

# **Table of Contents**

•	Message from the Chairman	1
•	Message from the Managing Director	2
•	Social Innovation Business	3
•	Mid-term Management Plan (MMP) 2024	6 4
•	The Founding of Hitachi	5
	History	-
•	Hitachi's Network in India	6
•		7
•	Segment Constitution	8
•	Driving Global India's Sustainable Transformation	9-10
•	Digital Systems & Services	11
	o GlobalLogic India Pvt. Ltd.	12-14
	o Hitachi Payment Services Pvt. Ltd.	15-19
	o Hitachi Systems India Pvt. Ltd.	20-25
	o Hitachi Vantara India Pvt. Ltd.	26-28
	o Hitachi Solutions India Pvt. Ltd.	29-30
	o Hitachi Terminal Solutions India Pvt. Ltd.	31-32
	o Cumulus Systems Pvt. Ltd.	33
	o Hitachi MGRM Net	34-36
•	Green Energy & Mobility	37-38
	o Hitachi Energy India Ltd.	39-45
	o Hitachi Rail in India	46-52
•	Connective Industries	53-54
	o Hitachi Hi-Rel Power Electronics Pvt. Ltd.	55-56
	o Hitachi High-Tech India Pvt. Ltd.	57-58
	o Hitachi India Pvt. Ltd. Infrastructure Systems Division	59-65
	o Hitachi Lift India Pvt. Ltd.	66-67
•	Hitachi India R&D	68-69
•	Embracing Sustainability: Driving Green Transformation	70-72
•	Diversity, Equity, and Inclusion (DEI)	73-74
•	Corporate Social Responsibility (CSR)	75-77

Ŀ

# Message from the Chairman

Embracing Sustainability as a core tenet – Hitachi is crafting a legacy of global excellence underpinned by social innovation, environmental stewardship, and people's wellbeing in pursuit of a Sustainable Society.

In the vast expanse of the global business landscape, powerful gusts of transformative change are reshaping the very fabric of how enterprises operate and thrive. The forces of digital transformation, heightened connectivity, and a collective demand for purpose-driven innovation are ushering in an era where adaptability is not a choice but a strategic imperative. As the winds of change sweep across industries, businesses are compelled to navigate uncertainties with agility and resilience, embracing technology-driven disruption as a catalyst for innovation, and anchoring sustainability as a fundamental tenet. It is a pivotal moment where conventional norms are being redefined, and visionary leaders are harnessing these winds not merely to stay afloat but to propel their organizations toward new horizons of growth, purpose, and enduring success.

In its momentous journey, Hitachi's unwavering commitment to Social Innovation Business stands as a beacon, embodying the ethos of agility, resilience, innovation, harmony, and sustainability. Uniting our globally acclaimed expertise in IT, OT, and Products, we are expanding Social Innovation Business across the colossal landscape of Digital Systems & Services, Green Energy & Mobility, and Connective Industries with Digital, Green, and Innovation as transformation drivers to collaboratively solve societal challenges with customers worldwide. Our forward-looking visionary Mid-term Management Plan 2024 galvanizes our efforts to "Support people's quality of life with data and technology that fosters a sustainable society".

In our global journey of sustainable transformation, India holds a unique place. India's economic trajectory has captured the attention of the world, marked by sustained expansion and a burgeoning middle class. Fueled by a demographic dividend, advancements in technology, and progressive policy initiatives, the nation stands poised at the crossroads of unprecedented development. From the flourishing start-up ecosystem to ambitious infrastructure projects, India's growth is a mosaic of diverse sectors, each contributing to the nation's ascent as a key player in the global economic landscape. Hitachi has been a partner, a comrade, and a catalyst in India's ascension for over nine decades now, digitally transforming the core sectors of Mobility, Energy, IT, Urban Development, e-Governance systems, Water, Oil & Gas to enhance the wellbeing of millions of citizens every day.

India is forging resilient partnerships in its sincere efforts to digitally empower citizens across the length and breadth of the country and uplift the vulnerable sections of the society. India is finding in Japan a valuable ally for advancing its economic aspirations and achieving sustainable transformation in line with United Nations' Sustainable Development Goals (SDGs). This partnership goes beyond conventional trade relations, delving into realms of technology transfer, knowledge exchange, and joint initiatives that prioritize environmental stewardship and societal wellbeing. At the forefront of this alliance, Hitachi stands as a key player, catalyzing the strengths of both the economic giants and fostering an ecosystem of innovation and resilience.

With climate change emerging unequivocally as the paramount challenge of our times, organizations are being called upon to reevaluate their practices, mitigating their ecological footprint and championing eco-friendly initiatives. Recognizing this pivotal juncture, Hitachi has exemplified a profound understanding of the gravity of the situation. As an organization, Hitachi has not merely acknowledged the challenges posed by climate change but has internalized a responsibility to be at the vanguard of transformative solutions. For environmental value, our commitment extends to reduction CO<sub>2</sub> emissions through cross-sector collaboration. Guided by the principle of Powering Good, we respect planetary boundaries, aspiring to achieve carbon neutrality across our value chain by fiscal year 2050 under Hitachi Environmental Innovation 2050.

In our pursuit of social value, Hitachi remains steadfast in improving wellbeing through innovation. As we inspire the world through Social Innovation Business, powering good serves as our guiding principle, emphasizing the discernment of what is good in tandem with our slogan, "Inspire the Next."

Crucial to this transformative journey is our commitment to human capital, recognizing it as the cornerstone of our strength. Underpinning the Mid-term Management Plan 2024 are three pivotal goals: the acquisition and development of digital talent, the promotion of Diversity, Equity, and Inclusion (DEI), and increase in employee engagement.

Hitachi – Imprinting its Success Gaining Momentum Growing Prowess

> From the inception of Hitachi, our journey has been one of co-creation, understanding the pulse of our customers and the intricate challenges they face. It's this understanding that propels us to craft solutions that resonate with the needs of humanity. As we stand at the precipice of a future defined by unprecedented challenges, from environmental crises to societal inequities, our vision remains steadfast. We believe in the transformative power of Digital technologies, Green technologies, and Innovation capabilities to uplift communities, bridge gaps, and create a world where progress is a shared journey. Hitachi is not merely a company; it's a catalyst for progress, a force that propels nations towards growth and cohesion, and a key enabler of constituting just and inclusive systems that embrace the full spectrum of human potential. Our commitment to excellence is not just about today; it's about leaving a legacy for generations to come!

Our commitment to excellence is not just about today; it's about leaving a legacy for generations to come!

of in habite

Kojin Nakakita

Vice President And Executive Officer Regional Strategies [APAC], Hitachi, Ltd. Chairman, Hitachi Asia Ltd. & Hitachi India Pvt. Ltd. Managing Director, HITACHI AUSTRALIA PTY LTD.

# Message from the Managing Director

Steering the nation on its sustainable growth trajectory and formidable leadership on the global stage - Hitachi India is contributing to India's green and digital transformation, while empowering billions of lives for improved wellbeing.

In the evolving contemporary business milieu, both in India and on the global stage, a metamorphosis is underway -one that transcends conventional paradigms, intertwining the fabric of economic growth with the tenets of sustainability. In India, a nation emblematic of vibrant diversity and economic dynamism, this evolution is particularly poignant. The traditional dichotomy between growth and inclusive development is being dismantled, giving rise to a nuanced narrative of growth that is symbiotic with the upliftment of citizens. In its sustainable growth trajectory, India seeks to emerge not merely as an economic powerhouse but as a beacon of resilience and strength within the dynamic contours of the global economic landscape. The pillars of digital public infrastructure, environmental sustainability, and citizen-centric transformation are solid foundations for the rise of a Digital, Sustainable Global India.

Today, India stands tall, marking historic milestones, such as becoming the fourth country to land on the moon and the first to land on the farthest side. The world is undoubtedly taking due note of its successes, as India's G20 presidency signifies its confirmation as a major global power. India is emerging as the preeminent voice of the Global South, exhorting all to adopt a sustainable way of living and usher an equitable world with accelerated progress on achieving SDGs and technological transformation, ensuring prosperity is not confined to select segments but resonates across the societal spectrum.

Hitachi India, a proud partner in India's progress with a legacy spanning over nine decades, is amalgamating its businesses competencies in multifarious domains such as Energy, Mobility, IT, Payments, e-Education, and e-Healthcare among others with the wisdom and acumen of Hitachi's unmatched technological prowess to usher in a transformative green and digital transformation in the lives of Indian citizens. Together with the Government of India, industries, academia, and stakeholders across the business ecosystem, we are cohesively structuring a forward-looking growth roadmap that is unique to India while scalable at the global level. Hitachi's forward looking Mid-Term Plan 2024 emphasizes the core areas of Green, Digital, and Innovation as the key growth drivers effectually supporting in the realization of a progressive Global India. Our expanding footprints in the Social Innovation Business are catalyzing innovations in the pivotal domains of Digital Systems & Services, Green Energy & Mobility, and Connective Industries.

As India-Japan comradeship of over seven decades gets revitalized with partnership in multifarious domains steered by a shared vision to build a progressive universe, Hitachi in India continues to draw on the technological strengths of Japan and the talent and opportunities proffered by India to embark on an ambitious voyage of constituting Society 5.0 giving technology a human face and Connecting Humans with Humans in one cohesive fabric. Setting benchmarks in building resilient infrastructure for the NEW INDIA, Hitachi India has demonstrated its undisputed technological leadership by powering India's first underwater metro Kolkata East-West Metro that will redefine the historical city's mobility landscape. Hitachi's collaboration in the landmark Western Dedicated Freight Corridor (WDFC) is laying the foundation of a robust freight ecosystem that puts India on the green growth track while infusing new life into the least industrialized regions of India.

Hitachi India has also fortified its footprints as one of the leading payments and commerce solutions providers by the launch of India's first UPI ATM as a White Label ATM (WLA) in association with National Payments Corporation of India (NPCI), offering masses the convenience of secure QR-based card-less cash withdrawals. In the Energy sector, Hitachi India is supporting the nation's giant strides in renewable energy expansion as it advances at a remarkable speed towards Net Zero by 2070. Hitachi's pioneering role in long-transmission power projects like Raigarh-Pugalur UHVDC Link, North East-Agra Link, and Rihand-Dadri Link are facilitating the transfer of power to regions where it is needed the most, seamlessly integrating intermittent renewable energy to power smart grids of the future.

With the Government of India rolling out digital infrastructure on a commensurate scale, allowing residents to access digital services from anywhere in the country, Hitachi India is harnessing its surmounting prowess in IT x OT x Products to pioneer Citizen Lifecycle e-Governance Platforms that ensure last-mile delivery of technologies and services, empowering citizens at the grassroots level and enabling holistic development of the varied facets of an individual's life. Our ethos of building a healthier universe is covering an expansive landscape of India as we collaborate with the Government of Maharashtra to make life healthier for more than 125 million people.

Hitachi India's **Accelerated Voyage** of Progression **Gaining Momentum** to Constitute a **Resilient Nation** 

> Hitachi, through Hitachi MGRM Net, is now touching more than 250 million lives through its ever-growing presence across Ladakh, Meghalaya, Karnataka, Bihar, and Maharashtra ensuring healthcare and knowledge is at the fingertips of the citizens. Hitachi MGRM Net has recently launched India's only distinguished Mobile Hospital, ensuring citizens stay Healthy and health facilities reaches them at the doorstep.

Embracing all dimensions of sustainability, Hitachi India is consistently striving to nurture a culture of Diversity, Equity, and Inclusion (DEI) in the quest to build a sustainable workplace where every employee feels welcome and included.

