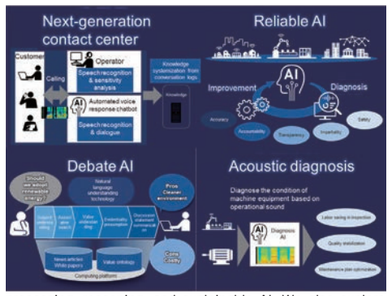
#### INTELLIGENT VISION RESEARCH



Engaged in the Research & Development of cutting-edge technologies for AI-based video analytics, along with the utilization of XR/Metaverse. Targeting business domains such as railway, energy, and measurement & analytics, we aim to create and drive social innovation businesses, contributing to the realization of a society where everyone can enjoy and achieve peace of mind, security, and health.

[Main Research Area]
Computer vision, image recognition, activity recognition, sensor signal processing, generative AI, multimodal recognition, XR content generation, UX, sensory substitution & augmentation, machine learning, knowledge processing.
Application examples: Industrial Metaverse, video surveillance, work training, on-site operational support, measurement analysis systems, OT knowledge management, biometric authentication, RPA, medical applications.

#### INTELLIGENT MEDIA PROCESSING RESEARCH

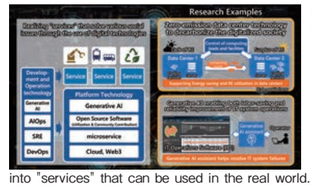



We are engaged in research & development of AI, especially advanced technologies for text, speech, acoustic signal, sensing data. We also develop technologies for transparency and fairness of AI, and aim for "AI trusted from society". We deepen technologies such as machine learning, deep learning, pattern recognition, knowledge processing, reasoning, and explainable AI. We also explore applications of these technologies to the real world.

[Main Research Area]
Natural language processing (large-scale language models, natural language inference, argument structure analysis), Speech recognition (model adaptation, end-to-end, speaker diarization, speech enhancement/separation, speaker verification, Kaldi/ESPnet), Acoustic recognition (anomalous sound detection, scene classification, captioning), Signal processing and machine learning (machine learning for sparse modeling, signal reconstruction, or estimation/prediction), Dialogue agent, Risk inference, Knowledge learning, Explainable AI, Trustworthy AI(verification and prescription of explainability, transparency, fairness, and robustness).
Applications: Text summarization, text information extraction, chatbot, conversational robot, advanced RPA, call center transcription, IVR(Interactive Voice Response), meeting transcription, machine condition monitoring, maintenance knowledge support, credit examination, emergency demand forecast, inspection automation. data refinement, etc.

### RESEARCH & DEVELOPMENT (Advanced Digital Technology field)

#### SERVICES COMPUTING RESEARCH




Major social challenges such as productivity innovation and the realization of a decarbonized society cannot be solved by stand-alone products and technologies. We are engaged in research on methods and technologies to connect various products, technologies and things through the full use of digital technologies such as AI, Web3 and IoT to sublimate them into "services" that can be used in the real world. Through research and development of architecture, platform technology, development and operation technology, OSS, etc., we accelerate digital transformation and contribute to realizing social innovation.

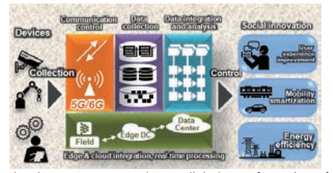
[Main Research Area]
Cloud-native architecture, container platform, blockchain/Web3, IoT platform, zero-emission data center, generative AI application, Low Code development, DevOps, MLOps, AIOps, SER (Site Reliability Engineering), OSS
Application examples: Grid-aware energy management through control of computational loads among distributed data centers, service mashup platform to enable Low-code agile application development, distributed ID platform technology supporting Web3, troubleshooting assistant using generative AI for IT system operation management

#### DATA MANAGEMENT RESEARCH


We perform research & development of data management that provides new value to our customers by extracting information that enriches the environment, society, and the economy from various types of data. We are engaged in research on distributed data integration management technology that safely and securely manages and searches data scattered across a variety of locations and organizations across industries, cities, public services, healthcare, finance, and energy, as well as on data utilization automation that multiplies and quickly extracts value from such data. Through these research results, we contribute to social innovation by accelerating our customers' DX based on data.

[Main Research Area]
Data modeling, cyber-physical systems, common ground, metaverse, database, data lake, data fabric, transaction management, metadata management (active metadata), data governance (data protection law compliance, data catalog), digital observatory

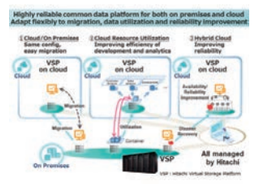
#### CONNECTIVITY, EDGE & CLOUD COMPUTING RESEARCH




To realize a safe, secure, and comfortable society, we are developing technology to create new value with data-oriented AI analysis and digital twin, using connectivity technology including 5G/6G and edge and cloud federated computing to connect the real world (edge) and virtual space (cloud). Through this research and development, we accelerate digital transformation of society and contribute to social innovation.

[Main Research Area]
5G/Beyond 5G/6G, communication management, network integration, edge computing/edge data centers, edge cloud federated data distribution processing, embedded AI, distributed AI, federated learning, wireless engineering, CPS(Cyber physical system), factory IoT, connected cars, automated program repair

#### DATA STORAGE RESEARCH

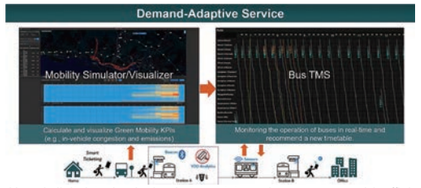



We conduct research and development of high-capacity and high-reliability data storage to support digital transformation. In this research, we are researching and developing advanced data reduction and IT system management that utilize AI and machine learning, cloud storage services that utilize public clouds, storage infrastructure and low power computing for large-scale AI while developing technologies such as computer architecture, operating systems, and networks, which we are focused on. Our research results are applied to Hitachi's storage products and services, and are used by thousands of companies, including the world's No. 1 companies that everyone knows, and are supporting people's lives around the world.
The image on the left is an example of a product where our research results are applied.

[Main Research Area]
Hardware architecture (CPU, memory, network, GPU, DPU, FPGA, etc.), software algorithms (high-speed IO processing, compression/de-duplication, data protection, etc.), distributed storage, system operations management, image compression, etc.) public cloud utilization technology (cloud storage services, cloud backup, etc.), storage infrastructure and low power computing for large-scale AI

## RESEARCH & DEVELOPMENT (Systems field)

### DIGITAL ARCHITECTURE RESEARCH - Mathematical modeling of real societies -




In the social infrastructure systems that support our daily lives, such as electric power grid management system and rail transportation system , there are fields where AI and digital technologies have yet to make progress and inefficient operations still continue. In our research field, we will create innovative value that lead to greater efficiency in society by formulating the inefficiencies as system models and then developing digital technologies that address them.

[Main Research Area]
Electric power system modeling, clean energy management, rail traffic control system modeling, demand response transportation operations, mobility-energy coordinated operations, maintenance recommendations, cloud-based control, mathematical optimization using AI

### DIGITAL ECONOMY RESEARCH


We are conducting research for digital service incubation in ESG and finance and developing digital service engineering technologies through the practice of digital service incubation. We create new digital technologies to achieve new ESG/financial services by linking not only financial operations and services, but also data from digitalization of industrial/logistics services, urban/transportation services, etc.

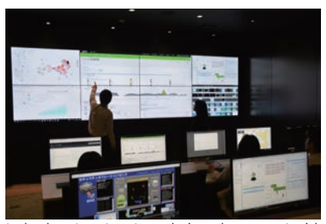
[Main Research Area]
Sustainable finance, supply chain finance, blockchain, NFT, digital currency, digital identity management, service incubation process, DevSecOps, cloud shift for high-reliability systems, automated test generation/execution

### DX ENGINEERING RESEARCH - Software development technologies that support business transformation -


We conduct the research and development of software development technology that enhances business value through DX. Focusing on the industry field, we aim to improve the efficiency and quality of each process, from development to operation and maintenance, by using AI to analyze operational data, development performance data, source code, etc.

[Main Research Area]
■ Research includes: Machine learning on tabular data, AI software testing/verification, process mining, development project risk detection, agile development methodologies in collaborative creation, DevOps, cloud native, automated program repair, utilization of generative AI, automated test generation/execution, embedded system performance verification, causal analysis across development KPIs, model-based development (Model Based Systems Engineering), high-safety system development (safety risk analysis, failsafe), embedded software implementation techniques, configuration management technology, Over The Air technology, automated driving software, software structure visualization via VR, and quantum software development environment.
■ Application product examples include: Manufacturing (FA, PA), automotive, railroads, medical equipment, elevator systems, and storage systems

### SECURITY RESEARCH



In response to the recent trend toward IT and connected systems, cyber-attack preparedness is now recognized as the most important issue for security and business continuity. In our research, we are developing security technology for IT such as cloud and products such as automobile and medical equipment by analyzing events occurring and the information circulating in the world utilizing AI and digital technology to automate analysis and response to risks quickly and accurately.

[Main Research Area]
PSIRT/CSIRT support technology, cyber threat intelligence, security automation, vulnerability management, risk analysis, biometrics, AI security, privacy-preserving machine learning

## RESEARCH & DEVELOPMENT (Healthcare/Bio field)

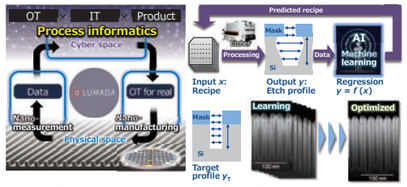
### HEALTHCARE IT RESEARCH


Aiming to extend people's healthy life expectancy and to realize a sustainable healthcare system, we are contributing to digital transformation in the healthcare and life science fields by engaging in Research & Development of Data Analytics(AI) technologies for medical, bio and health data, and the social implementation of the developed analytics technologies.

[Main Research Area]
Medical/health data processing and analysis technology utilizing machine learning and statistical methods (including database technology, data management technology, etc.), bioinformatics

## RESEARCH & DEVELOPMENT (Instrumentation/Informatics field)

### DATA-DRIVEN NANOPROCESS RESEARCH




We are engaged in the research and development of equipment control technology toward labor saving and productivity improvement in the precision manufacturing field, such as semiconductor manufacturing, etc. We are developing data analysis technology based on knowledge of physics and hardware, while utilizing AI and machine learning to realize highly accurate equipment control.

[Main Research Area]
AI, machine learning, multivariate analysis, mathematical optimization, image analysis, data-driven process condition optimization, digital twin

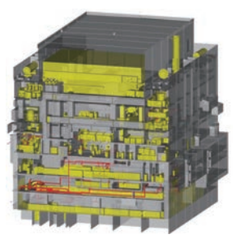
## RESEARCH & DEVELOPMENT (Environment/Energy field)

### ENVIRONMENTAL SYSTEMS RESEARCH - Creating a suite of solutions that achieves decarbonization and recovery of biodiversity along with economic growth -

In order to solve increasingly serious environmental problems such as climate change and ecosystem damage, we develop environmental technologies such as expanding the use of renewable energy, hydrogen, and promoting $CO_2$ absorption by restoring the marine environment. Furthermore, we conduct both scientific and digital research to evaluate the economic efficiency and impact on the natural environment when implementing these technologies in society by constructing digital twins in digital space. Contribute to acheiving enviromental sustainablility, safe, and secure social system through the social implementation of superior independent technologies that realize decarbonization and restoration of the environment, biodiversity through water and resource circulation, as well as recommendations for system reform.

[Main Research Area]
Design and proposal of decarbonization scenarios, hydrogen/carbon cycle technologies utilizing catalysts/electrochemistry/ heat utilization/membrane separation technologies, battery control and regeneration technologies utilizing battery material knowledge, water cycle and plant engineering technologies utilizing simulation/AI

### NUCLEAR SYSTEMS RESEARCH

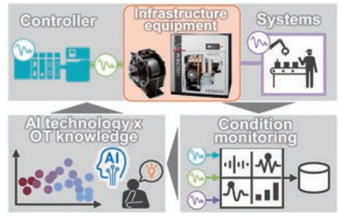


We are conducting research on nuclear power generation system, which is stable decarbonization electricity in both OT and IT fields toward the realization of a carbon neutral society. We contribute to a wide range of solutions considering from design and planning to operation, maintenance, and decommissioning and the construction of sustainable, safe, and secure social system by building nuclear plants, which is a huge system, in the digital space and utilizing AI adjusted with the knowledge on OT owned by Hitachi.

[Main Research Area]
Nuclear reactor and plant digital engineering, plant condition monitoring, work management, configuration management, equipment reliability, 4D CAD system, generative AI, metaverse

## RESEARCH & DEVELOPMENT (Electric & Electrification field)

### OPERATIONAL OPTIMIZATION OF INFRASTRUCTURE/SYSTEMS

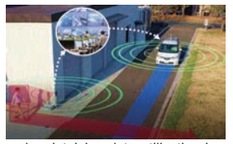



This research field seeks to optimize the operation of equipment and systems based on data acquired from infrastructure equipment such as industrial systems, mobility, and home appliances, etc. Through a fusion of AI technology and knowledge cultivated in the OT field to date, we digitize the tacit knowledge of skilled workers and propose highly explanatory operation methods to save energy and reduce maintenance costs.

[Main Research Area]
Advancement of simulation by combining digitization technologies to support the development of electrified components and industrial equipment (1D-CAE/MBD, system simulation, thermo-fluid analysis) and data analysis technologies (AI, machine learning, mathematical optimization)
Edge computing, embedded AI, data modeling, model-based development, database, machine learning, deep learning, statistical processing, time series signal processing, cyber-physical systems, factory IoT, Metaverse

## RESEARCH & DEVELOPMENT(Mobility & Automation field)

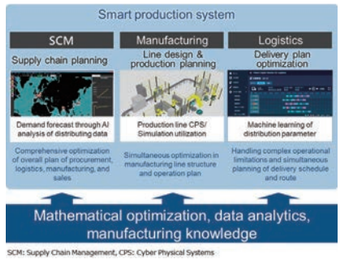
### AUTONOMOUS SYSTEM CONTROL RESEARCH



We are working on the development of system control technology that realizes autonomous driving of cars, trains, and other vehicles and automation in manufacturing logistic sites. To promote the social implementation of autonomous control system with aim of driver assistance, zero traffic accidents, and labor support in industry, we develop technologies for upgrading control security, verifying the safety of control devices, and maintaining data utilization in addition to automatic and autonomous control of mobility. We will provide a safe and secure autonomous and automation control system that can be used in a mixed environment of humans and machines and contribute to realizing sustainable public society and improving people's QoL by expanding it to the railway, automobile, and industrial vehicle fields.

[Main Research Area]
Autonomous control platform (high-reliability architecture, AI/intelligent control, controller, embedded software, embedded software, safety verification), control security, real-time control architecture, model predictive control, autonomous driving, automation support, self-localization, SLAM, sensor fusion, path planning, vehicle control, failsafe

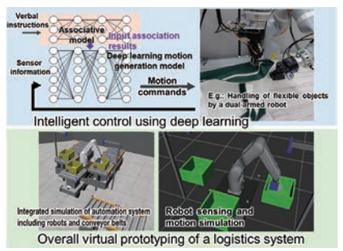
### PRODUCTION SYSTEMS RESEARCH




We are working on the development of smart production systems for the fields of manufacturing, distribution, and retail. We are developing a system that achieves optimal and autonomous business operations by using AI, machine learning, and mathematical optimization to analyze distribution data, product data, data on manufacturing and delivery sites, etc.

[Main Research Area]
Data analytics (AI, machine learning, mathematical optimization, cyber-physical systems, and simulation) in manufacturing and distribution fields, digitalization of manufacturing sites (IoT, equipment sensing, monitoring of manufacturing sites)

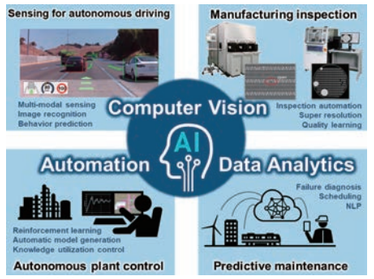
### INTELLIGENT ROBOTICS RESEARCH




To expand cooperative work and mutual understanding between humans and robots, we are developing cognitive functions and autonomous control technologies for robots. Based on a wide range of products and operational knowledge, we are also engaged in research on CPS (Cyber Physical System) that connects edge control of robots and IT systems. By implementing these technologies in the industrial and service fields, we aim to create a human-centric society that improves people's quality of life.

[Main Research Area]
Deep learning autonomous behavior generation, learning-based recognition technology, multi-modal AI, multi-agent simulation, digital twin and applied technologies

## AI CONTROL RESEARCH




We are developing the system intelligence and automation technologies for mobility and industrial equipment by control and recognition technology using AI and big data analysis. We aim to a safe, secure, and comfortable society through innovation and product implementation of environmental sensing for mobility autonomous driving, image analysis for products such as semiconductors, and autonomous control of industrial plants.

[Main Research Area]
Computer Vision (multimodal sensing, image recognition and analysis, behavior prediction, inspection with non-defective products, super-resolution image), automation (automated plant control, knowledge-based control, automated model generation (control and 3D-CAD), reinforced learning), Data Analytics (predictive diagnostic, failure cause diagnosis, maintenance scheduling, knowledge modeling, natural language processing)

## RESEARCH & DEVELOPMENT(Social innovation field)

### COLLABORATIVE CREATION WITH CUSTOMERS CREATING SOCIAL INNOVATION

We create new customer value and solutions in the growth fields of green, digital, and innovation by crossing cutting-edge AI and digital technologies with Hitachi's accumulated OT knowledge and design technologies.

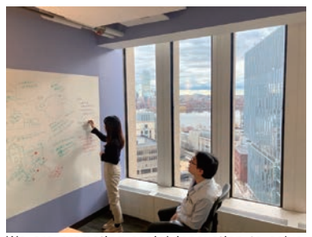
[Main Research Area]
Design, Behavioral analysis, railway operation management, urban space simulation, sales and manufacturing DX, power generation mix optimization

## DATA SCIENTIST

We have customers from a wide range of industries, including finance (banks, securities, and insurance), the public sector (public offices and local governments), social infrastructure (power, transportation, and communications) and production and logistics (retail and manufacturing). At ICT Solutions, in order to create a sustainable society where people around the world can live safely, securely and comfortably, we leverage on Hitachi's knowledge of IT and OT and maximize the power of digital technology to develop a social innovation business based on digital solutions from a perspective that is not available to any of our global competitors.

[TOPICS]
We have been supporting implementation of PoC and introduction of AI systems for many customers. Our data scientists, a team of experts with high business skills, business knowledge and data analysis knowledge, will support our customers' digital transformation.

## DX CONSULTING



As a consultant, we investigate management issues more deeply, formulate hypotheses that lead to increase value (especially utilizing digital technology), and present proposals to customers who are aiming to expand the business scale of their company or contribute to society.
Because these proposals include the use of technologies, solutions, and products of Hitachi Group, we can see through embodied proposals to the stage of delivery to customers.
We are promoting social innovation to solve management issues of customer companies and those of the whole of society while working with a variety of industries and customers.

[TOPICS]
We picture a future in terms of how customer companies transform and evolve with the power of digital to increase company value and what changes we can make to contribute to society and describe a journey to realize this through collaborative creation with customers. To achieve this, we get global stakeholders inside and outside of the company involved and move forward together in the same direction. Specifically, we analyze customer issues with a global joint team, describe a journey of customers with design thinkers, propose specific measures toward the future, and lead customers with DX engineers to achieve the blueprint that we proposed.
We connect digital technology to a transforming market and create growth businesses by selecting themes specifically related to Digital x $\alpha$ (products and strength of Hitachi) and embodying the value of business through our participation in customer projects.

# RESEARCH & DEVELOPMENT GROUP


## Focusing on future innovation to create a new era.

With social innovation as a key pillar, Hitachi strives to grow in global markets. To respond to various problems of customers or increasingly complicated global social issues, we provide optimized solutions by combining the OT and IT, which we have accumulated through our extensive social infrastructure businesses. The Research & Development Group is creating innovative products and services by fusing technologies nurtured for years, including R&D, developing the new fields.

Researchers from both Japan and abroad with expertise in various fields are working together to promote R&D, with the aim of creating the best technologies in the world.
The Group is looking for people with a challenging spirit who want to create new products to change the world, and people who are interested in a variety of disciplines beyond their own research fields.

**Job Categories**: Research and Development | Product Development | System Engineer (SE) | Manufacturing Engineer | Quality Assurance | Technical Sales | Intellectual Property Management | Other

**Faculty / Department**: Mechanical Engineering | Electric/ Electronic/ Communications Engineering | Computer Sciences | Chemistry | Physics | Mathematics | Industrial And Management Engineering | Civil Engineering/ Construction/ Environmental Engineering | Energy/ Resource Engineering | Other

**Business Fields**: Power Systems | Industry & Distribution Systems | Water Systems | Urban Planning & Development Systems | Railway Systems | Financial Information Systems | Government & Public Corporation Information Systems | Information & Telecommunication Systems | Healthcare Systems | Home Appliances | Automotive Systems | Electronic Devices

## Job Categories

### Research & Development

With the key phrase, "Creation of Global No.1 Technology", the engineers in R&D departments are working on technology development leading the social innovation business and research directly linked to products and services. We tackle an extremely wide range of subjects, extending from basic to applied research; people who are creative and keen to take on challenges are required. With the three research centers (Kokubunji Site, Ibaraki Site, and Yokohama Site) located in Japan at its core of the activities, we promote the integrated global research in 5 key regions (Japan, US (Americas), Europe, China and APAC (Asia-Pacific)).

### Location

| | |
|---|---|
| Kokubunji Site | 280, Higashikoigakubo 1-chome, Kokubunji-shi, Tokyo 185-8601, Japan |
| Ibaraki Site Omika District | 1-1, Omikacho 7-chome, Hitachi-shi, Ibaraki 319-1292, Japan |
| Ibaraki Site Katsuta District | 832-2, Horiguchi, Hitachinaka-shi, Ibaraki 312-0034, Japan |
| Yokohama Site | 292, Yoshida-cho, Totsuka-ku, Yokohama-shi, Kanagawa 244-0817, Japan |

### Contact Information

RESEARCH & DEVELOPMENT GROUPs
talent.acquisition_rdg.gv@hitachi.com
https://www.hitachi.co.jp/rd/careers/lab/index.html



## Business Activities

### Systems Field

In response to the changing needs of society and users, we are engaged in research and development to create new systems and solutions by leveraging system thinking and digital technology that make a reliable, safe, and comfortable society possible.

[Main Research Areas]
Financial/public systems, trust solutions, railway operation management system, smart city, MaaS (Mobility-as-a-Service), energy management and grid control system, water and environment system, etc., Digital Cities, security (cyber/product/control system, authentication, encryption, biometrics, privacy), DX engineering (cloud native, industry system, connected system, embedded system, system renovation, software engineering, specification verification, test automation, AI system quality verification), system architecture (autonomous decentralized systems, blockchain, microservices architecture), machine learning, and mathematical optimization technology

### Healthcare & Bio Field

We have been supporting healthcare in an aging society with the power of bio measurement and digital technologies. We are working on Research & Development of medical information processing and in vitro diagnosis to create products, services, and solutions that contribute to improvement of the quality of medical care and optimization of medical expenses.

[Main Research Areas]
In vitro diagnosis, blood test, biomolecular detection, genetic test. DNA sequencer, bacteriological examination, cellular processing technology, mass spectrometry, medical/health data processing and analysis technology (including bioinformatics)

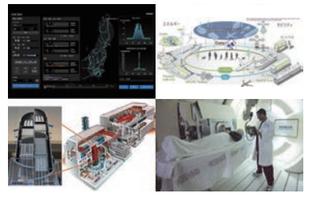
### Instrumentation/Sensing & Informatics Field

Top: AR/VR, CMOS annealing
Bottom: Semiconductor dimensional inspection SEM, etcher, sensing analytics (water leakage detection)

Toward the realization of a sustainable, safe, and secure society, we are advancing Research & Development of innovational instrumentation/measurement and digital processing technologies that create valuable data from the real world and find new solutions via the digital twin, returning them to society; for example, water leakage detection service based on sensing analytics, remote operations support with AR/VR technology, defect inspection applying optical measurement, video monitoring using edge AI/semiconductor, portfolio optimization through CMOS annealing, and material development support based on material informatics. We are also working on Research & Development of semiconductor manufacturing and inspection equipment that will realize nano-meter order measurement, analysis, and processing that support these electronics industries.

[Main Research Areas]
Signal processing, image processing, sensing analytics, analog-digital circuits, AR/VR, optical measurement, edge AI/semiconductor, CMOS annealing, radio communication, semiconductor manufacturing and inspection equipment, electron microscope, plasma control, data-driven nano process development, and materials informatics

### Environment & Energy Field



Toward the realization of a carbon-neutral society, we create a wide range of solutions such as coordination mechanisms with sustainable and highly reliable power generation systems, next generation nuclear power generation system to radiation therapy systems using high energy, and superconducting application systems, in order to realize comfortable and affluent society through Research & Development of leading-edge technologies for the entire supply chain of environment-friendly energy.

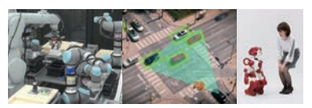
[Main Research Areas]
Environmental and energy management system (energy storage, hydrogen production, $CO_2$ capture and cycle, power transmission and distribution systems, supply and demand forecasting and transaction system, and water treatment), energy application system (radiation and particle beam therapy, superconductivity, non-destructive measurement, quantum applications, and electromagnetic field analysis and control), nuclear power system (innovative reactors, small reactors, preventive maintenance, Fukushima decomissioning, and plant digital engineering)

### Electric & Electrification Field


While efforts toward decarbonization are rapidly accelerating worldwide, we aim to realize a society friendly to people and the earth. To achieve this, we develop electric and electrification systems for mobility and industry fields, such as motors, inverters, and devices, by leveraging power electronics, mechatronics, and digital technologies. We also create new life solutions considerate of consumers through home appliances.

[Main Research Areas]
Electric/electrical machine systems (motor, inverter, power converter, transformer, circuit breaker, decarbonized combustion, railway vehicle, gas/air compressor, fluid machinery, cooling system), electronics (control device, device), mechatronics/heat transfer/thermal fluid (modeling, simulations, analytics), and life solutions (home appliances, robotics, data utilization platform)

### Controls & Automation Field



We are working on the development of control and automation technologies that achieve automation in manufacturing, logistics , building and healthcare. We also working on autonomous driving solutions for mobility equipment such as railways. We solve complex social issues by automation technology that makes full use of AI and data analytics and realize a society that is safe, secure, and friendly to people.

[Main Research Areas]
System control technology (model predictive control, AI and intelligent control, etc.), production system technology (automation of production line, planning optimization for manufacturing and shipping, etc.), robotics technology (motion control, image sensing and recognition technology, etc.), mechatronics, control security technology, digital twin (knowledge modeling, simulation, etc.), and intelligent systems that utilize AI and data analytics such as deep learning (manufacturing, logistics, railway, building, plant, and semiconductor testing systems, etc.)

### Production Engineering and MONOZUKURI, Mechanical Engineering & Electronics Field

Toward the realization of a circular economy and carbon neutrality, we are developing MONOZUKURI DX (Digital transformation) and GX (Green transformation) technologies by leveraging the IT, OT, and product knowledge of designing, manufacturing, and inspection. The research field includes innovative materials, manufacturing process techs, measurement techs, and mechanical / electrical system, which are applied to from mass produced products (ex. home appliance) to medium volume production equipment (ex. semiconductor manufacturing equipment), and infrastructure development (ex. railways). Through research and social implementation of innovative technology utilizing digital technology such as generative AI, we contribute to realizing a sustainable global environment and a safe and secure society.

[Main Research Areas]
Digital engineering, life cycle assessment, process informatics, eco-design, visual inspection, optical measurement, carbon-neutral manufacturing technology, functional materials, environmental materials, materials informatics, design engineering, knowledge management, reliability engineering, mechanical elements, tribology, material strength, vibration/quake resistance, failure risk management, low-noise circuit system, analog and digital circuit, electromagnetic compatibility (EMC), highly-reliable hardware analysis, high-speed data transmission, electromagnetic compatibility (EMC), cooling/implementation

### Social Innovation Field

Hitachi work on societal issues through collaborative creations with partners around the world to make our society sustainable. In this research field, we clarify new and more complex societal issues in cooperation with regions and communities and address creating social innovation businesses in the growing fields of green, digital, and innovation, using the technologies of Hitachi and our partners.

[Main Research Areas]
New business planning, new business creation, solving of societal issues, design, mobility solutions, well-being solutions, industry solutions, environmental/energy solutions, and business model

### Advanced AI/Data Science Field, Advanced Digital Technology Field

Please refer to AI & Digital page.

## TOPICS Kokubunji site: Supports Hitachi's business with research that leads the creation of new innovations

The Kokubunji Site was established in 1942 on the basis of the idea of Hitachi' s founder Namihei Odaira ( "Research which targets for 10 or 20 years after, but also tackle today' s issues" ) as Central Laboratory. We newly opened " Kyoso-no-mori" as a new research initiative to accelerate innovation through open collaborative creation for the realization of SDGs and Society 5.0 in April 2019. Kyoso-no-mori introduces innovation created by combining wisdom and technology using collaborative creation approaches such as open exchanges and discussions.
We explore new business opportunities by inviting customers and business partners worldwide to share visions for resolving challenges in society as well as holding ideathons and hackathons. We are also working on new research and business creation in the fields of AI & data science, digital technology, instrumentation & informatics, healthcare & bio, design, etc. Would you like to work with us at Kokubunji site where are rich in nature and diversity to research leading technologies and innovation creation for future ?

Map
https://www.hitachi.com/rd/about/location/crl/index.html

## TOPICS Ibaraki Site: Realize resolving environmental issues, and affluent life through innovation

The Ibaraki site is the oldest research laboratory in Hitachi R&D group established in 1934. It develops innovative technology to resolve issues on a global scale, such as climate change and exhaustion of resources, and is passionate about realizing a sustainable society.
The site is working on the development of energy systems that realize a decarbonized/zero-carbon society, safe and secure autonomous operation and mobility robots that coexist with people, home appliances and air conditioners that support people's lives, as well as innovative materials, analysis and design technologies, and "monozukuri" technologies that support all of these systems. Researchers with specialist expertise in diverse fields combine their strengths to work on the creation of new technologies, with the aim of successfully finding solutions for the social issues that exist all over the world.

Map
https://www.hitachi.com/rd/about/location/hrl/index.html

## TOPICS Yokohama site: Research and develop new social systems utilizing digital technology

Yokohama site is conducting R&D to create new social systems, including supply chain innovation in the industrial and distribution sectors, transportation/MaaS, finance/Fintech, and administration/ e-government.
Through leveraging IT, the Site is conducting the research on the "monozukuri" technologies that take advantage of digital manufacturing technologies such as system technology that carries out the value-based system design, cutting-edge software development technology, security technology, production process and supply chain design, inspection and measurement, and circuit design.
We are looking for "people with the vision creation ability" to create new social systems together, and "people with the ability to execute", who quickly connect the developed technologies to business.

Map
https://www.hitachi.com/rd/about/location/yrl/index.html

## TOPICS Global Expansion

With structuring five global research sites that includes Japan, we collaborate with overseas sites in the USA, Europe, China and APAC(Asia-Pacific) to develop top technologies and global research rooted in the needs of each region with leadership of local staff. Through collaboration with Hitachi's overseas research sites and joint research activities with universities, research institutes and businesses throughout the world, we conduct R&D globally. As well as aiming to improve research by taking advantage of the characteristics of each location, we are striving to undertake R&D that supports overseas business by establishing a real-time understanding of the needs of each market and providing corresponding feedback.
For more information on overseas sites, please visit
https://www.hitachi.com/rd/about/location/index.html

## TOPICS Educational system in R&D group

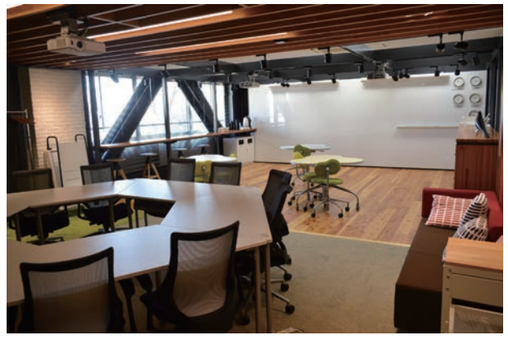
We collaborate with internal and external educational institutions to provide necessary skills and education for career advancement. We also actively support employees to participate international conferences to accumulate experience as the foundation of global development. In addition, support programs for acquiring a degree or improving their language skills are provided.

## TOPICS Hitachi Open Lab

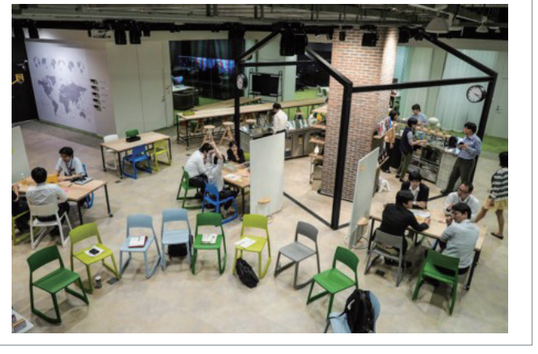
This is a place to carry out real and speedy prototyping with the aim of exploring future social issues collaborating with customers and solving them through research and development. It is also utilized as a communication space for internal meetings or refreshment.

Kokubunji Site

Ibaraki Site



Yokohama Site



# RAILWAY SYSTEMS SOLUTION

## A total railway system integrator supporting the railway business with superior technologies and a proven track record.

Railroads are receiving more and more attention as means for solving social issues such as global warming and concentration of populations in cities, with refurbishment of existing rail lines and construction of new rail lines underway in locations worldwide. Together with expansion of IoT technologies and digitalization, tasks to improve customer service that employ these technologies to increase railroad sector efficiency are also taking place. In addition to rolling stock and drive control devices, Hitachi is a systems integrator that can provide a full lineup of services that includes train drive control systems, power control systems and information services to support critical railway infrastructure.
As a global company, we are actively involved in railway projects in Europe, Asia and other locations outside Japan.

**Job Categories**
Research and Development | Product Development | System Engineer (SE) | Manufacturing Engineer | Quality Assurance | Technical Sales | Intellectual Property Management | Other

**Faculty / Department**
Mechanical Engineering | Electric/ Electronic/ Communications Engineering | Computer Sciences | Chemistry | Physics | Mathematics | Industrial and Management Engineering | Civil Engineering/ Construction/ Environmental Engineering | Energy/ Resource Engineering | Other

**Business Fields**
Power Systems | Industry & Distribution Systems | Water Systems | Urban Planning & Development Systems | Railway Systems | Financial Information Systems | Government & Public Corporation Information Systems | Information & Telecommunication Systems | Healthcare Systems | Home Appliances | Automotive Systems | Electronic Devices

## Job Categories

### Product Development(Kasado)

Design and development of high-speed trains such as Shinkansen and special express trains, commuter trains, monorails, air-conditioning and ventilating systems, bogies, etc.

### Product Development(Mito)

Design and development of VVVF inverter control devices, hybrid driving systems, network signal control systems, digital ATC, ATI, traffic control systems, passenger guide systems, and railway substation systems

### Quality Assurance(Kasado)

Quality assurance of high-speed trains such as Shinkansen and special express trains, commuter trains, monorails, air-conditioning and ventilating systems, bogies, etc.

### Quality Assurance(Mito)

Quality assurance of VVVF inverter control devices, hybrid driving systems, network signal control systems, digital ATC, ATI, traffic control systems, passenger guide systems, and railway substation systems

### Manufacturing Engineer(Kasado)

Production engineering and development relating to the manufacture of high-speed trains such as Shinkansen and special express trains, commuter trains, monorails, air-conditioning and ventilating systems, bogies, etc.

