

## Outline of Hitachi in India



# Message

from Chairman

## We are Powering the Future by Collaborating with our Partners and Leading the Digital Transformation through Social Innovation Business.

The advent of sophisticated digital technologies has turned the traditional way people communicate, collaborate and do business. With the utilization of modern-day intelligence and technology, organizations are embracing the new world of digital, by progressing on a digital transformation path.

We are operating in a business environment that is marked by VUCA (volatility, uncertainty, complexity and ambiguity), depicting the increasingly cutthroat commercial landscape. One approach to closing the gap between the rapidly accelerating world of VUCA and business' ability is not only to survive but thrive to capitalize on truly effective leadership.

Hitachi has been offering its superior technological solutions helping build a sustainable society for more than a century. The success of how Hitachi has been impacting lives of people is a reflection of its Mid-Term Management plans that emphasize the role technology can assimilate in building an invigorating nation. The success of our Mid-Term Management plans is a testimony to Hitachi's growing footprints Globally and in India. Advancing on our Mission, Vision and Values, in FY2019 Hitachi announced the **2021 Mid-Term Management Plan ('21 MTMP)**.

With the commencement of 2021 MTMP, Hitachi through its Social Innovation Business will focus on **improving people's quality of life** of its customers and partners by concentrating on **three core values: Social, Environmental and Economic**. These values further identified and **promoted through five sectors i.e. Mobility, Smart life, Industry, Energy and IT**.

The flow and exchange of data is shaping the global economy. While constraints, geographic, financial or otherwise, may once have prevented companies from expanding into lucrative new markets, rapid digital technological development is enabling companies in every sector to be more agile, and introduce their products and services to markets aligned with global launches.

The technological evolution is transforming the lives of citizens and Hitachi is leveraging its strengths in OT (Operational Technology) x IT, and products to bring reforms in social and business infrastructure through the use of digital technologies. Our Digital Platform "Lumada" offers unique and unprecedented innovations to our customers in times of digitalization.

India and Japan, the two largest democratic countries in Asia, share congenial relations under the 'Special Strategic and Global Partnership' based on decades of commitment towards collaboration in placing India on the global platform. The Indian economy has undoubtedly undergone a paradigm shift defined by changing global economic and political environment. As the needs of customers, such as government and companies in emerging nations, have become highly complex, we at Hitachi will continue to create novel solutions for building a sustainable India in which all people can live in safety, security, and comfort through Collaborative Creation with our customers and business partners.

With our proven technological prowess, we will keep on Powering Good.



**Kojin Nakakita**  
Vice President and Executive  
Officer Regional Strategies (APAC),  
Hitachi, Ltd.  
Chairman, Hitachi Asia Ltd. &  
Hitachi India Pvt. Ltd.

from Managing Director

## Hitachi is creating a Connected Citizen Eco-System by offering its solutions that are focused towards building a Sustainable India.

The world is transforming expeditiously, witnessing remarkable occasions in the business sphere. Our partnership and collaboration with the India growth story is one of the critical elements of our success. Hitachi always seeks to build up strategic coalitions to enrich its solution offerings and capabilities to provide the most competitive and blue-chip solutions to our customers across varied industries.

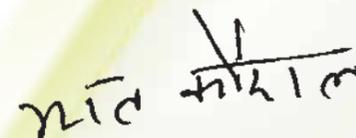
Today, this empowerment and social change has undergone technological disruption. Business to Government to Citizen (B2G2C), is redefining the way Governments engages with citizens. In an era where citizen empowerment is increasingly becoming important, Government agencies are using technology to transform how they function and connect with citizens at large. **The focus has shifted from solution centricity to customer connectivity with technology playing a pivotal role to bridge this gap through Social Innovation solutions thereby making citizens as the epicenter of this metamorphosis.**

Acknowledging the needs of citizens, it is imperative to map the entire spectrum of the citizen lifecycle and delve more deeply into **Connected Citizen Solutions, re-emphasizing the role of our core values, i.e. the role of Social, Environmental and Economic Values**. These solutions play a key part in influencing a citizen lifecycle, enabling the Government to provide digital solutions to support the citizens at key moments in their lives.

Throughout history, innovations have enhanced productivity and improved human well-being. India is currently all geared up to catapult directly into the revolution, i.e. industry 4.0, where machines are equipped with the ability to communicate. It can skip several steps that other countries adopted in their evolution from an agrarian society to their current stage of development. As India resolutely puts Industry 4.0 plan in action, Hitachi through its revolutionary platform Lumada that integrates advanced analytics, artificial intelligence, and machine learning into solution cores is enabling customers to solve business problems efficiently. The shift towards citizen centric solutions is paving way for digital technologies, thereby creating a connected citizen eco-system immersing all its strengths into one strand ranging from digitalisation to transformation, enabling greater financial empowerment with digital payment solutions, keeping the citizens well-informed and updated with the expertise in Artificial Intelligence.

Hitachi has been aligning itself with the growth drivers and synergizing its solutions with the Government of India to support both the physical and digital transformation of the country. It presents a significant opportunity for Hitachi to amalgamate elements like traditional manufacturing practices with sophisticated technology; real-time updates, thereby allowing for better decisions; and recalibration, which prompts to greater efficiency and productivity. The challenges we face as a society are unprecedented, but so are the opportunities.

With our decades of legacy, we have been Powering Technology, now is the time to step towards improving the Quality of Life of the citizens and Empower them more than ever before. Hitachi's solutions not only touches the lives of people every day, but also is Powering Good to build a Sustainable Society.



**Bharat Kaushal**  
Managing Director,  
Hitachi India Pvt. Ltd.

# Achieving a Sustainable Society through Social Innovation Business

The evolution of technologies such as the Internet of Things (IoT) and Artificial Intelligence (AI) are transforming enterprise and people's lives. On the other hand, problems are emerging in many parts of the world as societies become more advanced, complex and diverse. Working with stakeholders, we are strongly promoting the Social Innovation Business to develop a common understanding of issues with society and customers, and to help address these issues by leveraging Hitachi's strengths in Operational Technology (OT), Information Technology (IT) and products/systems.

## A New Business Plan to Make Hitachi an Innovation Partner for the IoT Era Hitachi's Strengths

Delivering innovations to customers and society through fusion of OT, IT, and products / systems



## 2021 Mid-term Management Plan Targets

Delivering innovations to customers and society through fusion of OT, IT, and products / systems

	Fiscal 2018 Results	Fiscal 2019 Forecast*2	Fiscal 2021 Targets
Consolidated revenue	9,480.6 billion yen	8,700 billion yen	<b>CAGR*3 over 3%</b>
Adjusted operating income ratio	8.0%	7.9%	<b>Over 10%</b>
ROIC	8.5%	9.1%	<b>More than 10%</b>
Net income attributable to Hitachi, Ltd. stockholders	222.5 billion yen	360.0 billion yen	<b>n/a</b>

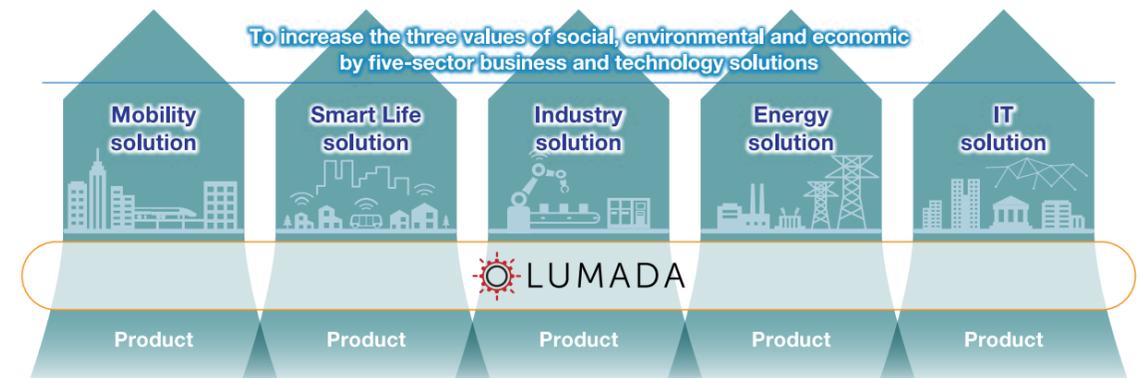
\*2 As of October 30th, 2019 \*3 Compound average growth rate

## Improving the Quality of Life and Providing New Value for Customers

Under the 2021 Mid-Term Management Plan, we will operate business to create three value propositions for customers: Improving social values, environmental values, and economic values.

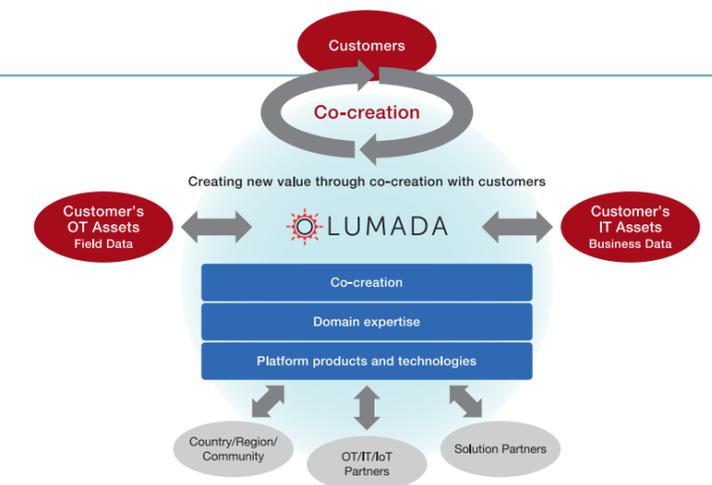
Hitachi has identified five areas where its solutions can increase customer's social, environmental and economic values: Mobility, Smart Life, Industry, Energy and IT.