Recognizing the distinctive impact of breakthrough technologies on citizens' lives, particularly Artificial Intelligence and Generative AI, Hitachi is spearheading the evolution of responsible AI for all and the setting up of "Generative AI Center" is a big step in that direction.

India is brimming with unparalleled energy and relentless optimism and Hitachi India is leaving no stone unturned to forge resilient partnerships with the architects of modern India to steer the nation towards a progressive future where no one is left behind. Supporting distinguished initiatives like Make in India, Digital India, Gati Shati, and Aatmanirbhar Bharat, we are excited to drive Global India's sustainable transformation and build an India for INDIA and for the WORLD.

Let's aspire to build a Nation that rests on the pillars of Collaboration, Co-Operation, and Cohesiveness -TOGETHER!

não maro

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

# Progressing Towards Building a Sustainable Society Through Our Social Innovation Business

Through its Social Innovation Business, Hitachi is harnessing the power of technologies to overcome the biggest challenges faced by society today and improve people's wellbeing while protecting planetary boundaries.



# **Our Strengths**

Our core strengths in IT x OT x Products enable us to address the most pressing social challenges in the recent times.



IT (Information Technology) Data, information flow, data storage systems



**OT** (Operational Technology) Physical processes (machine/assets controls)



# Products

Hardware, materials, engineering/procurement/ construction, system integration

# Bringing Value to Customers and Society

At Hitachi India, we strive to provide value to customers and society through the enhancement of human capital.

# Enhancement of Human Capital

- Harmonious
   Coexistence of
   People and Nature
- DEI (Diversity, Equity and Inclusion)
- S Integrity in Management
- Senhancing Quality of Life



- Environment
- Resilience
- Safety & Security
- Healthcare

# Building a Greener, Healthier Future for **People and Society**

Driven by its forward-looking Mid-term Management Plan (MMP) 2024, Hitachi aspires to: Support people's quality of life with data and technology that fosters a sustainable society. Hitachi has identified three business areas to drive change -Digital Systems & Services, Green Energy & Mobility, and Connective Industries.



efficiency of systems which underpin society

### **Green Energy & Mobility**

Support the energy shift for decarbonization and provide safe, comfortable, and clean mobility

and cities

# **Mid-term Management Plan 2024**

	٢		
	FY 2022 Results	FY 2023 Forecast	FY 2024 Targets
Revenues	<b>10,881.1</b> billion yen	<b>8,800.0</b> billion yen	<b>10</b> trillion yen
Adjusted EBITA Ratio	8.1%	9.5%	12%
Net Income Attributable to Hitachi, Ltd. stakeholders	<b>649.1</b> billion yen	<b>500.0</b> billion yen	_
ROIC	7.6%	7.5%	10%

As of March 31, 2023



# **Unwavering Focus on the Monozukuri Spirit**

 $\bigcirc$ 

### Namihei Odaira

Hitachi was founded in Hitachi, Ibaraki Prefecture in 1910, by Namihei Odaira. Even during his school days, Odaira was resilient over Japan's early reliance on imported technology and products. He wanted Japan to become self-reliant in its industrial development. This fostered and fueled the overriding mission for Hitachi.

# 1906

The original repair shop in

Ibaraki, founded in 1910

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 water turbine generator and a power station around 1906 and then succeeded in developing a five-horsepower electric motor.

# 1910

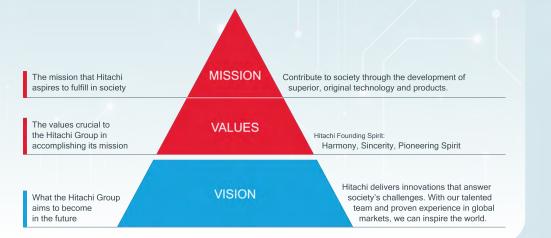
 $\bigcirc$ 

In 1910, Odaira founded Hitachi. In those days, being self-reliant rather than depending on imported products meant taking on varied challenges. One by one, Odaira overcame those challenges through a single-minded determination to improve quality, cultivate technology and engineers, and provide reliability that gained customers' trust. That belief resonates with our Mission: Contribute to society through the development of superior, original technology and products.

# Hitachi Group Identity

Through his forward-looking vision, Hitachi founder Namihei Odaira, laid the foundations for the mission that has been carefully passed on to generations of employees and stakeholders throughout the company's more than 100-year old history.

The Values reflect Hitachi's Founding Spirit, which was realized by the distinguished success of our company predecessors as they worked tirelessly to fulfill Hitachi's Mission. The Vision is a reflection of our Mission and Values. It is an expression of what the Hitachi Group aims to become in the future as it advances to its next progression of growth.



# **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.	2003 -	Establishment of Hitachi Home & Life Solutions (India).
1935 –	<ul> <li>Inauguration of the Bombay (Mumbai) Office, Hitachi's first overseas office.</li> </ul>	2008 -	
1953 –	Delivery of the first steam locomotive to Indian Railway.	2011 -	<ul> <li>Acquired Capital of Sierra Atlantic.</li> <li>Acquired Capital of Hi-Rel Electronics.</li> <li>Establishment of Hitachi NeST Control Systems.</li> <li>Hitachi India R&amp;D Centre was opened.</li> <li>Establishment of Hitachi Chemical India.</li> </ul>
	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.	2013 -	<ul> <li>Acquired Capital of Cumulus Systems.</li> <li>Establishment of Hitachi High-Technologies India.</li> <li>Establishment of Hitachi Solutions India.</li> </ul>
1954 –	Inauguration of the New Delhi Office.	2014 -	<ul> <li>Acquired Capital of Prizm Payment Services.</li> <li>Acquired Capital of Micro Clinic.</li> </ul>
1957 - 1958 -	<ul> <li>Inauguration of the Kolkata Office and the Bengaluru (Bangalore) Office.</li> <li>Delivered five Francis turbine waterwheels for the Bhakra Power Station.</li> </ul>	2015 –	<ul> <li>Establishment of Hitachi Terminal Solutions India.</li> <li>Hitachi Solutions Acquired Ignify.</li> <li>Acquired Capital of Ansaldo STS S.p.A.</li> </ul>
	A 150,000 HP Francis waterwheel and casing being installed. The orders for these products generated a	2017 - 2018 -	<ul> <li>Establishment of Hitachi Vantara India Pvt. Ltd.</li> <li>Formed Hitachi MGRM Net Limited.</li> <li>Formed Joint Venture with SBI - SBI Payment Services Pvt. Ltd.</li> </ul>
	Delivered three DC 3,000 V 3,600 HP electric locomotives to Indian Railways.	2020 -	Acquired ABB Power Grids.
		2021 -	<ul> <li>Acquisition of GlobalLogic India Pvt. Ltd.</li> <li>Renamed Hitachi ABB Power Grids to Hitachi Energy.</li> </ul>
	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.	2022 -	Renamed Hitachi Systems Micro Clinic Pvt. Ltd. to Hitachi Systems India Pvt. Ltd.
1961 –	Delivered first thermal power plant equipment. Inauguration of the Chennai Office.		
1977 -	O Delivered the first public telephone exchange.		
1987 -	Manufacturing of color picture tubes was started.		

06

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

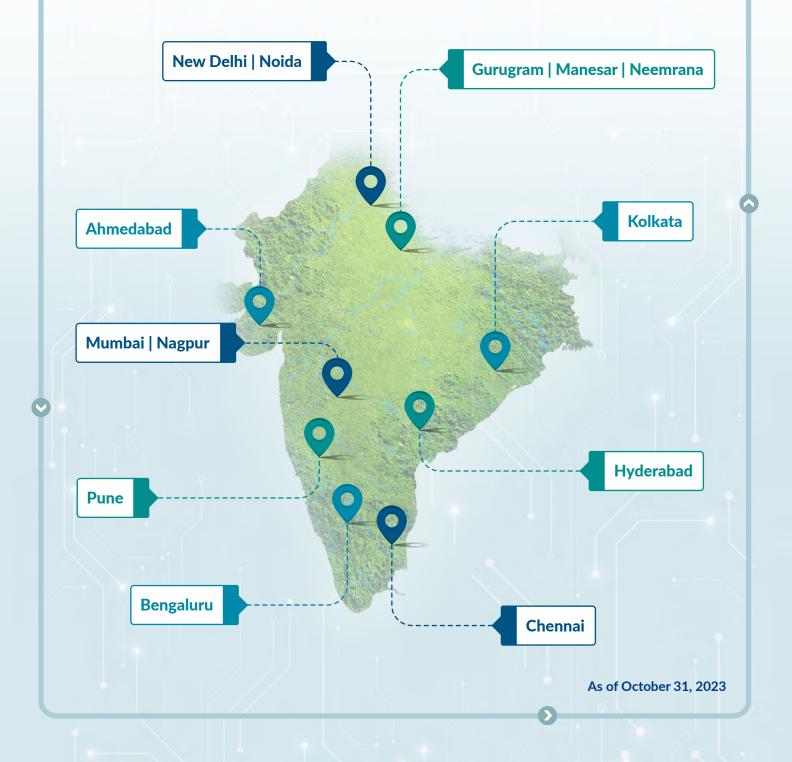
The Hitachi Group is stepping up the expansion of its presence in India. This reflects the increasing importance of the region in Hitachi's business operations generated by the steady economic growth that is projected to continue in the future.



Sales / Services

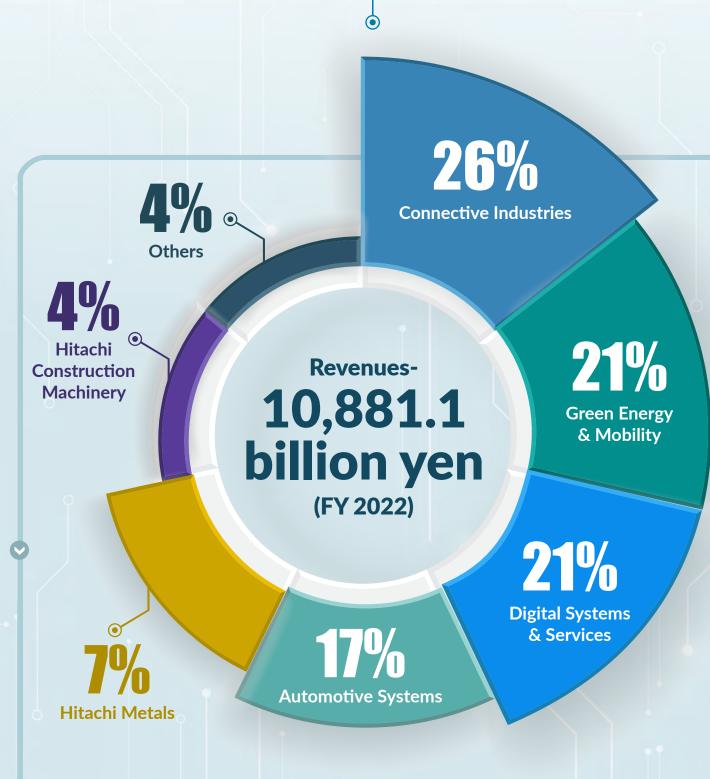


Manufacturing Sale Service Corporate Office





Hitachi Group's Consolidated Revenues



As of October 31, 2023

Hitachi Construction Machinery and Hitachi Metals (current Proterial, Ltd.) were deconsolidated in FY2022.

Driving Global India's Sustainable Transformation

For more than nine decades, Hitachi in India has remained an unwavering partner in India's journey of progress. India is at an inflexion phase, where the world follows it as an exemplar of achieving unmatched economic growth while safeguarding its invaluable environmental legacy and bridging socio-economic disparities, fostering an environment conducive to inclusive growth.