### Corporate IT & Security(Kasado)

- Planning and development of IT service for Railway Systems Solution
- Design, development, and operation of IT service for a production site of Rolling stock, from design to manufacturing

### System Engineer(Mito)

Project Engineering of VVVF inverter control devices, hybrid driving systems, network signal control systems, digital Automatic Train Control (ATC), Autonomous Train Integration (ATI), traffic control systems, passenger guide systems, and railway substation systems

## Business Activities

### Rolling Stock (Kasado)

Development, design, manufacturing, and testing of high-speed trains such as Shinkansen and special express trains, commuter trains, monorails, air-conditioning and ventilating systems installed in rolling stock, bogies, etc.

### Drive control devices / Signal systems and operation control systems / Substation systems (Mito)

Development, design, manufacturing, and testing of VVVF inverter control devices, hybrid driving systems, network signal control systems, digital Automatic Train Control (ATC), Autonomous Train Integration (ATI), traffic control systems, passenger guide systems, and railway substation systems

### Technical sales and project management (Tokyo)

Sales activities and technology proposal activities for customers in Japan and overseas, general coordination of projects in Japan and overseas, etc.

### Main overseas locations

- U.K.: Hitachi Rail Ltd. (Sales, engineering, manufacturing and maintenance of railway systems in the European (British) market)
- Italy: Hitachi Rail S.p.A., Hitachi Rail STS S.p.A.
- China: CRRC Xi'an YongeJieTong Electric Co., Ltd. (Sales, design, manufacturing and testing of rolling stock electronics in the Chinese market)

### Location

| | |
|---|---|
| Tokyo area | Akihabara Daibiru Building, 1-18-13, Sotokanda, Chiyoda-ku, Tokyo 101-8608, Japan |
| Kasado area | 794, Ooaza Higashitoyoi, Kudamatsu-shi, Yamaguchi 744-8601, Japan |
| Mito area | 1070, Ichige, Hitachinaka-shi, Ibaraki 312-8506, Japan |

### Contact Information

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jinkinrou@pis.hitachi.co.jp
[Kasado Area] Human Resources Division (Kasado Area)
TEL : 0833-41-8638
jinjikikaku_kasado@pis.hitachi.co.jp
[Mito Area] Human Resources Division (Mito Area)
TEL : 029-276-2391
mito-kotsu.saiyou.jw@hitachi.com



## Signature Technologies

### Rolling Stock

① Next generation Shinkansen train technologies
We are developing the next generation of Shinkansen trains while responding to transport needs such as faster rolling stock with increased accuracy in driving that applies diverse new technologies that are even more comfortable and environmentally friendly, with control of noise inside and outside rolling stock, controlled drive vibration, energy conservation, and smaller and more compact rolling stock that are easier to maintain.
② A-train (Hitachi's new processing technology and module-based production system developed in-house for rolling stock)
The "A" in "A-train" incorporates the meanings of the words "advance," "amenity," "ability," and "aluminum."
- Use of lightweight aluminum materials stabilizes costs during the life cycle, including maintenance and makes it easier to recycle and reuse materials.
- Friction stir welding (FSW), in which the welded surface is finished without any change in shape or color due to heat enables us to create beautiful outer surfaces.
- Module construction increases production efficiency and a flexible body structure that responds to a variety of needs.

③ Environmentally friendly technologies (battery electric vehicle)
Battery electric vehicles can be driven on electric power from storage batteries in nonelectrified sections, are environmentally friendly, reduce noise through an electrified drive system and improve passenger comfort.

### Drive control devices

① SiC inverter (SiC: Silion carbide)
Most rolling stock inverters utilize power devices made of silicon-based materials, but application of an inverter that uses SiC power devices that have a smaller device footprint, are lightweight and reduce power loss to further reduce energy use and improve performance to bring to life small rolling stock that are exceptionally environmentally friendly.
② Hybrid drive systems
We deployed hybrid drive systems to reduce environmental burden, lower fuel consumption of diesel railcars running in non-electrified sections and reduce carbon dioxide emissions. Energy during rolling stock acceleration and deceleration is stored in a lithium battery, which is reused as power from a supplemental power source and as energy during acceleration. Power generation is controlled as necessary based on acceleration of the rolling stock and the amount of energy stored in order to reduce noise when the rolling stock is stopped or coasting or when the driver stops the engine.
③ Autonomous decentralized Train Integrated System (ATI)
Comprising the information network inside the rolling stock, the ATI controls drive control devices mounted to the rolling stock and brake devices, displays the device data and operating tire data based on turn signals mounted to the steering wheel, and controls service devices such as air conditioning and car interior LED displays and automatic announcement equipment. Automatic testing functions that link to self-diagnosis functions of the devices, and drive condition recording functions that record driving history are helpful when conducting maintenance and diagnosing malfunctions.

### Safety devices and operation control systems

① Digital ATC (Automatic Train Control Device)
ATC transmits position data of the train in front to trains in operation, and controls speed to ensure safe train operation. Digital ATC transmits the necessary limit position signal from the ground to the brake controller in order to stop, and the device on the vehicle automatically controls the distance from the lead train to ensure stable operation. Passenger comfort improves, making it possible to maintain shorter distance between trains and effectively increase the amount of transport possible.
② CBTC (Communication Based Train Control), ETCS (European Train Control System)
International standards for train signal systems include the CBTC for urban traffic such as suburban trains, subways and monorails, and the ETCS, for traffic between urban centers that can handle mutual entry between routes that cross national borders in Europe.
Hitachi became the first Japanese company to obtain the CBTC's highest level of safety certification from a European certifying institution and were the first Japanese company to successfully bring a vehicle-mounted signal device that conformed to the uniform signal system regulations of Europe (ETCS) to market in December 2013. We condensed our long record of rolling stock performance in Japan into a form that conforms to European standards.
③ Operation Control Systems
This system monitors current train line conditions to control operation of trains on time. We are using the latest data processing and communication technology to develop drive organization systems to support speedy recovery when a train is delayed, and network functionality to connect distant stations. Monitoring control of power equipment and station facilities secures safe, stable transport, makes transport command operations more efficient and provides better passenger service.

### Substation System

Railroad incoming and transforming systems require a system product that can achieve stable supply of power for safe, high-density transportation as well as incoming and transforming equipment for highly reliable railroad power that contributes to disaster prevention, environmental friendliness and energy conservation, yet does so with a small footprint.
In response to this need, Hitachi provides optimized railroad incoming and transforming systems that capitalize on our deep knowledge of railroad systems and IoT technologies.

## TOPICS Global Business Expansion

The world's railway market is forecast to continue growing. The Railway Business Unit views the demand for railway systems that supports social infrastructure in these countries around the world as a business opportunity to make an aggressive push into overseas markets. In 2015, we acquired the Italian railway vehicle systems manufacturer Ansaldo Breda (now the Hitachi Rail S.p.A.) and Ansaldo STS Company (now the Hitachi Rail STS S.p.A.) to have bases in Italy and other European countries as well as America and other regions. Doing so allows us to grow our product lineup to include better turnkey (bulk) solutions business ventures, a world-class product pool to enhance and expand our portfolio and enable us to focus more on IoT/ digital business, as we aim to further develop total solutions as a leading company in the railway system business. With a number of projects underway not only in Europe, but in the Americas, Asia and emerging nations, and other regions, a diverse team of human resources who can lead Hitachi's railway system business together with our global partners.

**Expand global production capacity**

## TOPICS News Releases/Related Information

News releases regarding major topics are available on our website. Other Hitachi railroad-related information is also provided on YouTube. Please take a look.

[News Releases: Hitachi]
https://www.hitachi.com/New/cnews/index.html

[Hitachi Group Railway-Related YouTube Channels]
- Hitachi Brand Channel : Green Energy & Mobility
https://www.youtube.com/playlist?list=PLB8uh3iEDoy7oOIBiMKFg4QAIwNK0qHkp
- Hitachi Rail Ltd.
https://www.youtube.com/channel/UC-vPe9CF62GaAdGauXJ58wQ
- Hitachi Rail S.p.A.
https://www.youtube.com/user/AnsaldoBredaOfficial

# INDUSTRY, DISTRIBUTION IoT & ROBOTICS SOLUTION

## Accelerate the social innovation business with digital solutions.

Amid worldwide developments representing Industry 4.0, and with each industry experiencing increasingly diverse customer requirements, manufacturing urgently needs to find ways to deal with shorter development cycles and high-mix low-volume manufacturing. What is needed to succeed in the global markets is to quickly come to terms with the wave of digitalization being driven by the Internet of Things (IoT).
Hitachi is actively engaged in collaborative creation using its IoT platform “Lumada” to connect Japanese manufacturing sites and knowledge with the aim of enhancing workplace capabilities, including productivity improvements and skills transfer. Industries are now facing a period of transformation brought about by a great wave of digitalization. We are dedicated to resolving the issues our customers face and expanding our social innovation businesses, by developing digital solutions and providing products that integrate our OT (operational technology) accumulated over many years in business and or advanced IT (information technology).

**Job Categories**
Research and Development | **Product Development** | **System Engineer (SE)** | Manufacturing Engineer | Quality Assurance | Technical Sales | Intellectual Property Management | **Other**

**Faculty / Department**
Mechanical Engineering | Electric/ Electronic/ Communications Engineering | Computer Sciences | Chemistry | Physics | Mathematics | Industrial and Management Engineering | Civil Engineering/ Construction/ Environmental Engineering | Energy/ Resource Engineering | Other

**Business Fields**
Power Systems | **Industry & Distribution Systems** | Water Systems | Urban Planning & Development Systems | Railway Systems | Financial Information Systems | Government & Public Corporation Information Systems | Information & Telecommunication Systems | Healthcare Systems | Home Appliances | Automotive Systems | Electronic Devices

## Job Categories

### System Engineer (SE)
We provide system integration including the unitization of IT solutions, robot, and AI (artificial intelligence) from understanding of customer business to system construction and operation follow-up and maintenance to solve customers’ issues.

### Collaborative Creation Consultant
We construct and select optimal IoT solutions by providing consulting for realization of customers’ business strategy and vision, manufacturing site problem-solving, and formulation of various strategies.

### Solution & Service Development
We anticipate social needs, take responsibility for design, development, and update of competitive solutions and services while cooperating closely with relevant departments, and create new value through collaborative creation with customers.

### Project Manager
We are responsible for managing the schedule, from planning, execution to delivery, in addition to the cost and quality of the project proposed to customers and ensure the success of the project through negotiation with customers and coordinating in the company.

### Data Scientist
We look into the utilization and analysis environment of big data from both OT and IT aspects to solve business problems and propose a problem-solving approach to customers through data analysis using AI (artificial intelligence).

## Location

Akihabara area　Sumitomofudousan Akihabara First Building, 1-5-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, Japan
Ibaraki area　5-2-1, Omika-cho, Hitachi-shi, Ibaraki, 319-1293, Japan

## Contact Information

Talent Acquisition Department,
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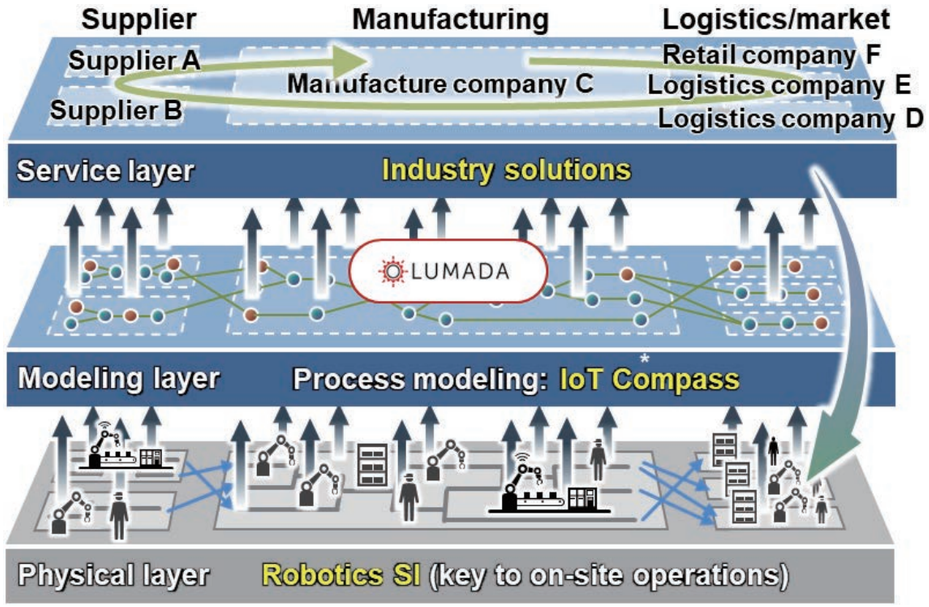
recruit.infra.kc@hitachi.com



## What is IoT & Robotic solution in our industrial field ?

By combining robotic SI( ※ 1) with products, OT, IT, and Lumada of the INDUSTRY, DISTRIBUTION IoT & ROBOTICS SOLUTION utilizing advanced digital technology, we connect cyberspace and real space to realize cyber-physical systems.
We provide "total seamless solutions(※2)" that maximize business value from the customer’ s management perspective, thereby contributing to the improvement of social, environmental, and economic value.
※1 Systems Integration
※2 "Total Seamless Solution" is a registered trademark of Hitachi, Ltd. in Japan.




※ "IoT Compass" is a registered trademark of Hitachi, Ltd. in Japan.

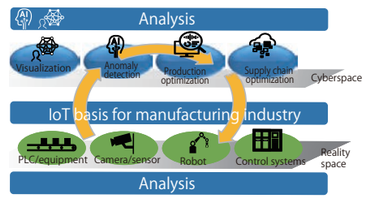
## Business Activities

### Robotic solutions helping customers enhance their business value

In recent years, the manufacturing industry has seen a rapidly increasing global demand for on-site automation utilizing robots. The movement of digital transformation (DX) leveraging advanced technologies is also accelerating to quickly respond to changing markets and create new value.
We contribute to the further enhancement of the business value of customers by offering one-stop OT and IT with robotic SI(※) as the core, in the automation of manufacturing processes and logistics.
※ SI Systems Integration

### Solutions for the manufacturing industry to realize manufacturing of the future

Today’ s manufacturing industry faces an environment of dynamic change, not least of which is the change resulting from rapid digitalization. We are a leader in the manufacturing sector, drawing on our extensive experience to adapt to these changes by providing the following solutions: OT solutions for the design, management, and control of production lines in the assembly processing, food, steel, gas, and chemical plants; and IoT solutions for improving management efficiency through collection and analysis of on-site data.
We also offer total support for various products, including robots, and digital solutions, such as cloud, AI, and image analysis, and propose optimal solutions through consulting services for customers, aiming to achieve world-class manufacturing of the future.




### Environmental solutions contributing to the realization of carbon neutrality

Efforts are being made on a global scale to control the temperature rise caused by global warming. In particular, it is vital to reduce greenhouse gas emissions to achieve carbon neutrality.
By leveraging its extensive track record of introducing energy management systems and advanced know-how in facilities management, we will contribute to the promotion of renewable energy and the realization of energy conservation and carbon neutrality to improve the social, environmental, and economic value of customers.

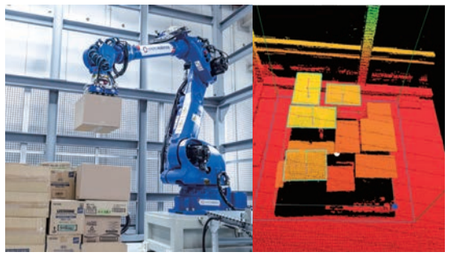
# Signature Technologies

## Palletizing/depalletizing solutions using intelligent robots with eyes and brains

When introducing robots into logistics sites, it is important to ensure their capability of flexibly handling a variety of products.
In April 2021, the Hitachi Group welcomed Kyoto Robotics (currently, Kyoto Robotics Division, Hitachi Automation, Ltd.), which has the industry' s top-class advanced image recognition technology, and we are currently working on enhancing the intelligence of robots with internally-developed high-precision 3D vision sensors (eyes) and robot controllers (brains).

### TOPICS Expand and strengthen the robotics SI (※) business

In the logistics industry, there are an increasing number of cases where the introduction of robots is being considered to improve the working environment and the safety and health of workers, in addition to automation and labor saving. Hitachi provides one-stop, speedy robotics SI to address these various issues at distribution centers using advanced proprietary technologies such as 3D vision, AI, and robot controllers.
In addition to applying intelligent robots to the automation of palletizing and depalletizing work at the time of receiving and shipping, we have expanded to include AGVs, material handling equipment, and manufacturing equipment, and carry out total engineering for logistics and manufacturing sites. In addition, various data that can be acquired at logistics sites and manufacturing sites are linked with management and control systems, increasing flexibility to follow site conditions and contributing to customers' DX.
※ Systems Integration



## "Next-generation logistics solutions," the logistics innovation in the digital age

We aim to create a logistics center that can be operated by a small number of people by utilizing intelligent robots and the compact unmanned carrier robot Racrew(※), which carries shelves containing products. In addition, by leveraging AI, simulations, and on-site data, we will optimize the supply chain and enhance the sophistication of transportation and delivery, and promote efforts to upgrade the entire distribution center through the integrated design of facility systems, operations, and buildings.

※ "Racrew" is a registered trademark of Hitachi Industrial Products, Ltd. in Japan.

### TOPICS [MonotaRO] Construction of an advanced logistics center designed for automation and labor saving

The logistics industry needs to deliver a wide variety of products to customers quickly and reliably, but at the same time, it is also facing a shortage of workers and the need to improve work efficiency, and is actively working to automate and save labor using digital technology and robotics. Under these circumstances, Hitachi plans and constructs distribution center line systems to solve its customers' problems by combining technologies (OT), such as the compact unmanned carrier robot " Racrew" and control systems, and IT, such as warehouse management systems (WMS) and AI-based warehouse operational efficiency improvement services.
MonotaRO, the largest e-commerce distributor of industrial indirect materials, has adopted Racrew, which automatically transports ordered items from a wide variety of product inventories, reducing the amount of time workers spend walking and improving efficiency by approximately three times compared to conventional picking operations. Furthermore, by linking the transport equipment in the distribution center through the control system, we contribute to the improvement in efficiency and productivity of the entire center.


## Data analysis solutions

We provide clients with proposals and consulting services for optimal solutions to social issues, such as "work-style reforms" and "improvement of working environment." To achieve this, we solve the issue of "productivity improvement," which has always been faced by the manufacturing industry, by digitizing various 4M data (huMan - Machines - Materials - Methods) at production sites, recording it as big data, and analyzing it with various AIs.


### TOPICS [Kinden] Skills training support solution using digital technology

Recent years, amid concerns about labor shortages, it has become a challenge make it possible to acquire skills efficiently in a short period of time because it takes years for trainees to acquire the advanced skills of skilled workers. Hitachi possesses various advanced digital technologies that make human operation at manufacturing sites more efficient, such as sensing technology, including image analysis technology. Quantitative skill evaluation (scoring) and visualization of work elements to be improved became possible by implementing data analysis solution for rapid development of technicians for 77 kV transmission cable connection, which was an issue at Kinden, a major integrated facility engineering company. This has led to quality stabilization and rapid human resource development at manufacturing/work sites.

## FactRiSM(※1), a manufacturing execution solution to realize CPS(※2)

In the manufacturing industry, by connecting the core system (ERP※3), the manufacturing execution system (MES※4), and the FA equipment at the manufacturing site with a network, we are aiming for a smart next-generation factory that realizes the overall optimization of management and factories.
In addition, to improve productivity in the manufacturing industry, it is essential to develop a system for controlling manufacturing sites through the utilization of data.
FactRiSM flexibly supports communication with on-site facilities of each customer and linkage with higher-level IT systems such as ERP, enabling analysis required for improved manufacturing.
In addition, by collecting and utilizing digitized on-site 4M(※5) data, we contribute to productivity improvement for MONOZUKURI.

※ 1 "FactRiSM" is a registered trademark of Hitachi, Ltd. in Japan.
※ 2 Cyber-Physical System
※ 3 Enterprise Resources Planning
※ 4 Manufacturing Execution System
※ 5 huMan, Machine, Material, Method


### TOPICS [Fujikoki Suzhou] Realization of linkage between product traceability and supply chain

In the manufacturing industry, it is important to establish a traceability system using data and strive to strengthen quality management systems to provide safe and secure products to customers.
For Fujikoki Suzhou Co., Ltd., a Chinese affiliated company of a manufacturer of control devices for refrigeration and air-conditioning, Fujikoki Corporation, Hitachi built a highly efficient production system that links the production site and supply chain seamlessly by strengthening product traceability through the introduction of a manufacturing management system. FactRiSM, and linking the core and peripheral systems for procurement, production, and sales that have been introduced thus far.
This made the progress of the entire business and bottleneck visible in real time, enabling timely market-base business decisions and reflection at manufacturing sites.

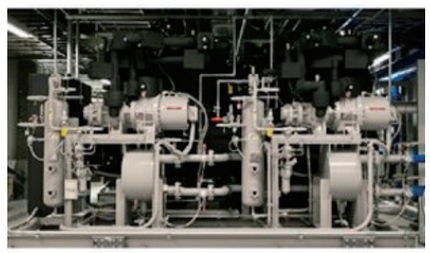
## EMilia(※), an integrated energy and facilities management service contributing to the realization of carbon neutrality

In recent years, risks of social and economic activities have become apparent in various fields due to climate change, and it is an urgent need to take measures to minimize their impact. One of the important goals is to achieve carbon neutrality, which means reducing emissions of CO2 and other greenhouse gases to virtually zero.
EMilia contributes to the realization of carbon neutrality through four initiatives: energy conservation, energy creation, renewable energy procurement, and offset.

※ "EMilia" is a registered trademark of Hitachi, Ltd. in Japan.

### TOPICS [Nichirei Logistics Group] Realization of operation and maintenance efficiency of refrigeration equipment

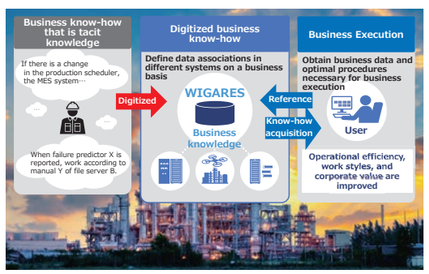
Stable operation of refrigeration equipment within cold storage is essential for cold chains that distribute frozen food and other products at low temperature, and skilled workers spent a great deal of time on operation management and configuration. For Nichirei Logistics Group Inc., which provides Japan' s largest cold chain service in the food industry and manages many cold storage facilities in Japan, Hitachi introduced solutions to ensure the efficiency of operation and maintenance of refrigeration equipment using IoT that accumulates data gathered from each sensor of the refrigeration equipment in a cloud environment, and analyzes it using Emilia, the Energy & Equipment Management Service, as a base, and is contributing to operation management efficiency improvement and environmental burden reduction.



## WIGARES(※), an integrated information management platform contributing to automation of plant operations

Manufacturing sites have made efforts to deal with their issues, such as the handing down of experienced workers' skills; they have created manuals and systems for operating procedures and classified data through digitizing documents. However, the area of business know-how is dependent on individuals, and how to hand it over is becoming a problem.
"WIGARES" uses the "structured information centralized management technology" developed by Hitachi for information scattered across multiple systems and file servers. Build a knowledge base that can be shared and reused. Furthermore, by defining the relationships between these pieces of information on a business basis, it is possible to digitize complex business know-how that spans multiple systems.

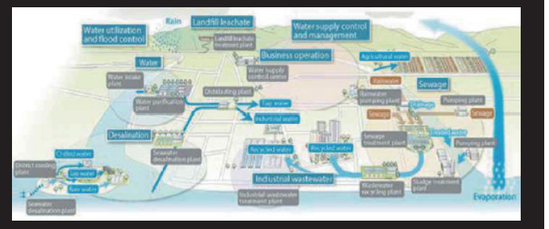
※ "WIGARES" is a registered trademark of Hitachi, Ltd. in Japan.



# WATER ENVIRONMENT SOLUTION

## Clean Water.

Hitachi has been involved for nearly a century in the provision of water industry solutions based on advanced technology and product reliability. We are helping resolve problems of water scarcity and quality around the world through a fusion of water distribution systems with information and control technology. Drawing on know-how in water treatment and technology in monitoring and control, electrical machinery, instrumentation, and information processing, our system solutions help Japanese water supply and sewage system operators provide a healthy and safe supply of fresh drinking water.
We also promote Public Private Partnerships (PPP) including comprehensive consignment combining service operations as well as providing products and systems. More recently, due to issues surrounding water treatment conditions, we have been discovering and creating businesses overseas, mainly in the ASEAN region. Other than water supply and sewage systems, we also offer products and systems related to the general water environment through irrigation/flood control businesses such as dam controls and river basin management, and industrial wastewater treatment plants and desalination plants.




## Clean Environment.

To realize the optimized utilization of air, water, and energy, we provide a one-stop proposal to construction service tailored to our customers' needs by leveraging IoT technology for the equipment of air conditioning, industrial plants, and water processing. Moreover, in order to create a safe and secure society in response to the recent natural disasters, we are promoting social information system, such as road traffic system, road infrastructure systems, environment monitoring systems for air and radioactivity, port system, and security related systems, aiming to build the social infrastructure that strengthens the resilience. In addition to these, since last year, we have been promoting the commercialization of advanced medical services utilizing IoT for regenerative medicine to contribute to improving people's QoL (Quality of Life).
To realize a decarbonized society, we also promote businesses that contribute to CO2 emissions reduction and provide value to our customers and society.

**Job Categories**
Research and Development | **Product Development** | **System Engineer (SE)** | Manufacturing Engineer | Quality Assurance | **Technical Sales** | Intellectual Property Management | Other

**Faculty / Department**
Mechanical Engineering | Electric/ Electronic/ Communications Engineering | Computer Sciences | Chemistry | Physics | Mathematics | Industrial and Management Engineering | Civil Engineering/ Construction/ Environmental Engineering | Energy/ Resource Engineering | Other

**Business Fields**
Power Systems | Industry & Distribution Systems | Water Systems | Urban Planning & Development Systems | Railway Systems | Financial Information Systems | Government & Public Corporation Information Systems | Information & Telecommunication Systems | Healthcare Systems | Home Appliances | Automotive Systems | Electronic Devices

## Job Categories

### Product Development
The role of design development is to reflect the technology in products and to provide new values to the world.

### System Engineer (SE)
System engineers will analyze the operations of the clients, consider what the optimal software and hardware are, and design systems based on that analysis.

### Technical Sales
We respond to the requests of customers from a technical.

### Location
Akihabara area — Sumitomofudousan Akihabara First Building, 1-5-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, Japan

### Contact Information
Talent Acquisition Department, Human Capital Division
recruit.infra.kc@hitachi.com



## Business Activities

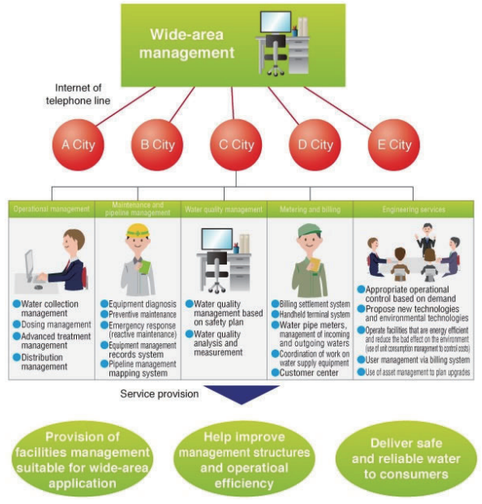
### Water supply & sewage Field

Japan's water supply and sewage systems saw many facilities built or expanded during the post-war period of rapid economic growth and with the increase in population, and today, such facilities are widespread, realizing good high-quality water supplies. However, as we enter the 21st century we are faced with a variety of issues such as the deterioration in quality of raw tap water attributable to heavy rains and droughts, etc. caused by climate change, the need to renew dilapidated facilities, smaller budgets due to decreased population, reduced lifecycle costs, reduced numbers of experienced engineers and energy efficiency, etc. In addition, when looking out across the world, it would seem that in some places, water supply and sewage conditions are even more severe due to rapid increases in population and the deterioration of the environment.
Hitachi Ltd. fully utilizes its water treatment machinery, its electrical/instrumentation, control, monitoring and information facilities, as well as the latest IT technologies utilizing AI, working together with our customers to nurture technologies and experience. In this way, we have developed, proposed and delivered products and systems that handle a variety of issues.

### Flood control & irrigation Field

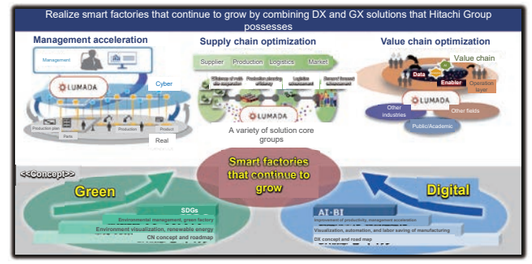
"Flood controls" to protect people from flooding. "Irrigation" to bring water to society.
"Waterside environments" that enable comfortable lifestyles. The relationship between waterways and our lives is becoming ever stronger. We take full advantage of electronics technologies in order to protect our lifestyle from flood damage, secure a healthy system of water circulation and to enable appropriate from and efficient waterways management, and contribute to the provision of comfortable living environments.

### IoT service solutions and service Business Fields



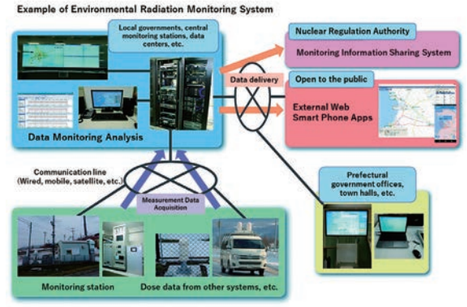

In addition to the provision of products and systems, we are also expanding into services that closely connected with the business operations of customers (continuity management, operations, maintenance, provision of solutions). For example, we have implemented operations using the PFI method (a method of social infrastructure development that provides public services on behalf of national and local governments by utilizing private funds, management know-how and technical capabilities, such as construction, maintenance and operation of public facilities). We will be proposing a broad business model to resolve the problems in water supply and sewage business through Public-Private Partnerships.
In addition, we are building the solution that contributes the resolution of the problems through the use of IoT, and providing them in the form of cloud service.
We will continue to endeavor to expand this effort while cooperating with the companies from various fields, as well as water supply and sewage business entities, with a view to building the new businesses, leveraging our broad technologies.

### Industry & Manufacturing Field




We solve customer issues with total seamless solutions utilizing green digital technology and contribute to achieve smart factories in the fields of utility facility engineering such as water, air, and electricity and operation, and maintenance of factory equipment at manufacturing sites of electronic components/semiconductor, medicine, and chemicals.

### Social Information System Field

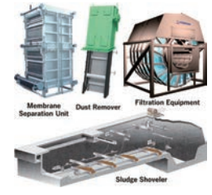



In order to create a safe and secure society, we are expanding our business in a wide range of fields, including various environmental disaster prevention solutions such as radiation monitoring, seismic intensity information, sluice gate monitoring and control, security solutions through authentication technology, sensing technology, video surveillance, and information provision solution utilizing digital signage. We are also engaged in the field of resource recycling for the realization of a sustainable society.
We are also developing next-generation solutions that utilize AI and IoT to boost productivity in the maintenance management of road infrastructure facilities and port internal operations.

## Signature Technologies

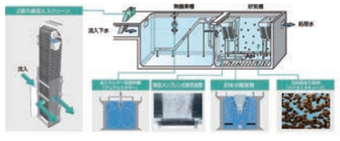
### General water and sewage treatment facilities

We provide all-inclusive services covering design through to installation of machinery and equipment for domestic public works (water supply/sewage facilities), focusing on dust collectors, sludge collectors and filtration facilities. The filtration facilities we typically deliver are membrane treatment facilities, unit type membrane filtration devices and Membrane Bio Reactors (MBR).



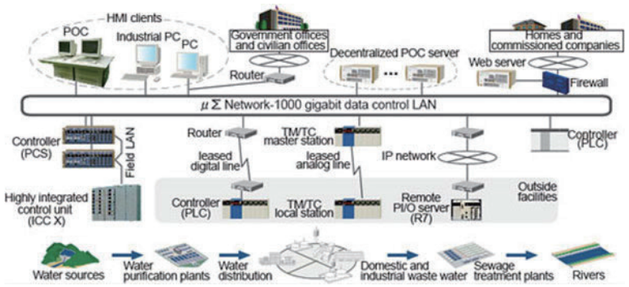

### Nitrogen treatment process [Pegasus]

Although Pegasus is a nitrogen treatment process, this process involves the separation of the bioreaction tank into an anoxic tank and an aerobic tank, with bio-cubes containing high concentrations of immobilized microorganisms (nitrifying pellets) added to the aerobic tank to promote the nitrification reaction.



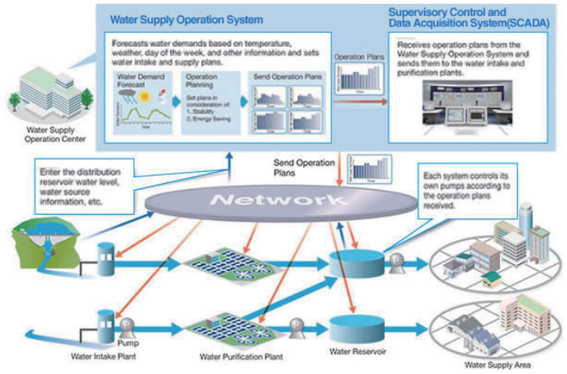
## Monitoring control system (AQUAMAX)

For our water supply and sewage business, we offer all-inclusive services from initial design through to manufacture and on-site trial operation following shipment, with the overall system designed to accommodate the societal requirements and business operation enhancement measures demanded of water supply and sewage systems, in accordance with our customers' requirements. AQUAMAX is the monitoring control system that forms the core of such water supply and sewage systems. With features such as scalable architecture, seamless design (plant exterior/interior, information coordination) and business operation supporting HMI incorporated into the fundamental concept, these systems are highly reliable and flexible, and allow staged expansion and sectional upgrading.



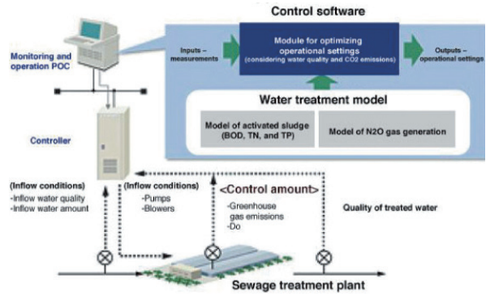

## Water supply operation technology

Water supply operation technology is essential for the stable supply of water. The energy efficiency of facilities as a whole has become an issue in recent years and we are developing solutions to meet multiple objectives such as keeping the water intake and supply volumes as constant as possible through appropriate distribution for balanced water treatment volumes at multiple water purification plants (stable supply) and controlling the power consumption of water intake and supply pumps (energy efficiency).



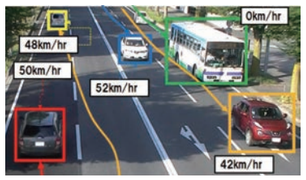

## Water treatment control technology

In the activated sludge process of a sewage treatment plant, nitrification response and denitrification response are modeled and embedded as control software, and real-time control is implemented. By means of nitrification control taking into account the ammonia concentration target values at points midway through treatment, treatment is stabilized, controlling over-aeration and under-aeration with the aim of controlling blower electricity consumption while maintaining water quality.




## Image processing application technology

Using road monitoring cameras, image processing is used to measure traffic volumes and vehicle speeds, and detect abnormal events such as congestion and broken down vehicles. Driver safety support is provided and load on road management alleviated through measurement of congestion length and automatic detection of abnormal events (stopped vehicles, slow moving vehicles, vehicles to avoid, dropped objects).