To improve the Quality of Life and add values for customers



## Hitachi Lumada

Creating value from customer data and accelerating digital solutions



## Products

Expanding digitalized products that support innovation, focusing on investing in globally competitive products



# The Founding of Hitachi

## Unwavering Focus on the Monozukuri Spirit

Hitachi was founded in 1910 in Hitachi, Ibaraki Prefecture, by Namihei Odaira. Even during his school days, Odaira fretted over Japan's early reliance on imported technology and products. He wanted Japan to become self-reliant in its industrial development, and that became his overriding mission. At university he studied electrical engineering, and in 1906 joined the Hitachi Mine, where he was responsible for the construction of facilities and equipment, which included a power station and a smelter. In addition, Odaira repaired electrical mining equipment, while continuing to study and gain expertise in the production of electrical equipment. He built a power generator waterwheel and a transformer, and then succeeded in developing a five-horsepower electric motor. In November 1910, Odaira founded Hitachi. In those days, being self-reliant instead of depending on imported products meant taking on many challenges. One by one, Odaira overcame those challenges through a single-minded



Namihei Odaira

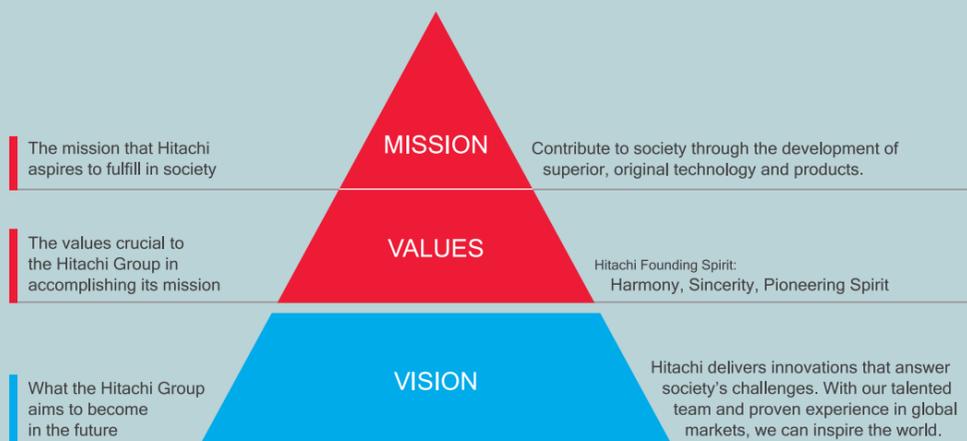
determination to improve quality, cultivate technology and engineers, and provide reliability that gained customers' trust. That belief lives on in our Mission: Contribute to society through the development of superior, original technology and products.



The original repair shop in Ibaraki, founded in 1910.

### Hitachi Group Identity

The Hitachi Group Identity articulates the MISSION, VALUES and VISION that are shared by the Hitachi Group worldwide. Bonded by this Identity, the Hitachi Group is able to demonstrate outstanding teamwork that transcends the boundaries of geographical regions and business fields. Throughout its 100 year history, the Hitachi Group has passed on its Mission and Values to generations of employees and external stakeholders. The Vision has been created based on the Mission and the Values. It is an expression of what the Hitachi Group aims to become in the future.



# History

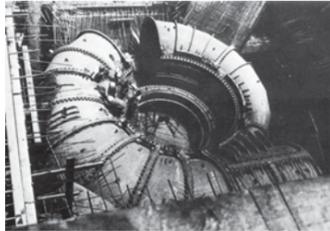
## Chronology of Hitachi in India

Hitachi's presence as a business partner in India has a long history that goes back all the way to 1933, when Hitachi began exporting fans for household use. Over the years Hitachi has expanded its range of operations to meet the emerging needs generated by India's economic growth. Today, India is one of the most important regions for Hitachi, and it aims to make a contribution to the development of Indian society through Social Innovation Business.

- 1933** Began exporting household fans, which became Hitachi's first major business in India.
- 1935** Inauguration of the Bombay (Mumbai) Office, Hitachi's first overseas office.
- 1953** Delivery of the first steam locomotive to Indian Railways.
 



The order placed by India was for the type of WG class steam locomotive shown in the photograph. For Hitachi, it was a great opportunity that helped the company form a deep and lasting business relationship with India.
- 1954** Inauguration of the New Delhi Office.
- 1957** Inauguration of the Kolkata Office and the Bengaluru (Bangalore) Office.
- 1958** Delivered five Francis turbine waterwheels for the Bhakra Power Station.
 



A 150,000 HP Francis waterwheel and casing being installed. The orders for these products generated a dramatic rise in Hitachi's exports.
- Delivered three DC 3,000 V 3,600 HP electric locomotives to Indian Railways.
 



This is one of the DC 3,000 V 3,600 HP electric locomotives that enjoyed extensive service in India. Two years later, Hitachi followed up by delivering the first of seven DC 1,500 V 4,050 HP electric locomotives.
- 1961** Delivered first thermal power plant equipment. Inauguration of the Chennai Office.
- 1977** Delivered the first public telephone exchange.
- 1987** Manufacturing of color picture tubes was started.
- 1996** Establishment of Hitachi Koki India.
- 1997** Establishment of Hitachi India. Outsourcing of offshore software development was started.
- 2000** Acquired Capital of Telco Construction Equipment.
- 2003** Establishment of Hitachi Home & Life Solutions (India).
- 2004** Establishment of Hitachi Data Systems India.
- 2006** Establishment of Hitachi Metals India Pvt. Ltd.
- 2008** Establishment of Hitachi Lift India.
- 2010** Acquired Capital of Flyjac Logistics. Establishment of joint-ventures with BGR Energy Systems.
- 2011** Acquired Capital of Sierra Atlantic. Acquired Capital of Hi-Rel Electronics. Establishment of Hitachi NeST Control Systems. Hitachi India R&D Centre was opened. Establishment of Hitachi Chemical India.
- 2012** Establishment of Hitachi Automotive Systems (India).
- 2013** Acquired Capital of Cumulus Systems. Establishment of Hitachi High-Technologies India. Establishment of Hitachi Solutions India.
- 2014** Acquired Capital of Prizm Payment Services. Acquired Capital of Micro Clinic. Acquired Capital of RPS Vikas and Garima Vikas (renamed - HNV Castings Pvt. Ltd.).
- 2015** Establishment of Hitachi Terminal Solutions India. Hitachi Solutions Acquired Ignify.
- 2017** Establishment of Hitachi Vantara India Pvt. Ltd.
- 2018** Formed Hitachi MGRM Net Limited.
- 2019** Establishment of SBI Payment Services Pvt. Ltd. (SBIPSPL)

(As of December, 2019)

The Hitachi Group is stepping up the expansion of its presence in India. This reflects the increasing importance of the region in Hitachi's business operations generated by the steady economic growth that is projected to continue in the future. (As of December, 2019)

# Hitachi's Network in India

Making Valuable Contributions in a Variety of Fields of India's Infrastructure

☒ Sales Service ☒ Manufacturing Sales Service

\*Subsidiary of equity-method associate

## Gurgaon / Manesar / Neemrana

- ☒ **Hitachi High-Technologies India Pvt. Ltd.**  
Various Components and Instruments
- ☒ **Quality Life Enterprise (India) Pvt. Ltd.**  
Hotel Management
- ☒ **Hitachi Metals (India) Pvt. Ltd.**  
Metal and Amorphous Metal Products
- ☒ **Hitachi Chemical India Pvt. Ltd.**  
Powder Metals, Chemical Products
- ☒ **HNV Castings Pvt. Ltd.**  
Ductile Iron Automotive Castings (Manufacturing Unit)

## Hyderabad

- ☒ **Hitachi Consulting Software Services India Pvt. Ltd.**  
Business Consulting Solutions Company

## Chennai

- ☒ **Hitachi Solutions India Pvt. Ltd.**  
Systems Integrator for Microsoft Enterprise Business Applications — ERP, CRM, Power Platform incl. BI, Cloud Solutions, Geo-spatial Information System
- ☒ **Hitachi Payment Services Pvt. Ltd.**  
Secure, innovative and comprehensive cash and digital payment solutions
- ☒ **Vantec Logistics India Pvt. Ltd.\***  
Logistics
- ☒ **Hitachi Automotive Systems (India) Pvt. Ltd.**  
Automotive Parts
- ☒ **Aloka Trivitrion Medical Technologies Pvt. Ltd.**  
Diagnostic Ultrasound Systems

## Bengaluru

- ☒ **Ansaldo STS Transportation Systems India Pvt. Ltd.**  
Manufacturing / Engineering of Mainline & Mass-Transit Signalling
- ☒ **Tata Hitachi Construction Machinery Company Private Limited**  
Construction and Mining Machinery
- ☒ **Hitachi Terminal Solutions India Pvt. Ltd.**  
Manufacturing / Development / Maintenance and Service of Equipment for Financial Institutions

## New Delhi

- ☒ **Hitachi India Pvt. Ltd.**  
Regional Headquarters  
Information Systems / Social Infrastructure Systems / Healthcare Business / Digital Media Products / Railway Systems
- ☒ **Hitachi Lift India Pvt. Ltd.**  
Elevators and Escalators
- ☒ **Hitachi Systems Micro Clinic Pvt. Ltd.**  
IT Services & Solutions
- ☒ **Allied JB Friction Pvt. Ltd.**  
Brake Friction Material

## Ahmedabad

- ☒ **Hitachi Hi-Rel Power Electronics Pvt. Ltd.**  
Power Electronics Products  
(UPS / Drives / Solar Inverters / Air Compressors / Railway Inverters)
- ☒ **Johnson Controls-Hitachi Air Conditioning India Ltd.\***  
Air Conditioners and Refrigerators

## Mumbai

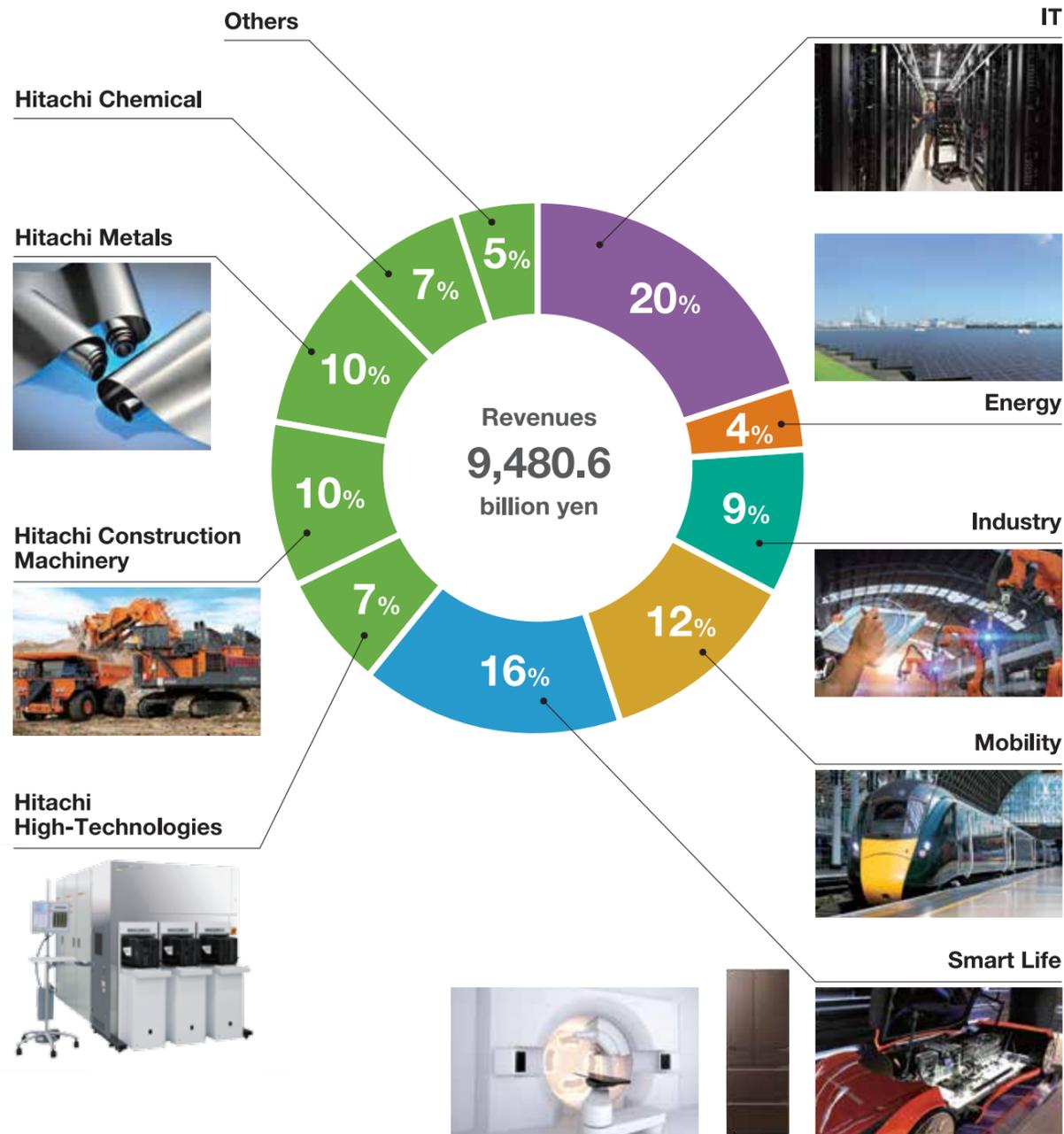
- ☒ **Hitachi Vantara India Pvt. Ltd.**  
IT Solutions and Services
- ☒ **Flyjac Logistics Pvt. Ltd.\***  
Logistics