Prepared to support the next phase of Global India's transformation, that is sustainable, resilient, and inclusive, Hitachi India is committed to aligning its Social Innovation Business and deploying its diverse range of Digital Technologies, Green Technologies, and Innovation Capabilities to support India in attaining global leadership, while enriching citizens' lives with multifarious solutions spanning across Energy, Mobility, Payments, e- Education, e-Healthcare, and more.

Hitachi is steadfastly devoted to empowering the Global India by catalyzing transformative changes across three pivotal domains - Digital Systems & Services, Green Energy & Mobility, and Connective Industries.



# Digital Systems & Services

0

**The Context:** An imperative for India is centred around bridging the rural-urban gap and guaranteeing the seamless delivery of public services even in the farthest corners of the country. To achieve this mission, the Government of India is harnessing the widespread influence of the surmounting digital prowess to bring about a transformative digital revolution in the lives of its citizens.

What Hitachi India is Doing: Drawing upon its expertise and globally renowned proficiency in driving technological innovations, Hitachi is at the forefront of advancements in Artificial Intelligence, Internet of Things, Big Data Analytics, including an array of cutting-edge fields. Additionally, the company is spearheading the rapid evolution of 5G, Cloud, Edge Computing, and Data Centres in India, aiming to establish a secure and resilient IT infrastructure. Collaborating with its partners, Hitachi India is extending digitization to the Public Service Delivery System, thereby empowering citizens at the grassroots level and Connecting Humans with Humans.

Hitachi through Hitachi MGRM Net's digital platforms for e-Education and e-Health are both touching millions of lives, driving equitable access to education through digital classrooms and universal healthcare through Bluetooth-enabled Telemedicine Kit. On the agriculture front too, Hitachi through Hitachi MGRM Net connected Farmer Ecosystem solutions are digitally empowering farmers and fortifying sustainable growth of the farming sector.



Driving Digital Transformation through Digital Systems & Services **The Context:** The country grapples with mounting pressures on mobility infrastructure, congested roads, pollution, and escalating power demands. A strategic focus is being placed on adopting sustainable practices and technologies to address these critical issues.

How Hitachi India is Partnering with the Nation: Offering an array of progressive digital and green energy solutions, Hitachi is driving India's green energy transition with a focus on carbon emission reduction, propelling India towards its aspiration of becoming a dominant green energy force and Net Zero society. By building flexible, and smart grids with robust capabilities to transfer power to areas that need the most, Hitachi India is contributing to "Power for All" initiative and unlocking new opportunities of growth. Concurrently, Hitachi's integrated rail solutions are expediting the digital rail transformation, paving the way for Green Railways, and bolstering the Indian Railways' journey towards global leadership in both passenger and freight operations. Powering state-of-the-art Metros, Hitachi India is decongesting mobility in mushrooming industrial and economic centres of India, paving the way for seamless commutes, low-carbon transport, and sustainable growth of cities.

mmm

India@100 Journey: Fulfilling Dreams of a Self-Reliant India

Watch Web Story

# Connective Industries



OT-IT Convergence: Driving the Future of Industry 4.0 & Industry 5.0

Through Collaborative Co-Creation, Hitachi India is steadfast on enriching Digital India, Make in India, Skill India, Gati Shakti, and Aatmanirbhar Bharat to power a sustainable Global India – a nation that prospers in harmony with nature and reassures people's wellbeing. **The Context:** The dynamic geopolitical landscape, vast untapped potential within India, and a conducive ecosystem are compelling India to harness the potential of connected technologies and advancements in Industry 4.0 and Industry 5.0. This drive aims to position India as a global manufacturing hub and a leading industrial force, crucial for propelling the country's economic growth and creating abundant job opportunities, ultimately enhancing citizens' quality of life.

**What Hitachi India is Doing:** Incorporating a seamless convergence of IT x OT x Products, Hitachi is at the forefront of digitalizing various industries, including Water, Steel, Oil, and Gas. Through these smart solutions, the company is driving sustainable transformations that result in enhanced access to clean drinking water for citizens, facilitating access to clean gas, and establishing a robust social infrastructure powered by energy-efficient and high-quality products, such as steel.



# **Digital Systems & Services**

Digitally Empowering India, Connecting Humans with Humans

Digital Transformation (DX) is no longer a luxury for businesses, but an absolute necessity to stay ahead of the curve, drive future growth, and deliver a superlative customer experience. Hitachi India, which brings decades of expertise in advanced information technologies, is actively supporting organizations across industry verticals to reorient, reinvent, and redesign their processes, strategies, and structure in synergy with the "Digital New Normal" and drive Global India's sustainable transformation with Digital as the key enabler. Digital India

The Government of India's flagship programme to transform India into a digital empowered society and knowledge economy.

By helping organizations embed the latest technologies into their DNA, Hitachi India is facilitating increased business efficiencies, resilience and agility, data-driven growth, enhanced innovations, real-time visibility into company data, and improved workflows for exceptional customer service.

Simultaneously, Hitachi India is empowering citizens digitally, ensuring convenient access to the Government of India's online public services, and significantly enhancing their wellbeing. Hitachi India enables seamless connectivity by supporting India's digital backbone through offering distinguished IT infrastructure, effectively "Connecting Humans with Humans" and forging an unbreakable digital thread that binds them together.



Driving Digital Transformation through Digital Systems & Services

S Digital Systems & Services: Focus Areas



Front Business Develop mission-critical social infrastructure with advanced



#### IT Services Support DX for customer business in each industry with solutions

and services



#### Services & Platforms Provide the methods and latest digital technologies

required for DX

# The Vision

Promote digital transformation (DX) for the customer's business and social infrastructure to contribute to a sustainable society.

# **GlobalLogic India Pvt. Ltd.**

A Digital Product Engineering Leader

GlobalLogic, a Hitachi Group Company, is a pioneer in digital engineering, collaborating with businesses globally to create cutting-edge platforms, and digital experiences for the modern world. By integrating experience design, complex engineering, and data expertise — we help clients imagine what's possible, accelerating their transition into digital businesses.

# **Service Offerings**

GlobalLogic extends its deep expertise to customers in the Automotive, Communications, Financial Services, Healthcare & Life Sciences, Media and Entertainment, Manufacturing, Semiconductor, and Technology Industries. Its varied bouquet of offerings includes:

#### **Content Engineering**

GlobalLogic provides customers with end-to-end engineering services to support their content journey and support businesses in developing insightful content and data solutions based on artificial intelligence and machine learning technologies.

#### **Digital Advisory & Assessments**

Whether ideating on a new concept, looking for new revenue streams, or attempting to transform an existing product or service, GlobalLogic experts assist digital natives and digital migrators alike to build the roadmap for their digital future.

#### **Digital Accelerators**

Digital Accelerators are pre-built technologies that enable GlobalLogic to deliver solutions in a fast and repeatable way. Our Accelerators help to deliver quality at speed through application of engineering best practices and process for faster time to market.

#### **Contact Centre Experience Services**

As an AWS Service Delivery Partner for Amazon Connect, GlobalLogic can help organizations deliver proactive, predictive customer experiences that utilize the right channels and adapt quickly to their customers' needs.

#### Atlassian Services

As a certified Atlassian Platinum Solution Partner, GlobalLogic helps businesses select, customize, and implement the right Atlassian tools to make their project a success.

#### **Experience Design**

Using design-thinking to help customers build the best user experience (UX) and ensuring the insights are as strong as the technology behind them. We delve into Brand and Future Casting, Market Research & Ethnography, and Customer Journey Mapping among others to get consumer-first perspective.

#### Labs

When time and talent are in short supply, GlobalLogic's Engineering Labs help clients to achieve their ambitions in a turnkey fashion. They provide organizations with capabilities, experiences, connections, and innovation to deliver Product Lifecycle Management (PLM) solutions.

#### **Cloud Adoption Services**

With a dedicated Cloud Centre of Excellence; in-house digital accelerators; and advanced consulting partnerships with Amazon Web Services (AWS), Microsoft, and Google Cloud, GlobalLogic enables customers to rapidly adapt, scale, and optimize their cloud solutions.

#### **Data & Analytics Services**

GlobalLogic helps businesses accelerate their data and analytics solutions through its proprietary IPs, data platform accelerator, and consulting partnerships with AWS, Google Cloud, Microsoft, and Splunk®.

#### **Software Engineering Services**

With its global talent pool, mature processes (Agile, QA), and development tools, GlobalLogic gives customers' software project the boost that it needs. Whether the software is on a chip, on a physical device, or in the cloud, the team helps clients design, build, and accelerate their software lifecycle.



**Explore the Offerings** 

#### **ESG** Platform

GlobalLogic is working on developing an Environmental, Social and Governance (ESG) platform to ensure all future products and services are aligned to ESG best practices and guidelines.

#### InsightBridge

Connecting People and AI with trust and transparency.

 $\bigcirc$ 

#### FederatedChain

Share your data with confidence without compromising privacy & security.

#### TechTransform

Using Generative AI technologies to speed up and de-risk legacy modernization initiatives.



Our Digital x Green Innovations Across Technological Solutions

#### Employee Onboarding on Metaverse

To allow people onboard digitally thus streamlining processes, improving efficiency, and reducing paper usage.

#### GLInsider

Connecting People and AI for accessibility.

#### GreenMover

A mobile application which provides green reward points to passengers for every use of public transport.





Leading Purposeful Innovation with Digital Engineering



Blockchain: Empowering India's Growth Story One Block At a Time

6

The passion, expertise, and deep commitment to our clients' success demonstrated by our employees have created an invigorating, and creative institution. As we progress, GlobalLogic has a vision to accelerate enterprise digital transformation backed by Hitachi's incredible heritage, global reach, and entrusted brand.

Piyush Jha, Managing Director, and Head of India and APAC, GlobalLogic



1. https://www.globallogic.com/about/news/globallogic-earns-ecovadis-silver-sustainability-rating/



#### **Hitachi Payment Services Pvt. Ltd.** 15

**Financially Empowering Citizens with** Inclusive **Payments** 



Hitachi Payment Services Pvt. Ltd. is one of the leading payment solutions providers, offering end-to-end payments and commerce solutions while building a robust and inclusive payment infrastructure for India.

# Mounting **Footprints\***

Payment Completed

# 10Mn+

### 2Mn+

Point of Sale (POS) machines under management

# 65,500+

ATMs under management including 27,500 **Cash Recycling Machines** 

9.500+ White Label ATMs under the brand Hitachi Money Spot

\*Nos as of May 2023

**End-To-End** 

**Solutions** 

**Cash Payment Solutions** 

Hitachi Payments' trusted and secure cash solutions include ATM Services, Cash Recycling Machines, ATM Software Platforms, e-Surveillance Solutions, White Label ATM, UPI ATM, and Digital Banking Unit Solutions.

 $\bigcirc$ 

# White Label ATMs

Hitachi Payments is one of the select non-bank entities in India licensed by the Reserve Bank of India (RBI) to deploy White label ATMs across the country. It is the only White Label ATM operator to offer cash deposits (for select banks at select locations). With a strong focus in Tier 3 to Tier 6 towns, Hitachi Money Spot ATMs are driving "Financial Inclusion for All". Hitachi Money Spot ATM network is spread across 29 states, 6 union territories, 570+ districts & 4300+ towns, with over 75% of the 9,500+ ATMs present in semi-urban and rural locations.\*



Hitachi Money Spot ATMs: **Empowering Citizens through** improved payment infrastructure - Hitachi

#### 16 HITCCH Mene wither an space mene me

### **Cash Recycling Machines**

Hitachi's Cash Recycling Machines (CRMs) are further enabling financial institutions to offer 24 X 7 cash deposit, cash withdrawal, including cardless cash withdrawals, and other banking services, while making ATM operations more efficient and smarter.