## Environment Disaster Prevention Solution

We collect date of the radiation dose rate, the air pollutant in the atmospheric environment, the environment measurement data such as the water level, and rainfall of the river etc. by the telemeter facility in real time and intensively monitor at the central monitoring station through wide area network line and radio line.

The central monitoring station monitors environmental information 24 hours a day, 365 days a year with server equipment that ensures reliability, and also publishes it in general with contribute to the realization of a safe and secure society.

## Carbon neutrality solutions

Toward the achievement of decarbonization targets, we are working to contribute to the enhancement of value for our customers and society, providing products, technologies, and services related to energy conservation and carbon neutrality.
The hydrogen co-firing generator we jointly developed with

Denyo Co., Ltd. is capable of co-firing hydrogen produced from surplus electricity from solar power generation with biofuels such as waste SVO (waste cooking oil), thereby providing carbon-neutral electricity and contributing to a decarbonized society.

## TOPICS Global water business Water infrastructure in Papua New Guinea

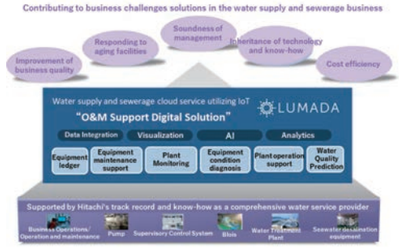
Water-related problems, including the absolute scarcity of water resources and the progression of water pollution, have become issues requiring solutions on a global scale. Working towards the solution of these issues, we have been engaged in water environment-related projects in more than 40 countries overseas, promoting the overseas development of water environment solutions. In collaboration with governments, local governments, Group companies, as well as overseas offices, we have been discovering and creating businesses overseas, mainly in the Asian Belt Zone.
Hitachi has achieved a social contribution to restore the beautiful ocean in Papua New Guinea by providing high-quality water infrastructure.
By developing a sewage treatment plant, the marine ecosystem will return to the level of its past abundant fishing season, and the fishing industry will be revived. Restoration of coral reefs and the return of beautiful seas will contribute to the revitalization of the tourism industry. The waterborne disease rate is expected to decrease from the current 21.7% to 5%, which will promote the health of the residents. Improved health will reduce the high cost of medical care for the population. By treating sewage, Hitachi has realized a social contribution to the development of a sustainable city.
Hitachi will continue to promote the global expansion of the Social Innovation Business and contribute to achieving the SDGs as well as improving people's quality of life (QoL).

## TOPICS Aiming for Water Safety, Resilience and Sustainability through Public-Private Partnerships

In order to respond to environmental changes, such as renewal of aging facilities and expansion of facility management, and to provide stable and efficient water supply and sewage services, service operations of the domestic water supply and sewerage systems, which had previously been performed by local governments have been outsourced to the private sector. In future, Public-Private Partnerships, including full-service outsourcing that combines not only facility maintenance but also service operations such as fee collection and reading of water meters, are expected to be promoted. Hitachi Group will be focusing on the Water Environment Solutions Business as one of the core areas of the Social Innovation Business. In future, we will be expanding not only the electrical and mechanical equipment of water supply and sewerage facilities, but also the service business including management of operations, and we will continue to contribute to the conservation and improvement of the water environment.

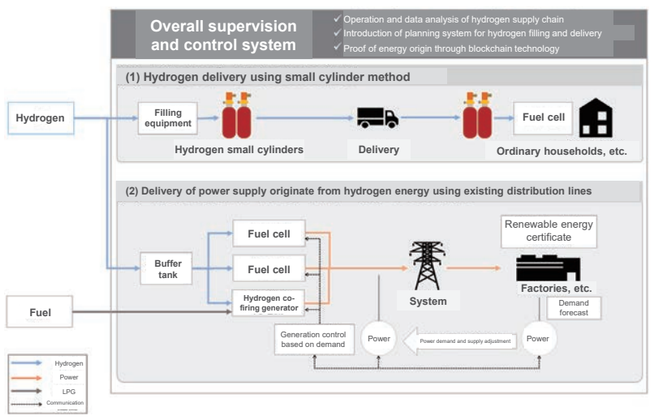

## TOPICS Water supply and sewerage cloud service utilizing IoT

In recent years, the domestic water supply and sewerage business has seen a greater need for additional investment for maintenance and renewal of aging plants, and further improvements to the efficiency of business operations due to decreasing business revenue caused by the shrinking population. In addition, passing down the know-how to future generations has become a challenging issue due to the decrease in number of skilled operators and engineers.
Hitachi has developed the "O&M Support Digital Solution" , a cloud service to support visualization, labor saving and efficiency improvements in operation and maintenance work, and passing down the know-how to future generations. This Service utilizes advanced digital technologies such as AI, analytics and AR to collect a variety of data on the cloud using IoT, including facility information, operational information, work records, and malfunction and repair information regarding the water supply and sewerage business operation. This Service also utilizes Hitachi' s digital innovation Lumada, and we aim to gradually expand the functions in the future and provide it to water supply and sewerage companies as a comprehensive digital solution that contributes to solving the management issues of the entire water supply and sewerage business.




## TOPICS Aiming for a decarbonized society

Hydrogen, which is attracting attention as a new energy source, is an effective form of energy in global warming countermeasures, and we are required to establish a supply chain that reduces $CO_2$ emissions using hydrogen. Under these circumstances, we are conducting a demonstration project to establish a supply chain using hydrogen and adjust power demand and supply using advanced digital technologies for consumers' and industrial use in Namie-machi, Fukushima (as of November 2023). In this project, we will introduce hydrogen co-firing power generators designed to improve the accuracy of power demand and supply balance control, conduct a demonstration experiment proving the origin of hydrogen energy of transmission power utilizing data measurement and blockchain technology, and build a planning system for hydrogen filling and delivery using small cylinder to contribute to creating carbon-free future cities with no $CO_2$ emissions.



# ENERGY SOLUTION

## Ensuring a sustainable future.

Energy solution field strives to offer power generation systems and electric power transmission and distribution systems with less impact on the environment and greater energy efficiency to societies around the world. Our mission is to respond to the increasingly diverse electric demands of each country with our best technologies and products using our cultivated technologies and knowledge. We will also continue to meet diverse needs worldwide and contribute to society as "a leading international company creating the global society of the future with advanced energy engineering" in order to ensure a sustainable future.

**Job Categories**

Research and Development | **Product Development** | System Engineer (SE) | **Manufacturing Engineer** | **Quality Assurance** | **Technical Sales** | Intellectual Property Management | Other

**Faculty / Department**

Mechanical Engineering | Electric/ Electronic/ Communications Engineering | Computer Sciences | Chemistry | Physics | Mathematics | Industrial and Management Engineering | Civil Engineering/ Construction/ Environmental Engineering | Energy/ Resource Engineering | Other

**Business Fields**

**Power Systems** | Industry & Distribution Systems | Water Systems | Urban Planning & Development Systems | Railway Systems | Financial Information Systems | Government & Public Corporation Information Systems | Information & Telecommunication Systems | Healthcare Systems | Home Appliances | Automotive Systems | Electronic Devices

## Job Categories

### Product Development

The role of design and development engineers is to utilize Hitachi's technologies and create new products that provide new values for society.
The engineers also make estimates and design products based on customers' requests and manage the process of production to completion.

### Manufacturing Engineer

The engineers in manufacturing engineering are tasked with increasing the volume and efficiency of production from various engineering aspects. These engineers are responsible for the overseas production plant program (new and expanded capacity), the introduction of the latest machines, and the construction of efficient production systems by upgrading the production process.

### Quality Assurance

Engineers are responsible for quality assurance, which is crucial for manufacturers.
These engineers conduct thorough technical examinations to confirm that delivered products and systems satisfy the designated functions, performance and durability, which are the basis of production reliability.

### Technical Sales

Engineers utilize their engineering knowledge to offer optimum solutions to meet the requests of customers.
These engineers play an important role in dealing with customers while collaborating with members in various fields, such as design, manufacturing, production engineering, quality assurance, and back-office departments.

## Business Activities

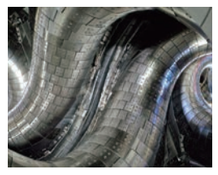
### NUCLEAR ENERGY FIELD

### HYDROELECTRIC POWER FIELD, HYDRO TURBINE & PUMP-TURBINE FIELD

### INTERNAL IT SYSTEM FIELD

### PRODUCTION TECHNOLOGY & FACTORY EQUIPMENT DEVELOPMENT FIELD

### NUCLEAR FUSION AND ACCELERATORS FIELD



## Location

| | |
|---|---|
| Hitachi Works Kaigan Plant | 3-1-1, Saiwai-cho, Hitachi-shi, Ibaraki 317-8511, Japan |
| Hitachi Works Kokubu Plant | 1-1-1, Kokubu-cho, Hitachi-shi, Ibaraki 316-8501, Japan |
| Hitachi Works Rinkai Plant | 5-2-2, Omika-cho, Hitachi-shi, Ibaraki 319-1221, Japan |
| Hitachi Works Futo Plant | 4-5862-1, Kuji-cho, Hitachi-shi, Ibaraki 319-1222, Japan |
| Tokyo area | Akihabara DAIBIRU 1-18-13, Sotokanda, Chiyoda-ku, Tokyo 101-8608, Japan |

## Contact Information

power.energy.mz@hitachi.com

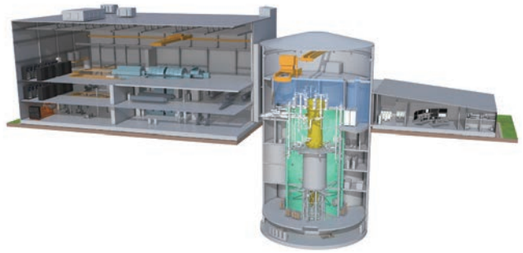


## Business Activities

# NUCLEAR ENERGY FIELD

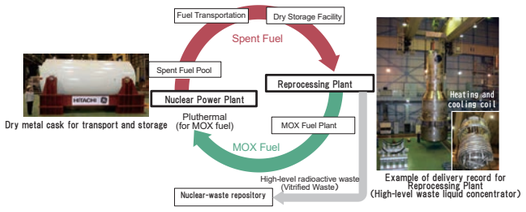
### Global expansion

We develop and promote a Small Modular Reactor (SMR), the BWRX-300 that solve future energy problems by the international cooperation with our partner company GE Hitachi Nuclear Energy.
The small modular reactor gets attention as a next-generation nuclear reactor, and make it possible to restrain construction and power generation costs while maintaining safety, which also lead to strengthening market competitiveness.



### Nuclear power fuel cycle

In reprocessing, Hitachi is working on construction and trial operation of the used business fuel reprocessing plant (Japan Nuclear Fuel Ltd.) in Rokkasho, Aomori Prefecture. Also, in interim storage of spent fuel, we are taking part in planning the construction of facilities and will introduce transportation equipment, etc., as well as developing and manufacturing metal casks for transportation and storage. Hitachi' s metal casks for both transportation and storage has been confirmed to comply with the regulations set by the Nuclear Regulation Authority regarding product safety, including criticality prevention functions and earthquake resistant function, and have been designated as an off-site model. We are aiming to establish innovative fuel cycle technology for the future, and are developing an environmentally-friendly advanced recycling system with excellent economy.

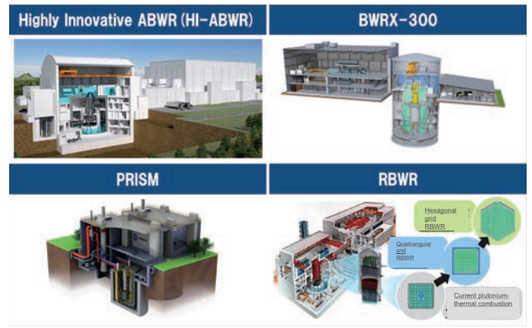



### New construction in Japan

Since the Fukushima Daiichi nuclear accident in March 2011, BWR nuclear power plants in Japan have been shut down and are required to comply with new regulatory requirements to restart. Hitachi helps BWR to restart quickly through support for review of the new regulatory requirements, technology development and upgrading of safety enhancement equipment. In addition, Hitachi carried out international joint development of ABWR with excellent safety, operability, and economy, and has constructed Tepco reactors 6 and 7, which are the first ABWR at Kashiwazaki-Kariwa Nuclear Power Plant as well as Chubu Electric Hamaoka Reactor No. 5 and Hokuriku Electric Shiga Reactor No. 2. We are currently working on the construction of Chugoku Electric Power Co. Shimane Reactor No. 3, J-POWER Oma Reactor No. 1, and Tepco HD Higashidori Reactor No.1 using advanced construction technology based on optimization and standardization of design as well as Hitachi' s wealth of experience in the field.

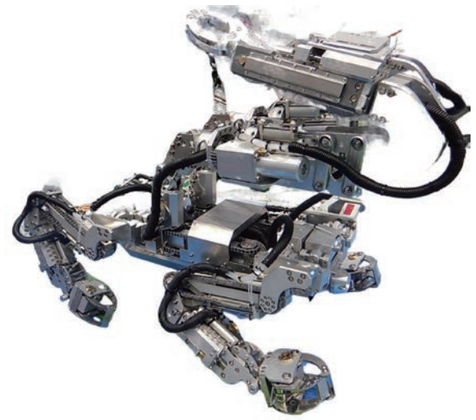
### Development of Next-Generation BWR

In order to respond to the needs of countries where nuclear power generation is being introduced and new facilities are being constructed, we are developing large light-water reactors with improved safety, operability and economic efficiency based on ABWR, small-to-medium reactors (BWRX-300, PRISM, etc.) providing flexible configurations suited to location-specific or regional characteristics, and high-performance next-generation light-water reactors (HP-ABWR) with excellent safety. We are also developing light-water-cooled fast reactor (RBWR), which enables the reuse of transuranium elements (TRU) such as plutonium and minor actinides (MA) as fuel in a water-cooled reactor.



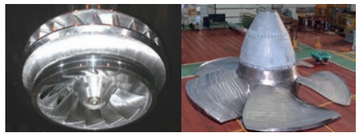

### Decommissioning of Fukushima Daiichi Nuclear Power Station

One of the technical issues facing completion of decommissioning for Fukushima Daiichi Nuclear Power Station is to implement retrieval of nuclear fuel remaining inside the reactor building. Various techniques are considered in order to carry out work such as inspection, decontamination, repair and environmental maintenance of structures inside the reactor building, which is necessary for retrieval of nuclear fuel. Going forwards, we will continue to steadily develop remote-controlled robots and will contribute to ensuring that decommissioning for Fukushima Daiichi Nuclear Power Station are completed as quickly as possible.



# HYDROELECTRIC POWER FIELD, HYDRO TURBINE & PUMP-TURBINE FIELD

## Hydropower generation



Turbines are the engines of a hydroelectric power system. Based on high reliability underpinned by extensive experience, the Hydroelectric Power Systems Division undertakes planning, development, design, fabrication, installation, and commissioning of turbines. By getting involved from the design stage of new power plants, the division helps create the optimum hydroelectric power plant for a particular site.Hitachi optimizes the design of each of its hydroelectric power plants to ensure that the water resources are utilized effectively.The collective expertise of Hitachi 's engineers helps protect the environment.

## High-head pumpedstorage power plants

Pumped-storage power generation is a way of storing and generating electric power using pumping and generation. Increasing the head (difference in water level) is an important factor in improving the economics.
Hitachi achieves reliability and stable operation of high-headpumped- storage power generation equipment by steadily accumulating and effectively combining various pumped-storage power technologies.

## Adjustable-speed pumped-storage power generation systems

Adjustable-speed pumped-storage power generation systems are a means of keeping the grid frequency stable and reducing greenhouse gas emissions. In particular, the increased use of renewable energy sources has focused attention on large energy storage systems with the flexibility to adjust their input and output power; plans are under way to adopt adjustable-speed operation for new plants in Europe and America as well as existing plants in Japan.
Based on our experience at sites in Japan, we intend to be involved in future projects in cooperation with other divisions of Hitachi.

## Hydroelectric power generators and generator motors

These generators are provided in global markets as well as Japan, contributing to society by constantly supplying the electric power that is indispensable for the daily life of consumers. Generator motors and adjustable-speed generator motors used at pumped storage power plant serve as a core part of the smart grid that ensures a stable power supply and the stabilization of power systems with a high-speed power supply capacity and the capacity to absorb a large amount of extra electricity to respond to the mass introduction of renewable energy. Hitachi's generators are evolving by responding to the market demands for larger capacity and higher efficiency and by utilizing our technologies fostered incompetitive global markets.

## Performance improvement

This work involves the "repowering" of existing hydroelectric power plants. Hitachi refurbishes power plants that have been in operation for 30 years or more with new equipment to improve their power generation efficiency and make more effective use of existing dams. In addition to systems originally installed by Hitachi, the division is also actively involved in improving the performance of plants that were originally supplied by other companies. Combining new equipment developed using the latest technologies with existing plants is a way of extracting even more hydroelectric energy out of sites around the world.

## Industrial large-scale synchronous motors and associated devices

Hitachi provides high-voltage and large-capacity synchronous motors that drive pumps, compressors and fans used in a variety of industries according to the particular needs of customers.
We are also committed to supplying and providing maintenance for synchronous phase modifiers for business and generator motors for nuclear fusion power source (M-G set) that are developed based on the technologies of large-capacity vertical axis synchronous generator motors for hydroelectricgeneration and industrial large-capacity synchronous motors.

## CFD analysis and hydraulic measurement facilities

Each hydroelectric power plant is custom-designed for its site. In addition to using computational fluid dynamics (CFD) analysis and experimental fluid dynamics (EFD) measurement technologies to identify the optimum shape, Hitachi also performs verification testing to ensure highly reliable operation. We work with power plant owners on the specific issues of each power plant and seek to resolve them through analysis and testing.

## Speed-governing systems for hydraulic turbines

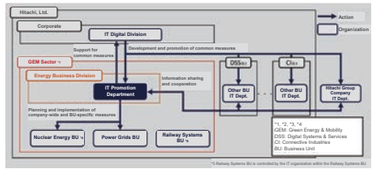
Speed-governing systems are used to control turbine operation. Hybrid control units that combine mechanical and electrical elements help turbines deliver optimum performance. Together with other control equipment, these systems play a part in ensuring a stable supply of electric power.

# INTERNAL IT SYSTEM FIELD

## Green Energy & Mobility Sector Internal IT Systems Overview

### Organizational Structure

The IT department of the green energy & mobility sector, commonly known as the IT Promotion Department, designs solutions using IT for various internal needs and issues related to our energy business. This department creates and implements an environment in which employees in the green energy & mobility sector can maximize their capabilities. For example, we are strengthening business management and streamlining operations using IT, creating a safe workplace environment through information security risk measures, and improving employee engagement through work-style reforms.
Because the Hitachi Group is a global organization with numerous staff, there are issues common to the Group as well as issues particular to the individual needs of business divisions engaged in manufacturing. The scope of the impact of these issues and needs varies in size. Therefore, it is essential for the Hitachi Group's IT departments to promote measures while maintaining contact with many related organizations. The IT Promotion Department supports the growth of the energy business by promoting measures shared with the IT Strategy & Digital Integration Division, overseeing IT for the entire Hitachi Group, by sharing information with other business units (BU), and by planning and executing IT measures to each department belonging to the BU of the green energy & mobility sector.




### Department Overview

The IT Promotion Department focuses on the following three areas.

・Digital Transformation Promotion
For a company to become more competitive, it is important to establish appropriate business processes to fit a rapidly changing business environment. In this business area, we promote digital transformation (DX) in the green energy & mobility sector. For example, we perform activities to improve proposal capabilities and profitability by introducing a sales support tool to centrally manage customers in Japan and abroad.
Additionally, changes in working arrangements are required due to the COVID-19 pandemic, and we are contributing by raising the motivation of employees in addition to productivity improvement by developing communication tools and guidelines and providing a comfortable remote work environment.

・Promotion of Operation, Maintenance, Efficiency Improvement of IT System of Business System
The business consists of a value chain including sales, design, procurement, manufacturing, quality assurance, delivery, and installation, and each of these operations has IT systems. We operate and maintain IT systems for stable operation, and in terms of IT, we contribute to the business continuity of the green energy & mobility sector.
While operating and maintaining IT systems, we also carry out reforms such as the migration, consolidation, and abolition of existing IT systems. This allows us to contribute to standardizing operations, reducing time, and saving IT cost.

・Enhancement of Information Security Governance
Information security risks include targeted cyber-attacks from outside and information leakages due to human errors inside the company. These risks may damage business management and can make it difficult to continue business in some cases. This business area controls regulations and information security countermeasures for each BU in the green energy & mobility sector as well as all Group companies. We conduct information security audits to ensure that operations are carried out in compliance with internal information security regulations and establish rules in accordance with future operation structures using IoT( ※ 1) and SaaS( ※ 2). We are also in charge of planning BCP( ※ 3) training and reinforce abilities to respond to internal information security incidents. We contribute to the business continuity of the green energy & mobility sector through these activities.

※ 1 Internet of Things
※ 2 Software as a Service
※ 3 Business Continuity Planning

# PRODUCTION TECHNOLOGY & FACTORY EQUIPMENT DEVELOPMENT FIELD

The Green Energy & Mobility Division provides the entire product life cycle, from orders to after-sales service for nuclear power generation, wind power generation, solar power generation systems, power distribution systems, etc., under an integrated quality assurance system.
In order to achieve a circular economy and carbon neutrality, we are actively incorporating cutting-edge production and manufacturing engineering technologies, aiming to reduce CO2 emissions at our production plants and achieve zero waste.
We will develop high-quality production technology and production equipment that will have high environmental value no matter where or who makes it.
In addition, we will promote the digitalization of production plants and production processes, and strive to ensure a stable supply of factory infrastructure and improve production efficiency by improving the resilience of production infrastructure facilities.
By supporting high-quality, low-cost manufacturing with high environmental value, we realize our customers' requests.


## Development of production technologies and production equipment that support advanced manufacturing

We develop production equipment and manufacturing engineering tools to manufacture high-quality products quickly and at low cost.
Starting with in-house development of automated production equipment (mechatronics and electrical and control design) using IoT technology, we are building a production environment to improve production work efficiency by uniquely combining elemental technologies such as CAD and CAM.
In order to contribute to society through manufacturing, it is necessary to continuously improve productivity and reduce costs.
We are promoting IE (Industry Engineering) to improve the current production and operations and make it a more rational and efficient process, and are also working to reform production operations processes and systems.
We are engaged in "manufacturing" activities to realize GX (Green Transformation) and DX (Digital Transformation) that can compete in a global environment, as well as SX (Sustainability Transformation).

## Improving the environmental value of production plants (promoting circular economy and carbon neutrality)

In order to reduce CO2 emissions from production, we are planning to introduce energy-saving equipment and renewable energy facilities and utilize energy management systems to make our plants green, and we are promoting the realization of carbon neutrality by 2030.

By effectively using plastic and other waste generated in production as raw materials and fuel, we aim to achieve zero landfill, and are working to realize sustainable resource recycling and a decarbonized society.

## Improving environmental value and resilience through greening and digitalization of production infrastructure facilities

In order to produce electric power equipment, which is a social infrastructure that requires high reliability, it is essential that the basic equipment (electricity, water, communication, etc.) and processing and transportation equipment (machine tools, presses, cranes, etc.) of production plants always operate with high precision and normal operation.

We are working to improve environmental value and resilience by responding to greening and digitalization in line with the trends of the times, while implementing the development, introduction, management, and maintenance of core equipment at these production plants with a thorough system.

# NUCLEAR FUSION AND ACCELERATORS FIELD

The nuclear fusion and accelerators field mainly designs and manufactures equipment for experimental devices for research and development of nuclear fusion and acceleration, which is promoted as a national project and contributes to the development of science towards sustainable society from the standpoint of MONOZUKURI and social implementation of these technologies.

## Nuclear fusion experimental equipment

We are contributing to the promotion of the most advanced research by designing and manufacturing equipment for experimental devices such as ITER, an experimental reactor created through international cooperation, JT-60SA (currently National Institute for Quantum Science and Technology (QST)), and LHD (National Institute for Fusion Science (NIFS)) for research and development of nuclear fusion, which has been researched as a strong candidate as a new energy source in the drive towards becoming carbon neutral and is attracting attention due to the formulation of the Fusion Energy Innovation Strategies by Cabinet Office, and by providing support for operation and maintenance. We are participating as a member of the design team in a technical study for the prototype reactor which is currently being considered in an all-Japan system, as well as considering cooperation with startups aiming for early power generation using private funding.

Nuclear fusion experimental equipment (Top: Inside of the plasma vacuum vessel (Photos courtesy of National Institute for Fusion Science)/Bottom: Power test equipment for neutral beam injector for ITER)

## High energy physics research equipment

We are conducting research and development of particle accelerators and are contributing to the development of advanced science. In particular, we are participating in large-size accelerator projects (such as J-PARC(*) (JAEA, KEK), and Super-KEKB (KEK)) and researching and developing main equipment such as electromagnets and accelerating cavities. We are also involved in manufacturing superconducting magnets (KEK) for the High Luminosity LHC Upgrade of the European Organization for Nuclear Research (CERN).
*J-PARK: a registered trademark of Japan Atomic Energy Agency (JAEA) and Inter-University Research Institute Cooperation High Energy Accelerator Research Organization (KEK).

Accelerator for research (Superconducting magnets for the High Luminosity LHC Upgrade of CERN (Total length: 7m))

# INFORMATION & COMMUNICATION TECHNOLOGY SOLUTION


Digital for all. The power of digital for everyone.
Hitachi brings about a revolution to digital and provides new value to society in a wide range of fields including administrative and corporate activities, as well as infrastructure services that support society.

In recent years, the world is said to be in an era called VUCA, with an unpredictable future. In this age, innovation for solving social issues, such as those addressed in the SDGs, is required around the world. As expectations rise for companies to move toward ESG-oriented management that keeps pace with these solutions for better societies achieved through Society 5.0, Hitachi aims to be a global leader centered around Social Innovation that circulates planetary boundaries and wellbeing.
In response to such epochal changes and needs, Hitachi flexibly responds to the changing times and provides society with innovative digital solutions not found in its competitors around the world through a combination of IT producing optimization and convenience by using artificial intelligence (AI) and big data, OT controlling and applying social infrastructure, etc., and various products as a top-class solution provider on the global stage.

In ICT solutions, Hitachi will improve the QoL of people all over the world and create a sustainable society with the power of "digital" centered around the Lumada business, a platform for digital businesses, while using know-how and ideas from a new perspective that is not bound by conventional wisdom having data and digital technology in the core.
In order to "co-create" with companies, governments/ municipalities, communities and individuals, and to implement social innovation, personnel who have entirely new ideas and a wide field of vision while also having the ability to involve others, in addition to flexibility and strong communication are required. We hope that you will join us in solving society' s issues and realizing a society where each and every one of us live in happiness by using Hitachi' s experience, technical strength and digital strength.

| | |
|---|---|
| Job Categories | Research and Development / **Product Development** / **System Engineer (SE)** / Manufacturing Engineer / **Quality Assurance** / Technical Sales / Intellectual Property Management / Other |
| Faculty / Department | Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial and Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other |
| Business Fields | Power Systems / Industry & Distribution Systems / Water Systems / Urban Planning & Development Systems / Railway Systems / Financial Information Systems / Government & Public Corporation Information Systems / Information & Telecommunication Systems / Healthcare Systems / Home Appliances / Automotive Systems / Electronic Devices |

## Location

Depending on the department you are assigned to, your workplace will be set in different locations.
Tokyo, Kanagawa Prefecture (In past years, 80-90% worked in the Tokyo metropolitan area) and branch offices.
*You might also be stationed on site at clients' offices.

## Contact Information

Talent Acquisition Department, Human Capital Division (Japan)
saiyou.job.bt@hitachi.com



## Job Categories

## Overview

In ICT solutions, we have a diverse workforce with a high level of expertise that corresponds to our business domains. Each individual refines technology and knowledge, pursuing incorporation of market needs into products by cooperating closely with front functions, which provide solutions to the issues that are closest to our customers, and platform functions that provide services and products developed in Hitachi company-wide with the latest technology, and producing unique Hitachi digital solutions to respond to customers and social issues together with colleagues globally as "OneHitachi".
Job categories within ICT solutions are broadly divided into SE, product development, and quality assurance. These three job categories are further divided into specific jobs based on customers and technologies, and there are nine matching fields in total as listed below.

## Job Categories

### System Engineer (SE)

We provide comprehensive solutions to customer needs from a technical perspective, from consulting to system construction and operation follow-up and maintenance. Together with our customers, we provide IT systems and solutions that are indispensable to society and people's lives.

### Product Development

We will create new value by anticipating "Social Needs" and working closely with development sites around the world to design and develop products that form the foundation of Hitachi's IT business. By developing globally competitive services and products, you will accelerate collaborative creation by the Hitachi Group and customers in various industries, and provide platforms and services that expand digital solutions.

### Quality Assurance

We perform verification from a third-party perspective in development projects for customer-provided solutions, services, and products, and performs quality status analysis, reporting, monitoring, and shipping decisions. We also contribute to ensuring Hitachi quality by providing common quality knowledge about customer systems and products in a variety of industries, collecting and analyzing quality problem data, including post-operational and post-delivery failures, and preventing problems from occurring and recurring by planning and developing standards, standardization, and automation tools. Furthermore, we identify quality-related risks in new business areas such as DX, study measures to deal with these issues, and reflect the measures in the quality management system.

## Matching Fields

### System Engineer(SE) #1~6

#### #1_SE (Front-end Engineer)

Front-end engineers provide large-scale solutions to realize the next vision of society and business for customers in specific industries such as finance, public sector, social infrastructure, industry and distribution, and defense.
To solve the management and business issues of customers, we manage the entire system lifecycle from consulting in system development, requirement definition, specification design, construction, testing, operation, and maintenance.
Job details are diverse, including proposals to customers and project management. We sometimes engage in application deployment and development as system engineers who deeply understand issues specific to industries and customers.

**Recommended for people who: Want to work on the development of a series of phases of system development including requirement definition, design, development, operation, and maintenance through communication with customers. Want to lead in creating new businesses and solutions. Want to work as a project manager in the future. Want to be involved in upstream processes such as consulting and project management with understanding of the technical aspects of application platform.**
Career that can be aimed for: Business analyst, IT consultant, data scientist, IT architect, project manager, application specialist

#### #2_SE (Application Engineer)

We design and build business applications and systems that realize our customers' business by utilizing the latest technologies in large-scale, highly challenging, and advanced systems for top users in various industries such as finance, industry and distribution, railway, and public.
We engage in large-scale and highly challenging systems and applications, especially focusing on technology and development. In actual application development work, we make progress with our work by communicating deeply with customers in different situations, such as designing requirements.

**Recommended for people who: Want to engage with customers focusing on technical aspects such as system creation and application development. Would like to be involved in system development for large-scale projects.**
Career that can be aimed for: application specialist, data scientist, IT architect, project manager

#### #3_SE (Platform Engineer)

We provide services and solutions related to platforms promoting customers' DX with a focus on technical aspects such as data utilization, cloud, security, and middleware. We handle everything from consulting from a technical point of view to planning and operation, including support for building and migrating cloud environment, optimization of IT operations, and cost governance after operation starts by communicating closely with customers. Much of our work involves the development of common technologies for any industry or company, but we are also assigned to a specific customer and promote its project in some cases.

**Recommended for people who: Want to engage with customers focusing on technical aspects such as cloud, middleware, security, and data utilization. Are interested in systems commonly used by customers in a variety of industries.**
Career that can be aimed for: Project manager, IT architect, IT specialist

#### #4_SE (Internal IT Control & DX Promotion)

As SE of the internal IT department of the Digital System & Service (DSS), we plan and support IT infrastructure and business system for employees in line with the DSS business characteristics and promote internal IT governance and internal DX for any industry.

**Recommended for people who: Want to receive real user feedback. What to use the latest IT technology in practice on site.**
Career that can be aimed for: IT specialist, data analyst, security specialist

#### #5_SE (Plan, Control, Technical Assistance of Internal Security)

We evaluate security risks in the Digital System & Service (DSS) business, take security measures against products and services, control internal security, and respond to security incidents. As a security technology CoE, we accumulate the latest security trends and know -how, disseminate information within the company, provide technical support for business divisions, and develop security human resources.

**Recommended for people who: Are interested in the security field. Want to explore knowledge such as the threats of cyber-attacks and changes in IT.**
Career that can be aimed for: IT architect, information security specialist

#### #6_SE (Project Governance Specialist)

We operate and establish knowledge for certification systems for project management technology and engineers that are available for any industry in common in the Digital System & Service (DSS). We also have a system for collecting and deploying knowledge of project successes and failures, and a professional human resource certification system.

**Recommended for people who: Want to acquire extensive knowledge. Are interested in knowledge used in common.**
Career that can be aimed for: Business engineering, talent development

### Product Development #7

#### #7_ Software Engineer

Software engineers are responsible for the planning, specification decisions, design, and development of software products (OS, middle software, package software) and software embedded in hardware products that form the foundation of Hitachi's IT business, and engaged in the manufacturing of Hitachi's core products, including middleware, databases, and networks. By developing globally competitive services and products, we provide platforms and services that accelerate co-creation between the Hitachi Group and customers in all industries and expand digital solutions.
Our staff contribute to the realization of Hitachi' s digital innovation by designing and developing software (virtualization, data read/write control, data copy between devices) and middleware (operation management products, application infrastructure products) embedded in servers and storage devices, providing open source support services, providing technical consulting, and creating an environment for highly reliable cloud services. The provision of Hitachi' s IoT platform Lumada enables consistent co-creation with customers, from sharing and analyzing/visualizing issues to designing business models and providing solutions and services.

**Recommended for people who: Are interested in manufacturing in the IT field. Are interested in the design and development of products that are at the core of the system. Want to improve their advanced technical skills. Want to be involved in the job of making advanced middleware and software that support our social infrastructure.**
Career that can be aimed for: Software engineer, product manager, etc.

### Quality Assurance #8~9

#### #8_ Quality Assurance (SI and Digital Field)

We conduct quality assurance work for the information systems/services handled by the solution business in finance, public sector, society, industry and distribution, and other front businesses.

**Recommended for people who: Are interested in quality control and production engineering in the IT field. Want to contribute to the safety and security of society by providing highly reliable systems and solutions to the world. Want to be involved in business as a quality professional.**
Career that can be aimed for: Service professional, quality control expert

#### #9_ Quality Assurance (Software & Hardware Field)

We conduct quality assurance work for services/products (middleware) handled in the cloud service provision business and other businesses. Through verification, we gain a deep understanding of each product and provide customer support and maintenance services.

**Recommended for people who: Are interested in quality control, production engineering, or other IT fields. Want to contribute to the safety and security of society by providing highly reliable software to the world. Want to be involved in the business as a quality professional.**
Career that can be aimed for: Service professional, quality control expert

# Careers

## Business Analyst

Make proposals for business strategy execution scenarios and advance the planning and execution of IT strategies by learning and analyzing management requirements of customers they are responsible for, as well as industry trends. Continuously evaluate and improve business strategy, IT strategy, and systems in line with changing business requirements.
[Main job responsibilities]
Plan customer IT strategies and support their execution/ Elicit, analyze, and evaluate stakeholder requirements, define requirements of tasks and systems in order to fulfill requirements/ Draft concept of a system ideal for implementing the IT strategy.