## Pune

- ☒ **Cumulus Systems Pvt. Ltd.**  
Software
- ☒ **Hitachi Automotive Systems Pune (India) Pvt. Ltd.**  
Automotive Maintenance Parts

# Segment Constitution (FY2018\*)

Hitachi Group's Consolidated Revenues and Segment Constitution



## Citizen Lifecycle

Improving the Quality of Life through Connected Citizen Lifecycle Solutions

Digitalisation has touched every aspect of human life. It has descended upon us in its various anatomy and it's quite certain that these technologies have an immense potential to transform the global economy. It is heartening to see that not just businesses, but governments as well have evinced active interest to leverage the power of these emerging technologies. Traditionally, the pace of modernization has been slow, but today digitalization is being used as a panacea that can save time and expenses, while enhancing their extent and effectiveness.

Technology is redefining the way governments engage with citizens. In an era where citizen empowerment is increasingly becoming important, government agencies are using technology to transform how they deliver services, whether assisting victims of natural disasters, processing applications, streamlining the public delivery system or navigating easily through government websites. The focus has shifted to employ technology to serve the common people with applications in healthcare, education, agriculture, infrastructure, etc. thereby making citizens as the epicenter of this metamorphosis.

Hitachi with more than a decade of legacy and solid technological edge in Social Innovation Business is driving the transformation of the society, touching lives of millions through offering solutions that are not only empowering the citizens and society at large but are connecting with the key stakeholders including governments, digitally. With over five decades of adroitness in OT (Operational Technology) x IT, Hitachi has metamorphized the way solutions are offered in Business to Business (B2B), Business to Government (B2G) and Business to Government to Citizens (B2G2C), interconnecting them through encompassing state-of-the-art technologies like Internet of Things, Machine Learning, Artificial Intelligence, Predictive Analytics, Lumada etc.

To drive radical transformation, it is imperative to map the entire spectrum of the citizen lifecycle and delve more deeply into Connected Citizen Solutions emphasizing the role of Social, Environmental and Economic Values to touch every aspect of a citizen lifecycle. As part of our contribution to India's transformation mission, we have created a connected citizen eco-system immersing all of Hitachi's strengths into a single strand, providing holistic solution. The Connected Citizen Solutions synchronized with digital technologies has the capability to not only record but archive all important chronicles of a citizen's life starting from birth to the gradual elevation in career till the later stages of life. The Solutions resting on the robust IT framework ensures that government initiatives are being effectively and efficiently used for the amelioration of citizen and society respectively.

Hitachi has been bridging the connect as a catalyst through its superior technologies and offering solutions utilizing cognitive analytics, video-based intelligence to monitor services at the state level supporting in the overall sustainability by monitoring the reach, impact and effectiveness of government policies to the society and citizens at large.

Connected Citizen Solutions play a key role in influencing a citizen lifecycle enabling the government to provide digital solutions to support the citizens at key moments in their lives. The establishment of an end-to-end solutions will benefit the government organizations as well as citizens at large, thus establishing as true digital transformation journey in a managed and focused way improving the citizens Quality of Life.

\* The figures are based on the new segment classifications effective from FY2019

# Business Areas in India

The Hitachi Group is active across a wide range of business sectors. From this technology and experience built up over many years come the synergies that feed new innovation.



## IT

Through its superior OT (Operational Technology) x IT based products and solutions, Hitachi India is helping the nation in a broad range of key sectors including digitalisation, e-Governance, data analytics, infrastructure, power electronics, energy and through its end-to-end solution in mass urban transport like railways, touching millions of lives daily.

## Information & Telecommunication Systems

Hitachi Payment Services has enabled payment of parcel charges, stamp fee and insurance premium collection through POS device. Traffic violation offence fee collection through POS device for Kolkata Traffic Police, passport fees payment through POS device at Passport Seva Kendras and bill payments and cash withdrawals using POS device at E-Mitra Kiosks for Government of Rajasthan. For CRIS (Centre for Railway Information System), it enables reservation ticket payments through POS device by direct integration with the India Railways long distance travel reservation system.

Hitachi Systems Micro Clinic is a leading systems integrator established in 1991. The Company is uniquely positioned as a cable-to-cloud service provider that helps businesses meet today's challenging and complex IT requirements. Comprising a well-experienced workforce of around 2000+ employees, the Company has 20+ offices and 180 service centres throughout the country. The Company delivers innovative technology solutions to enable enterprises and governments to realign and integrate IT processes to be more responsive to customers' needs. Backed by experience, Hitachi Systems Micro Clinic solves complex problems for clients with their expertise in Digital, Automation and Orchestration, Infrastructure Managed Services, Security, Cloud and Datacenter Solutions. The robust and efficient solutions help customers transform to optimize technology requirements as per their business strategy.

With focus on social innovation Hitachi Systems Micro Clinic has been continuously enabling organizations, governments and citizens with innovative technology solutions, recent collaboration with Tata Power Delhi Distribution Limited (TPDDL) for embracing the Power of Analytics for reliable power supply and prepare for predictive maintenance for betterment of society.

OVERVIEW | Collaborative Creation through Advanced IT

Information Technology (IT) is critical in today's world and Hitachi is committed to provide cutting-edge solutions that enhance business competitiveness and are an engine for Social Innovation.

Whether it is digitalization strategy, design & implementation of solutions for businesses & society, efficiently managing and extracting new value from big data, reliable cloud services that ensure continuous availability of the latest information system infrastructure or data analytics products, solutions & services to provide our customers with actionable business insights, Hitachi's digital solutions deliver connected intelligence and actionable insights that support better decision making, exceptional outcomes and smarter, safer, healthier, more efficient societies.

Leveraging Hitachi's rich industrial heritage and extensive expertise in both Operational and Information Technology (OT and IT), Hitachi accelerates solution creation with **Lumada**, Hitachi's IoT platform, and serves public and private sector customers across market segments including Smart City, Energy IoT and Industrial IoT. **Lumada** is an intelligent, composable, secure and open software platform that will help you harness vast amounts of data from machines and businesses, accelerating the creation of solutions for high-value outcomes.



"Hitachi Unified Compute Platform"  
[Information & Communication Technology Business Division, Hitachi, Ltd.]

Enterprise Disk Array System "Hitachi Virtual Storage Platform G1500"  
[Information & Communication Technology Business Division, Hitachi, Ltd.]

Activities in India

Through its Social Innovation Business solutions, Hitachi is improving people's quality of life and increasing value of its customers and partners by concentrating on three core values: Social, Environmental and Economic. Mobility, Smart life, Industry, Energy and IT will further fuel and drive these values.

**Hitachi Vantara** combines technology, intellectual property and industry knowledge to deliver data-managing solutions that help enterprises improve their customers' experiences, develop new revenue streams, and lower the costs of business.

**Hitachi Consulting**, the digital solutions and business consulting arm of Hitachi, Ltd., is a catalyst for positive business change. With its deep understanding of integrated organizational digital transformation and globally recognized Industrial Internet of Things (IIoT) solutions, it is imparting an edge to its customers. Hitachi Consulting in India has been working closely with its clients in – transforming traditional manufacturing systems to smart manufacturing systems, creating AI and IoT-enabled smart spaces, providing AI/ML enabled solutions, and applying analytics for fact-based decision making, thus helping organizations innovate faster, maximize operational efficiency and deliver measurable sustainable results. The entire focus is on co-creating solutions to the biggest challenges, to assist customers imagine and accelerate on their digital journey with a practical approach that is relevant for the organization's future.

**Hitachi Solutions** specializes in business application consulting across Microsoft Enterprise Business Applications such as ERP, CRM, Power Platform including BI and Geo-spatial Information System and is a trusted provider of vertical industry solutions built on Microsoft Cloud. Our mission is to develop solutions based on our technologies that deliver social innovation and assist our clients compete with the largest global enterprises with our powerful, convenient and innovative industry solutions.

**Hitachi Payment Services** brings in innovations in cash and digital payments that drive customer convenience and accelerate adoption. Its offerings under cash platform include ATM Services – Bank & White Label, Cash Recycling Machines & ATM Software Platforms and under digital platform include POS Solutions, Internet Payment Gateway Solutions, Toll & Transit Solutions, Digital Payment Platform (UPI, Aadhaar, BBPS & Bharat QR), Risk Management & Analytics, Reconciliation and Settlement Services, Merchant Services and Card Issuance Solutions. It has been revolutionizing the payment channels in the country with over 41,000 ATMs (including White Label ATMs), 16,000 cash recycling machines (CRMs) and 1.1 Million POS devices\* (including mobile POS & QR) besides Toll & Transit Solutions across the country under management.

\* All figures as on September 2019



Hitachi's Smart Cities and Public Safety Solutions are bringing together the tangible and digital worlds through IoT to make cities safer, more efficient and more vibrant.



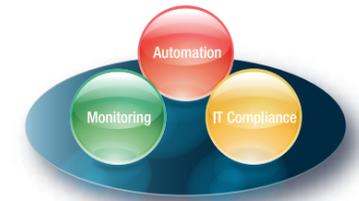
Hitachi Vantara brings your DataOps advantage. It's the data practice for the AI era, connecting data consumers with data creators to accelerate collaboration and digital innovation.



Cash Recycling ATM  
(Model: HT-2845-SR7500VS)  
[Hitachi-Omron Terminal Solutions, Corp.]

Hitachi India Pvt. Ltd.