### ATM Software Platforms

Vendor agnostic, scalable and feature-rich, our wide range of ATM software platforms provide better control over ATM networks while optimising costs, increasing functionality and protecting ATMs from security threats.



**Explore Hitachi Cash Solutions** 

Supporting the progressive Digital India mission and Government of India's initiatives to usher a "Less Cash Economy", Hitachi Payments offers a wide array of Digital Payment Solutions such as POS Solutions, Value Added Services, Digital Payment Platform, Merchant Services, Payment Gateway Solutions, Toll and Transit Solutions, Back Office Services & Card Issuance Solutions.



# Leading Digital Payment Innovations:

With an aim to drive digital payments penetration in the country, accelerate merchant acceptance of digital payments, and empower citizens with secure, convenient, and multiple payment options, Hitachi Payments has introduced several innovations such as:

# **HPY QuicTAP Solution**

- SoftPOS is a disruptive software-based technology solution that converts a regular smartphone into a payment acceptance device.
  - Secure, convenient, and cost-effective, SoftPOS simplifies payment acceptance for merchants.

Offers multiple payment options – Tap on Mobile, PIN on Glass, Bharat QR, Link Based Payments.





- Our merchant app is a secure and easy to use solution for merchants to manage and operate their business more efficiently, directly through their smartphones.
  - Offers a range of features including digital onboarding, multiple payment options and value added services such as Pay Later, Link Based Payments and EMI Solutions.





### **HPY UPI Universe**

- Offers UPI Processing, UPI Platform and Soundbox for QR related UPI payments.
  - Along with reading out loud the completion of transactions and the payment amount made, our soundbox can be customised at a merchant level and can also have a display wherein merchants can advertise certain products on sale, among other messages.



### e-RUPI Solution

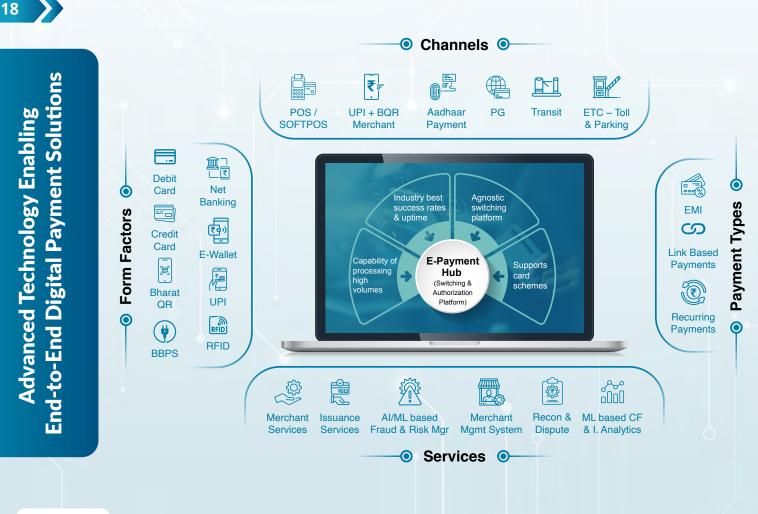
- e-RUPI is a prepaid UPI e-Voucher that can be redeemed either through QR code or an SMS string.
- Beneficiaries using smart phones or feature phones can be enabled on this platform.
- Helps Government of India to facilitate payments for vaccination, fertilizers, education scholarships, and other direct benefit transfers.



Revolutionizing India's Digital Landscape, Fueling Financial Inclusion

17

 $\checkmark$ 





**Explore Hitachi Digital Payment Solutions** 

Hitachi Payments is continuously and constantly innovating across the payments & commerce spectrum with a mission to support the evolution of society and accelerate payments penetration across the length and breadth of the country. By building an inclusive payments ecosystem, we are bridging the social divide and driving financial empowerment for all.

 $\odot$ 

 $\odot$ 

Sumil Vikamsey, Managing Director and Chief Executive Officer Cash Business, Hitachi Payment Services Pvt. Ltd.



Hitachi Payments is keeping pace with the ever-evolving payment landscape, and is contributing towards transforming the country into a digitally empowered society as envisioned under Digital India through its advanced digital payment technologies. Backed by a superior technological framework, we bring a comprehensive suite of payment solutions to offer customers easier, quicker and safer transactions.

Anuj Khosla, CEO - Digital Business, Hitachi Payment Services Pvt. Ltd.

# PROJECT HIGHLIGHTS IN

# **SBI PAYMENTS: A Joint Venture with SBI**

State Bank of India (SBI) and Hitachi Payment Services entered into a Joint Venture (JV) to build a state-of-the-art card acceptance and future-ready digital payment platform for India. The JV will provide a comprehensive suite of payment options to customers and merchants focusing on areas such as the roll-out of a nationwide card acceptance infrastructure, quick response (QR) code acceptance, UPI, mass transit sector, and e-commerce businesses.



**Read the Complete SBI Payments Case Study** 

#### **Digital Payments Innovation Hub**

Hitachi Payments recently launched its Digital Payments Innovation Hub in partnership with Plug and Play. This partnership's primary objective is to bring together innovative products and platforms into the Hitachi Payments ecosystem. It seeks to provide start-ups the capital, integration with the Hitachi Payments' stack, access to extensive customer network, and platform to launch and scale up. Additionally, it will endeavor to expand the impact of these solutions beyond India, accelerating the growth and innovation of the global fintech industry.

### **RBI Approval for Payment Aggregator License**

Hitachi Payment Services received RBI's in-principle approval for payment aggregator license which will further augment its digital solutions stack with various online payment solutions such as UPI, Netbanking, Cards and Wallets. This will enable its B2B customers to provide all digital payment products along with value added services such as EMI, Pay Later, Bharat Bill Payment System (BBPS) and loyalty solutions to their merchants. Thus, effectively allowing them to offer one-stop digital payment services.

# Successful Toll & Transit Projects

- Oynamic Electronic Toll Collection Solution for Maharashtra Samruddhi Mahamarg
- Transit Solution for Mumbai Metro Lines 2A & 7, Chennai & Kanpur Metros

#### Launch of Country's First Ever UPI ATM on Android Platform

Hitachi Payments launched the country's first-ever UPI ATM as a White Label ATM in association with National Payments Corporation of India (NPCI), offering secure card-less cash withdrawals. This novel offering empowers any bank customer to experience the convenience of OR-based UPI cash withdrawals and at the same time enhances customer security by eliminating the need for physical cards. The Hitachi Money Spot UPI ATM is built on Android OS and brings in significant possibilities of transitioning from legacy architecture of transaction processing and ATM management to offering solutions in line with evolving technology. Furthermore, it will drive financial inclusion by facilitating easy access to banking services in areas where traditional banking infrastructure and card penetration is limited.





# Hitachi Systems India Pvt. Ltd.

Digitally Empowering Businesses & Society

20

Hitachi Systems India Pvt. Ltd., one of the leading IT system integrator organizations, offers cutting-edge Information Technology solutions that enable businesses to perform efficiently while creating trusted partnership that assures value and reliability. The company is committed towards supporting the nation in building a resilient and secure IT infrastructure that digitally empowers citizens and enhances their wellbeing.

# Robust Digital Portfolio

With expertise across multiple industries and business functions, Hitachi Systems is partnering with stakeholders in building a shared vision with the customers and partners to co-create solutions using Operational Technology, Information Technology, and Products.



#### **Digital Workplace Solutions**

Empowering collaboration, productivity, and workplace efficiency with Computing Solutions, Virtual Desktop Infrastructure, Enterprise Messaging & Collaboration, and Managed Print Services.



#### **Security Solutions**

Offering a complete cyber security portfolio for impenetrable security with End Point & Server Security Solutions, Perimeter Protection, Data Security Solutions, Advanced Security Solutions, and more.



#### **Automation & Orchestration Solutions**

Enhancing the strength of businesses with automation by providing Business Service Management, Cloud and Automation Management, and Service Portfolio Management.



#### **Cloud & Data Centre Solutions**

Revolutionizing businesses with IT infrastructures like Hyper Converge Platform, Information Lifecycle Management, Data Protection, Storage, Microsoft Services, Networking, and more.



Transformation Integration Services

**Technology Refresh** 

Solution Platform

(Same Platform/

Vendor)

Oeploy Solution

with Different Solution Vendor

Migrate to Single

#### Architecture and Design

- Oesign Architecture
- Define Specifications
- Map / Approach

- Implementation & Integration
- Oeployment of Solutions
- ✓ Integration of Solutions
- Production Rollout
- Solution Go Live 🥪 Finetune <u>&</u>
- **Operade Technology** Stabilization Customization (Alerts Reports Polices)





राग

Hitachi Systems India plays a crucial role in helping businesses and institutions adopt an eco-friendly practice through various IT solutions:

#### **Energy Efficiency**

Providing IT infrastructure optimization services; implement energy-efficient hardware, virtualization, and advanced cooling technologies.

#### **Cloud Computing**

Requiring less physical hardware and resulting in reduced energy usage and a smaller carbon footprint.

#### Virtualization and Remote Work

Helping businesses reduce travel, office space usage, and overall energy consumption.

#### Sustainable Procurement

Partnering with an eco-friendly hardware manufacturer, and promoting the use of environmentally responsible IT equipment.

#### **E-Waste Management**

Offering e-waste recycling and disposal services to help clients properly manage and dispose of outdated IT equipment.

To drive innovation in line with Mid-term Management Plan 2024, Hitachi Systems India is investing in research and development, collaborating with emerging tech startups and established companies, and closely following the latest technological trends, such as Blockchain, Quantum Computing, and Application Performance Management (APM), to explore their potential applications in its solutions.

Through our highly secure IT solutions, we are not only empowering organizations to thrive in the digital era but also emboldening Government's progressive Digital India mission for a well-versed economy.

Anuj Gupta, CEO & Director, Hitachi Systems India Pvt. Ltd.

# PROJECT HIGHLIGHTS IN

# Scalable Data Centre Solutions for Telecom Giant

Hitachi Systems India collaborated with one of the largest neutral telecom infrastructure providers in the country to support its digital transformation journey. The company aspired scalable, secure, and reliable data centre solutions to meet the growing demands of its clients. Hitachi Systems successfully implemented open-source private cloud platform, deployed the private cloud on Hyperconverged Infrastructure (HCI), offered redundancy and recovery in data centres, migration of virtual machines (VM) from VMware to OpenStack, among others.

#### Challenges Faced by the Customer:

- Expansion of cloud services with efficient Return on Investment (ROI)
- Open-source platform adoption to eliminate Original Equipment Manufacturer (OEM) dominance and expensive license cost
- $\checkmark$  VM migration from existing cloud platform to new cloud platform
- Complex manageability

#### **Benefits Achieved Post Transformation:**

- Open-source cloud software for technology agility, freedom to create own applications and extensions, business scalability
- Cloud management portal to deliver multiple Information as a Service (laaS) cloud services; thus improved customer experience
- Private cloud deployment on existing Hyperconverged Infrastructure (HCI)
- Optimization of cloud platform by OEM



# **Upgrading Life Insurance Company's IT Infra**

One of the largest life insurance companies in the world owned by the Central Government reached out to Hitachi Systems to digitally augment their infrastructure for improved customer experience. Hitachi Systems implemented latest technologies like Data Relationship Management (DRM) Automation, Hyper-Converged Infrastructure with Network, Security, Storage & Backup solutions, Centre for complete visibility of applications/infra, among others which helped the company to optimize the new policy generation and claim settlement process for its customers in rural areas, benefitting the lives of over 250 million people.