### <An employee tells attractiveness of this job>

・Through NEXPERIENCE (Hitachi's original collaborative creation methodology), such as field research and workshops, and design thinking skills, I am able to sort out problems that customers themselves are not aware of and provide solutions to them, thereby improving their corporate value. I am attracted by the fact that I can provide "experience value," a value that cannot be provided by conventional systems, by having the systems I provide used by customers and end users beyond them. (Chief, Industrial System field)

## IT Consultant

Provide counseling, recommendations, and advice for drafting management, business, and IT strategies for the customer in order to implement the customer's business strategy and vision, solve problems, and support management decisions on IT investments.
[Main job responsibilities]
Provide recommendations and advice for drafting and executing a customer's IT strategy/Provide recommendations and advice on drafting the concept for and formulating a plan for a system ideal for implementing the IT strategy

### <An employee tells attractiveness of this job>

・Leveraging Lumada, I solve customer issues. While talking with a customer, I propose a hypothesis based on data utilization to deal with their management issues and embody the ideas into service by involving other departments within the company while considering future extensions. I feel a great sense of accomplishment and satisfaction when pieces of a puzzle that satisfy the values (interest) of different standpoints, such as customers, those in the company, and partners, come together by utilizing my career and knowledge. (Manager, Industrial System field)

## Project Manager

Apply project management related technology and business management technology to propose, launch, plan, execute, monitor, and conclude projects.
[Main job responsibilities]
Create a plan, and advance the project according to plan/Keep track of the project's progress, and remedy deviations from the plan/Predict and avoid possible risks. Also formulate a response plan to minimize the impact from risks that materialize/ Strike an optimal balance between scale, schedule, and quality.

### <Employees tell attractiveness of this job>

・I'm engaged in advanced research of next-generation services and new business, making proposals for our customers and supervising on-site system engineers. For the high-speed train project out of Japan and next-generation mobility case, I'm examining local requirements in cooperation with members of local subsidiaries and considering application of our system solutions. I feel satisfied that the progress in technologies allows us to change the future society in unexpected ways with our own ideas. (General Manager, Social System field)
・I'm engaged in proposal activities of a large-scale online system related to many people's lives, and I examine optimization of key parts of the system and offer suggestions related to security, which has recently become a hot topic. What attracts me to this career is being able to have an overview of projects. The responsibility is heavy because it is crucial for the success or failure of project, but it is a rewarding job. (Chief, Social System field)
・I'm in charge of improvement of a profit management system and construction of a virtualization integration platform, and I arrange work specifications and platform specifications. The responsibility of this job is very heavy, but I feel it is rewarding that we grow as a team by thinking not just by myself but also with other members when we face challenges. For that reason, I value communication to correctly convey my ideas. (Chief, Financial System field)

## IT Architect

Analyze business and IT challenges, and define them as information systemization requirements that comprise solutions. Furthermore, design IT architecture that maintains the quality (compliance, consistency) of the entire information system.
[Main job responsibilities]
Determine the subject and goal of systemization, explore requirements/Define functional requirements and non-functional requirements after analyzing/Design system method/ Formulate guidelines and standards for system operation, and design a method and procedure for implementing them/ Make the requirements and guidelines for system migration explicit, formulate a migration plan, and design an implementation method.

### <Employees tell attractiveness of this job>

・I examine the system image to aim for, scope for improvement of configuration, and new functions for innovation plans of large-scale systems. Social infrastructure to provide administrative services requires high quality and strict observance of the deadline for start of operation. I feel satisfied and rewarded when the start of operation day passes successfully after cooperating not only with employees of the company but also with customers and other vendors, and trust and appreciation from customers make me very happy and give me energy. In addition, compared to other companies, at Hitachi a wider range of solutions from soft technologies, such as AI, to hard technologies, such as vein authentication and unique devices, can be suggested or provided collaborating with laboratories, etc. (Chief, Public System field)
・I'm mainly engaged in enhancement and sales expansion of services. I mainly decide on specifications of enhancement and examine achievement methods. I'm interested in various technologies, and the best part of this job is to be able to develop a service using new technology and be involved in all the processes from proposal to application of the service. In addition, rather than just developing it, I can really feel that the service I developed is used by seeing users who are actually using it. (Supervisor, Application Development)
・While being engaged in system development as an "Account SE" who is in charge of the aviation industry, I'm training and giving guidance to my subordinates. What attracts me to this job is that I can contribute to the management of our customers by solving their issues with systems suggested and built combining various new Hitachi technologies. The effort to develop it seems worthwhile when I see the customers using the system in which I was engaged in the overall concepts or system design after a few years, and how it allowed us to win their trust in Hitachi. (Manager, Industrial System field)

## Application Specialist

Designs, develops, builds, implements, tests, and maintains applications involved in solving task-based challenges, applying expertise in developing applications and implementing packages for industry specific tasks and universal tasks. [Main job responsibilities]
Analyze and design applications/ Develop, implement, and test applications/Customize application packages as well as design and develop functions according to required specifications/ Implement and test application packages.

### <Employees tell attractiveness of this job>

・I'm mainly in change of systems for central government agencies and auxiliary organizations. In order to implement systems that lead to efficiency improvement and development of the medical field by utilizing the infrastructure of the personal number system, I participate in research projects and am making proposals. The social impact of the systems I'm in charge of is great, and the responsibility to be engaged in development and maintenance of them is large, but it is especially rewarding to solve and achieve customer issues by talking with them as an engineer who faces them. (Manager, Public system field)
・I'm in charge of all the processes from requirement specification to release as a leader in application development. Business applications are key to our customers' businesses, and you can grow into an engineer who has a thorough knowledge of operation as a key personnel member who connects operations and systems. In addition, there is an opportunity to work at the front line of system development in Japan, being engaged in all the process of one of the country's leading systems or large-scale projects as an IT vendor who represents Japan. (Chief, Application Development)
・I'm developing a system to manage and use information on defects occurring in processes such as procurement, design, and construction, and non-compliance identified by audits, etc. for nuclear power plant construction projects. The best part of application development is to be involved in a series of processes from business analysis to testing, and develop it after understanding what the customer issues are and how to solve them. I believe that only at Hitachi can we be involved in something that will change society. (Chief, Service Platform)
・I'm in charge of versatile telecommunications applications development, and in addition to development and management, I support sales expansion and make suggestions for product introductions, etc. I can feel that I'm creating things because I'm engaged in the whole process, and I feel rewarded because I can get a direct response from customers, and see the system we created is working in everyday life. (Chief, Social System field)

## Data Scientist

In order to solve business problems for our customers and our own company, we utilize the skill set of a data scientist to perform the following three main steps.
Replace business issues with data science issues.
Discover and interpret the essential issues through data analysis.
Propose solutions to problems based on the results obtained.
[Main job responsibilities]
Keep track of customer wishes, convert those wishes into a subject for data analysis/Build analysis environment for applying data/Analyze data using statistics and computer science/Produce business actions considered effective based on data analysis results/Provide the value of solving management challenges and problems of customers by feeding data analysis results back to control.

### <An employee tells attractiveness of this job>

・I am in charge of promoting PoC using AI (Artificial Intelligence), working with the sales team to define requirements and support the setting of analysis themes, and providing support to the front SE regarding AI (Artificial Intelligence) Artificial Intelligence. I find it rewarding to be able to contribute to society with great impact by solving customer issues and contributing to their business performance through my work. We have a very close relationship with our clients, and are in charge of everything from supporting business planning to systemization. You will be able to contribute to the expansion of the customer's business with technologies that can differentiate them from other companies, armed with a wealth of know-how, knowledge, and their own AI (artificial intelligence) artificial intelligence, etc. (Chief, Service Platform)

## Information Security Specialist

We implement information security measures in each process of system planning, development, construction, and operation, and maintain and improve the system so that it functions sufficiently. We also provide support for the development of an organizational structure and the establishment of various rules within the organization as a foundation for the appropriate realization of information management.
[Main job responsibilities]
Build an information security management system, maintain and improve security/Evaluate security risks for each process of planning, building, and running the system, and formulate security requirements/Design and implement security methods and secure modules for building the system/Keep track of security incidents, probe causes and take response measures, and restore systems and services.

### <Employees tell attractiveness of this job>

・I consider and propose appropriate measures in necessary areas through interviews with our customers about issues and requirements related to security. I'm also engaged in research of the latest cyber attack cases through a working group with researchers and visits to leading companies outside Japan. In my work, I consider the most effective measure within a limited budget with our customers. I feel rewarded because protecting social infrastructure systems, of which Hitachi owns many, from the viewpoint of cyber security leads to protection of social infrastructures in Japan. (Chief, Service Platform)
・I'm engaged in system operation maintenance (response to technical inquiries, security software update, etc.), improvement development management, and proposals for the next term (proposals to strengthen security in anticipation of the life of OS on terminals). It is rewarding that I can share issues and solve them with our customers by focusing on one system deliberately from the viewpoint of both project manager and security specialist. (Chief, Public System field)

## Quality management expert

Maintains and manages the organization's quality management system through the establishment and operation of quality assurance systems for IT solutions and product businesses, quality control, ensuring and improving reliability, and conducting inspections and evaluating results based on standards. We have the knowledge of how and what to do to ensure system quality, and practice and apply this knowledge to projects and system operations.
Plan and execute processes for ensuring product quality, through everything from planning information systems, software products, and IT services, to development, and operation and maintenance once it is running/Verify, analyze, and evaluate the development project and system quality once it is running from both a product and process perspective/ Draft and execute an action plan for improvement with awareness of the challenges involved in product quality of information systems and products, as well as IT services.

### <Employees tell attractiveness of this job>

・I participate in all processes from planning to testing of system development for the financial industry, and formulate plans, give recommendations, and evaluate for quality assurance as a manager. I evaluate and support quality aspects and report to executives while collaborating with the SE and design division at project development sites. You can be involved in all processes from the young generation, and it is possible to learn Hitachi's way of approaching work. Hitachi's quality assurance is as a "professional of quality" that actually sees the products (design documents, programs) and checks and tests them, giving support and advice, and sometimes contributes to improving the quality standing at the forefront, in addition to general quality evaluations and process checks. (Manager, Quality Assurance in charge of finance)
・I'm in charge from quality control and quality assurance to customer support after shipment of HIAA (Hitachi middleware product that analyzes IT infrastructure performance) into the global market. It is very fulfilling and rewarding when I manage to solve a problem even though I struggle, and when I receive comments from our customers such as: "Thanks to Hitachi, we could solve the problem. Thank you very much." Furthermore, I acquire deep knowledge and skills related to the products and these are used for troubleshooting and development of the next version by moving them with my own hands and evaluating them. (Manager, Quality Assurance in product development)

## Service Professional

Promote the following through management skills related to IT services:
Planning a business model for a new service business and launching it as a Hitachi business. ・Organizing service development projects to realize services that provide optimal value to customers. ・Establishing and operating systems and processes to provide services that are reliable and secure for customers.
[Main job responsibilities]
Planning of service projects based on market research results and customer collaboration.
・Design and development of functions, performance, and quality for the start of service provision.
・Promote improvements based on the results of monitoring the service provision status.

### <An employee tells attractiveness of this job>

・I provide a service to manage system development projects for the Hitachi Group. Since the service greatly affects project management, it is a tense job, but it is fulfilling as we give great support to the Hitachi Group. I always think about how to improve the efficiency of the development process and reflect this in the service. One feature of this job is this active way of proceeding with work. (Chief, Service Platform)



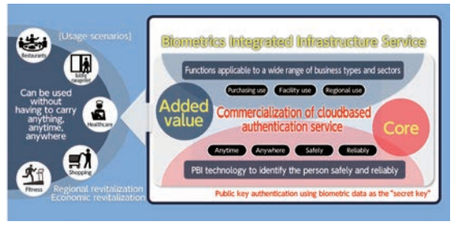


# Front Business

## Providing solutions in the front lines for the issues and visions of society and customers.

## Financial Information Systems

Working to solve social issues through the use of digital Solutions, in addition to the technology and know-how cultivated through collaborative creation with customers




In recent years, as interest in the risk of climate change has grown worldwide, the social role required of financial institutions has changed dramatically, such as the urgent need to address the issue of decarbonization in the financial economy. In addition, the rapid progress of telecommuting and cashless society has greatly changed the way we work and our lifestyles, and we are now required to promote digital transformation in order to realize new, safer and faster initiatives in addition to traditional services as financial institutions.

While providing systems and services to financial institutions is a mainstay of Hitachi's Financial Systems Division, we are also promoting multifaceted initiatives to address social issues such as work style reforms, revitalization of local communities, and the aging society, through cross-sectional connections with financial institutions and a variety of other industries and sectors. Based on the technology and know-how we have cultivated through collaborative creation with financial institution customers, we aim to make people's QoL more convenient and enriched by supporting social infrastructure through the use of IT.

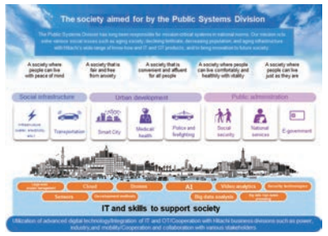
### [Case study]

### Utilizing "Biometrics Integrated Infrastructure Service" to enable safe, convenient and hands-free cashless payments!

Due to the spread of COVID-19, the percentage of cashless payments has been increasing both in Japan and abroad. However, the amount of damage caused by fraudulent use is also on the rise, reinforcing the need for more stringent authentication.
To address this issue, Hitachi developed the "Biometric Integrated Infrastructure Service" as a cloud service to securely realize personal authentication and cashless payments using biometric authentication. It is an infrastructure service that can be used for a variety of purposes by adding functions for linking payments and entrance/exit management at facilities to Hitachi's original "Public Biometrics Infrastructure (PBI ※ 1)" technology. We have already realized hands-free authentication and payment in a wide range of fields, including introduction of systems at restaurants and demonstration tests in leisure facilities and drugstores. In future, we will work to create further added value for various industries and sectors, and promote the creation of a rich social infrastructure using this service.
※ 1:Abbreviation for "Public Biometric Infrastructure"

## Government & Public Corporation Information Systems

To take pride and responsibility in being responsible for public information systems, and to aim for continuous personal and business growth in order to continue contributing to the realization of an affluent society through ICT.




We contribute to the realization of safe, secure, and livable lifestyles for people by providing answers to issues faced by our customers in the public sector, including government agencies, municipalities, the social security sector, and research and educational institutions, by combining our expertise, including large-scale project management, with new digital solutions and monozukuri (design and development), such as AI and IoT.

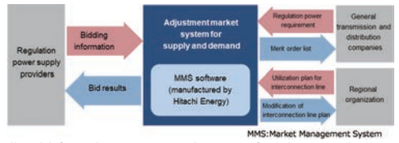
### 【Case Study】
### Hitachi's Smart City Concept

In Japan, the lifestyles and values of citizens are changing drastically due to the impact of social issues caused by the declining birthrate and aging population, as well as the impact of the new type of coronavirus infection.
The Japanese government is responding to these social issues through the promotion of ICT and data utilization in its Society 5.0 and Smart City/Supercity strategies.
Against this backdrop, Hitachi believes that in order to improve people's happiness and QoL, it is important to realize a society in which people can "live as I do" through their daily lives, including "living," "working," "learning," and "playing" in the community, and to continue to provide smart city services that are close to the residents.
Hitachi contributes to people and their lives through the environment through smart city services that link data and services.

## Social Infrastructure Information Systems

Contributing to safe living with peace of mind and growth of social infrastructure through provision of solutions in social infrastructure fields such as electric power, transportation, and communications, etc.

Social Infrastructure Information Systems Division is responsible for the development of large-scale systems that support social infrastructure, including energy information systems, railroad information systems, and systems for telecommunications carriers. Social Infrastructure Information Systems Division is also driving Hitachi's Social Innovation Business by applying knowledge gained from the fusion of IT and OT, together with cutting-edge technologies, to social infrastructure through Lumada. In the energy information system field, a variety of stakeholders including but not limited to electric power companies are entering the market due to the change in business environment based on electricity liberalization, and the role of IT and OT is becoming important than ever. In such circumstances, we leverage our expertise in power transmission and distribution and billing for electric power companies nationwide to provide stable support for both the electric power market and electric power systems by offering high-quality systems for transmission and distribution networks that deliver electricity nationwide and systems that support liberalized markets, such as wide-area organizations. In the field of railway information systems, we support railroad infrastructure, such as seat reservation and management system, which requires large-scale data processing capacity and reliability, and a public transport IC card ticketing system. Railway companies are also promoting the improvement of services, improvement of management efficiency, and business expansion to new fields, so we provide services that meet the various needs of our customers by leveraging the collective strengths of Hitachi as a business collaboration partner for railway companies. We provide a wide range of services, from high-speed and highly reliable real-time processing platforms for large-scale traffic processing of web, e-mail, and IoT devices to new solutions for big data analysis and human flow analysis using AI.




MMS:Market Management System

### 【Case study】
### The "Supply-Demand Adjustment Market System" contribute to the stable supply of energy through the use of HE's solutions.

The supply-demand adjustment market was established in April 2021 as a market where general transmission and distribution companies trade "adjustment power" to achieve a stable supply of electricity by matching supply and demand and avoiding power outages and equipment failures.
Hitachi has built a supply-demand adjustment market system using the Market Management System, software developed by Hitachi Energy, which has extensive system implementation experience in the North American and European supply-demand adjustment markets. This system started operation at the same time as the market was opened, and has been able to accommodate trading of new products added since its launch, contributing to a stable supply of energy and reducing costs to ensure the ability to adjust.
Hitachi and Hitachi Energy will continue to work closely together as One Hitachi to deliver cutting-edge solutions to customers in Japan and the global region.

# Industry & Distribution Systems

We provide IT solutions and services that leverage the cutting-edge experience of the Hitachi Group as well as manufacturing industry knowhow to customers in the production and logistics fields that sustain our lives

We provide IT solutions and services that leverage the cutting-edge experience of the Hitachi Group as well as manufacturing industry know-how to customers involved in manufacturing familiar from our everyday lives such as electronics, cars, chemicals, medicine, food, and cosmetics, as well as precision, ferrous and nonferrous manufacturing, to customers involved in logistics operations such as all types of retailers, wholesalers, and trading companies, to customers in service businesses such as newspapers, publishing, printing, and media services, and to customers in transport businesses such as railroads, airports, land transport, and shipping.
By maximizing the corporate value of our customers, companies deeply connected with our daily lives, through system integration services, package solutions, and cloud-based solution services, our own way of living is sustained. In addition, under circumstances where the environment surrounding business is changing in a complicated and complex way due to a sudden rise in uncertainty in the market and social conditions, we are promoting problem-solving from a comprehensive perspective across organizational, company, and field boundaries.

**【Case study】**
**Deployment of AI demand forecast solution that connects sales site and market**
**Optimize purchase order with demand forecast using AI and contribute to the supply chain optimization**

In recent years, labor shortage due to the decline in the working-age population has become an issue while consumer needs diversify, and achieving both responsiveness to changing demand and appropriate inventories and improving sales, profits and management efficiency of shops are becoming challenges for the retail industry in Japan. Conventional replenishment operations are often handled by experienced staff over a certain number of hours based on their experience and know-how after considering complex conditions such as past inventory, replenishment, and sales results of each product as well as weather conditions and event information to forecast demand, and thus business innovation using digital technology is required.
Hitachi's Lumada solution called Hitachi Digital Solution for Retail/Demand Forecast Auto Replenishment Service conducts a high level of demand forecast using AI in cooperation with a shelving allocation system where information about shelf allocation, such as what products were displayed where and how many, and replenishment quantity is determined based on the results of the forecast. By providing this system, we are achieving the reduction of workload for replenishment operations as well as product shortage ratio and stock-to-sale ratio. Additionally, we can achieve the centralization of automatic replenishment and inventory management by combining this with Hitachi's Total Logistics Management System. Forecasting demand and restocking amount will help reduce cost through enhancement of truck load efficiency and vehicle dispatch using the system, and can also result in the reduction of Scope 3 emissions and food loss. It will therefore help to achieve contribution to the environment and the happiness of society, which are Hitachi's aims.

# Defense Systems

Promoting social infrastructure security projects based on technologies supporting the defense, aerospace and security fields, and contributing to the creation of a safe and livable society


In Hitachi's Defense Systems business, we are promoting the business by expanding the scope of security to include the entire social infrastructure, including cyberspace, utilizing the various safety and security technologies and experience we have accumulated over many years in the defense business. We are surrounded by a multitude of issues that need to be solved on a global scale, such as cyber-attacks, terrorism, and large-scale natural disasters. The Defense Systems Division takes on these challenges in cooperation with Hitachi Group companies, and provides a wide range of products, systems, and solutions that support the safety and security of society, covering everything from the sea floor to aerospace and cyberspace, by leveraging on the technologies and experience accumulated in the defense business and the power of digital solutions.
Some of our business fields are recruiting under "Defense System Solutions" .

**【Case study】**
**Intelligence Information Solutions**
We provide solutions help policy makers for the national security of Japan and commanders of the Self-Defense Force to collect and analyze a variety information, such as Internet information, satellite images and communications data, in order to make quick and appropriate decisions.

### Command and Control Solutions

In order to enable each Self-Defense Force branch to operate at full capacity, Hitachi designs and develops optimal systems to support the decision-making at every level of command, as well as education and training. We are also working to improve the efficiency of situational assessment and decision-making by utilizing simulations and artificial intelligence (AI) technologies, and to visualize information through the use of data analysis and extraction technologies.

### Cyber Security Solutions

As cyber-attacks are evolving day by day, we are developing solutions for cyber defense and secure IT infrastructures that can always keep up with the latest developments.

NCW Solutions, Mechatronics Solutions and On-Board Ship Solutions outside the ICT field are recruiting under the "Defense System Solutions" field.

# Platform Business

Developing products and business models using Hitachi's latest technology, and providing Hitachi Group-wide optimum solutions.

## Applications Services

Design and development of large-scale, advanced business applications that sustain social infrastructure and provision of advanced technologies and solutions

As a specialist group in application, we support important systems that are essential for society, carrying out design, development, and maintenance of large-scale advanced "business application (※1)" providing to flagship users in each industry, such as financing, industry/distribution, railway, and public sector.
We also focus on the promotion of Lumada (※2) business by combining know-how and advanced technology accumulated through many years of application development and knowledge responding to recent IT trends to realize a better society. Knowledge responding to recent IT trends is especially developed around the provision of services that realize DX (digital transformation), which is a transformation using digital technology owned by GlobalLogic Inc., which specializes in digital engineering services, and CX (customer experience), which is customer experience that increase the value of products and services.
※1 Software for reshaping customer business activities and achieving efficient operation
※2 Hitachi's advanced digital solutions, services, and technologies for turning data into insights to drive digital innovation.

More information:
https://www.hitachi.co.jp/products/it/lumada/index.html

## Security Risk Management

Enhance security of each business area and contribute to business expansion in Hitachi's Digital System & Service sector

We aim to contribute to strengthening security and solving issues in organizations, systems, and operations.We provide security planning, control, and technical support to reduce total security risks and strengthen security.We develop common security measures and targets in the digital systems and services sector, develop and deploy security processes and standards, and monitor and follow up on implementation. In addition, we accumulate the latest security trends and know-how, disseminate information within the company, provide technical support for business divisions, and develop security human resources.

## Quality Assurance

Quality management solutions that uphold Hitachi's product quality reputation

The benchmark for Hitachi's product quality is customer satisfaction.
With the slogan "Quality First" , the most important theme of the Hitachi Group, it is the mission of the Quality Assurance Department to contribute to ensuring that customer information systems run with stability, approaching with responsibility and authority the quality of Hitachi products that sustain social infrastructure. In response to various businesses in the financial, public, social, and industrial fields and IT products (middleware, enterprise server, mainframe, etc.) globally, we promote quality improvement from customers' point of view as a keeper of quality through the development stages to the management and maintenance after the operation.
In addition, we are actively working on the latest technology trend of services, digitalization, AI, etc., and providing quality management solutions in cooperation with each business group and business department.

## Front Businesses Support

Contributing to business expansion by supporting front businesses through comprehensive proposal planning, from platform infrastructure to growth areas such as cloud and digital, and creating projects through digital marketing

We solve various issues of our customers by planning platform solutions with the best combination of our high technology that integrates the capabilities of the Cloud Service Platform Business Unit and partner products. In addition to responding to customer proposals, selecting products to focus on, developing new fields using digital marketing, and creating projects, we also support Hitachi's front businesses by identifying market and customer needs through market research and lead analysis. We contribute to the expansion of Hitachi's IT business by using our knowledge and proposal know-how of cloud, digital, middleware, servers, and storage to create a matching cycle between market needs and Hitachi's front businesses and products.



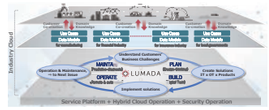
# Internal IT Innovation

Driving the digital transformation of Digital Systems & Services Sector and contributing to the management, business and the entire Group

As the internal IT for Digital Systems & Services Sector, we plan and support IT infrastructure and business systems for system engineers and design and development departments in the SI and Platform Business, as well as for employees in all other staff departments. In addition to being in charge of the planning and execution of IT strategies and supporting the use of digital solutions such as data analysis, RPA, IoT, and collaboration tools at business sites, we also conduct monitoring and brush up the effectiveness of provided measures, and provide user support from the perspective of employees. We support the business operations and growth of Digital Systems & Services Sector from a position close to the end users, utilizing both technology and consulting skills, and also contribute to the promotion of internal work style reforms.

# Platform Solutions Services

## Accelerating business with digital transformation




As various companies promote DX, efficient and effective accumulation and utilization of data obtained through corporate activities has become an essential element for strengthening corporate competitiveness and growth.
On the other hand, as digitization and cloud computing progresses for each business, data becomes siloed, which hinders integrated analysis and decision-making based on overall optimization. The flooded cloud systems makes it difficult to keep data secure. For many customers, these are the major issues; the formulation of the overall DX vision, know-how for building the infrastructure for integrating and analyzing data, and the lack of skills and human resources for security measures and operations.
In order to solve these issues, which are barriers to the promotion of DX in many industries, Hitachi will combine the data utilization technologies and know-how we have cultivated in our Lumada business and offer them as an Industry Cloud(※).
※ A cloud solution that packages and provides services specific to a particular industry or sector, also known as an ' industry-specific cloud' or ' industry cloud'

## Hitachi Intelligent Platform that accelerates DX Growth Cycle

This is a fully managed cloud service that convert basic functions into a service platform( ※ ) and provide them in a selectable form. It promotes continuous data management which is essential for data-driven business management, from collection, accumulation and utilization. Hitachi can contribute for customer's DX, supporting the formulation of DX strategies and business concepts, build the data models necessary for their implementation, and take appropriate security measures and infrastructure operations, based on the many use cases through our past collaborative projects.
※ A package of standard configurations of IT platform required for different purposes

More information:
https://www.hitachi.co.jp/products/it/IoTM2M/list/hipf/

# Technology & Product Introduction

## Middleware

Hitachi provides IT-based product groups that flexibly realize our customers' business innovation and improve business quality and efficiency. Hitachi inherits the mission-critical response and highly reliable technology cultivated over many years in the system software business, and with our wide product lineup that makes full use of cutting-edge IT, we are able to realize mission-critical operations in an open environment and meet the various needs of the age and our customers.
"JP1" , Hitachi' s integrated system operation and management software, keeps up to speed with the complexity and changes to the business environment and enables quick and flexible IT system operations. Aiming at IT operations independent of human operators, the software manages, in an integrated manner, all types of data and their relationships in complicated and diversified systems. With the centralized operations and control, and efficient use of machine learning (AI), JP1 accelerates autonomous IT operations and facilitates intelligent IT operations that contribute to business.
In addition, through the development and provision of ultra-high-speed database engines of the "Hitachi Advanced Data Binder Platform" ( ※ ) a high-speed data access infrastructure that accelerates our clients' innovation using big data analysis, we support accurate and prompt decision making in an ever-changing business environment.
※ The Hitachi Advanced Data Binder Platform is based on "Development of the Ultra-high-speed Database Engine for the Era of Very Large Database and Experiment and Evaluation of Strategic Social Services Enabled by the Database Engine" , a project supported by the Japanese Cabinet Office' s Funding Program for World-Leading Innovative R&D on Science and Technology. (Core researcher: Prof. Kitsuregawa, Professor at the University of Tokyo and Director-General of the National Institute of Informatics)

More information:
https://www.hitachi.co.jp/Prod/comp/soft1/

# Project Management Supervision & Promotion

Supporting all ICT solution projects in terms of management systems, technology, human capital and knowledge, leading them to success

Even though the customers of each ICT solutions project are different, the projects share many common knowledge and know-how required for system integration. In order to lead projects to success, we strengthen governance by formulating and improving project management systems based on the latest trends in management technology and analysis of successful projects, and by conducting a third-party check for quotation prognosis, planning validity, and signs of deterioration. In addition, we have established a foundation for the horizontal development of knowledge on successful projects gained from participation in projects in Japan and abroad, and a certification system for professional human capital to support projects. We are also considering new measures, such as the acquisition, horizontal development and institutionalization of knowledge through participation in advanced projects, in order to lead a wide variety of projects such as digital transformation and collaborative creation businesses to success.

## Support Services for Cloud Journey, essential for DX promotion

To promote DX, it is important to "digitally connect across organizational and industry boundaries," "properly manage data," and "feed back the results of data analysis to the field". Cloud utilization is essential to support data utilization, and continuous efforts to step up the maturity level of cloud utilization in accordance with customers' DX goals are needed.
Hitachi accompanies our customers on their cloud journey from planning to migration, construction, and operation, with our extensive knowledge and technology gained from our experience in providing mission-critical cloud services to diverse areas of social infrastructure and our track record of working closely with partner clouds. We provide a wide range of services from planning to operation; cloud consulting to support upstream studies, cloud environment construction and migration support, IT operation optimization, and cost governance after the start of operation.

More information:
https://www.hitachi.co.jp/products/it/harmonious/cloud/articles/dx_cloud_journey/index.html

## Managed Security Service

Experienced security experts of Hitachi' s Security Operation Center (SOC) will support the system security operation of customers.
We have been providing an IT platform that 370,000 employees of Hitachi Group use and security monitoring services for customers such as major financial institutions and government agencies for on-premises and private cloud environments. We launched a new managed security service for public cloud (Amazon Web Services, Azure). We support safe and secure operation of various systems such as hybrid cloud, which combines public cloud and private cloud, and hybrid work, which combines in-office and remote work.
※ SOC : Security Operation Center

More information:
https://www.hitachi.co.jp/products/it/security/activities/mss/index.html

## OSS (Open Source Software) Service

We provide a variety of solutions that can be used for many corporate systems, such as cloud, big data, and databases, so as to allow our clients to utilize OSS with ease of mind in all categories throughout their system life cycles. We also participate in OSS community and standardization activities, and contribute to the development and spread of OSS and other related technologies.

More information:
http://www.hitachi.co.jp/products/it/oss/solution/index.html

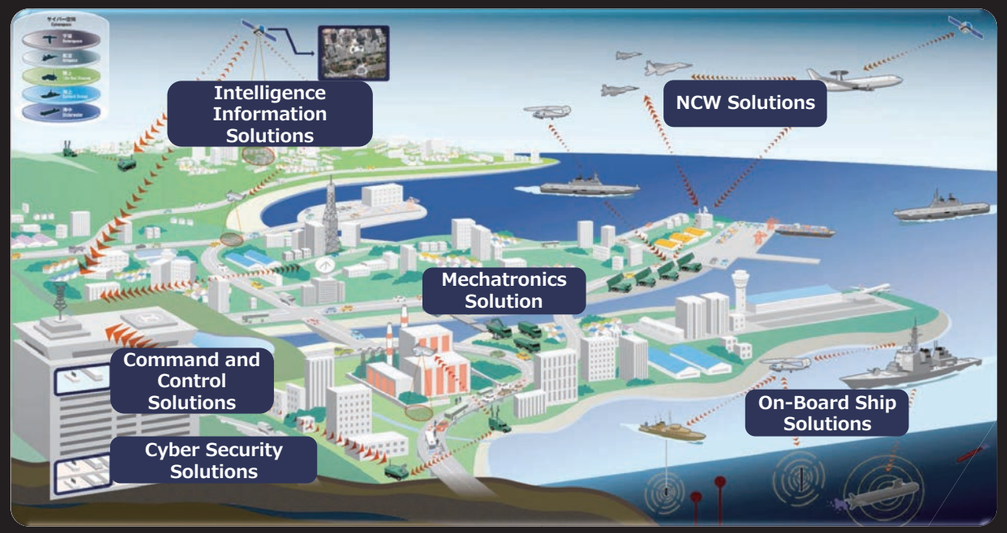
**TOPICS Cultivation of global leaders**

In ICT solutions, various training programs are established in order to globally develop the Social Innovation business. Global leaders who can be active anywhere in the world are trained through a wide variety of courses, including an "Emerging nation transfer program" in which trainees work to solve social issues abroad using skills cultivated in their main occupations, and the "Overseas business course" in which trainees actually work abroad to experience local markets/businesses, etc.

**TOPICS What is Lumada?**

Lumada is the collective term for Hitachi' s advanced digital solutions, services and technologies that create value from customer data to drive digital innovation.
By collecting, combining and analyzing the various data, OT assets (machine data and human data collected from the field) and IT assets (business data on IT systems) held by our customers using digital technologies such as AI and analytics, Lumada clarifies the value created from the customers' management issues and data. By utilizing the solution cores cultivated to solve the problems, Hitachi will quickly create new value and provide optimal digital solutions. Hitachi will create new value aimed at the society to come, together with customers in various business areas.

# DEFENSE SYSTEMS SOLUTION




Hitachi contributes to create a safer society through technology.
We are developing diversified systems with the various technologies in the Hitachi Group.

In the Defense Systems Division, based on our core technologies for defense and aerospace and security, we use technology cultivated in defense projects and Hitachi's digital solutions technology to contribute to the creation of a safe and livable society where individuals are protected from different circumstances.

**Job Categories**

Research and Development / **Product Development** / **System Engineer (SE)** / Manufacturing Engineer / **Quality Assurance** / Technical Sales / Intellectual Property Management / Other

**Faculty / Department**

Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial and Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other

**Business Fields**

Power Systems / **Industry & Distribution Systems** / Water Systems / Urban Planning & Development Systems / Railway Systems / Financial Information Systems / **Government & Public Corporation Information Systems** / **Information & Telecommunication Systems** / Healthcare Systems / Home Appliances / Automotive Systems / **Electronic Devices**

## Job Categories

### Product Development

Considering customer needs and environments in products to be used, we develop high-quality programs, systems and products using a variety of cutting-edge technologies. In order to develop and maintain highly reliable products, we perform several in-house and external tests. In addition to regular inspections, etc. and support, even after delivery, this job surveys market trends and domestic/foreign trends in order to establish corporate plans for new business strategies and propose better systems and products.

### System Engineer (SE)

System engineers are expected to examine, analyze and assess markets, technological trends in Japan and overseas, and customer needs to make strategic plans for new business.
They are also expected to utilize extensive knowledge to reflect customer needs, and provide feed back to the design and development divisions for delivering optimum products and systems.

### Quality Assurance

High reliability and quality are required for products and systems related to defense projects. We conduct quality improvement activities, evaluation, and assurance from the viewpoint of customers from the early development stage to product delivery and problem-solving after delivery.

## Business Activities

### Based on our core technologies for the defense, aerospace and security, we contribute to create a safer society.

For many years now, the Defense Systems Division has been developing technologies and gaining experience in defense projects that contribute to the safety of society.
Exploiting these technologies and experience, we will expand the range of security to cover the whole social infrastructure including cyberspace, and enhance our business with a global perspective.
Today, we are facing numerous problems on a global scale such as cyber-attacks, terrorism, large scale disasters.
The Defense Systems Division cooperates with many companies associated with the Hitachi Group to face these challenges. Through technology cultivated in defense projects, experience, and the power of digital solutions, Hitachi is able to create products, systems and solutions that cover everything from the sea floor to aerospace and cyberspace.
Intelligence Information Solutions, Command and Control Solutions and Cyber Security Solutions are recruited in "INFORMATION & COMMUNICATION TECHNOLOGY SOLUTION " field.