Information & Communication Technology Systems Division  
Regional Headquarters / Sales of Hitachi products



Hitachi Payment Services Pvt. Ltd.

Secure, innovative and comprehensive cash and digital payment solutions

SBI Tie Up

Hitachi Payment Services (HPY) recently entered into a joint venture with the largest bank in the country, State Bank of India (SBI), to form SBI Payment Services Pvt. Ltd., for the establishment of a state-of-the-art card acceptance and future-ready digital payment platform for India. As part of this partnership, HPY will contribute to the development and augmentation of digital payment services in the country. The two companies will integrate each other's strengths such as Hitachi's digital technologies like artificial intelligence and big data analytics, and SBI's large customer base, branch network and brand trust.



Current Live Metro Projects

Hitachi Payment Services' electronic toll collection and transit payment solutions for Metros & Buses, provides commuters with a satisfying experience that seamlessly blends the convenience of travel with secured payments. For Noida and Nagpur Metros, Hitachi Payment Services provides transaction processing & settlement services that enables safe, secure and seamless payments for a card based ticketing system. Customers can now conveniently make payments for metro tickets as well as passes through a contactless Rupay prepaid card or the NCMC card, thereby providing for cashless travel. Additionally, Hitachi Payment Services also has the capability to provide account based ticketing systems inclusive of payment processing, project management, system integration, automatic fare collection system and AMC for long term projects, thereby offering end-to-end ticketing payment solutions.



White Label ATM

Hitachi Money Spot ATM is a White Label ATM under license from the Reserve Bank of India. Present largely in semi-urban and rural locations, Hitachi Money Spot ATM is driving financial inclusion by providing convenient banking services to the masses. With over 2,800 ATMs\* present nationally, Hitachi Money Spot ATM is an important touch point that facilitates easy access to cash and complements various government initiatives.



\* Figures as on September 2019

Cumulus Systems Pvt. Ltd.

Software Products

MARS, a trademark product, monitors and helps manage large-scale, heterogeneous IT infrastructure across the entire enterprise. It is based on an innovative and robust data platform, which provides broad, vendor-agnostic coverage of storage, SAN fabrics, and virtual and physical servers. MARS provides a fast and interactive interface for reporting on data over months and years. Through detailed correlation of IT asset configuration and performance characteristics, users achieve end-to-end visibility and benefit from deep insights into operational issues. The Offering are – Cumulus engages in providing End-to-End Software Development Lifecycle involving

- o Business & Requirements Analysis
- o Solution Architecture & Design, Development, Testing
- o Deployment, Post Production Support

Cumulus also has Domain Expertise on E-Commerce, Payment Gateway Integration, Customer Relationship Management (CRM), Auction Houses, Infrastructure & Security, Accounting and can provide Consulting Services on these by working with clients to assess their processes to define business requirements.



### Hitachi Vantara India Pvt. Ltd.

Data management, analytics, IoT, industrial expertise, technology and outcomes rolled into one great solution provider.



Collaborative Creation through Advanced IT

### Hitachi Systems Micro Clinic Pvt. Ltd.

Headquartered in New Delhi the company has 20 branch offices, 180+ service centers.



### Hitachi Consulting Software Services India Pvt. Ltd.

Business Consulting, Solutions Company

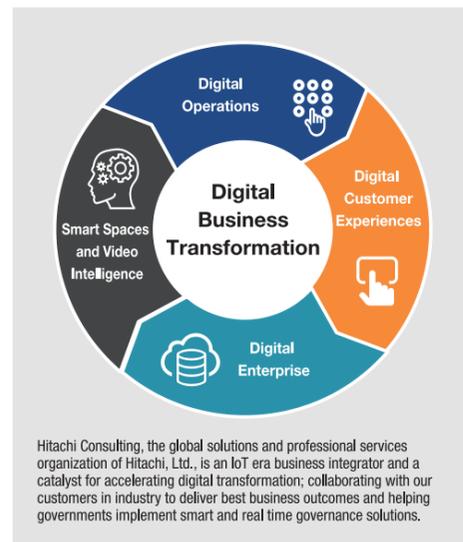
**Hitachi Consulting:** Digital Solutions—Co-creating Digital Transformation  
With extensive expertise in OT (Operational Technology) x IT, we co-create with organizations around the world to accelerate their digital transformation; bringing the power of Hitachi and expertise to co-create Digital Solutions that you need to help run your business in the future. Through a consulting-led approach, we are facilitating a seamless transition from traditional manufacturing systems to smart manufacturing systems; creating AI and IoT-enabled smart spaces; and applying analytics for fact-based decision making thus helping organizations innovate faster, maximize operational efficiency and deliver measurable, sustainable results.

**Smart Manufacturing:** Gaining greater insights across your industrial organization is more achievable than ever—to predict and prevent downtime, mitigate bottlenecks and defects, improve quality & productivity and position your company as a digital leader by effectively combining OT x IT to provide Social, Environmental and Economic value.

**Smart Spaces:** Hitachi Consulting's smart spaces and video intelligence solutions leverage video, IoT, secure data storage and management, along with data blending, analytics and digital tools to provide solutions for Smart Cities, Smart Campuses as well as manufacturing industries. The solution suite delivers insights using AI technologies, enables machines to automate tasks effectively and empowers people to make smarter decisions in diverse areas.

### Hitachi Solutions India Pvt. Ltd.

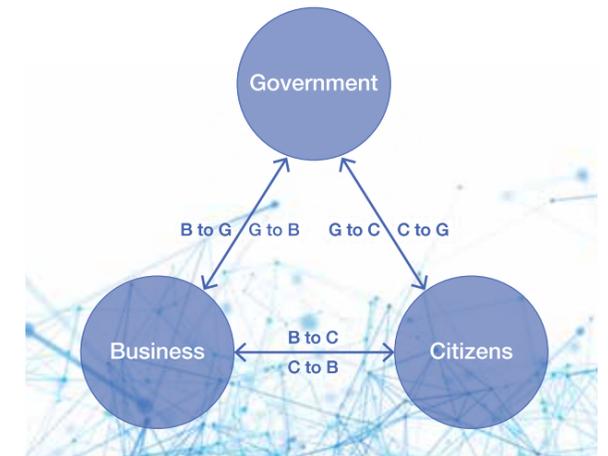
Enabling customers across verticals with value based implementations of Microsoft Enterprise Business Applications such as ERP (Enterprise Resource Planning) / CRM (Customer Relationship Management), Power Platform incl. BI, Cloud Solutions, Geo-spatial Information System and Managed Services Offerings.



## e-Governance

### The Key to Empower Citizens Digitally

The last few years have seen a massive explosion in information technology the world over. The confluence of electronics and tele-communications has opened new vistas of transmission, storage and retrieval of information as never before. These are being increasingly used for decision-making not only in the corporate world but even in public administration. The increasing population and its massive burden on civic amenities and the socioeconomic infrastructure is unimaginable. With this transformation, e-Governance becomes not only a necessity but an integral part of every nation. e-Governance initiatives in India have traditionally been confronted with the dual challenges of automating government departments and taking online services to the common man. But now e-Governance has moved beyond government departments. It is about transforming the way governments work and reinvent people's participation in the democratic process.



e-Governance provides a platform to integrate solutions and services between Government-to-Citizens (G2C), Government-to-Business (G2B) and Government-to-Government (G2G), empowering both the government and the citizen like never before. Improving trust between governments and citizens is fundamental to good governance and Information and Communications Technology (ICT) is progressively becoming an essential tool for promoting accountability, convenience and transparent governance. Governments around the nation are pushing hard to deploy information and technology in their operations. From utilizing ICT for elections, census, computerizing all the government offices, to digital lockers e-Transportation, e-Health, e-Education and e-Taxation, the new India has paved its way in the realm of e-Governance.

Technology has been the greatest enabler in causing disruptive change. India's story is no different, and the use of digital technologies to educate and empower citizens is seen as a radical change in building a sustainable society. **Driven through technology, e-Governance is transforming citizen services by providing access to information, integrating various systems & services between government and citizens, thereby empowering and enhancing citizen's social, environmental and economic values.** The government has been spearheading radical digitalisation to induce economic inclusiveness and social transformation, through initiatives like 'Digital India', 'Make in India' and 'Skill India'. India as a result, is gearing up for an era of increased digitalisation, heralding the advent of Industry 4.0, powered by new age technologies like the Internet of Things (IoT), Artificial Intelligence and Robotics. Policymakers have been formulating innovative ways to usher in progress on paper. With private players collaborating with the government in fostering a digitally empowered India, it is likely to see efficient and safer modes of functioning at different levels. Globally and in India, Hitachi through its Social Innovation Business has been engaged in transforming governance, businesses and societies through its strength in OT (Operational Technology) and IT. It has its ethos embedded in its businesses that are aimed at touching the lives of millions. Hitachi has partnered with the government of India in its initiatives like 'Digital India' and 'Make in India', leveraging its superior technology innovations and global expertise to address India's unique challenges. Large scale government initiatives, both at the central and state level, in sectors like electrification, agriculture, and healthcare are the areas where Hitachi's multiple businesses have brought in specialised expertise.

Over the years, numerous initiatives have been undertaken by various State Governments and Central Ministries to promote e-Governance in a holistic manner and improve the dissemination of public services to the citizens. This encapsulates, an evolving countrywide infrastructure reaching down to the remotest of villages and large-scale digitization of records to enable easy, reliable access over the internet.

Supporting the government in this direction, a colossal testimony to this burgeoning collaboration is adduced through Hitachi's partnership with the Andhra Pradesh government for setting up the Real Time Governance Centre at Amravati, which is a stellar example of an enhanced Public Service Delivery utilizing our OT (Operational Technology) x IT. With the help of Real Time Governance, the Andhra Pradesh government can now swiftly resolve citizen grievances and monitor infrastructure projects, incidents, weather and climatic events across the state in real time, leveraging technology services. Big data sets gathered from various sources with the assistance of Hitachi, are leading to insightful decisions to vibrantly transform citizen services. Hitachi is enabling a seamless digital transformation for its customers through e-Governance initiatives and collaborating with multiple stakeholders including the government. To strengthen the foundations of e-Governance, Hitachi has undertaken projects including digitalisation of land records; the single-window handling of grievances and maintenance of essential services; easing tax payments and government dues; along with internet-based citizen delivery of services.

What's noteworthy is that Hitachi's multidisciplinary and collaborative approach has been in perfect sync with the government's own imperatives to stay open to multiple possibilities and a macro perspective. The outcome is a new level of e-Governance, which is focused towards, to not only boost economic growth but also to improve the lives of the citizens.



## e-Education

### Digitalisation in Education: Integrating Life and Learning

Digitization and technological advancements have impacted almost every aspect of our lives. From financial inclusion to smart manufacturing to education, the impacts of digitization have affected radical changes. Especially, in education the link with digital technology is unique and complimentary.

Education is the foundation that fuels a citizen's lifecycle as well as a nation's progress, where utilizing Data Analytics and AI can efficiently help leading government and private institutions to devise data-based learning systems filling the critical gap of pedagogy.