#### **Challenges Faced by the Customer:**

- Distributed data centre architecture
- Unplanned downtime
- Lack of application visibility
- Lower application performance
- Slow turnaround time to process customer requests
- High power utilization and carbon emission from data centre
- Non-availability of Business Continuity Plan (BCP)

#### **Benefits Achieved Post Transformation:**

- Marquee transition project in the history of client's-core insurance application
- Resilient IT infra for 99.9999% availability\*
- Reduced the customer server count of 1,000+ from 113 data centres to 380 hyper-converged infra servers in 6 data centres, thereby lowering power and cooling costs
- Company could serve 80% of the rural population with the new IT infrastructure
- ✓ 60%-time reduction in processing the transaction which resulted in increased productivity
- ✓ Supported customer to reduce carbon emission and save energy
- Agile setup from high availability, accurate scalability & reachability point of view

\*Nos as of FY2021

#### **Transforming Insurance Operations with Automation**

A leading public sector General Insurance Company and Hitachi Systems came together to transform the IT infrastructure of their organization which led this successful high value project to be nominated for the President Award for the Year 2021-22.

#### **Challenges Faced by the Customer:**

- Frequent delays in onboarding & processing of policies
- IT resource allocation time of 3 days
- Exorbitant Account Maintenance Charges (AMC) costs

#### **Benefits Achieved:**

- IT resources allocation time of 4 hours
- IT operations efficiency higher by 50%\*
- Lower application processing time; higher efficiency for customer-centric employees
- Service-Level Agreement (SLA) speed increased, less unprecedented downtime and system failure



### Augmenting Telecom Service Provider's Network for High-Speed Internet

Hitachi Systems partnered with India's oldest and largest Telecom Service Provider to bring high-speed, low-cost internet to the remotest areas. Hitachi Systems converted the service provider's low-speed network to high-speed Super-Core with state-of-the-art SDN Technology, which can handle internet traffic in multiples of terabytes per second. Citizens, businesses, and governments can now enjoy reliable, sustained, low-cost, and high-speed internet services, thus strengthening Digital India and providing people access to online services for a better Quality of Life.



25

#### **Challenges Faced by the Customer:**

- Its Core IP-MPLS network was running on 15-year-old technology which couldn't cater to high-speed internet traffic
- As a result, citizens, especially those living in small districts, towns, and villages lacked good internet connectivity and couldn't benefit from the Indian Government's digital initiatives

#### **Benefits Achieved:**

- Digital banking services made available up to small villages
- School children and college students can now attend online classes
- Work-from-Home facilities are now extended to small villages also
- The coverage area of business-to-business and government-to-business activities has increased, directly improving the economy and quality of life of citizens in small towns and villages



# > Hitachi Vantara India Pvt. Ltd.

Pioneering the Path to Data-Driven Excellence

26

Hitachi Vantara, a pioneer in enabling mission-critical digital and industrial environments go from data-rich businesses to data-driven ones. Hitachi Vantara delivers resilient digital end-to-end solutions, from intelligent data platforms to digital infrastructure systems.

Storage Vendors of 2023" Hitachi Vantara

One of CRN's

"50 Coolest

Software-Defined

Named Among CRN's 2023 10 Coolest Industrial IoT Companies

Placed as a Leader in the 2023 Gartner® Magic Quadrant<sup>™</sup> report for Primary Storage (recognized for the 15th time in the last 13 years)

#### 2022

Gartner<sup>®</sup> Magic Quadrant<sup>™</sup> leader for Industrial IoT Platforms (4<sup>th</sup> consecutive year)

80% of Global Fortune 500 Companies Trust Vantara's IT Solutions

2022

Foundation

Awards &

Recogniti

Infrastructure Modernization

Data Modernization

Application Modernization

# Modernizing the Digital Core

Combining data from three areas of business in one space that is accessible remotely, Hitachi Vantara gives organizations the power to innovate, evolve, and deliver exceptional experiences for their customers and partners.

# Solutions for the Digital Era

Hitachi Vantara envisions a carbon-neutral society by providing advanced Digital Technology solutions that will play a major role in being a social innovator. The key to this lies in going digital.



# Supporting Solutions



#### **Digital Operations**

Integrate all aspects of the business seamlessly by going completely digital with Hitachi's health & safety solution, fleet solution, factory solution, retail solution, and healthcare solution.



#### Infrastructure Solutions

Digital infrastructure accelerates digital transformation, making it agile, powerful, and resilient.



#### Data Management

Modernized data infrastructure assist businesses moving to cloud and offering advantage of being data driven.



#### **Application Modernization**

Leverage advanced digital technologies to implement greater user experiences, speedier delivery, and a more agile working style.



 $\bigcirc$ 

HITACHI

#### **AI-Driven Solutions**

Make deep AI expertise work to the business's advantage and drive efficiencies, productivity, customer insights, and bottom-line impact.



#### **Smart Spaces**

Build a smart space to improve efficiency, maximize safety, and enhance user experience.



#### **Multicloud Acceleration**

Migrate and modernize cloud applications with agility, governance, and cost savings.



#### **Industry Solutions**

Empower the business with digital transformation, be it manufacturing, energy and utilities, transportation, government, financial services, retail, or healthcare.



In the year 2022, Hitachi Vantara and Hitachi Energy jointly launched Lumada Inspection Insights, it's an end-to-end portfolio of digital solutions for inspection, monitoring, and optimization of critical assets. Lumada Inspection Insights enables customers to automate asset inspection, support sustainability goals, improve physical security, and reduce risks and impacts related to storms or fires by using powerful artificial intelligence (AI) to analyze photographs and video, including LiDAR, thermal and satellite imagery.





27



# Driving Green x Digital Growth-Decarbonizing Data Centres

Driven by the massive data explosion, data centres are responsible for high electricity consumption and significant greenhouse gas emissions worldwide. Understanding the pressing need to adopt sustainability, customers are increasingly demanding innovative and eco-friendly digital solutions that are cost-effective and energy-efficient. Hitachi Vantara prioritizes sustainability by-



Implementing strict internal protocols since 2017 to develop products with reduced energy consumption and carbon emissions.

In each new version of their storage solutions, they have managed to cut carbon emissions by 30% to 40% compared to previous models, encompassing all stages from raw material procurement to recycling after five years of use.



Learn more about Secure Digital Solutions

 $\bigcirc$ 

With our proven digital leadership, innovative technology, and data solutions, Hitachi Vantara is playing a pivotal role in addressing climate change challenges and making future proof, sustainable solutions.

Gopikrishna Balijepally, India Leader, Hitachi Vantara

# PROJECT HIGHLIGHTS IN

# Dynamic Data Infrastructure for Ramanujan College

Laying an exemplary model of strengthening research and development through latest technologies, Hitachi Vantara collaborated with Ramanujan College, a constituent college of the University of Delhi, to deploy an Online Learning Management System on a private cloud infrastructure, supporting its ground-breaking R&D work and enabling the training of 150,000 faculty members and research scholars across various universities in India.

### **Challenge Faced by Customer**

Escalating costs of running resource-intensive nature of applications such as 5G communications, blockchain, and the learning management system on the public cloud

### **Benefits Achieved-**

- 🔗 Ramanujan College pioneer open cloud solutions for education, digital government and 5G.
- Rapid experimentation with one-click open-source cloud technology stacks.
- Scalability and versatility to run multiple high-performance applications per node.
- Enhanced contribution towards research and development by eliminating monthly public cloud costs.



Read the Complete Case Study



# **Hitachi Solutions India Pvt. Ltd.**

Inspiring Society with Digital Innovation

Hitachi Solutions, as a global Microsoft solution integrator, provides data and business system modernization with 360-degree support - from sustainability readiness assessment and advisory services to value discovery and strategic road mapping to design and delivery to on-going support, and beyond. The company is committed towards driving business transformation that encompasses customers' people, processes, business applications, and technologies and delivers outcome-based value throughout their organization.

# Solutions

### Digital Compass<sup>™</sup> | Hero Strategy

Digital Compass<sup>™</sup> is Hitachi Solutions' distinguished inhouse offering that simplifies and speeds up successful digital transformation and innovation for clients. Powered by Microsoft Cloud, the industry focused **products and solutions** help the customer at any point in their journey by:

Understanding digital maturity and readiness

Identifying challenges and focusing on priorities

#### Assessing, strategizing, and planning

Rapidly executing solutions with positive outcomes

# The Core Digital Transformation Tracks of Digital Compass

Information & Insights

> Differentiated Experiences

Unified Business Operations

Organizational Productivity

๗๎๛

Enhanced Capabilities

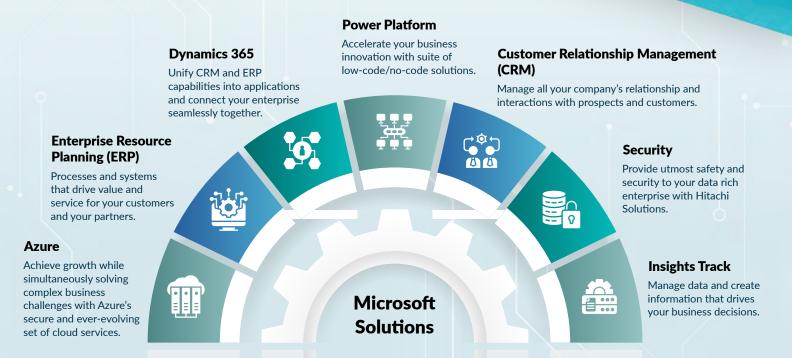
Modern Infrastructure

# Sales Automation Suite (SAS)

Hitachi Solutions solves business challenges by promoting innovative solutions and integrating social and environmental responsibility into business activities. SAS is designed to help organizations:

- Orive an effective data-driven sale
- Reduce CO<sub>2</sub> emissions and fuel wastage





Supporting the entire Microsoft technology ecosystem, Hitachi Solutions offers complex solutions that integrate seamlessly with one another to form a superior technology platform for clients.

6

At Hitachi Solutions, we are pioneering a new era of digital transformation. By seamlessly integrating Hitachi's diverse business endeavors with our cutting-edge IT solutions, we empower organizations to swiftly embark on their digital journeys. Together with our customers, we unlock the power of data to champion sustainability reporting and elevate governance practices.

Abinsam K.A (Abin), COO & EVP, Hitachi Solutions India



# Hitachi Terminal Solutions India Pvt. Ltd.

# Make in India for India

31

Hitachi Terminal Solutions India Pvt. Ltd. is one of the leading ATM technology and solutions providers that empowers India's financial infrastructure. Through collaborative effort, Hitachi Terminal Solutions has been steadily contributing at regional level to further strengthen their ATMs technology and solutions in line with "Make in India" and "Aatmanirbhar Bharat".

**Impact in Numbers** 

# Key Products & Solutions

#### **Green Innovation Solutions**

Hitachi Terminal Solutions is committed towards creating a sustainable environment and is 100% ROHS (Reduction of Hazardous Substances) compliant. Hitachi Channel Solutions, India (HCS-IN) is also ISO 14001 complaint and an advocate of carbon neutrality. Hitachi Terminal Solutions is in the process of constructing a new green facility making it sustainable by placing solar panels within their manufacturing facility.