## Location

| | |
|---|---|
| Yokohama Division | 292, Yoshida-cho, Totsuka-ku, Yokohama, Kanagawa 244-0817, Japan |
| Tsuchiura District | 603, Kandatsumachi, Tsuchiura-shi, Ibaraki 300-0013, Japan |

## Contact Information

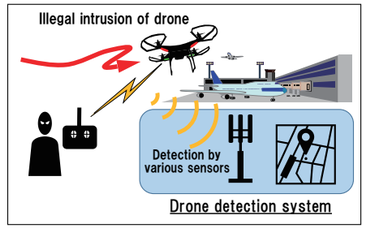
Representative: Talent Acquisition Department,
Human Capital Division, Human Capital Group
TEL.: 080-9862-7075
saiyou.job.bt@hitachi.com



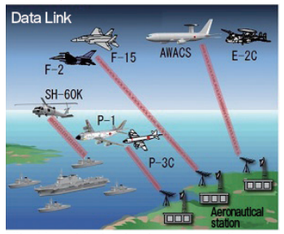
## Signature Technologies

### Network Centric Warfare (NCW) Solutions

By developing wireless network technology to connect aircraft, ship, vehicle, unmanned aircraft, etc. with the ground, and combining information from things and sensors connected through a wireless network with big data analysis and AI technology, we provide digital solutions as new IoT utilization in the defense field.
Multi-network connection devices
We are working to seamlessly connect disparate communication networks, whether wired or wireless, so that voice, video, data and all kinds of information can be shared. In addition to enabling communication between a wide range of telephone, industrial radios, transceivers and terminals, it will also be possible to connect different display devices and cameras for use as a means of sharing information. We also set up radio transmission equipment for connection between sites, so that when public networks are cut off in a disaster situation, independently operated networks can be secured as a means of information sharing between organizations.
Drone Detection System




Across the world there have been many drone-related incidents. We have developed a drone detection system that relies on various sensors such as radar as a solution for important security facilities.
Datalink (wireless communication/information sharing systems for defense applications)




Hitachi contributes to stronger operational capacity by sharing voice, data, video, and other information required to execute strategies between the ground and aircraft.

### On-Board Ship Solutions

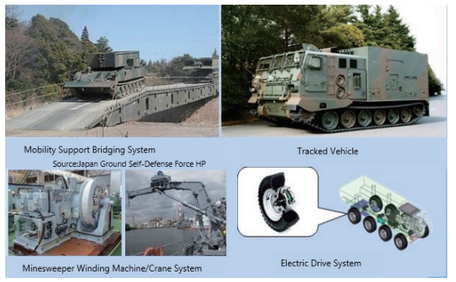
We are constructing on-board information processing systems and control/coordination systems for various equipment.
Information Processing System/Simulator for Escort Vessels and Submarines
We provide the systems that are the brain of the ship, performing the integrated processing of sensor information from sonar to estimate the position of the target and analyze its motion, manage and control weapon systems, and provide the training equipment for it.
Unmanned Underwater Vessel (UUV) Autonomous Support System (AI)
We provide the equipment that enables use of AI to automate the system that is the brain of a UUV.
Sonar Systems
We provide a system to search for undersea objects using a tow fish pulled by a cable from a ship or a mine detector installed on the ship's bottom. This system contributed to undersea rescue and search at the time of the Great East Japan Earthquake.

**Mogami-class frigate (Source: Maritime Self-Defense Force website)**
We manufacture the variable depth sonar systems that are the minesweeper main equipment used to search for mines.

**Awaji-class minesweeper (Source: Maritime Self-Defense Force website)**
We manufacture the variable depth sonar systems that are the minesweeper main equipment used to search for mines.

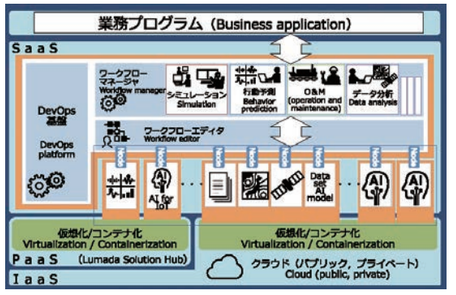
### Mechatronics Solutions

Hitachi is fusing vehicle and bridge mechatronics technologies, processing technologies for special materials(high-strength aluminium, high tensile steel,etc.) and electronics technologies to offer highly reliable mechatronics products that ensure the execution of defense duties and fast recovery of lifelines and assistance in the event of a disaster. We are also promoting digital solutions through the use of electric vehicles and remote control, as well as improved features/serviceability that take advantage of IoT.




### Integrated AI platform

We provide a common platform for the development and operation of AI solutions in each business field to support the introduction and development of AI.




## Photo album

**Satellite image receiver antenna**
We operate dedicated facilities to receive data from the WorldView satellites of Maxar Inc.

**Leverage of satellite images**
Satellite images are processed to add value so that they can be leveraged to ascertain forest areas, among other reasons.

**Drone detection system**
We provide a multi-sensor system that monitors, detects, and deals with drones that enter a specific area.

**Okinawa ground stations**
Ground stations to receive data from the WorldView satellites operated by Maxar Technologies Inc.

**Overseas training**
Long-term business training and short-term training with the aim of directly experiencing the language, culture, and customs are offered at Hitachi's local subsidiaries.

**Surveys of overseas trends**
To learn about the latest trends in technology, we participate in conferences both at home and abroad.

**In-house training**
A variety of in-house training is well-reviewed as a forum for exchange that goes beyond career type and work location.

**Corporate events**
Internal events are planned and run primarily by young employees.

**Yokohama Office**
Completed in 2012, the Yokohama Office is a clean and bright office with a design building and system manufacturing building.

**Design building at Yokohama Office**
The Yokohama Office design building is a state-of-the-art environmentally friendly building that was certified as an Eco-office within Hitachi.

# SOCIAL INFRASTRUCTURE CONTROL SYSTEM

## We provide "Control Systems (Information control systems)" that support Social Infrastructure to realize more comfortable and convenient daily living and contribute to resolving social issues.

At Social Infrastructure Control Systems, we contribute to the realization of more comfortable and convenient living and to the resolution of social issues as represented by the SDGs, through our global provision of information control systems that play a vital role in social infrastructure systems essential to daily life, such as electric power and energy, transportation, water environment, and industry.
As the social landscape changes at a rapid pace, social infrastructure systems today must not only ensure stable operation, efficiency, and convenience, but must also be able to swiftly capture and analyze changes in the world and flexibly respond to them.
Hitachi realizes a social infrastructure that enables rapid adaptation to social and business challenges in this era of uncertainty by promoting DX in information control systems, connecting information technology (IT) and control/operation technology (OT) by means of software and digital technologies.

**Job Categories**
Research and Development / Product Development / System Engineer (SE) / Manufacturing Engineer / Quality Assurance / Technical Sales / Intellectual Property Management / Other

**Faculty / Department**
Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial and Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other

**Business Fields**
Power Systems / Industry & Distribution Systems / Water Systems / Urban Planning & Development Systems / Railway Systems / Financial Information Systems / Government & Public Corporation Information Systems / Information & Telecommunication Systems / Healthcare Systems / Home Appliances / Automotive Systems / Electronic Devices

## Job Categories

### Product Development
Responding to market trends and social needs, reflects technology in the new-value products we provide to the world.

### System Engineer (SE)
Investigates and analyzes customer needs, and works together with customers to resolve their issues through consideration of the optimal software and hardware as well as system design.

### Manufacturing Engineer & IT Systems
Serves the role of expanding production & improving efficiency of production on both the technical and IT system fronts.

### Quality Assurance
Under the theme of "Quality is the essence of Hitachi products," we check to ensure that our products and systems meet the required functions, performance, durability, etc. from the upstream process to prevent the occurrence of problems.

## Business Activities

### ● POWER SYSTEMS & ENERGY SYSTEMS (POWER/POWER DISTRIBUTION) FIELDS

#### Power Generation Control Solutions

We develop and supply control systems for power plants that are safe, secure, and environmentally conscious through a fusion of control and IT technologies we have built up over many years. Through the introduction of CCS (Carbon dioxide Capture and Storage) technology and hydrogen/ammonia co-firing/mono-firing technology, we promote thermal power generation with a reduced environmental impact and nuclear energy generation that eliminates CO2 emissions during its operation, thereby mitigating global warming and contributing to a carbon-neutral society. In addition, combining with pumped-storage power generation that makes effective use of surplus power during nighttime and other times enables the efficient use of power. We provide power generation control systems utilizing solutions with a combination of these control technologies and IT technologies that support operation and maintenance.

### Location

Omika Works　5-2-1, Omika-cho, Hitachi-shi, Ibaraki 319-1293, Japan

### Contact Information

Human Capital Group
HR Division
Talent Acquisition Department
recruit.jousei.ko@hitachi.co



#### Power Distribution Solutions

Electricity is generated at electric power plants and other large-scale power plants as well as wind and solar small-scale power plants for delivery to the consumer. Sending and delivering this electricity is called power distribution. In the distribution network are substation facilities such as city and other minor distribution networks that are all organically and efficiently controlled to provide delivery of uninterrupted solutions.
In recent years, more efficient power generation and use of more clean, renewable energy are among the significant changes our world energy situation is undergoing. Facilities and systems for power distribution are also undergoing profound transformation. We are providing solutions to meet new power distribution needs both in and outside Japan.


### TOPICS Power System's Expansion Outside Japan

Emerging countries are faced with the increasing need to develop power infrastructure as they experience economic growth. However, at the same time across the world there has been a rapid shift towards reducing environmental impact and adopting clean energy as a response to global warming. This is the current state of the world we are living in. Hitachi's Power Control Systems Division is proud to participate in power system stabilization projects and smart community projects that relate to the mass implementation of renewable energy in order to make efficient electric power a reality.

By cooperating with Hitachi Energy, Ltd., which has recently joined the Hitachi Group, we aim to provide power control systems consisting of transmission, distribution, and generation while accelerating our global expansion so as to provide energy-related solutions to the world.
Also, in the Power Generation and Control Systems department, we are participating in projects to renew facilities and enhance the performance of power plants around the world, as well as expanding control solutions based on nuclear technology overseas, such as the global deployment of particle therapy equipment.

### ● WATER ENVIRONMENT SYSTEMS FIELD

#### Water Environment Solution

Hitachi's commitment to the water business has a history of more than 100 years in a wide range of fields such as water resource conservation, water supply, sewerage, rainwater drainage and water reclamation. Since its establishment, the entire Hitachi Group has developed and delivered products and systems under the corporate credo, "contribute to society through the development of superior, original technology and products" that are reliable, stable, and safe in supporting the lifelines to society. We have delivered electrical equipment and monitoring control systems to more than 2,100 water treatment and sewage treatment plant-related facilities to date.

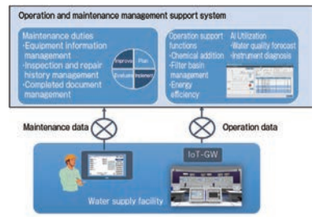
Hitachi proposes efficient and effective solutions through the fusion of IT(※1) × OT(※2) × Product by utilizing the latest technology that we possess in addition to the rich achievements and experience we have gained from long-standing cooperative relationships with our customers. We are working to achieve a safe, secure, and sustainable water environment by providing water environment solutions suited to the characteristics and needs of each region.

※ 1 Information Technology
※ 2 Operation Technology

### TOPICS Operation & Maintenance Management Support System

Aging water facilities, the lack of human resources and other issues challenge us to provide operation and management support systems that leverage OT(※1) and IT(※2) cultivated over many years at Hitachi to support a safe, secure and sustainable water supply.
We collect operating data and maintenance data from multiple facilities distributed across a wide area to use water quality and water flow simulations, statistical processing to support operation management and maintenance tasks at these facilities.

※ 1 Control and Operation Technology
※ 2 Information Technology
＊AI Artificial Intelligence
＊IoT-GW Internet of Things Gateway




### ● RAILWAY SYSTEMS FIELD

#### Traffic management systems

"Trains arriving on time according to the timetable" should be the norm, and our traffic management systems support and enable trains to achieve that. Hitachi continues to support world-class railway systems through the development and improvement of the traffic control systems that cover all Shinkansen lines in Japan as well as the Taiwan High Speed Rail, in addition to most conventional lines in Japan including those in the metropolitan area and Chukyo and Kansai regions. To ensure that train services are safe, comfortable, and highly convenient, we supply complex systems that are highly reliable and operate 24 hours a day, 365 days a year. These include railway signal equipment and automatic control of the intervals between trains and distribution of the train information in real time to the audio and visual passenger information systems in railway stations.

#### In-train information display system

"Make the inside of the train into the information station!" We provide the information services by video in the train to make various passengers feel comfortable. We also provide the universal designed visual information systems that are easy to understand for the elderly people and people who has color blindness. In addition, we are offering the digital signage that corresponds to the various video advertisements, such as coordinating multiple screens and making them separated.
These are active in the Yamanote line and others in Tokyo area everyday and also expanding sequentially to Kansai and Kyushu area.

#### Railway power management systems

What supports and makes it possible for trains to run on electricity as expected every day is the railway power management system. We are developing highly reliable power management systems that guarantee 100% reliability of operation 24 hours a day, 365 days a year for power facilities owned by nationwide railway companies. In addition, we provide systems that contribute to the day-to-day stable operation of trains, such as restoration assistance to promptly provide power transmission and restoration measures in the event of power outages or other abnormalities, planned pause of power transmission control that automatically performs power interruptions/transmission according to schedules to safely perform maintenance and inspections.
To contribute to the management target of railway companies aiming for net-zero emissions by 2050, we are working to realize a next-generation railway system that contributes to optimized operation of energy and train operation in addition to the railway power management system. To promote sustainable growth in the railway industry, we adapt to environmental changes and aim to create and provide new value.

## TOPICS Overseas Expansion of Railway Traffic Management Systems

We hold the top market share among Japan's railway solution vendors. We cannot talk about the greatest feature of Japan's railways ", on-time operations" without railway traffic management systems. Along with the economic growth of the world, the social infrastructure that supports the movement of people and goods is very important, and railways are being reexamined as a means of high-speed, mass transportation not only in emerging countries, but even in developed countries. Hitachi possesses a vast storehouse of railway technology and is starting to develop business in Taiwan and other overseas markets such as Australia. In the high speed railway market, Hitachi aims to export "bullet trains" through our railway cars, signal systems, and railway traffic management systems. In the field of conventional lines, we are using business channels built in the railway car business to further expand our market share.
Also, the Japanese government is providing aid for the development of railway systems in emerging countries through ODA in order to support their economic growth. Hitachi is providing cooperation through its superior railway technologies, and the train operation management systems we provide are integral to advanced railway operations. We will continue to develop train operation management systems that meet the needs of each region.

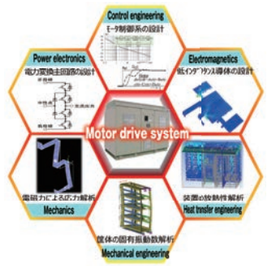

# ● INDUSTRIAL CONTROL SYSTEMS FIELD

## Electrical Machinery Application Systems- Steel Plant Systems

We contribute to the development of industry globally by developing optimal steel plant control systems using advanced systems integrating information and control coupled with environmentally friendly and energy-saving technologies.
At Hitachi, we provide control systems and motor products to steel plants which produce the key industry materials iron, copper, and non-ferrous metals such as aluminum. New material properties and quality are constantly demanded for iron, and various production processes are needed to produce final products from iron ore. We meet the ongoing requirement of customers for cutting-edge quality by developing and integrating the optimal information, control, and drive technologies for each production process. We contribute to the production of high-quality steel products by building systems for synchronous control of the 300 to 400 motors at one facility, using AC variable-speed motor drive systems, high-speed high-capacity system control equipment, and network equipment making full use of power electronics technologies, and combining them with the latest control technologies. In recent years, there has also been a demand for improved maintainability through the free use of video and data. All these technologies are closely involved in the quality of the final product, and we are constantly working to develop pioneering technologies.

## Power Electronics Application Systems - Motor Drive Systems

Motor drive systems (inverter drive systems) that apply power electronics are used in steel systems, and drive the rolling mills. A variety of technologies must be utilized to develop motor systems, which not only include power electronics technology, but also control engineering, electromagnetism, heat transfer engineering, mechanics, and mechanical engineering. In addition to the abovementioned technologies, data statistics, analytical technologies, and network construction technologies are also required in order to meet the needs of IoT solutions in recent years.




## TOPICS Overseas Deliveries in Steel and Industrial Systems Sector

Hitachi supplies the world's leading high-performance, resources and energy-saving steel plant control systems and drive systems worldwide. We have an outstanding track record of delivering numerous systems to global steel manufacturers, and currently, the percentage of sales from overseas projects is about 50%. Global opportunities exist every day in each phase of these projects, from system planning/presentation and proposal of plans, requirements and specifications meetings, system development, and onsite demonstration tests.

Several years after joining Hitachi, employees are expected to become project leads: develop systems according to specifications decided upon with the customer, and ultimately verify system performance with the customer at the site.


# ● DIGITAL SOLUTION & CONTROL PLATFORM FIELD

## Information and control solutions

We design and develop the core components (hardware and software) and solution systems used in social infrastructure such as electricity and railways. To meet the demands of a social infrastructure system with high reliability and toughness required to run 24 hours per day, 365 days a year, Hitachi offers high-quality, high-efficiency MONOZUKURI not only by utilizing CAD/CAM for design, manufacturing, and quality assurance but also by establishing production innovation systems using digital data using 3D design information, which were selected by the World Economic Forum as the first Japanese corporation with its world-leading advanced factory known as "Lighthouse." Leveraged with state-of-the-art technologies, our work includes products from components to the fault tolerant systems and wireless application systems.
* Fault-tolerance: A mechanism in which even if a part of a system fails, the entire function will not stop

## Implementation support for security that supports the DX activities of control systems

In addition to ensuring the stable operation of control systems, we also support the system security throughout the lifecycle to underpin the DX activities aimed at the business transformation. We provide the following solutions for control systems, including those for critical infrastructure.
・Consultancy services to back up the security implementation based on standards and guidelines in anticipation of the DX activities
・Cyber defense training combining our technologies and know-how of control systems and information systems to develop security skills
・System integration services that propose and build security solutions
・Security monitoring and analysis support services that watch over the security operations of control systems
Along with social contributions such as international standardization activities and industry-academia-government activities, we leverage on our knowledge of OT (Operational Technology) and IT integration to strengthen the security of our customers' control and IoT systems.

## Environmental information management solutions that "visualize" customers' environmental management and support analysis and improvement

Companies are required to have a social responsibility for the environment, such as responding to SDGs and ESG investments, and are expected to actively work toward solutions.

By visualizing products and production activities from an environmental perspective, Hitachi provides environmental information management solutions, allowing customers to readily analyze the data, take measures, and disclose information.

## Digital solutions that improve inspections, maintenance and repairs of social infrastructure and industrial machinery

We utilize our advance AI technology to digitize and digitalize the behavior and characteristics of facilities and equipment. Through this, we provide solutions to achieve DX for maintenance, including the automation of inspection patrols, diagnosis of facilities based on high-quality data, predictive maintenance for large-scale plants, and recommendation of the most appropriate repair method for industrial machinery, etc.

## Advisory services / Automation integration

A shrinking workforce due to a declining birthrate and ageing population, as well as the necessity of passing on know-how to the next generation, have become issues in recent years.

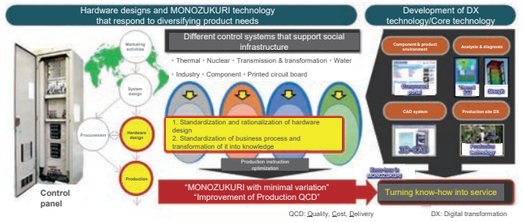
Applying the know-how of DX cultivated at the Hitachi Omika Works to the social and public infrastructure field, we deliver a full range of services, from business analysis to system integration.



# ● MONOZUKURI(INDUSTRIAL SCIENCE & INDUSTRIAL SYSTEMS) FIELD

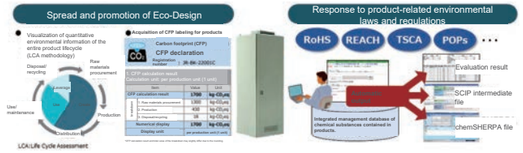
## Hardware designs and MONOZUKURI technology that respond to diversifying product needs

Production of control panels and electronic devices has become high-mix and low-volume due to a variety of product categories and diversifying product needs. We are implementing continuous reforms by designing hardware for such products that cross different fields and are reliable to achieve MONOZUKURI (manufacturing with craftsmanship) with minimal variation.
Meanwhile, we are also focusing on the development of DX (digitalization) technology and core technology and striving to improve quality, cost, and delivery of the products. We are aiming to solve issues of the whole of society not only by using the knowledge and know-how cultivated through our innovation, but also by providing this as a service to customers.




## Promotion of Eco-Design (e.g., carbon footprint verification) and response to product-related environmental laws and regulations

As the initiatives to achieve carbon neutral have come into full swing in recent years, Eco-Design has become an important element to minimize the environmental impact of products. Eco-Design aims to promote efficient use of resources throughout the entire lifecycle of products and reduce waste. In particular, because adoption of a carbon footprint focusing on carbon dioxide (CO2) emissions throughout the entire lifecycle from raw materials procurement to disposal or recycling will be considered in many countries and regions in the future, we are promoting the acquisition of third-party certification and transmit this to the world.
Additionally, environmental laws and regulations regarding chemical substances included in products are becoming stricter. To comply with laws and regulations, we are investigating and identifying chemical substances included in all parts that comprise products through the supply chain and promoting the elimination of prohibited harmful substances.




## Creating an information system to protect factories from cyber attacks

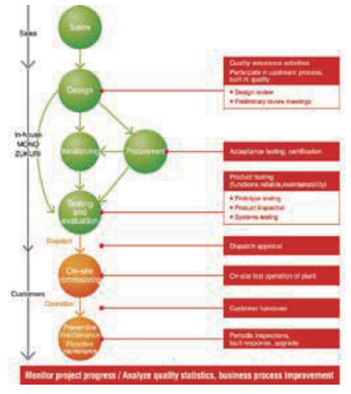
In recent years cyber attacks are becoming more and more advanced. With an increase of those working remotely, that risk is also growing.
There are more cases of on-site facilities and IoT devices being connected to external networks outside of production sites, so there is a need to adopt a new approach to security which is different to previous approaches.

With consideration to the current circumstances, we have created a system to monitor the communication logs at production sites. When a risk is detected, the network communications will simultaneously be cut off to provide factories with high-level security.
In order to deal with ever-changing IT environments, there is a need to implement and develop even more effective and reliable systems to provide factories with a high level of security.

# ● CONTROL SYSTEMS QUALITY ASSURANCE FIELD

## Quality assurance activities of control systems in all fields

The Quality Assurance Department is the guardian for protecting trust in the Hitachi brand, and is committed to seeing things from the perspective of customers at all times, checking products from standpoints such as reliability, performance and serviceability from upstream processes, and collaborating with all departments to ensure quality and further improvement. To support control system products that contribute to society in the fields of power and energy, water environment, railways, and industry, we are able to provide our customers with safe and reliable solutions through cutting-edge inspection technology and our knowledge of operation technologies (OT).




## Quality assurance activities in collaboration with the departments involved in MONOZUKURI

Control system products that support social infrastructure are required to be of high quality and reliability. These requirements are achieved through hardware and software intended to be used 24 hours a day, 365 days a year, and system design that takes into account the entire life cycle, including repair and maintenance services. In collaboration with all departments from R&D to design, manufacture, and maintenance services, we are committed to quality assurance activities to support the high quality of control system products.

## Product evaluation

As the quality assurance department, we are involved in projects from the most upstream stage of the product manufacture and always evaluate and test our products from the perspective of our customers. In addition to the reliability verification of hardware and constituent parts and components, we conduct shipment inspection of systems and in-house tests for system repairs (hardware repairs and software repairs) in order to accept or reject the products and make strict judgments on shipping before delivery to the customers.

## Product testing

In the testing phase, by examining the products with our own hands, we will finally be able to build up the quality of the overall system. We also conduct evaluations of products that integrate hardware and software to realize "total quality assurance."

## Trial operation at destination

After the products are shipped from the factory and delivered to the customer, we conduct trial operation by connecting the products to the actual plant equipment. We conduct trial operation by connecting the products to the actual plant equipment. We are expanding our activities not just in Japan but all over the world, including in Asian and European countries, etc.

## Quality assurance activities for new businesses

With the advent of the IoT/DX era, there is a need to provide products that create new services by utilizing data. We will continue to utilize AI, digital solutions and robotics to challenge ourselves to create new quality assurances through collaborations with customers.


## TOPICS Our globally active Quality Assurance Department

We send members to the Antarctic Wintering Corps to do our part for corporate social responsibility and for the development of young engineers. Our products are also installed on the Antarctic observation vessel "Shirase".

## TOPICS Active participation in presentations outside the company

We are actively giving presentations outside the company, such as at the Software Quality Symposium (SQiP Synposium) held by the Union of Japanese Scientists and Engineers. In 2019 and 2022, the members of the Quality Assurance Department won the SQiP Best Paper/Report Effective Award (for something practical and useful to improve quality on-site immediately).

# IT STRATEGY & DIGITAL INTEGRATION DIVISION


## Utilizing IT and digital to increase Hitachi's growth potential and profitability, and contribute to realization of social innovation.

IT Strategy & Digital Integration Division supports the growth of Hitachi by providing IT solutions to more than 300,000 users of the Hitachi Group worldwide. In order for Hitachi Group to achieve social innovation on a global level, professional IT services to support management of the entire Hitachi group are necessary. Specifically, the expectations for IT-driven innovation and new value creation have recently been rising. In its drive to be an innovation partner in the IoT era, it is important for the Hitachi Group to apply data analytics to accelerate competitive creativity and synergies in the group, and to transform operations. Our mission is to (1) discover issues and needs in Hitachi's management, business and operations, and making full use of technology and data to solve issues and create value, and (2) promote IT sophistication and digital transformation company-wide, and to provide an overall optimal common platform. As such, departments are divided into those that mainly handle account support, which provides IT solutions while grasping the individual issues of each business and operation, and those that mainly handle the development and operation of IT solutions and services. These two groups cooperate and work together to promote the use of IT and digital.

**Job Categories**: Research and Development / Product Development / **System Engineer (SE)** / Manufacturing Engineer / Quality Assurance / Technical Sales / Intellectual Property Management / Other

**Faculty / Department**: Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial and Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other

**Business Fields**: Power Systems / Industry & Distribution Systems / Water Systems / Urban Planning & Development Systems / Railway Systems / Financial Information Systems / Government & Public Corporation Information Systems / Information & Telecommunication Systems / Healthcare Systems / Home Appliances / Automotive Systems / Electronic Devices

## Job Categories

### Corporate IT & Security (System Engineer)

The IT Strategy & Digital Integration Division is broadly divided into the five following areas.
We will ask you about your preferred area before you participate in the selection process, and will use it as a reference for your assignment after joining the company.
- Promotion of digital transformation
- Design, development and operation of management information systems
- Planning, operation, and provision of fundamental platform services
- Design, construction and operation of global IT infrastructure
- IT solutions proposals and implementation support

### Location

Tokyo area 1-18-13, Sotokanda, Chiyoda-ku, Tokyo 101-8608, Japan
(Akihabara Daibiru Building)
Kawasaki area 1-1-2, Kashimada, Saiwai-ku, Kawasaki-shi, Kanagawa 212-0058, Japan

### Contact Information

Human Capital Group
Talent Acquisition Department,
Human Capital Division (Japan)
recruit.corporate.qv@hitachi.com

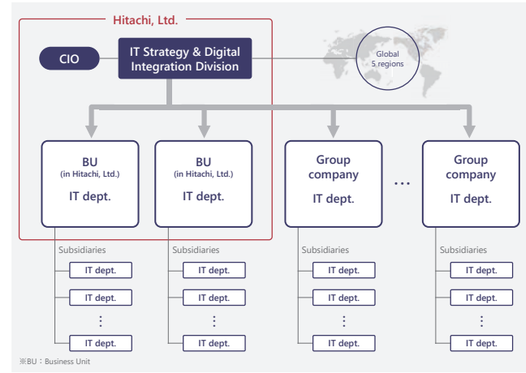


## Business Activities

### IT Strategy & Digital Integration Division and Hitachi Group

#### Organizational structure of internal IT departments

The IT Strategy & Digital Integration Division controls the IT of a huge organization comprising of approximately 700 global Group companies and approximately 300,000 employees. It is necessary to implement common measures that give a bird's-eye view of the entire Group while also respecting the independence of each business unit and Group company, in order to reduce IT costs and respond to security risks which are increasingly important. Hitachi Group's IT Department consists of two levels of organization in order to achieve both quick decisions for each business segment and realization of common measures.
To be specific, the IT Strategy & Digital Integration Division controls the entire Hitachi Group, coordinating with the IT departments that exist within each business unit and Group company to roll out initiatives.
In addition, we have appointed IT managers in Europe, the US, China, India and Singapore to promote the realization of common global IT measures.




### Main 5 Fields

#### Promotion of digital transformation

We are promoting Hitachi Group's digital transformation, and aim to contribute to strengthening our business competitiveness.
(Main areas/services)
- Data analytics support
- IoT support
- Providing RPA services
- Improving Lumada's internal environment

#### Design, development and operation of management information systems

Through the provision of advanced management core system necessary for strategic management decisions, we support corporate departments in their business reforms, contributing to high value-added and efficient corporate operations.
We promote the visualization of management information of Hitachi Group and support management and business operations by designing and providing the common core system and ERP used throughout the Group.
(Main areas/services)
- Management core system (finance, procurement, sales, human capital system, etc.)

#### Planning, operation, and provision of foundational platform services

Through the planning, operation, and provision of services related to the Hitachi Group's common platform, we promote the visualization of the Hitachi Group's management information and provide support for management and business operations.
(Main areas/services)
- Hitachi Group common platform (ERP/financial accounting system)

#### Design, construction and operation of global IT infrastructure

We intermittently manage the global IT infrastructure of the entire Hitachi group, from strategy to deployment. We provide IT infrastructure that promotes global communication and supports the diverse work styles of employees.
(Main areas/services)
- Network
- Security
- Collaboration tools (email, chat, web conferencing systems, etc.)
- Client devices (PCs, smart devices, virtual environments, etc.)

#### IT solutions proposals and implementation support

We propose and support the introduction of various solutions possessed by the IT Strategy & Digital Integration Division based on the characteristics and issues of each business unit and group company of Hitachi, Ltd.
This department is also called "Account SE" because it stands on the frontline as the face of the IT Strategy & Digital Integration Division, and works from a position that is closest to the users.


## Signature Technologies

By always keeping an eye on the latest IT technology and actively utilizing it, we enhance the agility, efficiency, and robustness of IT infrastructure while contributing to corporate transformation and global business expansion.
In the 2024 Hitachi Group IT medium-term plan, we are focusing on five areas and promoting the consideration of their application within the Hitachi Group.
Also, we are considering the application of notable latest IT technologies such as generative AI to our operations, taking risks into account.

❶ IT for Sustainability
We provide IT services that support the realization of carbon neutrality for the Hitachi Group, by promoting the aggregation and visualization of environmental data, and by introducing devices and services with lower $CO_2$ emissions.
Promoting cloud migration while advancing the visualization of power consumption reduction across Hitachi as a whole.

❷ Work-style Transformation
To facilitate global collaboration and enhance employee engagement, we aim to improve Quality of Life by adopting innovative work styles and implementing strategic operational reforms.
In the fiscal year 2023, we are working on the automation of inquiries and analysis of engagement from communication data.

❸ Democratization of DX
Building a foundational environment to encourage the improvement of digital literacy among general employees and through cultivating human capital, we will achieve the empowerment of each and every employee through the democratization of DX.
We are promoting the deployment of foundation and tools for employees to advance DX and the cultivating human capital.

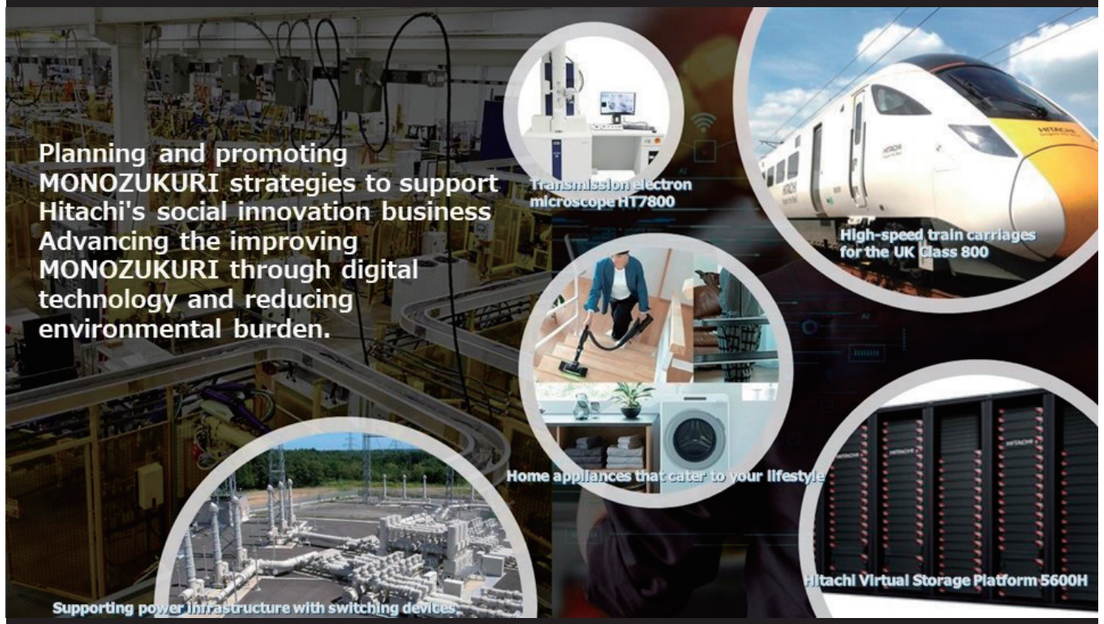
❹ Edge & Cloud Computing
Under the premise of "Cloud First" and "Asset Light," we will promote the rapid application of cutting-edge technologies such as hybrid cloud and edge computing.
Providing IT environments/services that enable secure utilization of cloud resources from production/manufacturing and research/development environments.

❺ Trust & Resiliency
We provide a security platform that supports secure and safe data circulation by automating responses to cyber attacks based on zero trust and automating security operations.

**TOPICS** Utilization of generative AI Hitachi is promoting the use of generative AI, which is the latest IT technology, aiming to improve the quality and productivity of operations.

The use of generative AI has the potential to dramatically change business operations, while also posing risks such as information leakage and spills. Therefore, Hitachi makes it well known that it is necessary to understand the specifications of generative AI and to use it after going through the application and approval procedures under the company regulations.
Moreover, experts in generative AI and business units will come together to participate in CoE activities to promote the use of generative AI, contributing to improvements in the quality and productivity of internal business operations.