With the advent of the digital transformation in education, the pedagogical methods have evolved, moving beyond classroom or coaching sessions, and successfully uniting with technology. Mapping the data from birth stage with health interventions like immunization, health records, nutrition and nourishment to mapping the academic performances at the crucial stages, digital disruption in education provides the right impetus to a child to become successful throughout the journey of life.

With government initiatives such as 'Digital India' and a vision to transform the country into a digitally empowered society and knowledge economy, Information Communication and Technology (ICT) solutions play a key critical role not only in promoting education but also towards driving digital literacy.

Helping children around the world, Hitachi is emerging as an ideal partner with its technical and infrastructural readiness to spread the advantage of e-Education to millions, through its ICT solutions ensuring that they enter the most crucial part of their exploration with tenacity.

Hitachi understands the power of data to build a robust e-Learning infrastructure in the country. By engaging its deep and highly regarded Data Analytics and AI prowess. Hitachi has been efficiently helping leading government and private institutions to devise data-based learning systems that would assist in creating highly customized, need-based educational material that appeals to the learner and could fill the critical gap of pedagogy.

The integrated solution provides end-to-end institution management and analytics platform for proprietary educational e-Governance at individual, school, district, state, all the way to country level. The product suite covers all aspects of the education system ranging from policy, affiliation, statutory and regulatory aspects to institutional MIS that encompasses academic, non-academic and administrative processes of schools, colleges, universities and continuing education for all stakeholders including students, teachers, alumni, management and parents.

Committed to the Government's vision of a knowledge-based economy, Hitachi has been making a significant contribution to India's education system by accelerating the digital transformation of institutions in the country through its e-Governance platform.

Altogether, this revolutionary e-Governance solution in education promotes participation by stakeholders like parents and brings in uniformity and standardization of implementation of policies, processes and programs across the multitude of branches of institution.

Geared for a highly broad spectrum of applications across sectors, the integrated IoT enabled Solution Platforms are set to bring Social Innovation in education through the rich legacy of data research spanning decades and Big Data Analytics. Thus, helping the nation build a robust foundation of talent and skill while enabling millions of people to live better.



# Mobility

## Railway Systems

**Hitachi is committed to integrate new technologies to transform the customer experience by developing driverless solutions for urban and Indian mainline railway to increase safety of passengers and external environment, thereby shaping the way citizens will travel in the future. Urban transportation infrastructure in India can be up-graded massively with implementation of multi-modal network, thereby creating last mile connectivity.**

### OVERVIEW

Hitachi is one of the few railway manufacturers in the world capable of providing not only the latest in rolling stock technology, but also a full range of products and services in on-board components, signalling and train control systems, traffic management, operational control center, passenger information and ticketing systems, power supply, train depot systems and maintenance of Over-head Electrification (OHE) and track systems. Hitachi's technical expertise in all Electro-Mechanical and Information and Communication Technologies (ICT) subsystems gives it a unique competitive edge in realizing seamless integration throughout the railway system.

### Rolling Stock

Hitachi draws on several years of experience to provide a full line-up of rolling stock so as to match the needs of all passenger railway transit, from energy efficient trains for daily commuting to high speed trains that can operate at specified commercial speeds. Rolling stock solutions (that can run at commercial speeds exceeding 200 kmph up to a maximum of 350 kmph) include many solutions such as high speed (Japanese Shinkansen technology, high speed projects in UK and Europe, high speed lightweight trains with bolster-less bogie), Intercity Trains (Tilting Trains, Bi-mode solution) and urban transport (commuter trains / metro trains, monorail solutions or the linear induction metro driven systems). As a key player in the development of the Shinkansen bullet train vehicles in Japan, Hitachi has taken part in all Shinkansen rolling stock projects.



## Signalling and Train Control Systems

Hitachi's proven signalling technologies in digital Automatic Train Protection (ATP), Automatic Train Operation (ATO) and Communication Based Train Control (CBTC) provides the global railway market with leading solutions for achieving safe and better ride comfort as well as shortened train headway to increase overall network capacity.



## Traffic Management

Hitachi's traffic management system handles complex operations at railway stations with ease. It enables station staff to communicate a wide variety of information to passengers through indicator boards to improve ridership convenience. At times of disruption, Hitachi's system automatically readjusts the train's operations to recover the planned timetable as quickly as possible. If there is a serious diagram disruption, Hitachi's system can also deal with such disruptions by interlinking updated train operation and automated passenger information with current line information. The system status is monitored to ensure prompt recovery in case of failure or an accident, and functions are included to give warnings to maintenance staff if problems arise.



## On-board Components

With the capacity to develop and manufacture all major on-board rolling stock components in-house, Hitachi Railway Systems provides the optimal solutions for reliability, efficiency and performance. On-board components typically manufactured in-house include Insulated Gate Bipolar Transistor (IGBT) and Silicon Carbide based propulsion system, Train Control and Management system (TCMS), Autonomous Decentralized Train Integrated System (ATI), Heating Ventilation and Air conditioning (HVAC), on-board train monitoring and diagnostic system.

## Power Supply

Hitachi power supply solutions for railway transport offers proven power systems and solutions to help customers with reliable, safety and low power loss railway systems. In addition, we have continually provided innovated equipment to meet customer's requirement which are environment-friendly and save on the maintenance cost. The current main innovated equipment - Supervisory Control and Data Acquisition System (SCADA), Cubicle type Vacuum Insulated Switchgear (C-VIS), High Speed Vacuum Circuit Breaker (HSVCB), Regenerative Energy Storage System for Traction Power Supply System (B-Chop) and Stray Current Monitoring System (SCMS) are examples of some of the innovated equipment that have been selected and applauded by many customers all over the world.



## Passenger / Information Service Solutions

Hitachi contributes to the improvement of service for railway users and administrative efficiency for railway business operators by meeting various needs, in the new era by providing the latest passenger / information service solutions, seat reservation ticketing system and smartcard management systems, station / on-board information delivery system and advertising management system.

## Railway Maintenance Solutions

Hitachi has a wide variety of rail maintenance solutions such as the vehicle management solution that conducts centralized management of inspections, fault / repair histories, and calibrates the travel distance of each vehicle. These systems allow for sharing of information between field sites, and assist work efficiency, concurrent countermeasure instructions when a fault occurs, and the planning of periodical inspections.



## Activities in India

### Hitachi Rail

#### 1. Dedicated Freight Corridor Corporation

A Hitachi led consortium is currently executing a 950 km Signalling & Telecommunication contract for the prestigious Western Dedicated Freight Corridor along the Rewari-Vadodara corridor. Additionally, Hitachi is also executing a contract for Train Protection Warning System (TPWS) for the entire length of the West Corridor from Rewari to Jawaharlal Nehru Port Trust (JNPT). For this, Hitachi is providing products & solutions for Automatic Block Signalling with Train Management System (TMS), GSM-R telecommunication system and the European Train Control System (ETCS).

#### 2. Indian Railways

Hitachi Rail STS India (HSTS) is a market leader for mainline signalling and telecommunication having completed ~ 840 stations for computer controlled electronic interlocking including in Kharagpur, which is longest and largest railways yard in Asia with 800 routes HSTS substantially completed the prestigious project of re-signaling of existing corridor of 410 km long electrified route from Kanpur to Ghaziabad one of the busiest sections of Indian Railways with Electronic Interlocking and automatic signalling system with Operational Control Centre at Tundla station, funded by Kreditanstalt für Wiederaufbau (KfW) by providing products & solutions for Microlock IXL and multi-section axle counters and Audio Frequency Track Circuits (AFTCs). Additionally, HSTS has executed two key projects of Train Protection Warning System (TPWS) in Chennai sub-urban MRTS network and Gatiman Express trains from Delhi to Agra. HSTS is also pursuing project of ETCS L2, recently tendered by RailTel.

#### 3. Urban Transport including Mass Rail Transit (MRT), Light Rail Transit (LRT) and Monorail Systems

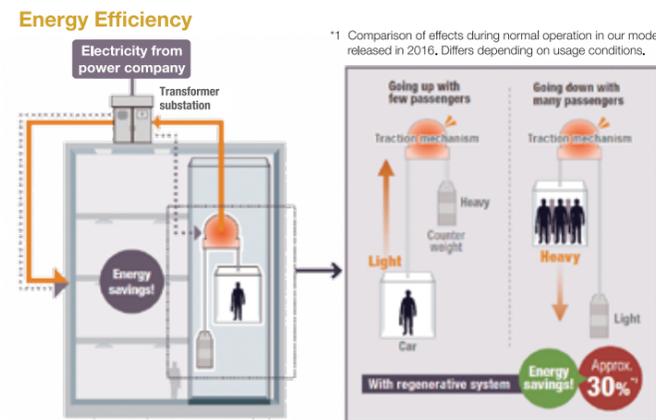
Hitachi is executing design, manufacture and supply of onboard high voltage, propulsion system and TCMS for driverless operation for the Rolling Stock. Hitachi Rail STS India (HSTS) has recently implemented several MRTS, LRT/Monorail projects by providing Communication Based Train Control (CBTC) signalling and telecommunication for Noida Metro by Delhi Metro Rail Corporation Ltd. and for Mumbai Monorail by Mumbai Metropolitan Region Development Authority (MMRDA). Other projects under execution include Navi Mumbai Metro's electro-mechanical turnkey package for The City and Industrial Development Corporation of Maharashtra (CIDCO) and signalling and telecommunication package for Kolkata Metro Rail Corporation (KMRC). Hitachi India is actively seeking to bring its Japanese and Italian technologies for the upcoming urban transport MRTS, Metrolite and Monorail opportunities across India. Some of the upcoming key corridors include in the city of Delhi, Chennai, Mumbai, Bengaluru, Kochi, Kolkatta, Patna, Ranchi, Bhopal, Indore, Vijayawada etc. In the South Asia region, Hitachi is also pursuing urban transport opportunities for Light Rail Transit, Mass Rail Transit systems in Colombo, Sri Lanka and Dhaka, Bangladesh.



## Elevators & Lift

### OVERVIEW

Hitachi Lift India Pvt. Ltd., a Hitachi group company is bringing forth its global standard in vertical transit system along with ease of installation, durability, safety and energy efficiency. Hitachi Lift India contributes to this initiative in India by providing maintenance and services for installed elevators 24-hours/365-days. In addition to providing such superior equipment and service, we are educating riders by organizing "Be a safe rider" program, a fun and interactive sessions where basic safety protocols can be understood by everyone and ensure safety during vertical transportation. Hitachi Lift India has been awarded a contract for installation and maintain a total of 106 elevators for a large-scale office building to be constructed in Hyderabad, this is the largest order for Hitachi Lift India. These elevators are designed to facilitate comfortable passenger transportation by adopting a Destination Floor Reservation System (DFRS) which assigns elevator immediately to passengers on registering destinations in the lobby then indicating the assigned elevator, with the help of Future Reference-Trajectory Control, we aim to minimize waiting time by predicting future travel needs from learned operation patterns. Hitachi Lift India has operations in Delhi-NCR, Mumbai, Bengaluru, Chennai, Pune, Hyderabad and Ahmedabad.