- Manufactured and delivered 25,000+ Cash Recycling ATMs in just 7 years, HCS India would be one of the largest Cash Recycling Machine (CRM) ATM's manufacturing unit for Hitachi Channel Solutions (HCS) group.
- 100,000+ cassette kits manufactured by HCS-IN locally in 2 years' time to support RBI mandate on lockable cassette for cassette swap operation for cash management in ATMs.
- Made footprints in South Asia, the Middle East, and Africa now. European markets to be soon explored.

# munna



32



#### IT x OT Solutions (Our Digital Transformation)

- Moving from Cash Recycling Machine (CRM) => Next Gen ATM which is more compact and secure.
- Moving from OPL (Operator Panel) screens in CRM =>CRMs with Tablet based intuitive touch screens.
- System Integration => for maximum operational efficiency (more notes dispensed per second with less cash jam).
- Dual Currency => the recycling cassette in these CRMs every recycling box of these machines can be supported with dual currency.

#### **Kiosk Solutions**

Hitachi Terminal Solutions has rolled out Kiosk solution for the aviation sector. This kiosk will allow passengers to check in without paper use contributing in lowering carbon footprints. It also includes passport scanner and is a part of DigiYatra. In the future, it will also include ticket scanning, face detection and bag tags.

The company is also in the process of rolling out Smart Waste Recycling Solutions and Smart Safes to meet the needs of its customers.

Hitachi Terminal Solutions India Pvt. Ltd. stands proudly as the cornerstone of Hitachi's global manufacturing operations, embodying the spirit of the 'Make in India' initiative by empowering our talented Indian workforce to produce world-class Cash Recycling ATMs. We are not just creating cutting-edge financial technology, but also nurturing a culture of continuous upskilling and innovation among our employees, accelerating the adoption of banknote cash recycling nationwide, and contributing significantly to employment generation and economic growth.

C. Sivaramane, Managing Director, Hitachi Terminal Solutions India Pvt. Ltd.

# PROJECT HIGHLIGHTS IN

### ATM

HITACHI

# **Contributing to Make in India through Localization of Products**

Hitachi Terminal Solutions commissioned the XR-Upper localization project. XR-Upper is the brain/engine of the ATM machine. The company will be exporting both this "Upper module" as well as the finished CRM machine and has received Export Promotion Capital Goods (EPCG) approval from the Government of India for exporting the product.

#### Impact

The HCS-IN factory is the flagship factory for the Hitachi Channel Solutions (HCS) group and all exports shipments will be made through the India factory. This not only creates high skill manufacturing jobs but also enhances technical competency across the manufacturing value chain as envisioned in the "Make in India" goals of the Government.



# **Cumulus Systems Pvt. Ltd.**

Navigating the Data Deluge

33

Cumulus Systems works towards effectively managing cosmic pool of data by connecting innovation and digitalization that help enterprises store, access, process, and interpret data for an informed decision-making.

# Solutions for Right Data Environment

In today's data-driven digital world, bold ambition is required to be taken along with breakthrough innovation and flawless execution. As organizations need to deliver personalized experiences to customers, a robust data management infrastructure is needed to facilitate large-scale manoeuvres and better decision-making. Cumulus Systems is leveraging data's potential to accelerate the decision-making process and boost business growth through:



# MARS

Cumulus Systems experts extend support to enterprises with the Hybrid Infrastructure Monitoring System by managing huge information.

# Solution Engineering & Consulting Services

The Cumulus Systems team helps to develop enterprise-grade software in varied domains like e-Commerce, Infrastructure & Security etc.





# Hitachi Data Centre Analytics (DCA)

The dedicated team at Cumulus Systems helps to identify Data Centre performance trends and optimizes application and storage system performance.



Explore the Solutions

Cumulus Systems aims to create value for its varied customer base by focusing on performance analytics tools, software engineering, and professional services. Our Software Development Process blends the strengths of a detailed design plan and iterative progressive elaboration to meet our customer needs.



# Hitachi MGRM Net

Supporting Life's Journey with Comprehensive Digital Solutions

A new India, with technology as the pivot, is rewriting its growth narrative. The Government of India is rolling out multitude of welfare schemes to democratize progress, bridge the rural-urban divide, and ensure "Sabka saath, sabka vikaas". Digital India is seen as a powerful catalyst in building the infrastructure that connects every Indian household to the digital economy, empowering them as a recipient as well as a participant in the inclusive growth model of the nation.

Hitachi MGRM Net, as a technology solutions provider, is crafting innovative solutions under multiple domains covering the citizen life cycle including e-Education and e-Healthcare. Its state-of-the-art e-Governance systems and services are based on unique proprietary technologies developed through years of research incorporating global best practices to address Human Lifecycle needs through products, tools and services. Hitachi MGRM Net has been successfully appraised for ISACA's Capability Maturity Model Integration (CMMI) at ML5 amongst other certifications.

# E-Governance Solutions

### **Educational e-Governance**

As India progresses on its continued ascent, universal access to quality education becomes paramount to transforming the nation into a global knowledge superpower. Hitachi understands the power of technologies such as Artificial Intelligence, Data, Augmented Reality and Virtual Reality and a robust e-Learning infrastructure in creating a stimulating learning environment, identifying, and fostering the unique capabilities of each student, and delivering interactive, customized learning experiences that makes learning a dynamic experience.

Integrating all academic and administrative divisions within an educational institution, M-Star<sup>™</sup> Education Expert Systems by Hitachi MGRM Net is bringing transparency, accessibility, accountability, security, and compliance to the education system. The platform resides on a very advanced analytics engine and brings a fine blend of expertise, data, and intelligence to facilitate real-time tracking of a student's performance and their holistic development.



### Healthcare e-Governance

 $\bigcirc$ 

Recognizing the urgent need for a resilient health infrastructure in the post-pandemic world, India is making concerted efforts to build digital healthcare under the National Digital Health Mission. The IoT and AI enabled comprehensive advanced analytics solutions hold the key to revolutionizing digital patient care and building enterprise-class critical hospital applications.



Achieving path-breaking innovation in the telemedicine space, Hitachi MGRM Net's next-generation M-Star Telemed<sup>™</sup> platform is digitalizing the process of healthcare management and information dissemination in both rural and urban areas. Hitachi's Bluetooth enabled telemedicine kit, equipped with blood pressure monitor, pulse oximeter, no contact thermometer, ECG, digital stethoscope, fetal doppler, spirometer, etc. is empowering the medical professionals in the remotest areas to capture patient's critical health parameters and share with a physician sitting miles away in real-time, facilitating quality patient care anytime, anywhere. The M-Star Telemed platform is gaining momentum through its implementation in Karnataka by one of the largest labor insurance providers, State Government of Bihar, and multiple sites of a large construction company.

Hitachi MGRM Net's healthcare e-governance platform M-Heal<sup>™</sup> is an end-to-end comprehensive Hospital Information System that covers all aspects of a healthcare institution bringing operational excellence and enhancing patient care.

Hitachi MGRM Net's Health e-Governance platform has received certification from National Health Authority for Ayushman Bharat Digital Mission (ABDM) M1, M2 and M3 integration, a collaborative initiative of the Government of India to support the integrated digital health infrastructure of the country. The platform can be used for Ayushman Bharat Health Account (ABHA) ID creation. ABHA ID verification, share Personal health records via a Personal Health Records (PHR) App and provides Electronic Medical Records (EMR) to healthcare workers with patient consent. The product suite comprising of M-Heal<sup>™</sup> (Hospital Information Management System), M-Star<sup>™</sup> Telemedicine, etc. is now compliant with ABDM. Hitachi MGRM Net has been recognized as one of the top performers in ABDM by NHA for Number of Health Records linked to ABHA by a Private Integrator and software on-boarded by healthcare facilities.

#### **Agriculture e-Governance**

India is proactively deploying innovation and technology to foster a new green revolution. Precision farming is emerging as a progressive feature of this transition.

The digital Agri-transformation by Hitachi MRGM Net nurtures the Connected Farmer Ecosystem enabling the creation of crop portfolio, crop protection, crop insurance and access to Intelligent Market Channels helping farmers thrive, by optimizing price and best yield quality.

Hitachi MGRM Net is strategically partnering with UNDP, NITI Aayog, and multiple government entities to facilitate the delivery of tailored solutions to benefit India's citizens and drive equitable development through digital transformation.

Hitachi MGRM Net is partnering with the Government of India towards digitally transforming society and 'Powering good', by co-creating solutions that uplift the most underprivileged sections of society while building connected, unifying institutions that enrich citizen's lifecycle.

Bharat Kaushal, Managing Director, Hitachi MGRM Net

# PROJECT HIGHLIGHTS IN

36

#### Driving Quality Education in Remote States of Manipur, Ladakh

Exemplifying its technological prowess and the citizen-centric vision of powering good, Hitachi MGRM Net recently has set up a robust e-learning infrastructure in the remote states of Manipur and Ladakh. In Ladkah, Hitachi MGRM Net is providing its robust ICT-enabled M-Star<sup>™</sup> Applications encompassing school expert system, school management system, analytics, and digital learning platform which will benefit 25,000 students in 850 Government and 200 Private Schools. In Manipur, Hitachi MGRM Net's M-Star<sup>™</sup> Applications will benefit 50,000 students potentially going to 600,000 students.

Through these projects, Hitachi MGRM Net is digitally transforming the cosmic education ecosystem by setting up a data-rich educational database that can be securely accessed by all stakeholders, thereby facilitating the Governments in analyzing students' and schools' performance and in extending relevant schemes, benefits, and policies that uplift the standards of education. This agile platform has ensured connecting students from the remotest corners of the country with classroom experience bridging the need gap. The platform is versatile with the advantage of being customized in respective languages, thus enhancing the overall comprehension about relevant subjects.

## Heralding Data-Driven Educational Governance in Odisha

Hitachi MGRM Net is spearheading a transformative project in the State of Odisha by implementing a Unified Automation System for the state's entire education system, covering 67,000 schools and catering to 25 million users. This initiative addresses the State Government's pressing concerns, such as unorganized and outdated data infrastructures that result in incoherent and unreliable information within educational institutions. Hitachi MGRM Net is coalescing their e-Governance Platform for Education, M-Star School Expert System (SES), to facilitate efficient data management and analytics. Additionally, they are redeveloping State Portals to ensure timely and transparent access to information. The project aligns with Odisha's broader goals of implementing robust data governance systems, paving the way for citizen-centric reforms and positioning the state as a digitally empowered economy.

## Simplifying Educational Governance for Schools in New Delhi

Hitachi MGRM Net is also working with Private Schools including all branches of Modern School in New Delhi for educational e-Governance. Encompassing both academic and administrative functions, Hitachi MGRM Net's integrated academic and administrative platform provides near-real-time data, alerting and reporting from source, aiding in the development of institution. For Modern School, Hitachi MGRM Net is also working with State Bank of India to provide e-wallets for students within the school, enabling students to buy books, uniforms and other essential items.



# 37 Green Energy & Mobility

Clean Energy & Mobility for a Decarbonized Society

At the United Nations Climate Change Conference (COP26), that took place in Glasgow in 2021, India's Honorable Prime Minister had revealed the nation's Net Zero ambition targets to be achieved by 2070<sup>1</sup> as a part of its Panchamrit pledge.

In pursuit of Global India's sustainable transformation, crucial developments and India's leadership in the International Solar Alliance, announcement of National Hydrogen Mission, incentivizing the local development and manufacturing of renewable energy technologies, among others are contributing towards creating a resilient ecosystem to build a strong decarbonized economy and sustainable society. Hitachi India, a global automation, and technology pioneer is partnering with the Government of India in this ambitious task by conglomerating its array of green and digital energy solutions.