# MONOZUKURI STRATEGY DIVISION




## Promote to strengthen of global MONOZUKURI capabilities of Hitachi Group as a whole.

As Hitachi Group expands the Social Innovation Business globally and in response to new business challenges such as reducing environmental burden, it is increasingly important to strengthen global MONOZUKURI capabilities (designing/developing technology, manufacturing capabilities, and supply chain management).
The MONOZUKURI Strategy Division, a corporate division serving as a group of global professional engineers responsible for formulating and implementing MONOZUKURI strategies for Hitachi Group as a whole, is mainly engaged in the following activities:

(1) Leading the MONOZUKURI reform of business divisions by formulating and implementing strategies to address common critical issues at MONOZUKURI bases (utilization of digital technology, green initiatives, and strengthening field capabilities)
(2) Improving of Hitachi's MONOZUKURI basic technologies including welding, casting, and processing
(3) Cultivating human capital (engineers) to lead the future of MONOZUKURI
(4) Effective utilization of assets within the Hitachi Group

**Job Categories**: Research and Development; **Product Development**; **System Engineer (SE)**; **Manufacturing Engineer**; Quality Assurance; Technical Sales; Intellectual Property Management; Other

**Faculty / Department**: Mechanical Engineering; Electric/ Electronic/ Communications Engineering; Computer Sciences; Chemistry; Physics; Mathematics; Industrial and Management Engineering; Civil Engineering/ Construction/ Environmental Engineering; Energy/ Resource Engineering; Other

**Business Fields**: Power Systems; Industry & Distribution Systems; Water Systems; Urban Planning & Development Systems; Railway Systems; Financial Information Systems; Government & Public Corporation Information Systems; Information & Telecommunication Systems; Healthcare Systems; Home Appliances; Automotive Systems; Electronic Devices

## Job Categories

### Manufacturing/Production Technologies (Formulation and Implementation of Hitachi Group MONOZUKURI Strategy)

- Formulating Hitachi Group's MONOZUKURI strategy
- Supporting MONOZUKURI reforms in Business Divisions
- Promoting measures to train MONOZUKURI human capital

### Location

Head Office Area　1-18-13, Soto-Kanda, Chiyoda-ku, Tokyo 101-8608, Japan (Akihabara DAIBIRU)

### Contact Information

Human Capital Group
Talent Acquisition Department, Human Capital Division (Japan)
recruit.corporate.qv@hitachi.com



## Business Activities

### Improving MONOZUKURI through digital technology (DX: Digital Transformation)


The strength of Hitachi Group lies in its possession of IT and OT as well as a wide range of products. We are working on MONOZUKURI DX by utilizing the world's cutting-edge digital technologies such as IoT and AI, in collaboration with our in-house research laboratories and IT department.
(1) Improving design and development
We utilize digital information throughout the product lifecycle, from sales to maintenance, leveraging advanced simulations to improve productivity and quality starting at the design stage, while reducing environmental burdens.
(2) Improving Supply Chain Management
To cope with global demand fluctuations and other risks, we use digital data to improve efficiency throughout the entire process from procurement of parts and materials to manufacturing, inspection, sales, and to maintenance services, all on an E2E (End to End) basis.
(3) Improving manufacturing
Digitize the 4M data involving people (huMan), Machine, Materials, and Methods related to manufacturing. Furthermore, by visualizing and analyzing, we efficiently conduct improvement activities in the manufacturing field, aiming for a dramatic increase in productivity and the stabilization and enhancement of manufacturing quality.

### MONOZUKURI with reduced environmental burden (GX: Green Transformation)


The realization of a decarbonized society and an advanced recycling society has become a social issue worldwide. Hitachi Group also regards this as a crucial issue and is actively involved in it, engaging in the following initiatives within the MONOZUKURI sector.
(1) Carbon neutrality through the reduction of $CO_2$ emissions
To achieve carbon neutrality by 2050, it is necessary to reduce the $CO_2$ produced by products and services and the $CO_2$ emitted from factories and offices. Therefore, we are making $CO_2$ emissions and energy consumption visible through digital technology, as well as promoting $CO_2$ reduction measures such as the transition to alternative energy.
(2) Zero waste for the realization of a circular economy
The implementation of the 3Rs (Reduce, Reuse, Recycle) is essential for the realization of a circular economy. Therefore, we are working on applying eco-design for environmentally friendly product development and recycling waste plastics.

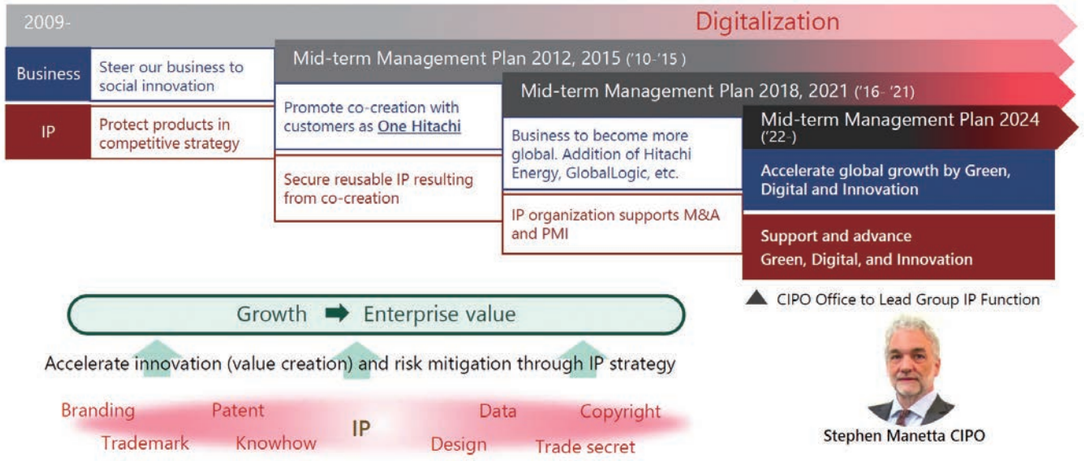
### Strengthening field capabilities

Improving MONOZUKURI requires the utilization of Hitachi's cultivated MONOZUKURI basic technologies and know-how, including welding, casting, and processing.
In order to pass on and develop the excellent techniques and know-how of its skilled engineers to the next generation, an important factor is the integration of digital technology and the cultivation of future human capital.
(1) Strengthening MONOZUKURI basic technologies
In collaboration with our in-house research laboratory, we are improving the digitalization of basic technologies by utilizing cutting-edge technologies such as AI (artificial intelligence), aiming for greater sophistication. Recently, Hitachi has also been focusing on going green and developing technologies to reduce environmental burden.
(2) Training MONOZUKURI human capital
Training spearhead future MONOZUKURI human capital is also a significant challenge. For example, we are advancing the development of senior technicians who can drive production reforms through the introduction of a certification system based on IE (Industrial Engineering) skill levels, as well as nurturing young and mid-career engineers through an in-house rotation system that allows them to acquire the diverse production technologies within the Hitachi Group.

### TOPICS Educational plan

In order to fulfill the role of corporate strategy planning and implementation, it is essential to fully understand the Business Divisions of Hitachi Group.
For this reason, new employees will be sent to train at Business Division in Hitachi Group for the first 2 to 3 years after joining the company.
Once that is completed, employees will commence their corporate duties and be trained to become Hitachi Group MONOZUKURI leaders through OJT.

# INTELLECTUAL PROPERTY DIVISION






Stephen Manetta CIPO

## IP Strategy coordinated with the Business Strategy.

Hitachi positions intellectual property activities as one of its key business strategies and defines its fundamental policy on intellectual property and brand protection in the Hitachi Group Codes of Conduct. In the 2024 Mid-Term Management Plan, we have set our mission as "IP-driven Social Innovation" and our vision as "Global Leader in solving social issues and realizing DX/GX business growth by leveraging intellectual property." We will strive to achieve further evolution and growth of our Social Innovation Business by protecting and leveraging intellectual property centered on green, digital, and innovation.

## The evolution of Hitachi's business and intellectual property (globalization).

In FY2022, the Intellectual Property Division was renamed the "Global Intellectual Property Integrated Division" to promote further global development of intellectual property activities, including strengthening cooperation with overseas Hitachi Group companies.
In addition, we have established a Chief Intellectual Property Officer (CIPO) who will assume the role of the Hitachi Group's control tower for intellectual property, and a CIPO Office under the Global Intellectual Property Integrated Division to support the formulation and implementation of the CIPO's strategies. Stephen Manetta, who has a wealth of experience coming from outside the company, assumes the role of CIPO to accelerate the enhancement of the global IP management system (strengthening the protection and promotion of the effective use of IP globally, including at overseas group companies).

**Job Categories**: Research and Development | Product Development | System Engineer (SE) | Manufacturing Engineer | Quality Assurance | Technical Sales | **Intellectual Property Management** | Other

**Faculty / Department**: Mechanical Engineering | Electric/ Electronic/ Communications Engineering | Computer Sciences | Chemistry | Physics | Mathematics | Industrial and Management Engineering | Civil Engineering/ Construction/ Environmental Engineering | Energy/ Resource Engineering | Other

**Business Fields**: Power Systems | Industry & Distribution Systems | Water Systems | Urban Planning & Development Systems | Railway Systems | Financial Information Systems | Government & Public Corporation Information Systems | Information & Telecommunication Systems | Healthcare Systems | Home Appliances | Automotive Systems | Electronic Devices

## Job Categories

### IP Management

Based on specialized knowledge and skills related to intellectual property, this position drives the intellectual property strategies, and thus the business strategies, of Hitachi, Ltd. and the Hitachi Group.
In promoting these strategies, we devise, propose, and implement necessary measures (including the acquisition of rights to new inventions) by ourselves through communication with inventors as well as with business divisions.
Moreover, in recent years, the IP department's role has been changing along with changes in the business environment, requiring the ability to respond to new needs and issues.

### Location

Tokyo area
Katsuta area
Yokohama area

Nippon Seimei Marunouchi Building, 1-6-6, Marunouchi, Chiyoda-ku, Tokyo, 100-8280, Japan
Hitachi System Plaza Katsuta, Horiguchi 832-2, Hitachinaka-shi, Ibaraki 312-0034, Japan
292, Yoshida-cho, Totsuka-ku, Yokohama-shi, Kanagawa, 244-0817, Japan
(Yokohama Research Laboratory)

### Contact Information

Human Capital Group
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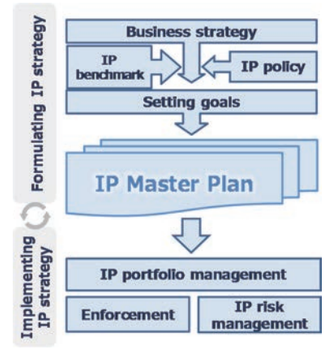
## Business Activities

### Intellectual property strategy

Hitachi has formulated and is implementing an intellectual property strategy consisting of three pillars: "Competitive IP Strategy," "Collaborative IP Strategy," and "IP for Society." In recognition of these activities, we received the Minister of Economy, Trade and Industry Award for Intellectual Property Achievement in June 2020.

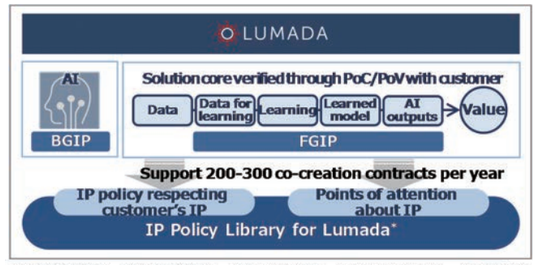
### Competitive IP Activity

The first activity, Competitive Intellectual Property Strategy, is an intellectual property strategy as a competition strategy (Competition) that involves the acquisition and utilization of intellectual property rights, with a focus on patent rights. We formulate and reinforce "IP Master Plans" customized for each business.
"IP Master Plans" are as follows.
(1) Understand business plans and set the goal of IP based on the expected role of IP.(2) Set milestones for IP activity synchronously with the business for its timely execution.(3) Run PDCA(Plan,Do,Check,Act) together with the business side.
These activities have led Hitachi to receive the National Invention Award by Japan Institute of Invention and Innovation consecutively, including high-ranking ones such as the Imperial Invention Prize and the Prime Minister's Award, and being awarded as a Clarivate Analytics' Derwent TOP100 Global Innovator for 12 consecutive years.
[Main IP activities (examples)] IP information analysis (IP landscape, benchmarking, etc.), planning IP strategies, securing IP/IP rights, reducing business risks arising from other companies' IP rights, proposal/implementation of IP utilization, etc.



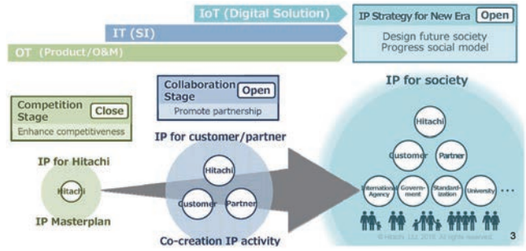

### Collaborative IP Activity

The second activity, Collaborative IP Strategy, is an intellectual property strategy as a collaboration strategy (Collaboration). With the expansion of collaborative creation with customers and partners, the scope of intellectual property is expanded to cover not only patents and other intellectual property rights, copyrights, and trade secrets, but also information property, which includes information and data, to promote partnerships and the development of ecosystems.
For example, in a collaborating project using AI, it is necessary to negotiate with the customer about the derivatives, flexibly deciding the contracting conditions. The Global Intellectual Property Integrated Division is engaged in numerous cases of supporting collaborative creation contracts every year, proposing and formulating IP frameworks that enable us to build Win-Win relationships with our customers, while respecting their IP rights.
[Main IP activities (examples)] Securing IP/IP rights, contract support, exploring potential customers and business opportunities, formulating IP policies to promote partnerships with customers and to establish ecosystems, etc.




### IP for society

As the third activity, we are strategically engaged in intellectual property activities which contribute to resolving social issues, and we leverage intellectual property in specific fields of high public interest to maintain and evolve social norms. We collaborate with external organizations (governments, municipalities, universities, UN agencies, international standardization entities, etc.) through intellectual property to contribute to projects aimed at achieving the SDGs.
Specifically, in January 2020 we joined WIPO GREEN, a marketplace operated by the World Intellectual Property Organization (WIPO), an agency of the United Nations, as a partner company to promote the dissemination and innovation of environment-related technologies. Subsequently, we have been elected as a core member of WIPO GREEN and are participating in the WIPO GREEN Core Committee (only selected companies/organizations worldwide (9 members as of November 2022)).
[Main IP activities (examples)] Study of business models and solutions, proposal and implementation of open-close strategies and IP open policies, etc.




### Intellectual property activities to create environmental value

We are tackling the creation of solutions that leverage intellectual property to contribute to the improvement of environmental value.
In FY2021, we newly established the Environmental Intellectual Property Enhancement Center in the Global Intellectual Property Integrated Division and have started considering measures to contribute to the enhancement of environmental value from the intellectual property perspective. For example, guidelines were created and deployed within the company to maximize Hitachi's business (especially environmental value) by accumulating and utilizing knowledge on the achievements of intellectual property activities that contribute to the improvement of environmental value. We have also registered our wind power generation technology, which contributes to solving climate change issues, with WIPO GREEN.
Furthermore, we share our desire to spark innovation by accelerating the implementation of environmental IP through collaboration with WIPO GREEN, presenting it as a video message.
[YouTube video] Hitachi Brand Channel: Contribution to Environment through Intellectual Property
https://www.youtube.com/watch?v=8-IcVxKaEw4
Search for "Hitachi Environment IP" and you will find information on Hitachi's various IP activities related to environmental value enhancement, including the activities described above. Please take a look.

# HITACHI INDUSTRIAL PRODUCTS, LTD.


## Provide key products that support social innovation business.

Hitachi Industrial Products was established as an independent company from Hitachi, Ltd. in April 2019, taking over the large-scale industrial machinery business of the Hitachi Group and started anew. In the field of custom-made large industrial machinery, it leads "Hitachi's MONOZUKURI" and plays a crucial role in Hitachi's social innovation business as a professional group in manufacturing.
Medium/large motors, power electronics products such as uninterruptible power supply devices & inverters, compressors, pumps, testing equipment, and logistics systems, which are key products supporting society, are deployed globally.
Hitachi Industrial Products has begun its challenge to further evolve and grow its social innovation business, centered on the growth keywords "Digital," Green," and "Innovation." Creating solutions that don't yet exist in the world, turning the impossible into the possible—Join us for an exciting challenge !

**Job Categories**
Research and Development / **Product Development** / System Engineer (SE) / **Manufacturing Engineer** / **Quality Assurance** / **Technical Sales** / Intellectual Property Management / Other

**Faculty / Department**
Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial and Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other

**Business Fields**
Power Systems / Industry & Distribution Systems / Water Systems / Urban Planning & Development Systems / Railway Systems / Financial Information Systems / Government & Public Corporation Information Systems / Information & Telecommunication Systems / Healthcare Systems / Home Appliances / Automotive Systems / Electronic Devices

## Job Categories

### Product Development
The job involves applying evolving technologies to products to deliver new values to society. Staff are involved in the process from development to commercialization of industrial products, such as motors, inverters, compressors and pumps, depending on the fields.

### Quality Management
The job involves performing thorough technical inspections to make sure that delivered products meet defined functions, performance and durability, while assessing business risks to enable management to avoid the cost of losses.

### Technical Sales
Engineers propose solutions to customers' requests by utilizing their technical knowledge, and look after customers in collaboration with the Design, Manufacturing, Production Technology, Quality Assurance and Staff sections, thereby playing a key role in customer management.

### Manufacturing Engineer
The job involves increasing the volume and efficiency of production through technology. Advanced production technology is used to achieve optimized production and product development.

### Maintenance Management
By utilizing various diagnostic techniques for already delivered facilities, the job enhances functionality through early detection of degradation, preventive maintenance, longer life, energy and power saving, and maintenance service.

### Construction Management
In order to deliver and install machinery at the customer site, according to the design and planning, we handle all aspects of the project, including construction planning, material procurement, adjustments with contractors, negotiations with customers, schedule management, and work supervision.

## Location

| | |
|---|---|
| Head Office | 1-5-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, Japan(Sumitomo Fudosan Akihabara First Building) |
| Hitachi Works | 1-1-1, Shirogane-cho, Hitachi-shi, Ibaraki 317-0056, Japan |
| Omika Works | 5-2-1, Omika-cho, Hitachi-shi, Ibaraki 319-1293, Japan |
| Tsuchiura Works | 603, Kandatsumachi, Tsuchiura-shi, Ibaraki 300-0013, Japan |

## Contact Information

TEL : 029-832-8102
ipu-saiyou.gyoumu.hv@hitachi.com



**TOPICS** **Hitachi Industrial Products' commitment to environmental value creation**

As the international momentum towards decarbonization builds, Hitachi Industrial Products is committed to realizing a carbon-neutral society by "providing products and services that reduce environmental burden" as a company that creates environmental value in all industrial activities, including fuel and raw materials, power generation, power supply, and consumption.

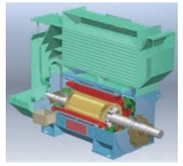
## Business Activities

### DRIVE SYSTEMS FIELD

**Contributing to customer's business development by supplying electric devices based on advanced technology.**

The Drive Systems Division is expanding business areas that include all stages from design development to manufacturing of various kinds of electric devices, as well as after-sales support, and it consists of the Production Division in the Hitachi Region and the Business Planning Department in the Tokyo Region. Hitachi has provided electric motors since our founding, and we have utilized the latest materials techniques and technologies to refine our electric motors business, with its history of more than 100 years. This Division contributes to improving the value of our customers, society, and the environment by delivering, to the world, products that satisfy a wide range of customer needs both domestically and internationally.

#### General industrial electric motors, power generation, wind power field



Hitachi has been promoting the evolution of electric motors, a product that we have provided since our founding, through our design and production technologies supported by tradition over more than 100 years. As a result, the electric motors of Hitachi are used for various purposes as a key device supporting social infrastructure in a broad range of applications, such as in power generation, industry, and transportation. Furthermore, we have incorporated the advances in IoT and digital technologies in recent years to utilize Lumada, solutions of Hitachi for accelerating digital innovations, to analyze product operation information and develop diagnostic technologies that forecast when devices need to be replaced. With this integration of products and digital technologies, we will continue providing new value to suit the needs of customers throughout the entire lifecycle of products, from design to operation and maintenance.

#### Mobility field

To meet the needs of high efficiency, size reduction, weight reduction, and reduced maintenance of the electric motors used in high-speed railways, such as the Japanese Shinkansen, we are utilizing our cutting-edge simulation and analysis technologies and the latest materials technologies to create products. With the increase in global awareness on the environment, we have positioned the railway business as a future field of growth, and we are also tackling design development for the next-generation electric motors. The technologies and knowledge we have fostered over many years in the areas of industrial and railway electric motors are also being applied to power generation and drive motors for mining dump trucks. In addition to a high degree of drive performance, we continue to provide stable operation, across the world, which can withstand even the harshest environments. Electrification is accelerating rapidly in the mobility field thanks to an increase in ESG investments. Hitachi will continue to proactively tackle new types of electrification by utilizing our assets of the technological capabilities and high reliability that we have fostered in global markets.

#### Distributed power sources and in-house power generation

With the rising standard of living and growth of industrial activity, electricity has become essential. In case of a natural disaster, which could have a significant impact on essential utilities, stable power sources are necessary. In case of an unexpected blackout or natural disaster, Hitachi's in-house power generation units are highly reliable power sources as key devices that support social infrastructure.
In addition to in-house power generators for emergencies, we offer highly efficient constant power generation units, such as co-generation power systems for saving energy and reducing CO2 emissions in factories and facilities. In this field, engineers are working in the fields of electricity, machinery, control and project management, and we are looking for people to work in these fields.

### POWER ELECTRONICS FIELD

**By supplying power electronic products to use energy efficiently, we are helping to create a sustainable society in all fields.**

Power electronics is an essential technology for reducing CO2 emissions and using energy efficiently, and products using power electronics are widely used as key components for a sustainable society in every field.
We develop and provide cutting-edge technology in a wide range of fields, such as UPS (uninterruptible power supply), that supply stable power to various important equipment operating 24 hours a day, 365 days a year, industrial equipment including large-scale fans, pumps, and compressors, motor drive inverters for electric driving of ultra-large dump trucks used in mines, and system interconnection inverters for smart grid, electrical storage systems, and renewable energy generation. We are developing products by making free use of a wide range of technologies - including semiconductor device application technology, high-voltage insulation technology, electric power systems, heat transfer, materials and all kinds of simulations, etc. - for a wide range of issues such as handling of high voltages/large electric power, items requiring advanced control technology supporting behavior of electric power systems, and new technology like storage battery systems, etc.
We will also develop and provide products/systems supporting society in terms of making beneficial use of energy, such as energy conservation and expansion of the use of renewable energy.

### MACHINERY SYSTEMS/MECHATRONICS FIELD

**We contribute to the development of future societies in a variety of areas throughout the world.**

In the fields of machinery systems and mechatronics, we conduct design, development and manufacture of industrial machinery such as compressors, pumps and ventilators that control water, air and gases. In addition, we are creating shipping and distribution related systems that support logistics in various plants. In other areas, we are also engaged in the research, design and manufacture of disaster-prevention and energy saving products and testing apparatus for disaster countermeasures for the next generation of products. These products are all essential to society and industry. In the fields of machinery systems and mechatronics, our activities are broadly expanding overseas as well as in Japan. We have endeavored to pass down the R&D knowledge and technologies we have built over many years, and are assisting in the development of future societies in a variety of areas throughout the world.

## Process compressors

The world is accelerating its movement toward technological innovation in the areas of $CO_2$ removal and alternative energy sources in order to realize a sustainable society. We have been working on the development of new technologies for $CO_2$ and other resources that can be separated and recovered in the process of carbon capture and storage (CCS), and for the production of ammonia, which does not emit $CO_2$. Ammonia, which is expected to be an alternative fuel for coal-fired power generation without emitting $CO_2$ during combustion. We contribute to the creation of environmental value by supplying compressors to various plants around the world. Compressors are used for more than 30 years as the heart of a plant. In recent years, we have been working to meet the various needs of our customers, which change over the long term operation of a plant. We are also actively engaged in the solution business, such as compressor modification, to meet the changing needs of our customers during the long-term operation of plants.

## Pumps

Water scarcity problems are becoming increasingly serious in various regions worldwide. A number of projects have been set up to resolve these problems and the demand for pumps has increased. This business division mainly handles large-scale pumps used in domestic public administration fields such as water treatment plants and drainage pumping stations as well as pumps for nuclear and thermal power plants. In addition, in terms of overseas deployment, we have also participated in a variety of largescale project across the world and delivered many pumps. In the Arab Republic of Egypt, we served a core role in a large-scale project to change an area of desert into a green region, in which we undertook the basic design through to the systems engineering of the Mubarak Pumping Station, one of the world's largest, in Toshka, and also the design, manufacture and installation of the main pumps, the electrical machinery and the control systems. At a maximum rate of 334 tons per second, the station sends enough water to fill the Tokyo Dome 23 times over, every day, to irrigate the lands of Egypt, and in the surrounding areas, farmers using waters from the pumping station have started growing crops such as tomatoes, melons, onions and bell peppers.

## Blowers

Japan is a land of many mountains surrounded by the seas, and in order to develop domestic infrastructure, tunnels are required to connect the cities and towns. The interiors of tunnels are equipped with large-scale axial-flow fans and jet fans for the ventilation facilities that expel the exhaust gases generated by vehicles. Other than these, we also handle large-scale axial-flow/centrifugal fans for thermal power plants and foundries, turbo-blowers for waste-water treatment plants, centrifugal fans for the ventilation of Shinkansen (bullet) train carriages, centrifugal fans for the ventilation and air-conditioning in nuclear power plants and large-scale axial-flow fans for use in vehicle testing wind-tunnels, etc. As ventilators demand a high level of technological skill and are made to order, we operate under an all-inclusive structure that includes design, manufacture, construction and aftercare. For the future, we will be aiming to expand our business activities into the global market.

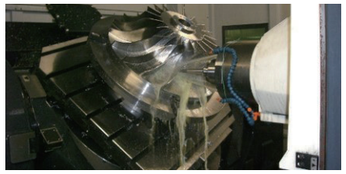
## Logistics system

Logistics systems are mainly used in manufacturers' factories and distribution centers to manage products and support the loading and unloading work of operators. Hitachi offers a lineup of products focused around the compact, low-floor, automated guided vehicle "Racrew" which realizes a new form of picking, "HITLOMANS" that manages products and data, and "Rimsorter" which supports loading and unloading tasks. Also, we provide a comprehensive service expansion that includes proposals for total systems that incorporate equipment from competitors, as well as engineering, product construction, delivery, and after-sales service.

## Test machine

The testing machine business involves the development, design, and manufacturing of dynamic mechanical testing systems that support the clarification of behaviors during earthquakes for structures, elevated bridges, nuclear equipment, and the Research & Development of the Shinkansen, aiming for the world's top performance. Supporting societal safety and security through the reduction of earthquake disaster impacts and the enhancement of Shinkansen operational safety. Additionally, we are developing and deploying an experimental system that responds to long-period ground motion that caused damage to high-rise buildings during the Great East Japan Earthquake.

## MONOZUKURI technologies



MONOZUKURI technologies demand technological innovation that enables the realization of products in development. In order to form steel into a variety of shapes, we conduct R&D into MONOZUKURI technologies related to machining, bonding/welding an assembly, to continuously produce products of higher quality and reliability. We are industry leaders in MONOZUKURI technologies in relation to the production of impellers. Through the development of MONOZUKURI technologies, the Tsuchiura Works aim to become the world's leading advanced machinery plant.

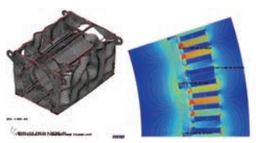
## Research & Development

To respond to customer demands on a global and timely basis, we conduct Research & Development in collaboration with domestic and international research institutions. We aim for high performance and cost reduction through technological development related to the reliability of fluid performance and rotor dynamics of large pumps and compressors.

# Signature Technologies

# ● DRIVE SYSTEMS FIELD

## Various industrial motors



Since its establishment, Hitachi, which has supplied high-voltage large-capacity industrial motors for driving compressors, pumps and fans and motors for railway cars, has undertaken development to meet the changing needs of the times. The scope of development is broad, including temperature, vibration and noise, and we work as a team using various simulation techniques.

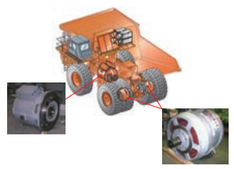
## Variable-speed AC motors for steel production

Since the performance of variable-speed AC drive systems has significantly improved thanks to improvements in power electronics and control technology, the systems are used as a standard in steel plants today.
With their quick response, high efficiency and larger field control area, many plants have greatly improved productivity and quality, increased ease of maintenance, and reduced energy consumption.
Based on a wealth of experience and solid track record in motors for driving rolling machines, we produce and supply high-performance, high-quality and highly reliable variable-speed AC motors by using cutting-edge analysis technology and quality management in advanced production facilities.

## Permanent magnet synchronous motor for railway vehicles

Due to the demand for energy saving in recent years, the development of technologies to reduce the power consumption of railway vehicles is progressing.
To reduce the power consumption of railway vehicles, it is important to reduce the power consumption during powering (acceleration) and increase the regenerative power consumption during regeneration (braking). In order to achieve these, it is effective to improve the efficiency of electric motors that drive the railway vehicles. We develop products that leverage on the strengths of the Hitachi Group, which has a wide range of railway business products, and conduct field tests on the actual railway vehicles the products will be equipped on, in addition to commercializing and supplying globally top-class high-efficiency permanent magnet synchronous motors to the market.

## Power generators and motors for supersized dump trucks



Super-sized dump trucks (300 - 500 tons) (gross vehicle weight) used for conveying mined natural resources are powered by electricity for the sake of controllability and performance. A truck is driven by an inverter control motor using electricity generated by the engine. We develop and commercialize generators and motors.



# ● POWER ELECTRONICS FIELD

## Uninterruptible power-supply systems (UPS)


Uninterruptible power supplies (UPS) are widely deployed to ensure stable operation of power facilities to bolster our information society, in which information and communication systems are not allowed to stop a single moment. The importance of UPS increases year by year as the diversity of user needs highly expands, both of which require system configuration that makes a 24/365 continuous supply reliable, with low running costs (in economic and energy use terms), a compact size that is lightweight, scalable and power-conserving. UNIPARA technology is the standard UPS technology for data centers. Hitachi develops products according to the needs of the marketplace, undertaking system planning, product design and production in a consistent process for every customer to provide the best UPS system for an intended purpose, from small- to large-capacity systems.

## High-voltage motor drive inverter for industrial use

We provide high-voltage direct inverters to directly drive high-voltage motors. High-voltage direct inverters are capable of outputting sine wave AC voltage with high conversion efficiency by means of multiple transformers and multi-stage series-connected inverters, contributing to improved equipment controllability and energy conservation.
We are responding to needs for miniaturization and weight reduction by means of logical structure/equipment configuration making free use of diverse simulation technologies such as application of new materials/construction methods, electromagnetic field analysis and heat flow analysis, etc.
We will continue to develop drive systems suited to user needs such as high functionality, high performance and high reliability.

## Motor drive inverter for driving dump trucks

Large dump trucks used in mining and other work are gradually converting to electric drive to conserve energy and power. We provide high-voltage high capacity inverters adapted to electric drive systems for electric drive dump trucks with high performance control. In addition to basic driving, we need to overcome technical challenges for implementation of the inverter unit, such as advanced motor drive control that takes control of the vehicle body into account, and capability to adapt to severe environmental conditions such as high-temperature, high altitude and high vibration as we develop products with ever more capacity that can adapt to more advanced control and new applications. The combination of the electric motor/generator and inverter provides the user higher functionality and added value.

## High-capacity, ultra-fast multi-port EV charger


Towards the realization of a carbon-neutral society, the transition from internal combustion engine vehicles to electric vehicles (EVs) is progressing worldwide. However, there is an urgent need to expand the charging infrastructure, as charging congestion frequently occurs at service areas and parking areas on highways. As we anticipate an increase in EVs with large-capacity batteries and larger commercial EVs, there is a demand for chargers that can accommodate rapid charging needs. The high-capacity, ultra-fast multi-port EV charger from Hitachi Industrial Products meets those demands and also supports V2X( ※ ), allowing EVs to be utilized as storage batteries, contributing to power stabilization.
Hitachi' s high-capacity, ultra-fast multi-port EV charger is a rapid charger equipped with a fast charging connector that complies with Japan-China next-generation charging standard CHAdeMO*23.0 (ChaoJi*32). One power unit can now simultaneously connect and charge up to 20 ports (user terminals), supporting ultra-fast charging and V2X, which were not possible with previous products.
※ V2X (Vehicle to Everything) is a communication technology that connects vehicles with various things and enables them to interact with each other.

## Power converter equipment for renewable energy power generation

As Japan lacks resources, it has been promoting the installation of renewable energy generation such as photovoltaic power generation systems and wind power generation systems to help mitigate global environmental issues. We provide power conditioner systems (PCS) to distribute to power systems DC power from solar panels and AC power of a frequency suited to the rotation speed of wind turbines. When increasing the amount of power introduced from renewable energy, the generated power of which changes in accord with environmental conditions, there is a great impact on the stability of the power supply. For this reason, technical demands and technology guidelines are discussed and established with the aim of ensuring compatibility, and to deal with these measures in the best way, we are developing and proposing technologies in cooperation with our laboratories, group companies overseas, and R&D institutions outside the company, thereby we are contributing to the stability of power supply and promoting the use of natural energy.

## Industrial computers, industrial controllers

Computers and controllers used in social systems that operate all day, every day (such as water treatment systems, transportation systems, and communication systems) and in cutting-edge semiconductor production equipment and medical devices require long-term stable operation and supply. Also, innovations in the globalization of supply chains and production and services utilizing IoT in recent years, require collection of real-time data from both control functions and sensors with edge computing linked with information systems.

We are developing and designing products to meet these needs, such as the "HF-W Series" industrial computer, equipped with RAS (Reliability, Availability, Serviceability) functions that support long-term operation; and the "HF-W/IoT Series" IoT support industrial controller, which integrates a PLC function with this industrial computer to realize seamless connection between operation technology (OT) and information technology (IT) and provide real-time data collection functions, data analysis, and edge processing.


# ● MACHINERY SYSTEMS/MECHATRONICS FIELD

## Process compressors

### Compressors that take full advantage of the latest technologies are contributing to the world's energy shortages -Participating in FPSO projects-

FPSO (Floating Production, Storage and Offloading) is a type of oil platform that utilizes plants installed onboard the ship to recover, store and offload resources from the seabed such as oil or natural gas. Compressors installed in FPSOs require a variety of performance related attributes such as size reduction and vibration considerations, as well as high discharge pressure. Our compressors use the latest technologies to accommodate such requirements, and are currently involved in global FPSO projects.
(Photo provided by: MODEC, Inc.)

## Distribution system Mini low-floor unmanned carrier Racrew

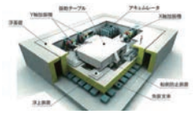
Picking has taken on a new form that aims to eliminate the need for people to search and walk.
"Racrew" moves freely everywhere as it automatically transports entire racks, increasing efficiency and minimizing human resources needed for collection tasks.

## Pumps

### An 80,000 horsepower pump delivering a stable water supply -Edmonston Pumping Plant-

The Edmonston Pumping Plant comprises the most important facility in the system that delivers water from the north California water source to the south California region approx. 1,100km away. A water transmission tunnel with a difference in elevation of approx. 600m (maximum water flow approx. 120 cubic meters per second) with a total length of 16km, which passes through the Tehachapi mountains (highest peak 2,400m), in order to deliver water from north California to south California. 14 of the world's largest pumps are currently in operation with a pump head of approx. 600m. The output of one pump is 80,000 horsepower, an output equivalent to that of a jumbo jet. Edmonston Pumping Plant had one of the highest power consumption rates of facilities in California, however, power consumption dropped significantly following the installation of these world leading high-performance pumps, which contribute to the energy-efficiency of the plant. In addition, the reliability of the facility has been heightened through appropriate strength design and materials selection, enabling a stable water supply.

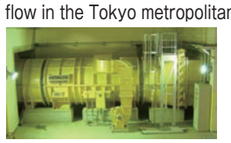
## Earthquake simulator Testing system designed to test the long-period ground motion of earthquakes



An accurate understanding of the seismic resistance of a structure or building during the design stages. With a long-stroke of 1m in the longitudinal direction, this system reproduces long-period ground motion and contributes to R&D focusing on preventive measures for derailment, etc. by revealing the behavior of tracks, wagons and carriages during earthquakes.