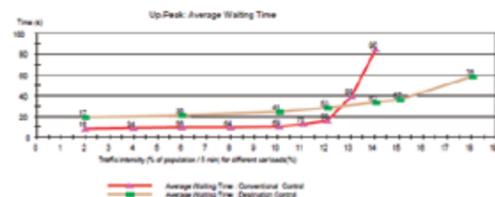
### Operation of Destination Floor Reservation System (DFRS)

In DFRS, the conventional hall call buttons (Up and Down arrows) located at the elevator lobby are replaced by the registration devices. Passengers register their destination floor through this registration devices at the lobby instead of in the elevator.



### Traffic Intensity And Journey Time Optimization

- DFRS changes the optimization algorithm based on the traffic intensity
- During light traffic waiting times become shorter
- Handling Capacity increases



### Hitachi Lift India Pvt. Ltd.

Sales / Installation / Maintenance of Elevators and Escalators

Hitachi Lift India Pvt. Ltd. was established in 2008 to serve the growing demand from the increase in high-rise building and urbanization, and has been providing elevators including high-speed elevators for high-rise buildings, and luxurious lift cabins for premium residential spaces, hotels and business offices.

Vivarea, Mumbai (Premium Residential Building) equipped with high speed (4m/s) elevators. [Hitachi Lift India Pvt. Ltd.]



# Industry

## Water

Hitachi has an impressive track record in the field of water technologies. We fuse our expertise with Informational Technology to deliver Intelligent Water Environment Solutions and do our utmost to conserve natural resources, resolve water problems for the present and future generations to come.

### OVERVIEW

As an industrial group, Hitachi has built an impressive track record in the field of water technologies over many years. We fuse our facilities with Informational Technology for advanced and efficient Intelligent Water Environment Solutions.

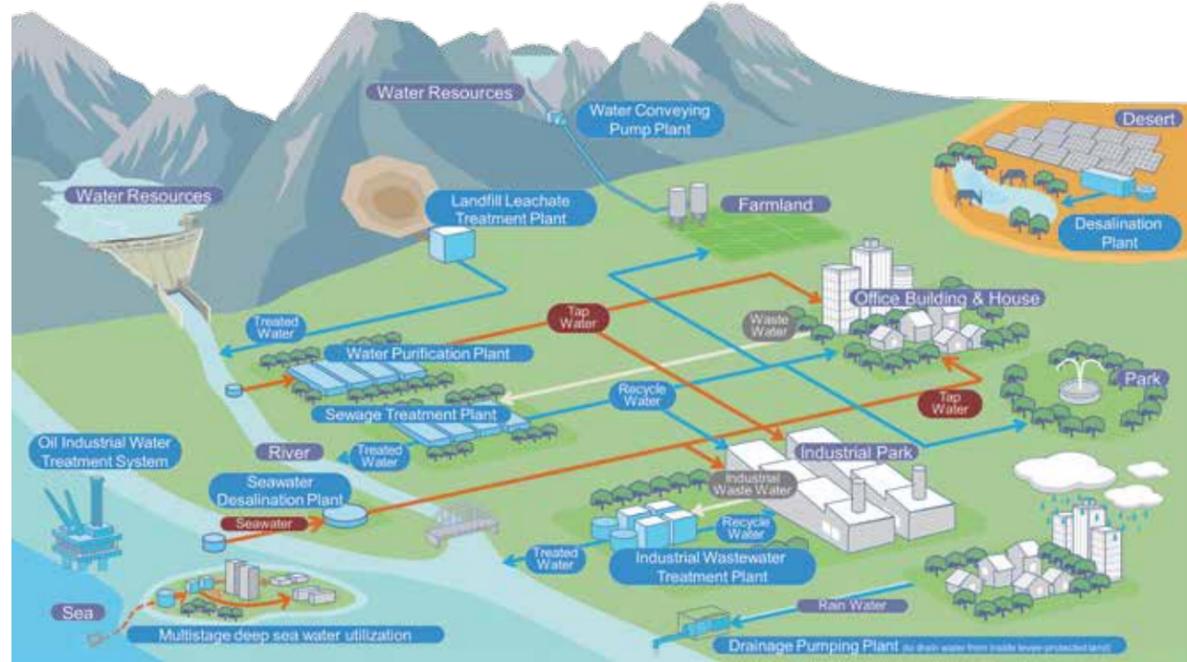
Information & Control System Technologies



Creating value for new Water Environment Solutions by fusing these technologies

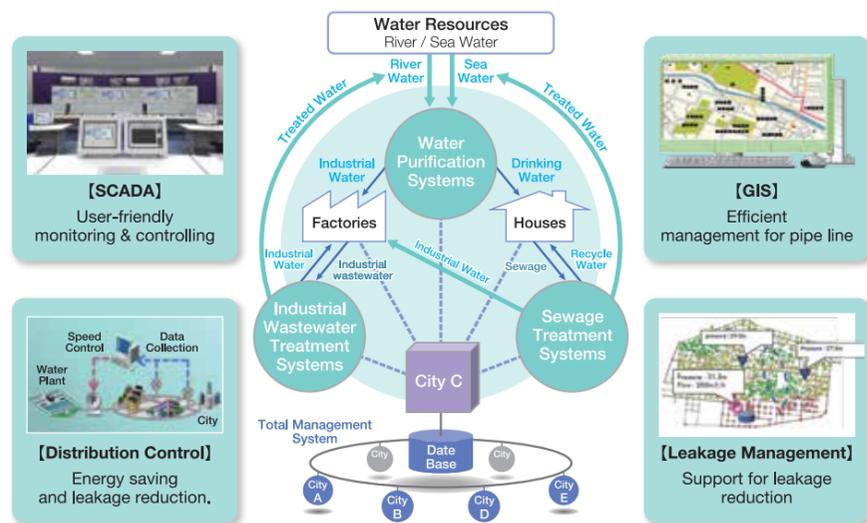
## Water Environment Solutions

Hitachi provides sustainable Water Environment Solutions matched to the needs and characteristics of each region.



## Intelligent Water System

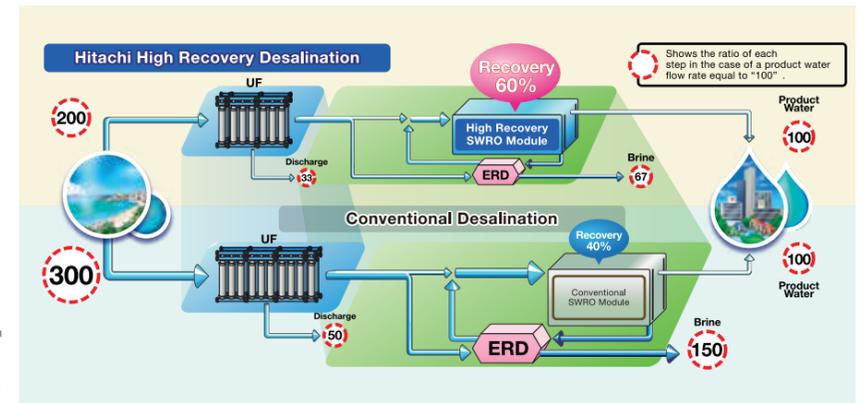
Integration of Water circulation system and Information control system region.



Intelligent Water: Intelligent Water is a trademark or a registered trademark of Hitachi, Ltd. in Japan. SCADA: Supervisory Control And Data Acquisition

## High Recovery Seawater RO System

Sustainable High Recovery achieved through Innovative membrane load balancing.



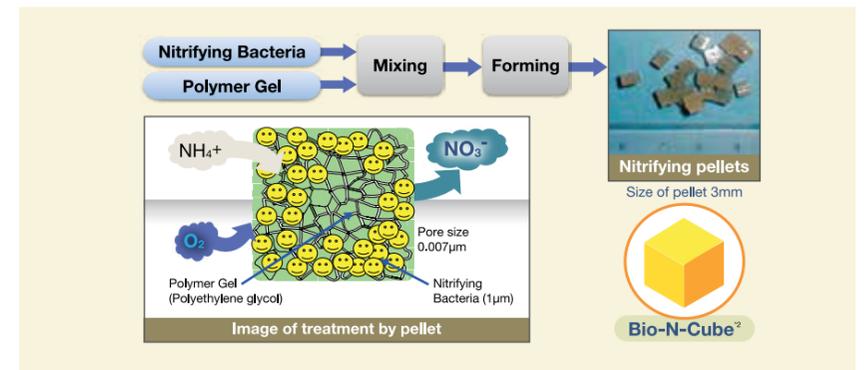
SWRO : SeaWater Reverse Osmosis membrane  
ERD : Energy Recovery Device  
UF : UltraFiltration membrane

We currently have over 20 patent applications pending both within Japan and overseas.

NOTE: These values depend on the particular conditions. This case study is TDS (Total Dissolved Solids) 35,000mg/L at 25 deg-C for reference.

## PEGASUS Advanced Nitrogen Treatment - Microbial Immobilization Technology

PEGASUS<sup>®1</sup> is an advanced sewage treatment process that promotes nitrification and uses inclusive immobilization supports.



<sup>1</sup> PEGASUS is a Japan-registered trade mark of Hitachi, Ltd. and Japan Sewage Works Agency.  
<sup>2</sup> Bio-N-Cube is a registered trademark of Hitachi, Ltd. in Japan.

## Water Solutions

Since its establishment, Hitachi Aqua-Tech Engineering has built a strong reputation as a specialist in water management solutions. For four decades it has been the company's Mission to Improve Lives through engineered water solutions.

### Design Innovation and Creative Engineering

Hitachi Aqua-Tech has a reputation in the design innovation and creative engineering of pools & spas, fountains, water playgrounds and water features, providing complete EPC (Engineering, Procurement & Construction) services and maintenance to our clients and aims to provide a one stop solution for resorts, hotels, residential & commercial facilities and municipal developers. Apart from our excellence as a water management solutions provider, we are continually committed to Corporate Social Responsibility (CSR) by managing our business operation with ethical standards and for the social good.

### Redefining Impressive

Having been in the field for 30 years, Hitachi Aqua-Tech understands there is more behind an impressive water feature that must be understood and addressed.

#### A Sense of Place

Hitachi Aqua-Tech considers the purpose of the development when designing an icon of a place, striving to create an enduring heritage by using water as a medium to tell a story.

#### Designed for the Space

A considerate water feature would be well integrated with Architecture and Landscape, creating no negative impact to the space and users.

#### Built to Function

Maintenance and operating cost have often been overlooked. The designers and engineers at Hitachi Aqua-Tech design not only for aesthetics but also effectiveness and practicality.

## Global Iconic Projects

### Swimming Pools

Hitachi Aqua-Tech provides a comprehensive one-stop solution from Concept and Design to Build and Maintain. Over the years, Hitachi Aqua-Tech has been the market leader setting benchmarks on innovation, quality workmanship and reliability exceeding our clients' expectations.