# Hitachi's Energy Portfolio

4

**50%** of its energy

requirements met from renewable energy by 2030



### One billion tonnes

reduction in the total projected carbon emissions from 2021 till 2030

# >45%

reduction in the carbon intensity of its economy

**By 2070**, India will achieve the Net Zero target

500 GW

Power Components

Energy Power Automation

Clean

Hitachi India is partnering in some of the distinguished power projects in India to support the evolution of resilient, flexible, and smart grids that can effectually integrate renewable energy and thus support India's endeavor to deliver "Power for All". Together, with its partners, Hitachi India is advancing a sustainable energy future for all, where electricity resonates as the backbone of the energy ecosystem.

HVDC

Systems

The Government of India is aspiring to build a sustainable rail infrastructure to further strengthen the urban mobility landscape of the nation and together with integral partners including Hitachi India. Hitachi has been a long-standing partner of the Indian Railways aligning its integrated rail solutions with ambitious National Rail Plan (NRP) for India – 2030 and Vision 2024 which will seek to increase the modal share of Railways to 45% in freight traffic, average speed of freight trains to 50Kmph, 100% rail electrification by 2024, and identification of new Dedicated Freight Corridors (DFCs) and High-Speed Rail Corridors.<sup>1</sup>



Concurrently, Hitachi India is collaborating with the Government of India and State Governments to introduce front-line Metros, aimed at alleviating mobility congestion in expanding cities and offering cost-effective, last-mile connectivity for the citizens to enhance their wellbeing. Leveraging state-of-the-art Signalling solutions, Hitachi India is strategically positioned to accelerate and partner to offer its technological prowess for the implementation of Driverless Trains in India.

By digitally transforming the rail infrastructure, Hitachi India is ensuring improved passenger safety, punctual and reliable train operations, smooth management of rail traffic on congested corridors, speedy and seamless commutes for an enriched passenger experience. Hitachi's suite of digital rail technologies and expertise in green technologies has placed the Indian Railways in a progressive position to become Net Zero carbon emitter by 2030<sup>2</sup> and propel India into the league of nations with the largest metro networks in the world.

As crucial pillars of the nation's economy, Energy and Mobility systems are being rebuilt with sustainability at the heart of the transformation. Hitachi India is ready to take on the challenge together with its partners across the power and mobility ecosystem.

1. https://pib.gov.in/PressReleasePage.aspx?PRID=1806617#:~:text=Indian%20Railways%20have%20prepared% 20a,Railways%20in%20freight%20to%2045%25

2. https://pib.gov.in/PressReleasePage.aspx?PRID=1768712

# > Hitachi Energy India Ltd.

Building a Sustainable Future for India with Green Energy

39

Hitachi Energy is leading the nation towards building a sustainable energy future. Offering distinctive solutions and services in the utility, industry and infrastructure sectors, Hitachi Energy is fueling India's digital transformation with a portfolio of smart solutions that aims to create a greener future and build a resilient power infrastructure that is enhanced by social and digital innovation.

## Our Green x Digital Innovations

Hitachi Energy's Research and Development (R&D) efforts have sparked breakthroughs in various fields, poised to revolutionize the discourse surrounding energy transition:

# **Mounting Footprints**

Around **30%** renewables in the country flows through Hitachi Energy's wide range of products.

Around **>50%** of India's high-voltage direct current (HVDC) power transmission links powered by Hitachi Energy.

About **9/10** metro lines run on its electrification and automation solutions.

Almost every third Shatabdi and Rajdhani train is powered by its transformers.



#### OceaniQ: Harnessing Offshore Wind Energy

Drawing upon expertise from both the power and marine sectors, this portfolio encompasses applications for fixed platforms, floating structures, and sub-sea power systems, catering to the needs of wind, marine, and other offshore operators.



#### TXpert<sup>™</sup> Hub- Digitalizing Transformers

This advanced digital technology is at the heart of the TXpert Ecosystem for transformer digitalization and incorporates the latest advances in communications technology and cybersecurity.





Learn More About TXpert<sup>™</sup> Hub



40

#### Lumada Inspection Insights-**Fortifying Asset Management**

Lumada Inspection Insights employs intuitive visuals and AI-driven image analysis gathered from satellites, still images, or videos to provide comprehensive assessments of asset health and risk profiles.





#### IdentiQ<sup>™</sup>- Digital Twin for **Real-Time Insights**

It incorporates a digital twin, including interactive 3D visualization of the entire asset, accompanied by seamless access to all associated plant and equipment information, thus providing clear operational insights in real time.



#### EconiQ<sup>™</sup>- Eco-Portfolio for **Carbon Neutral Future**

Learn More About Lumada **Inspection Insights** 

Designed with sustainability in mind, EconiQ<sup>™</sup> comprises an eco-efficient portfolio that reduces environmental impact by eliminating sulfur hexafluoride (SF6) and enhances energy efficiency, thus safeguarding technology investments for the future.



#### Learn More About EconiQ<sup>™</sup>



Learn More About IdentiQ<sup>™</sup>

#### 5G Connectivity for Mission-**Critical Operations**

Hitachi Energy's TRO600 series of wireless routers with 5G capability enable 5G connectivity for mission-critical industrial and utility operations. The hybrid connectivity solutions provide interoperable technologies on a single communication network, enabling applications for edge devices, mobile devices, and field networks in environments ranging from dense urban to ultra-rural.



#### e-mesh™ - Insight into **Distributed Energy Resources**

The e-mesh portfolio offers end-to-end distributed energy solutions, combining advanced analytics, software technology, and hardware systems.



#### Grid-eMotion®- Charging Solutions for E-mobility

Grid-eMotion® Fleet is a scalable, modular, and fully customizable solution for large-scale EV charging of smart public and commercial transport. Grid-eMotion® Flash is a flash-charging technology that allows for ultra-fast charging (as less as 20 seconds) at intermediate stops optimizing operational cost and availability for fleet operators.



Learn More About e-mesh<sup>™</sup>







In our pursuit of a sustainable energy future, Hitachi Energy's digital and green portfolio emerges as a radiant beacon, fortifying India's power infrastructure with resilience, flexibility, and sustainability. Together, we advance a legacy of progress, where every watt of renewable energy empowers growth, and every ray of light kindles hope for a brighter, greener tomorrow.

N. Venu, Managing Director and CEO, Hitachi Energy in India, and South Asia

# PROJECT HIGHLIGHTS IN

#### **Powering One of India's Largest Solar Parks**

Hitachi Energy has been chosen by National Thermal Power Corporation Renewable Energy Limited (NTPC REL) to supply power transformers for their upcoming 4.75 GW renewable energy park in Gujarat, which is part of India's largest solar park.





Hitachi Energy will provide **10 nos. 315 MVA 400/33/33** kV transformers manufactured at its Transformers factory in Vadodara.



This will be the largest rating of transformer used by solar power evacuation so far.



Support India's clean energy transition and efforts to achieve a carbon-neutral future.



#### **Energy Network Operation Centre (ENOC)**

Hitachi Energy has established one-of-its-kind Energy Network Operation Centre (ENOC) in Ahmedabad to remotely monitor and control 34 power substations in Rajasthan to maximize grid efficiency, prevent costly disruptions and outages, setting an example for the future digital adoption for seamless management of energy system.





It involves the setting up of two control centres and 29 substations. Enables real-time and historical data availability by accessing plant performance data from anywhere (desktop, mobile) and anytime.

This project will help utilities to achieve technological advances in Operations and Maintenance (O&M) practices to ensure the project is at par with global standards.

Centralized management of sites from a single location will drive decision-making based on data analytics.

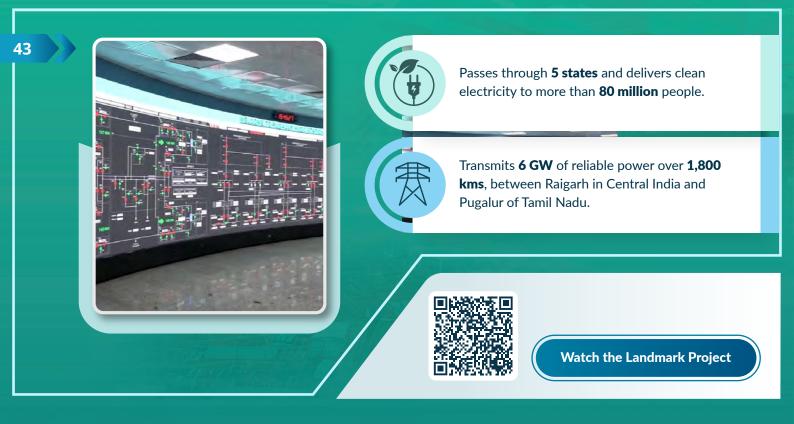
#### 1000 Megawatts to Mumbai

This is one of the first HVDC city infeed projects in India which will strengthen Mumbai's existing transmission infrastructure and ensure reliable power supply to 20 million people. This new HVDC link will:



#### Raigarh to Pugalur, a Transformative Connection

The ground-breaking Raigarh-Pugalur Ultra-High Voltage Direct Current (UHVDC) link marks a milestone in building smart, resilient grids for the future. This bi-directional link:



#### The North-East-Agra Link

Hitachi Energy in partnership with Power Grid Corporation of India Ltd. delivered India's first UHVDC project ±800 KV North-East-Agra transmission link that:



#### **Upgraded India's First Commercial Long-Distance HVDC Link**

Hitachi Energy upgraded and revitalized Rihand Dadri HVDC link which was also the first commercial long-distance HVDC link in India, while evacuating the 3,000 MW coal based Rihand Thermal Power Station in Uttar Pradesh.





#### Harnessing Hydroelectricity in J&K

Hitachi Energy is powering the Pakal Dul Power Project, one of the biggest hydroelectric project in Jammu & Kashmir.



#### A Net Zero Campus| IIT Roorkee

IIT Roorkee, a leading technical institution in India collaborated with Hitachi Energy to build an intelligent and sustainable campus energy ecosystem. Hitachi Energy provided a:



#### **Powering Metros for Sustainable Mobility**

The company is powering nine out of ten metros in India, helping to reduce the carbon footprint.



# Hitachi Rail in India

# Connecting the Future of Mobility

Hitachi Rail, a fully integrated, global provider of rail solutions, delivers every aspect of railway solutions for customers – from manufacturing trains, delivering signalling infrastructure to ticketing, maintenance and operations of entire railways. Pioneering the digital transformation of railways (infrastructure, vehicles and signalling), Hitachi Rail is committed to helping every passenger, customer and community enjoy the benefits of seamless, sustainable transport. Committed towards UN Sustainability Goals, Hitachi Rail is becoming a climate change innovator, advancing towards achieving net zero in its own CO<sub>2</sub> emissions by 2030, and the entire value chain by 2050.

Pioneering New Frontiers in India

- Commissioned India's first Centralized Traffic Control (CTC) system at Tundla near Agra on the North Central Railway.
- First to deliver European Train Control System (ETCS) level 1 in both Northern and Southern India.
- One of India's fastest trains "Gatimaan Express" is also its first semi-high speed train powered by Hitachi Rail ETCS Level I technology.
- Emerging as the first in supplying Propulsion System, Auxiliary Power Supply, and Train Control Management System (TCMS) for Mumbai Metro Line 2&7 which will introduce the Unattended Train Operation, with high-level technology and safety.
- Implemented one of Asia's largest Electronic Interlocking Systems at Juhi Yard, allowing operators to set as many as 973 routes in just a few clicks.
- Hitachi's in-house Microlok II controls more than 1,000 stations across India.