## Blowers

### The Chuo Kanjo Shinjuku Route changes traffic flow in the Tokyo metropolitan area



The Metropolitan Expressway's Chuo Kanjo Shinjuku Route (Yamate Tunnel) is an underground tunnel 30m below ground and approx. 11km long that follows the route of Tokyo's Yamate road. Traffic has been dispersed with the opening of the Yamate Tunnel, granting smoother access to the city center. We have delivered ventilation facilities and automatic ventilation control systems to nine ventilation sites. The ventilators of the ventilation facilities deliver fresh air to the tunnel 30m below ground, while exhaust fans expel gases generated by traffic out through exhaust stacks 40m above ground to create a comfortable and safe driving environment within the tunnel.

# HITACHI GLOBAL LIFE SOLUTIONS, INC.

## Aspiring to be a lifestyle solutions company that contributes to improving the quality of life for customers

Hitachi Global Life Solutions, Ltd. ("Hitachi GLS"), with home appliances and air conditioning businesses as its core products, engages in the sales of home appliances, air conditioning equipment, and facility equipment, as well as the provision of engineering and maintenance services, and also focuses on offering product solutions that utilize digital technology.
Toward the realization of a better society, we will create life solutions that contribute to improving the quality of life (QoL) of consumers, focusing on the four areas of "enrichment of daily life," "advancement and enhancement of medical care," "recycle-based society," and "low environmental impact," with the business slogan, “Happiness 360° - Joyous life for each and all,” through innovation leveraging the business foundation we have developed to date, the combined strengths of the Hitachi Group, and digital technology. We will also accelerate the overseas sales of Hitachi brand products and the overseas expansion of the life solution business by strengthening global alliances.

**Job Categories**
Research and Development / **Product Development** / System Engineer (SE) / **Manufacturing Engineer** / **Quality Assurance** / **Technical Sales** / Intellectual Property Management / Other

**Faculty / Department**
Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial and Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other

**Business Fields**
Power Systems / **Industry & Distribution Systems** / Water Systems / **Urban Planning & Development Systems** / Railway Systems / Financial Information Systems / Government & Public Corporation Information Systems / Information & Telecommunication Systems / Healthcare Systems / **Home Appliances** / Automotive Systems / **Electronic Devices**

## Job Categories

### Product Engineer

Design and Development (Hardware and Software)
Reflecting evolving technology and enabling its fruition to provide the world with new value is the role of design and development. With Hitachi’s technological strengths as the backbone, employees respond immediately to ever-changing market trends and social needs, creating apparatuses and systems from planning and development to commercialization by utilizing data analyses, digital technologies, etc.

Manufacturing and Manufacturing Engineer
The role is to expand production volume and improve production efficiency from the technical side. Employees make full use of IT technologies and other ways to pursue development and implementation of production technologies to expand production efficiency, thereby increasing the cost performance of products.

Quality Assurance
Quality assurance is what is defending the last line of production as the keeper of product quality. Part of the job is advancing development and implementation of product assurance technologies in line with the motto “quality is the real essence of a Hitachi product.” Employees perform rigorous checks, from identifying and responding to the causes of product malfunction during the production process to products used by customers.

### Solution Engineer

Air Conditioning Solution Engineer (Technical Sales and Service Engineer)
The role is to propose solutions to various customer issues from a technical point of view, and to solve the customer’s issue by involving design, manufacture, production technology, quality assurance, and staffing department, and other fields.

IT Solution Engineer (Digital Service Design, System Operation)
“Digital Service Design” - Perform development, implementation, and maintenance (update) of applications incorporating the goals of the provision of services. Employees work with affiliated departments to provide feedback and the like for service improvements and products.
“System Operation” - Employees establish IT system strategies and perform system planning in order to increase the efficiency of work in the company, and arrange implementation.

## Business Activities

Hitachi GLS is driving innovation from digital and green perspectives while expanding its solutions business with digital technology and transforming itself into a recycling-oriented "Monozukuri" company.
The word "product" used to refer to "hardware," but from now on, "applications" and "remote monitoring" and other digital elements are added, and the products themselves are required to be environmentally friendly.
In the home appliance business, we provide value through manufacturing and delivering excellent products to our customers, but we believe that further adding of value and enhancing affinity with digital technology is what is expected of Hitachi GLS.
In the Air Conditioning solutions business, we aim to contribute to solving social issues by providing Green and Clean solutions. In the Green field, we promote energy solutions to save energy and facility solutions to use air conditioning with reliability through cooperation within Hitachi Group; and in Clean, we contribute to solving social issues by providing healthcare solutions that manage air quality, temperature, and humidity, which are required in the field of regenerative medicine and other fields.


## Location

| | |
|---|---|
| Headquarters | Hitachi Atago Bldg., 2-15-12, Nishi Shimbashi, Minato-ku, Tokyo, 105-8410 Japan |
| Taga Office | 1-1-1 Higashitaga-cho, Hitachi-shi, Ibaraki, 316-8502 Japan |
| Tochigi Office | 800, Tomita, Ohira-machi, Tochigi-shi, 329-4493 Japan |

## Contact Information

Human Resources Department
Hiring and Training Group
TEL.: 070-3539-0750
recruit.newgrad.op@hitachi-gls.com



## Signature Technologies

### Maintaining a beautiful finish, now equipped with a heat pump for time-saving(※1) and energy efficiency(※2) Front-loading washer-dryer "Big Drum" BD-STX130J, BD-SX120J

In recent years, in addition to the rapid growth of lifestyle services against the backdrop of advances in digital technology, lifestyles in society have been diversified by changes in social structures such as increases in the number of dual-income families and the elderly. Our washing machines contribute to solving the life challenges that these bring about, such as saving labor, time-saving, finish, and energy saving.
The "Raku Haya-Kaze Iron," which employs the heat pump technology refined in refrigerators and EcoCute systems, combines high-speed air and large air volume to maintain the quality of finish while achieving time savings and energy efficiency compared to traditional models. Additionally, the "Easy Maintenance" feature we developed last year eliminates the need for a drying filter and reduces the effort required for cleaning by incorporating three automatic cleaning functions: "automatic washing tub cleaning," "automatic drying duct cleaning," and "automatic door gasket cleaning," along with a "large-capacity lint filter." With the installation of the heat pump this time, we have added a heat exchanger that dehumidifies and creates warm air to the drying path and also added automatic cleaning of the heat exchanger with "Drying path auto-clean." With "Niagara wash," which quickly penetrates clothing with a high-concentration detergent and rinses off dirt with a high flow of water, an additional lower shower was added. This allows for a more concentrated detergent liquid to be thoroughly applied to clothes with less water, enhancing the penetration to the entire garment. It achieves a high cleaning power just as before, but now can wash up quickly. Also, by utilizing the connected home appliances, an automatic detergent/fabric softener reorder service that enables to automatically reorder detergent and fabric softener when they are running short and a concierge function that provides recommendations for courses to use based on the type and use of clothes, as well as advice based on the weather are available. In addition, features such as our unique AI course that learns the user’s preferred washing style, and the Download Course which allows adding more washing programs, enable personalization of the appliance’s functions to suit individual preferences. By analyzing life data and combining it with multiple products and services, we are working to provide new life solutions and improve QoL through connected home appliances, which can collect life data at the point of contact with consumers.

※1 Operating time varies depending on the amount and type of clothing, as well as the usage environment.
※2 The cost of electricity and water may vary depending on the amount and type of clothing, usage environment, and the customer’s contract details.


洗濯コンシェルジュアプリ


ビッグドラム(BD-STX130J)

### Connected home appliance refrigerator connects to smartphones to check foods and manage stocks

Connected home appliances make daily food management simple and easy. With our refrigerators, the "Refrigerator Camera" mounted on top of the unit automatically takes photos of the food items on the shelves and in the left and right door pockets of the compartment when the door to the refrigeration area is opened. The captured images can be viewed from the Hitachi Refrigerator Concierge App. This makes it possible to use a smartphone to remember what is in the refrigerated compartment while shopping, reducing the risk of forgetting to buy something or buying food that has already been purchased, and making daily food management easier.
The "Smart Stocker" designed to enrich the time spent at home was developed in response to changes in the social environment, particularly the growth of e-commerce (EC) and the increase in demand for eating at home. When the user registers food items they wish to keep in stock, the "Smart Stocker" uses weight sensors on the second and fifth shelves to detect the weight and display the stock status on the smartphone. When the food is getting low, the system notifies you by sending a notification to the Home screen. If the user registers frequently used stores in advance, the "Buy" button on the app will take the user to the registered e-commerce sites for a smooth shopping experience. Through collaborative creation with food suppliers, we are promoting the development of convenient food stock management solutions.


R-HXCC62S

スマートストッカー(R-KC11R)

### “exiida” creates new value of air conditioning by utilizing various types of data and know-how

In the air-conditioning business, we are mainly expanding the sale and service engineering business of air conditioning and refrigeration equipment. In our view, it is important to ensure that the apparatus installed operates stably and our customers can use it with confidence. As part of the after-sales business, we are working on Remote Monitoring/Predictive Diagnosis Service “exiida.”
Remote monitoring monitors the operating conditions of the installed apparatus 24 hours a day and notifies the customer immediately in the event of a failure. Our engineer visits the site after checking the information at the time of failure, enabling prompt repair for a sudden breakdown.
Predictive diagnosis conducts machine learning based on the refrigeration cycle data during normal operation. By comparing the operation data learned with the current data, the system captures and analyzes the signs of abnormality and contacts the customer, leading to the implementation of preventive maintenance. Under the Fluorocarbon Emissions Control Act, which was revised and enforced in August 2022, a system for constantly monitoring equipment is positioned as an alternative to simple visual inspections, and Hitachi’s predictive diagnostic technology can now be used for this purpose. We will contribute to reducing the workload of simple inspections for equipment managers.
The "exiida Remote Monitoring and Operating Noise Diagnosis Services," which is part of the "exiida solution," measures compressor operation noise in chillers and chiller units fitted with screw compressors to detect abnormal noise caused due to wear and tear on the compressor bearing section. It supports maintenance based on equipment condition standards.
Furthermore, as the importance of ventilation continues to increase in our current living environments, "exiida Air Quality Management Support" has been developed. We visualize air quality through sensors installed indoors. Control ventilation equipment based on the measured CO2 concentration. It is expected that by controlling the amount of ventilation (increasing or decreasing) at the appropriate times, we can optimize the air conditioning load and achieve energy savings, as well as reduce the need for manpower in ventilation tasks.

### New Developments in Air Conditioning Solutions for Regenerative Medical Facilities and Negative Pressure Clean Booths for Isolation

We have been providing air conditioning solutions for cell processing facilities in the field of regenerative medicine by applying the technology we have cultivated to control temperature, humidity, cleanliness, and room pressure as air quality with high precision. The system comprehensively coordinates the entire facility, including remote monitoring of cell processing equipment and air conditioning units, as well as indoor manufacturing equipment, to provide environmental and economic value to customers. We have developed a new concept, next-generation module CPC to respond the industrialization of regenerative medicine and global expansion. A variety of options such as GCTP compliance improves the QoL of society. By adopting the rotation speed control method of the FFU motor instead of the conventional air volume control using a damper and adjusting the air volume linearly, the room pressure in the preparation room can be maintained. It is also possible to control the air flow at low speed, which reduces power consumption. In addition, to promote collaboration with various companies and universities, we have established the Regenerative Medicine Innovation Center in Nihombashi, Tokyo, where you can see, touch, and simulate the equipment and devices needed for cell processing facilities.
Through collaboration with Yukaze BIO Medical, a regenerative medicine enterprise based in Okinawa Prefecture (hereinafter referred to as Yukaze BIO), we have launched the manufacturing and supply of regenerative cell medicines utilizing the latest cell culture processing facility/Cell Processing Center (CPC) and an integrated management platform for value chains.
The "Next-generation modular CPC" by Hitachi GLS, introduced in the Yukaze BIO’s own factory, can ensure quality that meets global standards and has an abundant track record of implementation. Also, Hitachi’s Lumada(※1) solution, "Regenerative Medicine etc. Product Value Chain Integrated Management Platform/Hitachi Value Chain Traceability service for Regenerative Medicine (hereafter, HVCT RM)," which centrally manages information of patients, cells, and products manufactured from cells throughout the supply chain from cell collection to administration to patients, ensures the traceability of products and prevents mix-ups by allowing stakeholders such as hospitals and logistics companies to smoothly coordinate information on the cloud. Additionally, this case represents the first domestic initiative to adapt Hitachi’s HVCT RM, which has a proven track record in the field of the Pharmaceutical and Medical Device Act(※2), to the field of the Act on the Safety of Regenerative Medicine(※3,4).
By utilizing these, Yukaze BIO will realize safe and secure manufacturing and distribution in regenerative medicine.

※1 A collective term for Hitachi’s advanced digital technologies, solutions, and services that leverage customer data to create value and accelerate digital innovation.
※2 Pharmaceutical and Medical Device Act: Refers to the "Act on Securing Quality, Efficacy and Safety of Products Including Pharmaceuticals and Medical Devices."
※3 Act on the Safety of Regenerative Medicine: Refers to the "Act on the Safety of Regenerative Medicine and Related Areas."
※4 As of May 2023. The scope includes cell culture processing facilities that are operated in Japan under the "Act on the Safety of Regenerative Medicine."
＊For more details about the product, please visit Hitachi’s website.

### TOPICS What we are aiming for

Hitachi Global Life Solutions (GLS) announced our unchanging “Purpose,” which represents the meaning of our existence in society, in order to continue to be chosen by society and our customers. In a world of drastic changes in people’s values and the social environment, we aim to create a society where people and the global environment coexist in harmony and where people respect diverse individual lifestyles, and we are sincerely committed to improving our customers’ quality of life (QoL) through enriched lifestyles and advanced and enhanced medical care, as well as to achieving a sustainable society, which includes a recycling-oriented society and low environmental impact. It also expresses our company-wide commitment to the creation of a sustainable society.

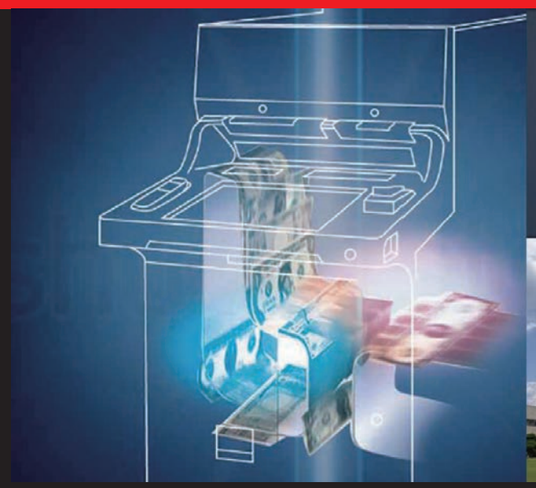
### TOPICS Take note of Mana Ashida’s cute pose! "Introducing Hitachi! ('Easy Fast Clean' and energy-saving too!) edition" released

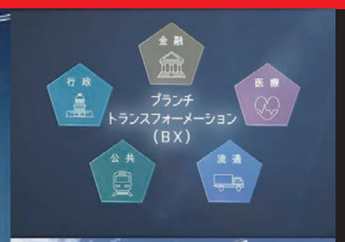
On Wednesday, October 4, 2023, Hitachi GLS has been broadcasting TV commercials featuring actor Mana Ashida with the slogan, "Introducing Hitachi!" As the 7th installment, we released a front-loading washer-dryer that maintains a clean finish while equipped with a new heat pump, leading to both time savings( ※ 1) and energy efficiency( ※ 2) in the edition called "Introducing Hitachi! ('Easy Fast Clean' and energy-saving too!)."
The new Hitachi technology featured in "Distinctive Techniques" is introduced one by one with perfect tempo using the keywords "easy, quick, clean, and energy-saving!" paired with delightful exchanges with the family. In the end, the family is completely satisfied, and Ashida-san concludes the commercial with a lovely smile and a cute pose.
At the PR event for the "Hitachi Drum Type Washing and Drying Machine New Product and New Commercial Announcement," Ashida-san appeared and said during the announcement, "Laundry is a daily task, so having maintenance become easier is something I think would feel very relieving, and features like the Air Iron and energy saving are just some of the many delightful aspects, I truly think it’s amazing!" passionately speaking about the appeal of the new Hitachi front-loading washer-dryer.

※ 1 The operating time may vary depending on the amount and type of clothing and the conditions of use.
※ 2 By heat pump method.

＊ For more information on the products, please visit our website.

# HITACHI CHANNEL SOLUTIONS, CORP.







## Global support for social infrastructure centering on the financial sector.

Hitachi Channel Solutions delivers complete solutions with the advanced technology and development to provide financial institutions' ATMs and other equipment and services as well as a manufacturing and sales system. The need for automation and efficiency in financial institutions increases as FinTech and other new technologies develop, so we leverage our ability to offer solutions using our own core technologies in global deployment. Making highly reliable products and service available to society is achieved by Hitachi Channel's core technological strength, "sensing, handling and security technology". To provide ideal solutions for customers around the world, our engineers work in mechatronics, robotics, electronics, firmware, software, and an array of diverse fields. Hitachi Channel products support diverse day-to-day social interactions, primarily in the financial sector, with advanced technology products and systems that deliver safe and comfort society.

**Job Categories**

Research and Development | Product Development | System Engineer (SE) | Manufacturing Engineer | Quality Assurance | Technical Sales | Intellectual Property Management | Other

**Faculty / Department**

Mechanical Engineering | Electric/ Electronic/ Communications Engineering | Computer Sciences | Chemistry | Physics | Mathematics | Industrial and Management Engineering | Civil Engineering/ Construction/ Environmental Engineering | Energy/ Resource Engineering | Other

**Business Fields**

Power Systems | Industry & Distribution Systems | Water Systems | Urban Planning & Development Systems | Railway Systems | Financial Information Systems | Government & Public Corporation Information Systems | Information & Telecommunication Systems | Healthcare Systems | Home Appliances | Automotive Systems | Electronic Devices

## Job Categories

### Product Development

We lead design and development of products that support various domains of society including infrastructure, with a focus on the finance field.
We employ engineers from a range of fields, including mechatronics, robotics, electronics, firmware, and software, to provide the best solutions for our global customers.

### Quality Assurance

We support product development from the quality perspective in order to provide high-quality, reliable, and safe products to our customers. This important position works to improve product quality from both the hardware and software side, from the initial development period of the product, to providing support after delivery.

### System Engineer(SE)

The company's direct customer contacts, systems engineers leverage core Hitachi technologies and solutions to meet customer needs with tailored systems and services.

## Business Activities

## Business summary

### Infrastructure Business

Many of our products and solutions, such as ATMs, have acquired a leading position not only in Japan but also in countries around the world, particularly in the ASEAN region which is experiencing remarkable economic growth, in social infrastructure that is close to and indispensable to our daily lives, such as banks, convenience stores and railways. In particular, our key module, which is the core of ATMs, are compatible with the currencies of over 50 countries and regions across the world.

### Solution Business

We are promoting the creation of new products and services in the New Solution business. This is a business model in which the value we provide is verified and recognized by the customers to realize not only the natural renewal demand but also the value desired by the customer through solution services, as well as products and their operation.
We aim to realize a "people-centered" and comfortable society with an environment that anyone can use with ease of mind.
We will work together with our customers to create "safe, secure and comfortable" services, with the aim of creating an environment where everyone can use our services with peace of mind and a pleasant "people-centered" society.

### Location

Asahi Headquarters　1, Ikegami, Haruoka-cho, Owariasahi-shi, Aichi 488-8501, Japan

Tokyo Headquarters　Ohsaki New City 3rd Bldg. 7F, 1-6-3, Osaki , Shinagawa-ku, Tokyo 141-8576, Japan

### Contact Information

HR,Employee Training&Global Employee Relations Unit
HR,Administration Department
HR,Administration Division
TEL : 0561-53-6132
saiyou_mail@hitachi-ch.com



## SOLUTION BUSINESS

### Branch Transformation

Financial institutions in Japan face a challenge to reform service operation at their branchs, because of the drastical change of society such as Labor shortage due to population decline and "New Normal" caused by COVID-19. We contribute to create values for financial institutions, and to solve social challenges through providing a solution called "Branch Transformation", which realizes higher operational efficiency and more advanced consultations by automation based on image recognition technology and AI.


### Expansion of overseas solution business

Outside Japan, we are accelerating the global development of our payment channel solutions business, mainly by leveraging the software suite of our settlement-related subsidiary in Sri Lanka to meet the needs of cash and non-cash transactions. Also, we are developing a managed services business, mainly in the ASEAN region, that integrates facilities, operations, and support for ATM services, which serve as the customer contact point for financial institutions as a service.

### New Robot Business

By applying the mechatronics that we have developed through our ATMs and other products, we develop robots which solves customers' needs for automation in various fields. With a focus on industry and healthcare, we are working to understand customer issues and acquire know-how through collaborative creation with our customers to promote new robot business development.

## Signature Technologies

### Automatic Teller Machine (ATM)

We have pulled out all stops in perfecting functionality and design to make an ATM that is customer-friendly, easier to use, more comfortable, convenient and gives peace of mind. In addition, we made an ATM that "can't be stopped and does not stop" so customers can use it longer with more reliability and increased bill capacity.

### Finger Vein Authentication Devices

High-security identity authentication devices that immediately determine whether an identity matches, simply by putting a finger over it. Scans with transparent light the vein patterns unique to each person that run along one's finger, processing and authenticating the image, in order to strengthen user identification at teller windows and ATMs, and to prevent in advance risks such as loss, theft, and forgery.

### Banking Teller Station

Highly functional and highly reliable systems that can perform all-in-one processing of the linkages between new services and current information services.
The foundation is an image entry method that uses a standing image scanner. This vastly simplifies the conventional work, mainly on a keyboard, to reduce the operation load of tellers. Also, users can combine it with various peripheral devices to flexibly configure a terminal system that suits the applications of use at the bank.

### Medicines taking support robot

Medicines taking support robot is a machine which informs the user of the time for medicine taking with voice and display guidance at set time, and serve medicine set inside the machine to the user. This robot can prevent the user like elderly people who have to take many kinds and amount of medicines, from missing a dose or taking medicines too much. Inserting and setting medicine in advance allows the medicines taking support robot to notify users, via the voice and display guidance, at a set time when it is time to take medicine, and users can take the medicine from the robot. This device increases the safety of elderly people and reduces the workloads of caregivers.

### Sensing Technologies

Hitachi Channel has its own advanced sensing technology to feed the huge range of diverse banknotes in distribution from every country in the world at high speeds and with high precision as it determines the authenticity of each bill. Our technology handles not only bills, but also identifies credit cards, bank accounts, datasheets and other media, recognizing and processing handwritten text on datasheets and barcodes with high speed and accuracy.

### Handling Technologies

Unique Hitachi Channel high-speed feed processing technologies meet global needs. Advanced banknote separation mechanisms and feed machines deliver the high-reliability, stable feed needed to handle the national and regional diversity of bill type, size, and material.

### Security Technologies

We have developed finger vein pattern authentication technology that make faking or spoofing extremely difficult when verifying identity at an ATM and teller window. Now an integral part of security infrastructure in an information society, we are developing such finger vein authentication technology to deploy to ever more global regions and new market segments.

### TOPICS Aerial Entry Device - Development of Touchless solution

Under the spread of COVID-19, Hitachi group is enforcing measures to prevent infections with a top priority of health and safety for all stakeholders including group global employees and their family, Aerial Entry Device enables users to input signals to the machine without physically touching the device. The device projects an aerial image of large buttons using a built-in LCD, and users can input signals with specific gestures in the air such as "press" and "turn a page" with a natural and straightforward feel of operation. This makes it possible to change the operation screens of terminals used by various people in medical institutions and public facilities, as well as the operation panels of machines at manufacturing sites, to touchless devices.

### TOPICS "Sterilize 1,000 paper cash per 1 minute" - To insure safety for cash users

With the spread of the coronavirus pandemic, financial institutions, an essential part of social infrastructure, are taking various infection prevention measures at their counters and branches to maintain continuous services. However, any effective countermeasures to sterilize banknotes were not established, because it takes a long time to handle vast amounts of notes, and also because the security for notes is strictly controlled and maintained. Under this circumstance, Hitachi-Channel Terminal Solutions Corp. has developed a banknote sterilization device that irradiates both sides of each banknote with powerful ultraviolet rays (UV-C) at a wavelength of approximately 260 nm, which is considered to be highly effective for sterilizing bacteria.

### TOPICS "Sterilization and Deodorization Device" makes "your" air with Lightweight and compact design

These days, there are various measures to prevent infections at office and branchs, such as keeping social distance, use of face shield or mask, and alcohol disinfection. Sterilization and deodorization device creates clean air by removing virus in the air by decomposing virus into harmless substances like water or carbon dioxide. With its lightweight, compact and quiet design, this device is suitable for use in personal spaces such as office desks, stores and public facilities where there are many opportunities to interact with customers.

# HITACHI HIGH-TECH CORPORATION


## “To help our customers be fast-moving and successful with cutting-edge businesses” is our mission.

Hitachi High-Tech Corporation was formed in 2001 through the merger of Hitachi’s instrumentation group and semiconductor manufacturing equipment group with Nissei Sangyo Co., Ltd., a trading company that dealt in high-technology products. Hitachi aims to create globally leading businesses within four business segments: "Nanotechnology Solutions," "Analytical Solutions," "Core Technology Solutions," and "Value Chain Solutions." By enhancing customer value worldwide, we strive to maximize corporate value. We provide opportunities for engineers with a diverse range of backgrounds in fields such as mechanical engineering, electrical engineering, electronics engineering, IT, physics, chemistry, and biology, and we are actively seeking people with full of a spirit of curiosity and the MONOZUKURI manufacturing ethos.

**Job Categories**
Research and Development / Product Development / System Engineer (SE) / Manufacturing Engineer / Quality Assurance / Technical Sales / Intellectual Property Management / Other

**Faculty / Department**
Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial and Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other

**Business Fields**
Power Systems / Industry & Distribution Systems / Water Systems / Urban Planning & Development Systems / Railway Systems / Financial Information Systems / Government & Public Corporation Information Systems / Information & Telecommunication Systems / Healthcare Systems / Home Appliances / Automotive Systems / Electronic Devices

## Job Categories

### Research and Design Development

In the R&D and design development field, there are electron beam/ion-beam application products, semiconductor measurement/testing systems, life science products, bio-related equipment (Naka Division) and plasma etching equipment for semiconductor manufacturing (Kasado Division). There are four fields in design positions: mechanical field, electrical/circuit field, information/software field, and analysis field.

### Manufacturing Engineer

We create a variety of systems for design, operation, maintenance and efficiency improvement of production lines at our factories. We develop cross-product and cross-cutting technologies and carry out facility management that supports the MONOZUKURI of manufacturing sites.

### Quality Assurance

Quality assurance personnel are ultimately responsible for the products and systems delivered to our customers. In order to secure the functions, quality and reliability of our products, we implement prototype certification and release testing of products in cooperation with the design and manufacturing fields.

### Technical Sales

Provide customer assistance, training and demonstration of our products for our customers. We also design the applications to meet complexed analytical needs.

### Location

| | |
|---|---|
| Naka Division | 882, Ichige, Hitachinaka-shi, Ibaraki 312-8504, Japan |
| Naka-Marine Site | 552-53, Shinko-cho, Hitachinaka-shi, Ibaraki 312-8504, Japan |
| Kasado Division | 794, Higashitoyoi, Kudamatsu-shi, Yamaguchi 744-0002, Japan |
| Ome Area | 3-7-19, Imai, Ome-shi, Tokyo 198-0023, Japan |
| Kashiwanoha Area | KOIL TERRACE, Chuo 141 District 1, 226-44, Wakashiba, Kashiwa-shi, Chiba 277-0871, Japan |
| Hitachi Area | 3-1-1, Saiwai-cho, Hitachi-shi, Ibaraki 317-0073, Japan |
| Toranomon Area (Head office) | Toranomon Hills Business Tower, 1-17-1, Toranomon, Minato-ku, Tokyo 105-6409, Japan |

### Contact Information

New Graduate Recruitment Office
TEL：070-4922-6069
saiyou.engineer.ak@hitachi-hightech.com



## Business Activities

### Semiconductor manufacturing equipment

Semiconductors are an indispensable part of our lives. Innovations in semiconductor technology, which plays an important role in the control of equipment in various fields, make our lives safer and more comfortable, while at the same time making various systems more efficient and smaller, reducing the burden on the global environment. In addition, with the spread of IoT and AI where everything is connected to the Internet, along with the use of big data and cloud computing, the role of semiconductors is becoming increasingly important. Our semiconductor manufacturing equipment, “etching equipment”, is indispensable for such semiconductor manufacturing processes, and will contribute to our future lives through cutting-edge technology.

### Semiconductor measurement and testing equipment

On the cutting edge of electronic device manufacturing that meets the needs of further miniaturization and energy efficiency, we provide a proprietary product line-up of semiconductor measurement and inspection devices. Through joint research and development with semiconductor manufacturers, we offer world class solutions such as our flagship CD measurement SEM products that boast a worldwide top market share.
・CD SEM
・Wafer surface inspection system, etc.

### Electron microscopes

Advanced analysis equipment which serves a wide range of environmental and industrial fields. Hitachi High-Tech electron microscopes, such as SEMs and TEMs contribute to the development of cutting-edge scientific technologies in fields such as new materials development and bio-technologies research, etc.
・Electron microscopes (SEMs, TEMs)
・Focused ion-beam milling/ monitoring systems, etc.

### Healthcare diagnostic field (in vitro diagnostic devices, digital, etc.)

[Clinical analyzer] The first automated clinical analyzer in the world to incorporate immunoassay functions into a biochemical analyzer.
Our automated analyzers have contributed to the spread of clinical tests and diagnostic support through improvements in test efficiency, measurement accuracy and maintainability. It is now an essential component for the health management of people throughout the world and for the early detection of a variety of diseases.
[Genetic testing equipment] Even with today’s remarkable scientific progress, DNA is yet to be fully explored. Our bioanalytical technology contributes to the rapid development of biotechnology and opens up new worlds such as tailor-made medicine and drug discovery.
・Automatic clinical analyzer
・Sample pre-processing systems
・DNA sequencers, etc.
・Sample testing apparatus
・Digital healthcare
・Smart Lab Solution
*The specimen inspection equipment and digital healthcare businesses of Hitachi, Ltd. are scheduled to be integrated (transferred) to Hitachi High-Tech Corporation on April 1, 2024.

### Healthcare treatment field (radiation therapy, advanced medical systems, etc.)

Based on the accelerator component technology and plant control technology that Hitachi has cultivated over the years, we are developing advanced cancer treatment technologies with our customers both in Japan and overseas, and providing them as treatment systems. Particularly, we will address the challenges faced by healthcare with innovation through products and solutions such as the particle beam therapy system, which is one of the advanced treatments among cancer treatments using radiation, and support services to medical institutions involved in PET (Positron Emission Tomography) exams. Also, in various international projects, we design and manufacture superconducting experimental devices and superconducting magnets, applying technology to civilian products such as medical equipment, and contribute to the development of science and technology from the standpoint of MONOZUKURI.
・Particle beam therapy system
・PET support service
・Superconducting application equipment
* The particle therapy systems, PET support services, and superconducting application equipment businesses of Hitachi, Ltd. are scheduled to be integrated (succeeded) into Hitachi High-Tech Corporation on April 1, 2024.

### Design and manufacturing solutions

As an occupation that crosses various product fields, we work together with fields that promote digital engineering and reform the development design process, common design fields that develop built-in control systems for products, and fields that develop prototypes for new businesses, and proccessing and automation technologies for manufacturing products in addition to the designing and rationalizing of production lines, to build stable corporate foundations from the designing to MONOZUKURI processes.

### Corporate business development & technological development areas

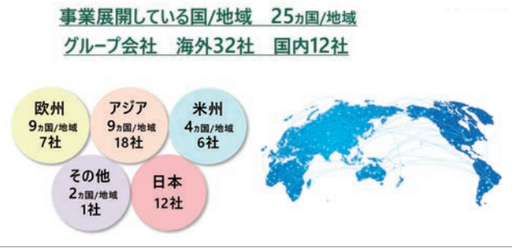
In the Business Development Division, we are developing businesses and solutions that cross over the Hitachi High-Tech Group. We are accelerating the growth of our business by executing system development related to each project, and developing solutions utilizing data analysis and AI. In the technology development department, we are working on strengthening the basic technologies that should be enhanced across the company and promoting the development of leading-edge technologies for the purpose of creating new businesses in the future.

### Trading sector

Leveraging our "frontline capabilities and problem-solving abilities" which we have cultivated as a specialized trading company with a global customer base and business creation capabilities, and through collaboration with co-creation partners, we will contribute to solving customer challenges across the entire value chain in MONOZUKURI (including planning, Research & Development, design, production, and maintenance) and within the supply chain for procurement, manufacturing, and sales.

### TOPICS To the spreading global market

The corporate vision of Hitachi High-Tech is to “simplify our customers’ high-tech processes”. With locations in 26 countries and regions outside Japan, sales outside Japan account for more than 60% of total sales. This worldwide network of operations provides numerous opportunities for coming into contact with the world’s latest technologies, allowing us to work closely with customers and quickly identify global needs. We leverage these features to help create value for global society.



# Signature Technologies

## Electron Beam, optical technology, and plasma control technology-widespread through numerous fields

Products based on Hitachi High-Tech core electron beam and optical technologies, including products with a vital role at the front line of the healthcare industry, are actively being developed. These include electron beam technology used in electron microscopes and various other testing and analysis instruments, the ultrafine precision machining technology that underpins spectroscopy, high-density energy machining techniques that use electron or ion beams, image processing technologies for applications such as pattern recognition or the detection and classification of microscopic defects on semiconductor wafers, sensing technologies used in automatic blood analyzers with built-in diffraction grids, and mass spectrometry techniques with uses that include glycan analysis and the determining of protein structure.
Meanwhile, Hitachi High-Tech plasma control technologies support the next generation of LSI fabrication, which involves not only greater miniaturization but also an increasingly diverse range of materials and structures. These core technologies that characterize Hitachi High-Tech are highly regarded as world-leading, and are essential to researchers and engineers engaged in development work.

### [Semiconductor measurement and testing equipment] Advanced High Resolution CD-SEM (CG6300)

The CG6300 has achieved the highest resolution, as well as the highest accuracy and reproducibility of measurement, in the history of Hitachi CD-SEMs. Beyond its superior basic performance, however, it is equipped with a high precision process monitor and offline recipe processing function, to improve overall productivity. It is with great pride that we deliver this CD-SEM, worthy of our customer's trust. Holding the world's top market share is a testament to our commitment to innovation, as well as our visionary perspective on the future.

### [Semiconductor measurement and testing equipment] Optical wafer surface inspection machines (LS9300A, LS9300AEG)

Development of this optical wafer surface inspection system was initiated in the late 1970s, and our continuing effort to achieve ever greater sensitivity has resulted in the system becoming one of our longest-selling products. In 2005, we commenced the development of the LS9000 series, which offers a new type of wafer surface inspection system for post-32 nm generation chips. The current LS9300A introduced the dynamic control technology of laser power and the senser with high level of sensitivity. With this unprecedented sensitivity and high productivity, it contributes to improving the yield rate. Also, LS9300AEG equipped with the edge grip delivery and inspection system contributes to improving and maintaining the quality in the wafer production.

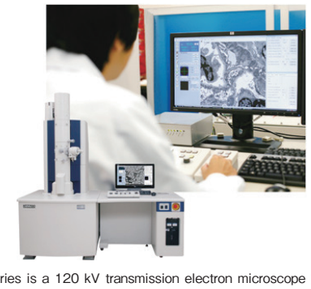
### [Semiconductor manufacturing equipment] Plasma etching machines (M-9000)

These dry etching machines perform microfabrication of semiconductor devices using reaction gas and ions in a plasma. For devices of the 20nm generation and later, highly precise and complex processes such as double patterning and 3D structures, as well as post-processing and protective film formation for new materials, are required. To accommodate these next-generation device processes, we have unified the interfaces and made it possible to mount various types of high-precision modularized chambers to provide a scalable and flexible process that can accommodate the most advanced devices.