Sheraton Da Nang, Vietnam

### Hydrotherapy Spas

For centuries, water has been used as a form of relaxation and ancient healing for the body & mind. At Hitachi Aqua-Tech, we provide an array of possibilities in design and building of Hydro-massage spas and pools for wellness centres and hospitals.



Coco palm Condominium, Singapore

### Bio-Pond

Biological filtration keeps natural ponds clear and biologically clean. Our proprietary MARSsystem has been installed in hundreds of ponds and are still working after more than 10 years in operation.



The Interlace, Singapore

### Water Feature Systems

Water Elements bring life to the Architecture and Landscape. Whether as the main or supporting element, water impresses, enhances and fascinates- a fact well illustrated by the varied nature of our completed projects.



Aalto, Singapore

### Water Playground

Playing with human senses, Hitachi Aqua-Tech is driven to create joy, excitement and promote self-discovery and social interactions through our water play park concepts. We take pride in creating fun-filled and safe playgrounds that are guaranteed to keep children occupied all day.



Jurong West Sports Complex, Singapore

### Proposed Water Features and Pools in India



Rain Mist Courtyard



Tower Drop off

## Steel

With an experienced team of professionals, Hitachi India Pvt. Ltd. has established PAEG (Process Automation Engineering Group) in Nagpur, India to generate price competitive solutions for the Indian market using Hitachi Japan products.

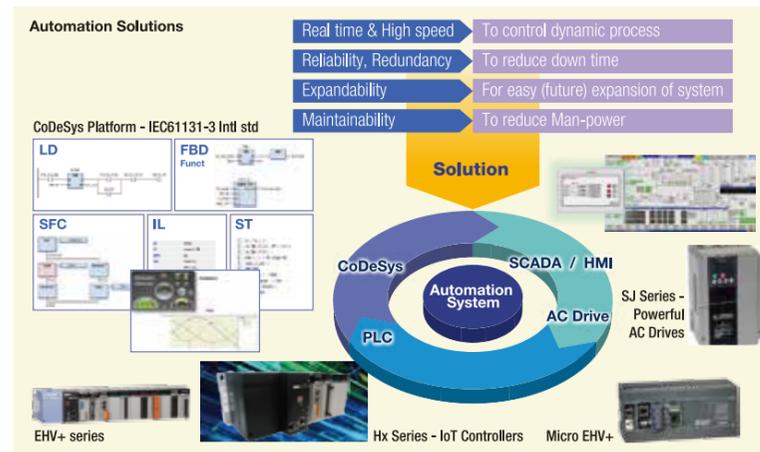
The major activities in the field of industrial electrical and automation systems and solutions are:

- Complete handling of industrial projects (new and revamping) for processing lines and standalone applications.
- Sales of the latest Hitachi IoT automation and other industrial products.
- After sales service support to existing Hitachi customers in India for spares, maintenance, troubleshooting, regular training etc.
- Support to Hitachi Japan for software development and engineering for worldwide steel projects.
- Developmental activities to develop price competitive offerings using latest Hitachi products from Japan and solutions from India.
- Support to Hitachi Japan in lowering overall project costs by offering local product supplies, engineering and commissioning services.
- With support and guidance from Hitachi Japan, building a strong engineering team by continuous knowledge sharing sessions, training and quality improvements.
- Offering Operational Technology (OT) expertise in the IIOT Platform (OT x IT) for the industrial digital transformation solution.

### OVERVIEW

To meet the industry demand for reliable products

and smart solutions, the Infrastructure Systems Division, Hitachi India Pvt. Ltd. is involved in offering complete Electrical and Automation systems and solutions using latest Hitachi products, technologies and Hitachi's vast experience in industry.



## Social Infrastructure & Industrial Systems

Hitachi Hi-Rel Power Electronics (HHPE) is contributing to new value creation in India by manufacturing an array of highly efficient products. **Hitachi Hi-Rel's advanced Solar Inverters**, with over 3GW installation base in India, have been instrumental in bringing the renewable and abundant solar power to millions of homes, industries & factories in India. HHPE supports this significant step of Government of India towards building nation's Green Energy capability that will mitigate climate change, impacts and promote energy security leading to a sustainable society. It offers highly reliable high performing and durable IGBT (insulated-gate bipolar transistor) based PWM (Pulse Width Modulation) **Railway Inverter (25kVA Under Slung Inverter)** for Railway AC coaches, employing latest technology 8-bit microcontroller-a revolutionary development of energy supply system for Railway Application, supplies power and offers proper air conditioning for AC coaches. Being a part of every small yet significant transformation, Hitachi Hi-Rel is at the forefront of Social Innovation in India's power sector and helps bring-in the nation's dream of clean and green power to realization.

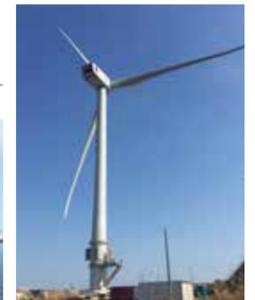
### OVERVIEW Seeking to Realize a Reliable Supply of Electric Power and a Low-carbon Society

Hitachi develops and supplies an extensive range of highly efficient and reliable power generation systems that are used throughout the world.

It is also actively involved in the development and supply of power generation systems using natural energy resources, such as solar and wind power, that are expected to play an increasingly important role in the future.



Megasolar Power Plant for Power Company (Japan) Ohgishima Solar Power Plant, Tokyo Electric Power Co., Inc. [Power Business Unit, Hitachi, Ltd.]



5.2MW Downwind offshore Turbine Fukushima wind power station [Hitachi Wind Power Ltd. (Ibaraki, Japan)]

## OVERVIEW

### Urban Development and Manufacturing based on Environmentally Friendly Technology

Creating a society in which everyone can live in safety, peace of mind and comfort requires a variety of social infrastructure solution. At the same time, to achieve a low-carbon society, it is also necessary to ensure that new or rebuilt social infrastructure give rise to lower levels of carbon dioxide emissions. In the field of urban systems, through its smart city business, Hitachi is promoting the development of cities that reduce the impact on the environment in terms of electric power, water, transportation, disaster prevention, logistics and recycling, and is also supplying water recirculation systems designed to help overcome water resource issues, and elevators and escalators that enable people to move around comfortably in urban spaces.

Hitachi also supplies systems that are basic to industrial operations, such as high-efficiency motors, the company's founding product, inverters and transformers. Its transformers and power supplies are highly regarded for using less energy and reducing carbon dioxide emissions. It also supplies cogeneration systems



Amorphous Transformer  
[Hitachi Industrial Equipment Systems Co., Ltd.]

and systems for utilizing waste heat, and is engaged in energy service company (ESCO) projects aimed at improving energy efficiency.

Hitachi is also contributing to ensure the safety of social infrastructure through its involvement in defense systems and emergency and disaster management operations.



S-SBR Manufacturing Plant at Asahi Kasei Synthetic Rubber Singapore Pte. Ltd.  
[Industry & Distribution Business Unit, Hitachi, Ltd.]  
S-SBR: Solution Styrene-butadiene Rubber

### Activities in India

Hitachi with its innovative technologies envision to achieve a low-carbon, resource-efficient society, and a society harmonized with nature, which constitute the society set forth. Hitachi's power semiconductor devices bring efficiency, comfort and convenience to the life of citizens. Hitachi Hi-Rel Power Electronics Pvt. Ltd. was established in 2011 to strengthen its power-electronics business. As a true partner to India's Solar vision Hitachi Solar Inverters manufactured at state-of-the-art Hitachi Hi-Rel facility at Sanand is bringing Social Innovation in the Indian power sector and helping to construct a digital society with the supply of stable power infrastructure products and by fulfilling the vast energy demand with its renewable energy systems in current fast growing Indian society. The company manufactures solar inverters, a key component of solar power generating systems, and has delivered many of the systems to customers throughout India.

Hitachi, Ltd. has also been commissioned, as representative company, to carry out a feasibility study on a large-scale solar power generation and micro grid system in Neemrana Industrial Park in Rajasthan.

The project is being promoted by the New Energy and Industrial Technology Development Organization (NEDO), India's Ministry of Finance, Ministry of New and Renewable Energy, Ministry of Commerce and Industry and the Delhi Mumbai Industrial Corridor Development Corporation Limited. Hitachi India Pvt. Ltd. is participating as a local corporation. Being a pioneer in Power Electronics, it offers an exhaustive and pioneering product range of power electronics which includes Industrial UPS, IT UPS, Medium & Low Voltage Drives, Solar Central & String Inverters, Railway Inverters and Air Compressors.



# Smart Life

## Automotive Systems

To ensure adherence to BS-VI emission regulation, manufacturers need to use engines, which efficiently convert fuel energy to kinetic energy thereby reducing CO<sub>2</sub> emissions from automobiles. Hitachi understands the technology and contributes to the cause through manufacturing key automobile components as an OEM in its global standard production facility of Hitachi Automotive Systems, Chennai.

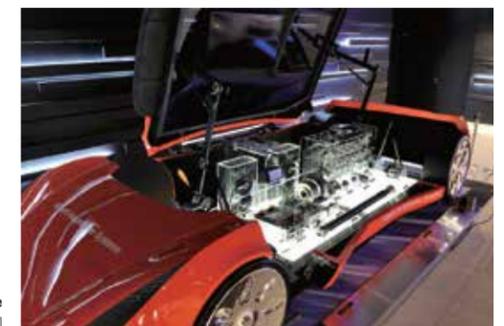
### OVERVIEW | Building a Better Relationship between Vehicles and Society

Hitachi's automotive systems business offers a wide range of technologies and products. For the environment, Hitachi's products extend from engine management systems that efficiently convert fuel energy to kinetic energy, to electric motors, inverters, lightweight iron castings and products for hybrid vehicles. In the safety field, it includes stereo cameras, a key technology for driving support systems, and preventive safety technologies such as brakes and suspension systems that improve both riding comfort and steering stability.

### Activities in India

Hitachi Automotive Systems (India) Pvt. Ltd. is a manufacturer of automotive components, having manufacturing facility near Chennai. The technical sales office established in Delhi focuses on entire Asia region covering India, Thailand and Indonesia. The primary focus of this facility is to offer prompt local technical support to its customers in India and in the region. Hitachi Automotive Systems Pune (India) Pvt. Ltd. is a leading manufacturer and exporter of high quality, durable automotive electronic parts, with a factory located in Pune.

Mobility Technology Vehicle  
[Hitachi Automotive Systems, Ltd.]



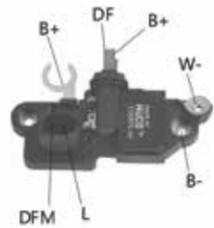
### Hitachi Automotive Systems (India) Pvt. Ltd.