### [Electron microscopes] Ultra-high Resolution FE-SEM (SU9000)

Nanomorphological observations are essential to the development of nanoparticle-based advanced materials. Hitachi High-Tech has been working on the development of a scanning electron microscope (SEM) that can routinely achieve subnanometer resolution. Combining advanced technologies with experienced craftsmanship, the SU9000 breaks new ground in the application of cutting-edge technology for the next generation.
Its preeminent performance, a function of its unparalleled specifications, makes it fully deserving of its highest-end status.

### [Electron Microscopes Field] Transmission Electron Microscopes (HT7800)



The HT7800 series is a 120 kV transmission electron microscope (TEM) with multiple lens configurations, including a standard lens for unsurpassed high contrast and a class-leading HR lens for high resolution. This breakthrough in advanced innovative design allows for highly efficient workflows and many specialized applications.

### [Healthcare (Clinical analyzer/Genetic testing equipment and automation systems) Field] Automated Clinical Blood Analyzer (LABOSPECT 008 $\alpha$ )

Since its launch in 1970, Hitachi High-Tech has been developing technologies for automated clinical chemical analyzers. By responding to the need to improve the quality of test data, we have sought to support clinical departments and further improve services for patients. LABOSPECT 008 $\alpha$ was developed to reduce the workload of operators by improving the efficiency of testing operations.

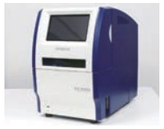
### [Healthcare (Clinical analyzer/Genetic testing equipment and automation systems) Field] Immunoassay Module cobas e801

Immunoassays are one of the main methods used for blood analysis, and are widely used to analyze more than 100 items to diagnose diseases such as cancer, viral infections and cardiac diseases. With increasing diversification in the testing workflow, immunoassay modules must meet basic performance requirements in areas such as high sensitivity and high throughput, and must also be able to withstand 24 hours of operation per day, for example, for the rapid diagnosis of myocardial infarction. The cobas e 801 delivers a higher basic performance than previous modules and is also better at preventing deterioration of reagents. This enables the calibration interval to be lengthened from one month to three months. The cobas e 801 is also equipped with an autoloader that allows reagent bottles to be exchanged during analysis and measurement for improved operability. This results in a paradigm shift away from "module-led" operation based on module status towards "operator-led" operation with the replenishment of reagents at the operator' s own discretion. The cobas e 801 will also contribute to highly sensitive immunoassay testing in new fields such as intraoperative testing and emergency testing in addition to routine daytime testing.

### [Healthcare diagnosis sector (in vitro diagnostic devices, digital, etc.)] Specimen testing devices, digital healthcare

・Sample testing apparatus
Specimen testing analyzes components such as blood and urine to serve as indicators for diagnosis and monitoring the progress after an illness. We provide devices such as specimen preprocessing equipment that consolidates the preprocessing steps of opening, dispencing, and labeling of sub-samples. High-speed, high-precision dispensing, automation of sample container feeding, support for recovery processes and more—we meet a variety of needs with our technical expertise.
・Digital healthcare
We support the realization of smart healthcare by developing and providing DX technologies that enable the safe and secure use of healthcare data, in collaboration with co-creation partners.
・Cancer genome medicine
We are addressing the challenges faced by healthcare fields in the implementation of personalized medicine, "cancer genome medicine," which utilizes genomic information. We offer an expert panel support service to reduce the burden on healthcare workers involved in multi-disciplinary expert meetings, which have become a bottleneck in the process.
・Large-scale testing center oriented Smart Lab Solution
The large-scale testing centers that handle massive and diverse testing requests from across the nation deal with several hundred thousand requests per day and are working on digital transformation (DX) directed towards further speeding up and increasing the precision of their processes.

### [Healthcare (Clinical analyzer/Genetic testing equipment and automation systems) Field] Compact capillary electrophoresis sequencer (DS3000)



The catalyst for the breakthrough of our bio business is our capillary array DNA sequencer, which was announced in 2000 and has contributed greatly to the decoding of the human genome. By integrating our intellectual properties and know-how accumulated through the development process, this product series still boasts the top market share in the industry. This device, which has been developed under a new concept while also inheriting these technologies, has successfully achieved miniaturization, improved operability and reduced running costs without sacrificing the performance level of previous models.

### [Healthcare treatment sector (radiation therapy, advanced medical systems, etc.)] Particle beam therapy system, PET support services, superconducting application equipment

Example of Conduction-cooled high-temperature superconducting ($MgB_2$) magnet

・Particle beam therapy system
Based on the accelerator component technology and plant control technology that Hitachi has cultivated over the years, we are developing advanced cancer treatment technologies with our customers both in Japan and overseas, and providing them as treatment systems. Hitachi's spot scanning irradiation technology enables the delivery of particle beams with high precision to conform to the shape of complex tumors, while minimizing the impact on normal tissue. Furthermore, by combining with motion tracking irradiation technology, it enables high-precision irradiation for lesions that fluctuate in position due to breathing and other factors, leading the global market through innovation.
・PET support service
When introducing PET examinations, medical institutions need to consider the procurement of accelerators and PET equipment, the design and layout of radiation facilities, as well as the manufacturing and inspection of PET pharmaceuticals and equipment maintenance operations after the introduction. We are rolling out the "PET Support Service Business," which provides comprehensive support from the introduction of PET scans to facility management, to address these burdens and challenges.
Superconducting applications
In addition to the production of conventional low-temperature superconducting equipment, we are developing new cryogen-free, low power consumption superconducting magnets using magnesium diboride ($MgB_2$) high-temperature superconducting wire, which has been developed by the Hitachi Group.

### TOPICS Hitachi to spin off its healthcare business and integrate it into Hitachi High-Tech

Hitachi, Ltd and Hitachi High-Tech have decided, with the aim of strengthening the healthcare business within the Hitachi Group, to transfer the healthcare business division of Hitachi to Hitachi High-Tech through a company split, effective April 1, 2024. Through the company split, we will effectively execute the "diagnosis × treatment × digital" strategy to generate healthcare innovations, such as high-quality, high-functioning diagnostics, minimally invasive treatments, optimization of diagnosis and treatment, and the realization of personalized medicine, all aiming to improve QoL and create a society unafraid of diseases like cancer.

### TOPICS Acquisition of a new factory site in Hitachinaka City, Ibaraki Prefecture

Hitachi High-Tech has acquired a new factory site in Hitachinaka City, Ibaraki Prefecture, in order to advance the development and manufacturing of molecular diagnostic equipment, which is a new focus area. Aiming for the start of operations in January 2025, we will renovate the existing facilities, work on production efficiency improvements such as advancing automation of manufacturing and product inspection, and implement a production management system that allows for flexible response to market fluctuations. Strengthen the production system and provide high-performance products related to in vitro diagnostics and molecular diagnostics swiftly to meet market demands, contributing to the improvement of quality and efficiency in testing, and enhancing the Quality of Life (QoL) for people.

### TOPICS Construction of a new semiconductor manufacturing equipment building in the Kasado area

To increase the production capacity of etching equipment in the semiconductor manufacturing equipment business, we have constructed a new manufacturing building in the Kasado area (Kudamatsu City, Yamaguchi Prefecture). (Production is scheduled to start from the fiscal year 2025) In the new manufacturing building, we will meet the growing demand for semiconductor manufacturing equipment by doubling the production capacity through digitalization and automation of production lines. Hitachi High-Tech is aiming to achieve carbon neutrality at all its business sites (factories and offices) by the fiscal year 2027, and is also striving to achieve carbon neutrality in the new manufacturing building to realize a decarbonized society.

# HITACHI BUILDING SYSTEMS CO., LTD.

## Add new value to people, buildings, and society.

"Elevators and escalators that you use from day to day"
Hitachi Building Systems plays a role in supporting everyday life. In order to support the building environments that people wish to work in, live in and visit, and to provide new value to modern society, we are developing solutions businesses, such as air-conditioning, security cameras and building facility management systems that increase the added value of customers' buildings centering on the Elevators and Escalators Business.
In the Elevators and Escalators Business, we are developing our research and development of elevators and escalators on a global scale, supporting comfortable movement throughout buildings and urban spaces. With a wide variety of products created from our advanced technical capabilities, we provide safe and secure products for all at any time by pursuing safety and energy efficiency to respond to the construction of higher buildings.
In our building total solutions business, we provide a comfortable environment for people who use buildings by integrating air conditioning, security cameras, building facility management systems, and other systems with elevators and escalators using AI, IoT, and other digital technologies, with a focus on improving efficiency and energy conservation.
We will continue to provide safe, secure and comfortable elevating machines and services that contribute to solving customers' various issues in urban spaces globally by widely utilizing the latest digital technology for development of products and services, and thus contribute to the realization of a sustainable society.

**Job Categories**
Research and Development / Product Development / System Engineer (SE) / Manufacturing Engineer / Quality Assurance / Technical Sales / Intellectual Property Management / Other

**Faculty / Department**
Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial And Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other

**Business Fields**
Power Systems / Industry & Distribution Systems / Water Systems / Urban Planning & Development Systems / Railway Systems / Financial Information Systems / Government & Public Corporation Information Systems / Information & Telecommunication Systems / Healthcare Systems / Home Appliances / Automotive Systems / Electronic Devices

## Job Categories

### Product Development

We undertake the development of new technologies, coordination of model changes, and improvements in processing and assembly, etc. to create efficient production structures for the development of highly innovative, reliable, safe and profitable elevators and escalators. We are expanding our elevating machine business, which contributes to society through our world-leading development and design capabilities and insightful creativity. And Hitachi extends these activities to countries far beyond Japan's shores.

### Design

We decide the specifications of elevating machines (types of machine, rope, rail, etc.) and arrangement of equipment, and architecturally design the cage interior and landing in order to deliver elevating machines that meet the requirements of customers.

It is our mission to deliver the most suitable elevating machine to each customer, because different customers have different building structures and requirements.

### Smart Building / Service Development

We are engaged in products, service planning and pre-services related to the building facilities (security, building management systems, etc.) that we handle.

Especially in recent years, we are focusing on efforts to realize "smart building" utilizing digital technologies such as IoT.

### Location

[Head Office] WATERRAS TOWER, 2-101, Awaji-cho, Kanda, Chiyoda-ku, Tokyo 101-8941, Japan

[Production Site (Mito Works)] 1070 Ichige, Hitachinaka-shi, Ibaraki 312-8506, Japan

### Contact Information

Hiring Group, Personnel Planning Department,
Human Resources and General Affair Division
TEL : 0120-331-782
bsbu.saiyou.hc@hitachi.com



## Business Activities

### Life cycle of the Elevator and Escalator Business

The life cycle of elevating machines can be divided into "new installation," "maintenance" and "renovation."

[New installation]: This refers to the process of installing a new elevating machine from development of a new product - receiving order (sales) - specification determination - design - manufacturing - installation - quality inspection - delivery to the customer.

[Maintenance]: This refers to the process of maintenance and repair to maintain the performance of the elevating machine after delivering to the customer.

[Renovation]: This refers to the process of replacing an old elevating machine with a new one after maintenance, from receiving order (sales) - specification determination - design - manufacturing - installation - quality inspection - delivery to the customer.

### Main examples of elevating machines

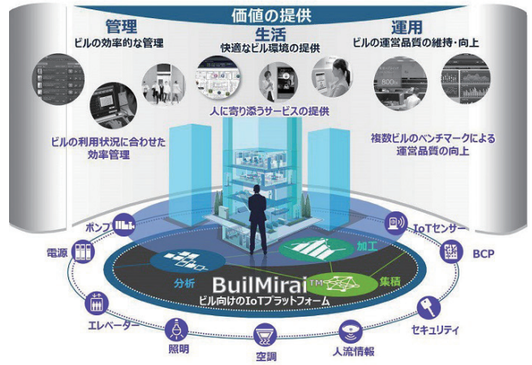
Order made elevators
Elevators are designed to respond to a building's concept and purpose of use. We propose styles in line with urban spaces, including high speed, high capacity elevators made for skyscrapers and large scale facilities as well as observation elevators that produce spatial beauty in locations such as resort facilities and shopping centers.

Standard elevators
The new elevator model further improves upon energy saving through using only LED celling lights and effectively employing regenerative electric power. Additionally, security is heightened through functions such as inside security cameras, which display monitoring footage inside the elevator, and secret operation mode, which prevents third parties from seeing the destination floor.

Escalator
Our latest escalator model employs inverter controls and is equipped with a variety of safety functions, including soft stop functionality that inhabits falling and stumbling even in cases of sudden stoppage because of security device activation as well as warning activation functionality for climbing on handrail. Additionally, we have improved power consumption through installing LED railing lights.

### Overview of Building Total Solution Business

The buildings are equipped with various equipment (power transmission and transformation, water supply and drainage, air-conditioning, elevators and escalators, security cameras, etc.). By utilizing digital technology centering on our control systems and BIVALE ( ※ ), and by accumulating and analyzing usage data, we provide the environment that people who use buildings can spend comfortably.
※ BIVALE: A new solution service that solves problems in building management and operations through integrated management of energy, security, and building management.




## Signature Technologies

### [Hitachi's ultra-high-speed elevator] Has reached 1,260 m/min, the world's fastest speed ( ※ )

Hitachi has always looked one step ahead into the future throughout over 90 years of the history of elevator development, and has conducted research daily as a pioneer in order to realize the vertical expansion and higher functionality of cities.
In 2019, we installed the elevator that reached the world's fastest speed of 1,260 m/min (75.6 km/h) at Guangzhou CTF Finance Centre, a skyscraper complex building in Guangzhou, China through the technological strength we have cultivated.
The pioneer spirit of "creating the best elevator in Japan, and in the world" has been carried down in the hearts of Hitachi engineers.
※ August 2023, based on Hitachi survey


### Developed "FI-700" – an elevator management system for predicting human flow

An operation management system is required to dispatch multiple elevators efficiently in large-scale complex buildings. We have developed "FI-700", an elevator management system for predicting human flow, which realizes efficient operation of multiple elevators. This system reduces by up to 20% (compared to the conventional models) the average waiting time at busy times such as lunchtime by predicting the number of people using elevators (human flow) from enormous past operation data utilizing AI. In addition, data can be linked with building equipment such as surveillance cameras. We aim to create innovations for movement within buildings through collaboration with customers.

### TOPICS Global Expansion

Our Group, which promotes the research of advanced technologies, has research facilities in Guangzhou and Shanghai in China and Singapore, in addition to Mito Works, and is also expanding production facilities mainly in Japan, China, and Thailand. Additionally, we are promoting the strengthening of our business framework in China, Southeast Asia, India, and the Middle East in order to improve our overseas sales capabilities, and overseas comprises roughly 60% of the Group's consolidated sales ratio.

### TOPICS Our Future Plans

Elevators and escalators are an essential part of modern urban life. Our elevator and escalator business has gained the trust of our customers and achieved outstanding results because of our excellent technical skills. We are expanding globally from Japan to areas such as China, Southeast Asia, India, and the Middle East. Society today is experiencing a number of profound changes, such as the arrival of a super aged society and the transition to a knowledge economy. In this context, an urban space that is in harmony with the environment is desirable, so that each individual can live a life that is safe, ensure and comfortable.
We combine the service network and independent technology that we have cultivated in the Elevators and Escalators Business over the years to provide solutions that create a new type of urban space.

### TOPICS Elevator Research Tower

Since the buildings around the world, including the Middle East and China, have been evolving in terms of height, elevators must likewise increase in speed and capacity so that many people in the building can move efficiently. We utilize the "G1TOWER", one of the world tallest elevator research towers at 213 m, to develop and test regarding various kind of elevators.

# HITACHI MANAGEMENT PARTNER CORP.


## Our mission is to create an environment that draws out the creativity and performance of 250,000 employees to the maximum extent possible.

Amid the changes in the business environment, many companies are under pressure to transform and further enhance their corporate value.
In these times, what we can do is to thoroughly improve the efficiency of our customers' financial and HR related operations and create an environment that draws out the full strength of over 250,000 users by providing solutions with shared services in addition to financial and HR related systems solution services based on the engineering skills and management know-how we have cultivated as a company specializing in financial and HR related operations in the Hitachi Group.
We will support vibrant activities of all customers by changing how individuals, who are the leading players in business, work, and with a system that draws out their creativity and performance to the maximum extent.

**Job Categories**

Research and Development / Product Development / **System Engineer (SE)** / Manufacturing Engineer / Quality Assurance / Technical Sales / Intellectual Property Management / Other

**Faculty / Department**

Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial and Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other

**Business Fields**

Power Systems / Industry & Distribution Systems / Water Systems / Urban Planning & Development Systems / Railway Systems / Financial Information Systems / Government & Public Corporation Information Systems / **Information & Telecommunication Systems** / Healthcare Systems / Home Appliances / Automotive Systems / Electronic Devices

## Job Categories

### System Engineer

#### IT Engineer

We engage in development and maintenance work, including functionality proposals, design, programming, and work management for development contractors, related to our HR related systems that we provide, as well as operational design, operation management, and countermeasures against failures in order to ensure the continuous and stable operation of each system.

#### Administrative Engineer

We understand the HR related operations and systems of each Hitachi Group company, communicate with our clients in charge of HR, and define requirements to fulfill customer requirements for company mergers, system revisions, and legal revisions. We also have thorough knowledge of our systems, and work with IT engineers to propose optimal solutions to our clients' issues through our systems.

### Location

| | |
|---|---|
| Ochanomizu Office (Headquarters) | Higashi-Ochanomizu Bldg., 2-29, Kanda Awajicho, Chiyoda-ku, Tokyo 101-0063, Japan |
| Ibaraki Service Center | 3-18-1, Omika-cho, Hitachi-shi, Ibaraki 319-1221, Japan |
| Ueno Office | Ueno East Tower, 2-16-1, Higashi-Ueno, Taito-ku, Tokyo 110-0015, Japan |
| East Japan Operation Center | Hitachi Life Bldg., 1-20-2, Saiwai-cho, Hitachi-shi, Ibaraki 317-0073, Japan |

### Contact Information

Recruitment Officer
General Affairs Division
TEL : 03-4541-2300(switchboard)
saiyou.hitachimp.kq@hitachi.com



## Business Activities

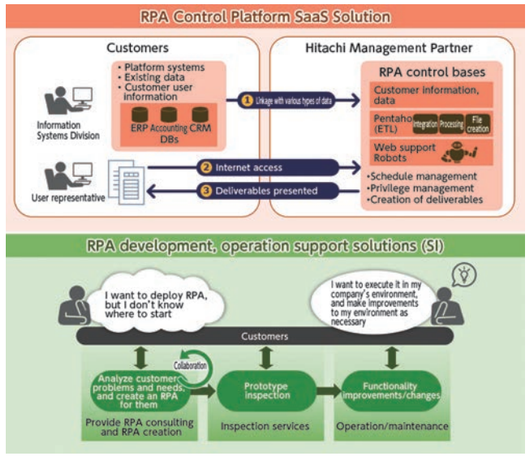
### Provision of shared services and system solution services involving financial and HR related operations

The company consists of several business divisions, and also operates several sites. In addition, in association with changes in scale driven by M&As, etc., all kinds of operations are becoming increasingly complex. In particular, secondary operations such as finance and HR are essential for corporate activities, and consolidating and unifying them increases the efficiency of operations. Hitachi Management Partner provides shared services for 250,000 employees at 210 companies in the Hitachi Group in order to consolidate and improve the efficiency of financial and HR related operations in the Hitachi Group.
In addition, we also provide system solutions in order to provide high-quality shared services. We offer consultation services during system and service implementation and cover the entire process from IT system implementation to operation and maintenance. Furthermore, we are also developing next-generation systems by leveraging on the know-how we have accumulated so far in finance and HR related operations for 250,000 users.

## Signature Technologies

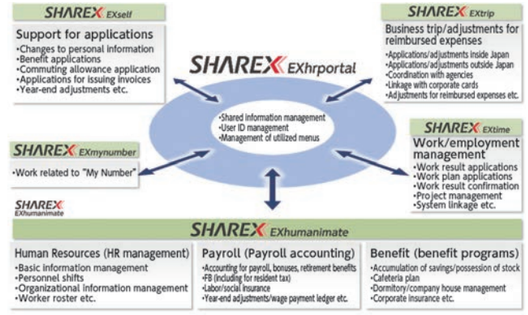
### Provision of RPA solution services

We provide RPA solution services that combine the know-how accumulated from HR operations and RPA (Robotic Process Automation) technology. We support customers' promotion of work style reform and focus on operations to create new value by reducing burden through improving the various HR-related operations such as personnel affairs, salary, attendance management, travel expenses, and treatment.
We provide an integrated service from consulting to introducing RPA such as analysis of issues and requirements of customers to development, operation, and maintenance. In addition to responding to the requests from customers, we can make the proposals for solving their problems ourselves.




### Provision of HR-related system solution services

We provide HR-related systems under the brand name "SHAREX" through SaaS, with a focus on internally developed systems such as a core system that manage payroll and personnel information, and a frontend system where employees apply for attendance information, travel expenses, family information, and allowance information by themselves. For example, we pay salary to employees every month without delay by efficiently managing the employee data of the about 220 companies and 250,000 employees in the Hitachi Group in a uniform manner with a core system called SHAREX Exhumanimate. In addition, regarding the frontend system, the application required by employees and the time spent on it can be completed surely and in a short time by applying on a simple system. Core systems, frontend systems, and other system solution services we provide are effective on their own, but also have greater effect when data is interrelated by linking the systems.
SHAREX is a system that uses advanced technology but is highly flexible and provides an easy-to-use environment to employees who actually use the system. For example, it is possible to freely change the personnel system of a company, etc., eliminating as much as possible any discomfort or stress that users might feel.




### TOPICS Development of next-generation HR systems

System distribution companies must revamp systems from the ground up every 5 or 10 years because of the appearance of new technologies and aging systems (expiration of hardware and middleware support, reduced serviceability of systems). In addition, the demands on and expectations of HR systems are increasing with the recent diversification of working styles and increasing M&As together with internal structural reforms based on management strategy. Under these circumstances, we are planning new development of HR systems. We are involved not only in tasks at the center of software development such as design and manufacturing, but also in tasks unique to the initial phase of new development such as planning, task analysis, and requirements analysis.

### TOPICS Distinct features of employees and corporate culture

Our staff works sincerely and constructively in their work and individual roles, with dynamic communication between employees, expressing wishes to superiors and senior employees, and consulting with them about troubles without hesitation.
In addition, since we provide a total package of system solutions and shared services, we employ a variety of professionals well-versed in consulting, various operational challenges, and various technologies, making it an extremely stimulating workplace.
Furthermore, employees have freedom to accept new tasks and challenges, with even young employees getting broad discretion, such as opportunities to participate in development projects.

# HITACHI VANTARA LTD.


## Through the global deployment of data infrastructure, we are supporting the innovation that forges the future.

With the evolution of digital technology and the increase in the amount of data, the importance of utilizing data has become even more significant. Storage, which is the repository for all data, has become an essential infrastructure for business management and solving social issues, and the demand for data infrastructure aimed at generative AI is also rapidly expanding. We offer hybrid cloud data infrastructure products and services globally to meet these needs. Additionally, in integrated operation with Silicon Valley-based Hitachi Vantara LLC, we are building a global full value chain from development to manufacturing, and on to sales and service, which will enable us to accelerate innovation and enhance agility. Continuing to combine the knowledge and technology from Hitachi's wide range of business areas, including finance, railways, and energy, we will provide data infrastructure for hybrid clouds to help solve various challenges for our customers and society.

**Job Categories**

Research and Development / **Product Development** / **System Engineer (SE)** / Manufacturing Engineer / **Quality Assurance** / Technical Sales / Intellectual Property Management / Other

**Faculty / Department**

Mechanical Engineering / Electric/ Electronic/ Communications Engineering / Computer Sciences / Chemistry / Physics / Mathematics / Industrial and Management Engineering / Civil Engineering/ Construction/ Environmental Engineering / Energy/ Resource Engineering / Other

**Business Fields**

Power Systems / Industry & Distribution Systems / Water Systems / Urban Planning & Development Systems / Railway Systems / Financial Information Systems / Government & Public Corporation Information Systems / **Information & Telecommunication Systems** / Healthcare Systems / Home Appliances / Automotive Systems / Electronic Devices

## Job Categories

### System Engineer (SE)

For top users in various industries, we provide highly reliable IT solutions more effectively (swiftly/safely) by combining the latest technologies such as generative AI/cloud services with Hitachi's products/services for large-scale, advanced, and mission-critical systems. While collaborating with customers, partner companies, and Hitachi's sales/SEs, you build IT infrastructure, thus supporting the social innovation business and gaining a strong sense of fulfillment in a very rewarding occupation.

### Hardware Engineer

We carry out planning and development for hardware products aimed at IT platforms. Our storage products have garnered high praise in the global market and feature cutting-edge technology with proprietary hardware development.
Specifically,
・From the planning stage of hardware products, we participate in creating the requirement specifications and developing them in collaboration with the business and software departments.
・We are developing products in collaboration with global component vendors and material vendors, focusing on cutting-edge hardware technology and environmentally friendly technology.
・Our ideas become products that are used globally, it's a job with high social impact.

### Software Engineer

Embedded software and management software planning, specification determination, and design development for data infrastructure products and services. Right now, at this very moment, the programs we have developed continue to operate around the world, protecting our clients' valuable data. There is an environment here where we collaborate with members from overseas—such as sales personnel, designers, and engineers—on a global scale, engaging in innovative development that is extremely stimulating.

### Quality Assurance (software/hardware)

We conduct quality assurance tasks for data infrastructure products (servers, storage products, and embedded software) and for services/products (middleware) addressed in our cloud service provisioning business. Through verification, we gain a deep understanding of each product and provide customer support (there are regular overseas assignees) and maintenance services. "Software engineer" and "hardware engineer" are closely related professions.

## Location

| | |
|---|---|
| Head office | 292, Yoshidamachi, Totsuka-ward, Yokohama-shi, Kanagawa 244-0817, Japan |
| Kanagawa branch office | 1, Horiyamashita, Hadano-shi, Kanagawa 259-1392, Japan |
| Omori Bellport Building B | 6-26-2, Minami-Oi, Shinagawa-ku, Tokyo 140-8573, Japan (Omori Bellport Building B) |

## Contact Information

Hitachi Vantara Corporation
Recruitment Team
itpro_saiyokyoiku@itg.hitachi.co.jp



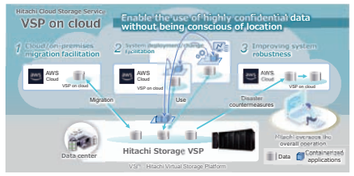
## Business Activities

### Hybrid cloud data infrastructure products and services deployed globally

In a hybrid cloud environment that combines the data center of our customers and the cloud, we offer data infrastructure products and services that enable secure, safe, and flexible data utilization in collaboration with Hitachi Vantara LLC, in over 70 countries and regions around the world. Specifically, we offer "storage" that achieves highly reliable data management and operations and seamless data integration with the cloud, "PC servers" that perform high-speed data processing, and "Hybrid cloud services(※)," which provide these products in combination with advanced operation and management services from Hitachi and our partners. Visualization of $CO_2$ emissions, development of power-saving features, and active use of recycled materials are among our initiatives as we focus on creating and providing environmentally conscious products and services to realize a sustainable society.
※ Provided by "EverFlex from Hitachi" (https://www.hitachi.co.jp/products/it/everflex/index.html)


ストレージ(Hitachi Virtual Storage Platform)

PC サーバ(HA8000V)




ハイブリッドクラウド・サービス(VSP on cloud)

## Signature Technologies

### Storage technology

Storage is a device to store data, featuring proprietary hardware and in-house developed software that operates on it to achieve high performance and reliability. We have been globally supporting mission-critical operations in finance, public services, and other social infrastructure for many years. Especially, virtualization technology that bundles multiple resources through software simplifies the operational management of increasing data and supports efficient resource utilization. In recent years, the technology of Hitachi storage has been completely realized in software and is now provided as storage on the public cloud. Seamless data integration between on-premises and public cloud is being realized, pushing forward development for the highly demanded hybrid cloud environment.

### Hardware technology

Continuously adopting cutting-edge technology in hardware that affects storage specs (CPU, memory, interface, high-efficiency power supply) and large-capacity flash media. We are developing proprietary hardware that employs FPGA for data compression processing and power-saving control technology that adjusts to load demands. Additionally, we continue to focus on sustainability and are committed to developing environmentally conscious storage products.
・Achieved a reduction of about 30-40% in $CO_2$ emissions per 1TB per year (compared to previous models)( ※ ), and working towards obtaining CFP declaration certification and U.S. ENERGY STAR certification.
・Aim for a 50% usage rate of recycled plastics, etc. by 2030, and promote technological development in collaboration with material vendors.
・Achievement in the application of recycled materials for product bezels that reconcile both flame resistance and moldability. In the future, the application scope will be expanded to canisters and the like.
※ Registration numbers VSP G1000: CR-CI05-14003-B, VSP G1500: CR-CI05-17010, VSP 5500H: CR-CI06-20015, VSP 5600: JR-BF-22002C-A (https://www.cfp-japan.jp/) CFP program (https://ecoleaf-label.jp/) Japan EPD Program by SuMPO

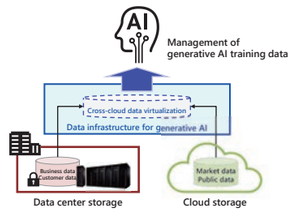
## TOPICS Evaluation in the global market

Hitachi Vantara LLC, based in Silicon Valley in the United States, and Hitachi Vantara Corporation, based in Japan, boast an overseas sales ratio of over 80% of their total revenue—a figure that ranks at the top among Hitachi Ltd.'s Digital Systems & Services and across all Hitachi group companies. Furthermore, the evaluation in the market is very high, and in the reports issued by a company that conducts surveys and advice mainly in the IT field, it has been positioned in the leader's position for five consecutive years. There is an environment where you can compete in a worldwide market, contribute to society, and build your own career.

News release:
https://www.hitachi.co.jp/New/cnews/month/2023/10/1003a.html

## TOPICS A data infrastructure to centrally manage the training data for generative AI

You may already be aware that the use of Generative AI is starting to be employed across various applications, but it can sometimes provide answers that differ from actual facts.
The key to the accuracy of the generative AI's responses lies in the data used for training the language model (LLM: Large Language Model), which serves as the engine for the generative AI. By incorporating public data from fields/markets where generative AI is applied along with your operational data/customer data, it is possible to elicit more accurate and appropriate responses.
We leverage world-class data virtualization technology to provide a data infrastructure that centrally and securely operates both cloud-based public data and our customers' internal data, thereby supporting the utilization of generative AI for our customers.



# When Applying Directly to a Group Company (Open Entry)

**HITACHI INDUSTRIAL PRODUCTS, LTD.**

Details of application acceptance and selection process will be announced on My Navi 2025.
Job Categories: Engineering (For engineering and science majors): Design and Development, Production Technology, Quality Assurance, Construction management
Business Management (For all majors): Sales (domestic, overseas), Procurement, Production Quality, Finance and Accounting, Human Resources and General Affairs
◆Entry sheet. After evaluation of your eligibility based on your documented qualifications, selected candidates will have 2 to 3 interviews.

**HITACHI GLOBAL LIFE SOLUTIONS, INC.**

Details of application acceptance and selection process will be announced on My Navi 2025.
Job Categories: Product Engineers (Design and Development, Quality Assurance, Manufacturing and Production Technology), Solutions Engineers (Technology Sales, Commercial Air Conditioning and Home Appliance Service, Information system/IT), Proposal･Solution Sales (Home Appliance Sales, Commercial Air Conditioning, Sales Planning), Management Planning Staff (Corporate Planning, Product Planning, Business Planning, Production Quality, Material Procurement, Accounting and Finance, Legal, Human resources/General Affairs).
◆After evaluation of your entry sheet and eligibility based on your documented qualifications, selected candidates will have 2 to 3 online interviews.

**HITACHI CHANNEL SOLUTIONS, CORP.**

Open entry applications will also be recruited by job category.
Details of application acceptance and selection process will be announced on Riku Navi 2025.
Job Categories: Design and Development, System Engineer, Quality Assurance, Sales, Information Systems
◆Applicability evaluation: After evaluation of your eligibility based on your entry sheet's documented qualifications, selected candidates will have 2 interviews.

**HITACHI HIGH-TECH CORPORATION**

Details of application acceptance and selection process will be announced on My Navi 2025 in addition to the Recruiting Page located on our company's portal site.
Job Categories: (select from one of the following) Engineering (Research･Design and Development, Quality Assurance, Production Technology, Sales Technology)
Sales, Business Staff (Sales, Accounting, Information Systems, Human Resources and General Affairs)
◆After evaluation of your eligibility based on your entry sheet's documented qualifications, selected candidates will have several interviews.

**HITACHI BUILDING SYSTEMS CO., LTD.**

Details of the application and selection processes will be posted on the career page of Hitachi Building Systems Co., Ltd. and My Navi 2025.
(Open entry applications will also be recruited by job category.)
Job Categories: General position (For science majors):Development, Sales Technology, Solutions, Design, Construction Management, Quality Assurance,Production management,In-house SE, Production technology
General position (Business Management for all majors): Sales,Accounting and Finance, Procurement, Human resources/General Affairs
Technical Professions : Field Engineering
◆After evaluation of your eligibility based on your documented qualifications and a web-based applicability test, candidates will have 2 interviews.

**HITACHI MANAGEMENT PARTNER CORP.**

Details of application acceptance and selection process will be announced on My Navi 2025 in addition to the Recruiting Page located on our company's portal site.
Job Categories: System Engineers (IT Engineer, Administrative Engineer)
◆After evaluation of your entry sheet and eligibility based on your documented qualifications, selected candidates will have 2 interviews.

**HITACHI VANTARA LTD.**

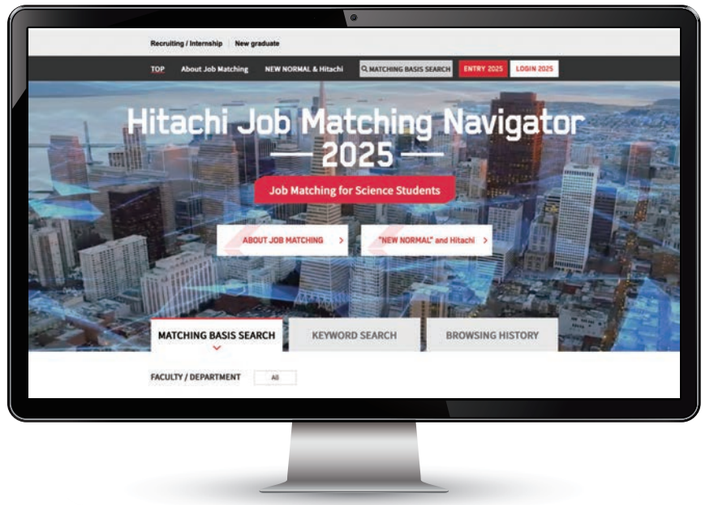
Details of application acceptance and selection process will be announced on My Navi 2025.
Job Categories: Engineering (For engineering and science majors): System Engineer, Software Engineer, Hardware Engineer, Quality Assurance
Business Management (For all majors): Sales Planning, Production Quality, Project Management, Public Relations
◆After evaluation of your entry sheet and eligibility based on your documented qualifications, selected candidates will have 2 interviews.





＼Detailed Information Here!／

# Hitachi Job Matching Navigator




**Detailed information not printed in this handout can be accessed on our website by accessing this QR code.**
https://www.hitachi.co.jp/recruit/en/newgraduate/jm-navi/

## Website Features

01 You can see contents that weren't included in this handout, as well as more detailed information. There is also a special website page "New Normal" and Hitachi which explains how employees are working in the new-normal age, and explains how Hitachi is responding to the novel coronavirus.

02 You can also use our search tool to find a matching basis based result given your major, area of specialty and job function you are applying for.

### Website Access

You can access the website for each functional field listed in this handout by opening the QR codes listed next to the "inquiry" box.