Manufacturing and Sales of Components for Automotive



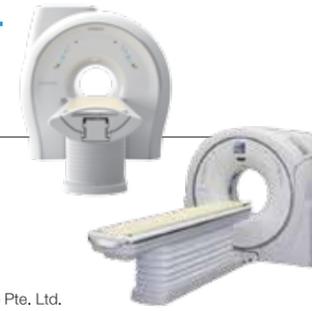
### Hitachi Automotive Systems Pune (India) Pvt. Ltd.

Manufacturing and Sales Automotive Electronic Products



### Hitachi India Pvt. Ltd. HMSS\*

Regional Headquarters /  
Sales of Hitachi products  
(MRI / CT)



\*Hitachi Medical Systems Singapore Pte. Ltd.

### Aloka Triviron Medical Technologies Pvt. Ltd.

Medical Equipment (Ultrasound Scanning Machine)



## Healthcare

In today's backdrop of increasing lifestyle diseases, Hitachi contributes to the diagnostic and healthcare needs through our medical equipment, systems and services ensuring you stay healthy.

### OVERVIEW

#### Strong Support for Advances in Products and Services

Hitachi's Magnetic Resonance Imaging (MRI) scanners and other medical equipment, systems and services are helping to meet diagnostic and healthcare needs around the world. Hitachi also manufactures equipment for producing the semiconductors and other devices that are key to providing today's electronic products with advanced functions, areas in which the company is able to utilize its proprietary microfabrication, measurement and inspection technologies. It also provides transmitters, receivers and other broadcasting system components used to ensure stable, high-quality relay of broadcasts. Its power tools are favored by professional users around the world for their light, compact design and low-noise, low-vibration performance.



Field Emission Scanning Electron Microscope  
[Hitachi High-Technologies Corporation]

### Activities in India

Healthcare group provides solution for healthcare sector by utilizing Information and Communication Technology (ICT). Aloka Triviron Medical Technologies Pvt. Ltd. is a joint venture between Healthcare Business Unit, Hitachi, Ltd. and Triviron Healthcare. The company manufactures world-class ultrasound systems over above 10 years to manufacture a unique combination of easy to use, reliable, technology into remote locations across the country.



Diagnostic Ultrasound System  
[Aloka Triviron Medical Technologies Pvt. Ltd.]

## Smart Life and Eco-friendly System

### OVERVIEW

#### Supporting Comfortable Living in Home, Office, and Community

Hitachi's home appliances, which include room air conditioners, refrigerators, air purifiers, washing machines and vacuum cleaners, are designed not only to deliver better basic performance and energy efficiency, but also to make users' lives easier and comfortable by cutting the time and effort needed for housework. Its air conditioners bring a pleasant environment to homes, offices, factories, and community spaces. Hitachi also supplies a wide range of other consumer products. These include lighting products (primarily LEDs\*), all-electric products, and residential solar power generation systems.



Front-loading Washer-Dryer  
[Hitachi Appliances, Inc.]

\*LED: Light-Emitting Diode  
The models, specifications, and functions described in the text refer to products available in Japan and may not be applicable to products supplied in other countries.

### Johnson Controls- Hitachi Air Conditioning India Ltd.\*

Manufactures Air Conditioners /  
Trading of Refrigerators and Air Purifiers



\*Subsidiary of equity-method associate

### Hitachi India Pvt. Ltd. Home Electronics Group

Regional Headquarters /  
Sales of Hitachi Projectors for every purpose



# Others

## Construction Machinery

Our construction machinery business not only delivers on infrastructure support but also on ecological parameters through reduced CO<sub>2</sub> emissions, low fuel consumption and near-zero exhaust emissions, making sure India's rapid urban development progresses effectively.

### OVERVIEW | A Diverse Range of Construction Machinery Satisfying Requirements from Around the World

Hitachi supplies hydraulic excavators, wheel loaders, compaction equipment, and a variety of other construction machines based on a philosophy of being active in the evolution of "machinery" and the synergy between "human" and "business" that combines to create rich living spaces, making them more comfortable, and efficient. These machines are deployed throughout the world and meet global requirements and comply with exhaust emission regulations in the countries where they are used. It is also actively working on technology development aimed at reducing load on the environment by contributing to the reduction of CO<sub>2</sub> emissions, with the use of hybrid systems.



ZAXIS220LC Hydraulic Excavator  
[Tata Hitachi Construction Machinery Co. Pvt. Ltd.]



EX8000-6 Ultra Large Hydraulic Excavator and EH5000AC-3 Dump Truck  
[Hitachi Construction Machinery Co., Ltd.]

### Tata Hitachi Construction Machinery Company Private Limited Manufacturing and Sales of Construction Equipment



## Hitachi High-Technologies India Pvt. Ltd.

Hitachi High-Tech provides high-tech analysers such as X-ray fluorescence, Optical Emission, Laser Induced Breakdown Spectrometers, Magnetic Induction / Measurement Instruments (Coating Gauges), and Electronic / Scientific and Medical Equipments used for quality control, process control and compliance across a diverse range of industries.



## Metals

### OVERVIEW | Production of Original Materials and Components with Key Role in Innovation (High Functional Materials & Components)

High functional materials play an essential role, serving as the seeds that lead to new innovations. Examples of such materials include metals such as amorphous metals that can be used to build transformers and inductors that are small, light, and highly efficient, wire and cable products such as cables used in rolling stock, and chemical materials such as anode material for high-capacity lithium-ion batteries with excellent discharge load characteristics. These materials are all based on original technologies built up by companies in the Hitachi Group, and are widely praised for their originality and innovation.



Anode Material for Lithium-ion Battery [Hitachi Chemical Co., Ltd.]



Amorphous Metals [Hitachi Metals, Ltd.]

### Activities in India

As part of Hitachi's Global Social Innovation Business initiative, Hitachi Metals (India) Pvt. Ltd. believes in the concept of multilateral collaboration between multiple organizations, minds and insights; effecting materials and engineering driven transformation in business efficiencies, governance and consumers' lives which is truly demonstrated in our Energy Efficient Amorphous Metal for distribution transformer business. Hitachi Metals (India) Pvt. Ltd. is a sales and marketing center and provides high grade metals products and materials, magnetic materials & applications, functional components & equipment, wire, cable & related products for expanding sales of Automotive, Infrastructural Steel & Allied Industries, Electronics and energy-saving-related Products and Materials. Hitachi Metals (India) also has a manufacturing setup for design, manufacturing & sale of Amorphous METGLAS® and Nano-Crystalline FINEMET® Soft Magnetic Electronic Cores. Our aim is to become the world's leading high-performance materials company by contributing to future innovations in the field of energy, infrastructure and automotive by continuously challenging ourselves to meet changing society needs. Hitachi Chemical India Pvt. Ltd. is a manufacturer of powdered metals products, mainly for engine and transmission components for both two and four wheelers.

HNV Castings Pvt. Ltd. is a manufacturer of ductile iron castings for applications in the automotive industry, with plants in Palwal (Haryana) and Neemrana (Rajasthan).

Allied JB Friction Pvt. Ltd. deals in quality automotive components and friction materials including disc pad, brake linings and shoe assembly for two wheelers and four wheelers.

### Hitachi Metals (India) Pvt. Ltd.

Design, manufacturing and sales of Amorphous METGLAS® / Nano-Crystalline FINEMET® Soft Magnetic Electronic Cores / Sales & Services – High Grade Metal Products / Automotive Components / Local warehousing of speciality steel / Tool Steel / Amorphous Metals / Cable Products



### HNV Castings Pvt. Ltd.

Manufacturing of Ductile Iron Castings



## Hitachi Chemical India Pvt. Ltd.

Manufacturing and Sales of Powdered Metal (Sintered) Parts



### Allied JB Friction Pvt. Ltd.

Manufacturing and Sales of Brake Parts



## Others

Quality Life Enterprise (India) Pvt. Ltd.  
Hotel Management



## Research and Development

### Contributing to Social Innovation Business in India and Globally

Since establishment of R&D centre of Hitachi India, in the year 2011, we are striving towards a society that is more sustainable, progressive and prosperous. Such initiatives are realized by sharing of technical expertise with global R&D labs and communicating with regional business units, to understand customers' problems and provide effective solutions for them. This has been the force behind the R&D Centre of Hitachi India: 'Let's become bigger, stronger and more sustainable'.

We have a two-way approach to customer co-creation; towards Indian market and towards global market. In India, the Hitachi India R&D centre works in close collaboration with business units that are in direct contact with end users, thereby contributing to the Social Innovation Business in the country. We support this activity through research in the areas of water, payments, and power electronics. With regards to the global market, we impart our technical expertise to the R&D labs in Japan to augment their research activity. Some of the assisted research fields include automotive and software platforms. Sequentially, these labs bring about innovative solutions to customers all over the globe through various business units of Japan. The successful completion of the process eventually fosters the global customer co-creation.

The R&D centre of Hitachi India, with the best mix of Indian and Japanese researchers, is covering a variety of areas such as Artificial Intelligence, Internet of Things, software engineering, payment and security services, water, transportation and power systems, and power electronics. Through our competency and effort in technology development and customer co-creation, we believe to empower India, move the globe and, thereby, we can consequently become what we want to be.



## Corporate Social Responsibility

### Helping to Achieve CSR Goals through Innovation and Education

Hitachi in its aim to contribute to the sustainable environment continues to focus on Education and Skill Development program in India. It is our continuous endeavor to contribute towards the UN Sustainable Development Goals (SDGs) aligning with our mission.

As part of Hitachi's initiative to enable livelihood opportunities to unemployed rural youth, 170 candidates were trained in two centers in Bengaluru, Karnataka. Hitachi India partnered with National Skill Development Corporation (NSDC) to contribute towards Government of India's initiative of Skill India Mission. Under this initiative two trades – Assistant Electrician and Data Entry Operator were successfully implemented, with employment opportunities for 71% (120 youth candidates). Noteworthy, the skill courses witnessed 42% female participation and 77% candidates from economically weaker sections.

Hitachi associated with Niti Aayog's Atal Innovation Mission (AIM) to 'Cultivate one Million children in India as Neoteric Innovators.' The objective is to serve AIM as a platform for promotion of world-class Innovation Hubs, Grand Challenges, Start-up businesses and other self-employment activities, particularly in technology driven areas. Through



this initiative Hitachi India envisions to make meaningful contribution in providing technology infrastructure and platform for over 3000 students in Government schools. The program enables fostering creativity and imagination among the Government school children and inculcated design thinking, problem solving and adaptive learning skills amongst them. The project in the first phase witnessed 60% students demonstrating improved learning outcomes in Digital Literacy, Robotics Coding & Software. The students also created science prototypes as a part of the project. Hitachi is committed towards contributing through CSR activities to the long-term growth and development of the nation.

## Brand Communication Message



**We believe Social Innovation is about collaborating to address the world's social and environmental issues. Communities, governments and businesses need to work together towards a common goal to achieve meaningful change.**

**It's bigger than any individual or organisation.**

**At Hitachi, we collaborate with our partners to make the "good" the world needs, a reality.**

To learn more about how we are powering good, visit:

<https://social-innovation.hitachi/en-in/>



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