## **Global Footprints**

- 18 billion journeys completed, millions of tonnes of freight safely transported across the world every year using Hitachi Rail's technology.
- A diverse, resilient workforce of 14,000 employees in 38 countries.
- 100 years of experience in delivering integrated rail solutions for customers and passengers.
- Hitachi Rail has been awarded in the top 1% rank of the most sustainable companies in its industry by the EcoVadis sustainability rating - concluding the 2023 assessment with an outstanding 81/100.
- An international portfolio of landmark mobility projects, including world-leading high-speed trains such as Japan's Shinkansen and Europe's ETR1000, creating the world's first fully automated, heavy-haul, long-distance rail system AutoHaul in Australia, and 'smart city' project in Genoa, Italy that enables passengers to use one app to move from point A to point B seamlessly across different modes of public and private-hire transport.
- Has been an integral part of consortia delivering complex transport projects, including Metrolinx (Toronto), FLOW (Riyadh), Ho Chi Minh metro line and Metro Linea 2 (Lima) to name a few.





# **Integrated Rail Solutions**

Hitachi Rail offers a comprehensive portfolio of rail solutions and services, including rolling stock, signalling systems and smart mobility. Whether sold in isolation or as part of turnkey project, Hitachi Rail is committed of being a trusted partner to its customers, supply chain both independently and as part of consortia.

#### **Rolling Stock**

- 100 years of Hitachi's extensive and credible track record of delivering energy-efficient and state-of-the-art rolling stock to power low-carbon sustainable rail transport.
- Products manufactured range from Japan's iconic Shinkansen very high speed bullet trains to rolling stock for Mass Transit, Commuter, Intercity, Regional, Metros, and Trams around the world.
- Utilizes a combination of battery, 100% electric or hybrid to further reduce rail greenhouse gas emissions.
- Hitachi Rail Intelligent Asset Management system maximizes rolling stock availability for a minimum whole-life cost and risk, reduces system downtime.
- Hitachi Rail's Perpetuum on-board condition monitoring system combines artificial intelligence and analytical tools to detect onboard faults or vibrations enabling high reliability, reduced maintenance, and increased availability of rolling stock.
- Hitachi Rail leads the world in developing battery trains, supported by Hitachi Energy's fast charging technology. Its battery trains provide the blueprint for thousands of kilometres of unelectrified railways around the world.

#### **Digital Signalling and Systems**

Hitachi Rail designs, manufactures, installs and commissions signalling components, systems and integrated mobility solutions for the management and control of the new and upgraded railway, transit and freight lines. Globally, Hitachi Rail's teams support clients with varied types of signalling solutions, which allows Hitachi Rail to have a holistic view of a railway operation, improving performance and revenue efficiencies.

Ō

#### **Communication Based Train Control (CBTC)**

Enables Automatic, Driverless & Unattended Train operations, assures safe and better ride comfort, shortened and dynamic train headway to increase overall network capacity.

#### **Signalling & Train Control System in ERTMS/ETCS** Enable trains to run closer together and travel at their best speeds

while maintaining safe braking distances.

**Traffic Management System** Designed to seamlessly synchronize and operate in

Designed to seamlessly synchronize and operate intricate vast operations at Railway hubs and stations.

#### **Satellite Positioning**

Enables safer and more accurate rail traffic management.







#### **Smart Mobility**

- Lumada Intelligent Mobility Management suite is a new and unique offering from Hitachi Rail, built for public transport operators, cities, and passengers to help enable a lower carbon, cost optimized and congestion free world.
- The suite brings together Hitachi Rail's bouquet of mobility services that offer cities, operators and passengers a distinctive ways to monitor, manage and navigate our urban landscape.
- The suite of smart mobility solutions includes multi-modal passenger smartphone app 360Pass, and a new orchestrator tool for operators and municipalities – 360Motion.
- 360Motion creates a digital twin of an entire city's public transport network, allowing predictive analytics and real time responses to help cities to optimize the way their people move.



#### Turnkey

- Hitachi Rail is a leader in designing and building entire railways either individually or as part of a consortium – worldwide.
- Hitachi Rail's transportation systems are designed with the whole-life cost at the forefront, meaning the solutions provide high-performance levels, increased capacity, high levels of safety and service availability and improvements to passenger satisfaction.
- Hitachi Rail has the capability to work as a special contractor or as a leader in joint ventures with civil work companies and other rolling stock manufacturers.



#### Service & Maintenance

- Hitachi Rail provides pioneering solutions across a range of Service & Maintenance for both rolling stock equipment and legacy signalling installations.
- Hitachi Rail delivers best-in-class services to customers designed to maximize product life cycle, support customers' operations, and enhance passenger experience with innovative digital solutions.

Hitachi Rail is connecting the future of mobility, and pioneering smart mobility solutions to help cities, transport operators and passengers achieve lower carbon, lower cost and more convenient transport by making public transport the first preference for travel. As the dynamics of transport continue to evolve and challenge, we are working to digitise and fully integrate the entire transport system, creating seamless, sustainable mobility in a carbon neutral world.

Mangal Dev, Head - Hitachi Rail India & South Asia, & Director, Hitachi India Pvt. Ltd.



Hitachi Rail is at the forefront of redefining India's mobility landscape through amalgamation of globally proven green and digital rail technologies. Through our strategic partnerships with Indian Railways and metro operators, we are revolutionizing urban transportation. Our vision is to decongest cities, provide seamless and sustainable commutes to millions, and transform every journey into a memorable experience.

Manoj Kumar Krishnappa, Director and Head, Hitachi Rail STS India Pvt. Ltd.

# PROJECT HIGHLIGHTS IN

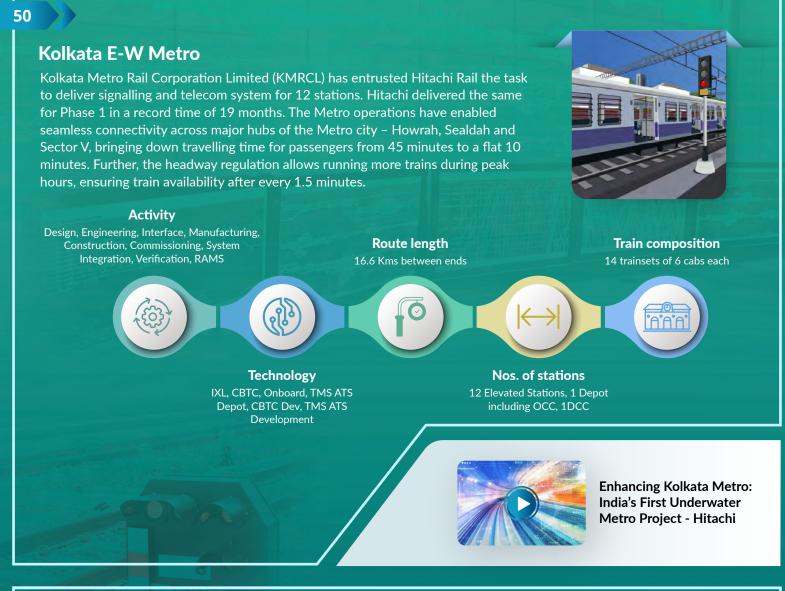
#### **Greater Noida Metro Rail**

Hitachi Rail partnered with Noida Metro Rail Corporation (NMRC) to deliver Noida Metro, enabling seamless connectivity across Noida, Greater Noida and India's capital New Delhi. Hitachi provided its proven Signalling & Train Control with CBTC System, Automatic Train Supervision, Passenger Information System, Platform Screen Opening Doors, Automatic Train Operations in Depot, and Data Communication Systems among others. The project is ensuring safe, affordable and convenient commute for millions and sustainable commercial, residential growth in NCR.





Noida Metro: Fulfilling the Dreams of Millions with Seamless Connectivity -Hitachi



#### Navi Mumbai Metro Rail

Developed by City and Industrial Development Corporation (CIDCO) of Maharashtra, Navi Mumbai Metro mass transit system is bringing connectivity across the suburbs of the city of Navi Mumbai. Playing an instrumental role in the success of this project, Hitachi Rail is providing its state-of-the-art interlocking system and CBTC signalling for Automatic Train Supervision.







#### **Dedicated Freight Corridor (DFC)**

Hitachi Rail collaborated with the Indian Railways in executing the landmark DFC project. Hitachi's advanced technologies for train protection are assuring security of freight operations, while contributing to increased train capacity, reduction in carbon emissions, and faster, cheaper, and more efficient movement of goods across the country.

#### Activity

Complete signalling and telecommunication system for the 915 route kms (Rewari in Haryana to Vadodara in Gujarat) line involving 31 freight stations and associated terminals. Also implementing a robust Train Protection and Warning System for 1,337 route km (Rewari, Haryana to JNPT-Port, Mumbai) line involving 43 freight stations and On-board system to be deployed on the first 200 electric locomotives manufactured by Chitranjan Locomotive Works

#### **Technologies**

Signalling, Train Monitoring System (TMS), Telecom System, and Automatic Train Protection System based on the worldwide proven European Train Control System (ETCS)





Making Freight Operations Safer and Convenient by Powering Western Dedicated Freight Corridor

#### Visit Group Company Website

#### Interlocking (EI) System at Juhi Yard with 973 routes. Earlier, Hitachi had also implemented EI system at Kharagpur railway station with 800 routes. Hitachi's

Hitachi Rail collaborated with Indian Railways to deliver India's largest Electronic

Electronic Interlocking at Kharagpur & Juhi Yard

in-house Microlok (MLK) II now controls more than 1,000 stations across India. The new system replaces the outdated mechanical gears and enormous relays & the use of coal and diesel for their regular maintenance, enabling cost savings and reduction in carbon emissions. Electronic interlocking allows seamless management of operations from a centralized location, setting of hundreds of routes in just a few clicks, accommodation of more trains, and their faster movement.

#### Activity

Design, Supply, Installation, Testing & Commissioning of MLK II based Electronic Interlocking System **Technologies** Station Signalling & Train Control System

#### **Tundla Railway Station**

Hitachi Rail collaborated with Indian Railways in commissioning India's first Centralized Traffic Control (CTC) system at Tundla near Agra on the North Central Railway. This CTC system will automate the operations of freight and passenger trains in the High-Density Network of Kanpur-Ghaziabad section of Northern and North Central Railway. This ambitious project of Indian Railways brings planning, execution and supervision of the train movements under one roof, thus enhancing safety and reliability while building a high-speed transport system for improved and comfortable journey to the people.

#### Activity

Design (railway layout preparation, the configuration of the signalling interlocking rules, train graph, train identifier, alarm management, etc.), Testing (software and hardware in isolated and integrated environments), and Commissioning (installation and configuration of databases at site and integration with the existing system as well as at local station)

#### Route length and no. of stations

The CTC controllable area covers total 47 stations covering up to ~423 Km. Out of 47 stations, CTC is commissioned over 31 stations covering ~300 Km

# Technologies

CTC based on cutting-edge technology of Systema di Commando e Controllo (SCC), Firewall Protection, Network Management System, and Centralised Maintenance System

#### **Train composition**

The line carries passenger trains, freight trains, maintenance vehicles, high speed trains, and special trains









# **Connective Industries**

Driving Industries' Sustainable Transformation

53

Social Infrastructure correlates not only with nation's prosperity but also people's wellbeing. The Government of India is placing a massive push on the infrastructure sector.<sup>1</sup> However, India is striving to bring cohesiveness into infrastructural metamorphosis, and the Gati Shakti National Master Plan is an exemplary testimony of a progressive India.

# Towards Industry 4.0 & Society 5.0

The increasing interconnectivity and smart automation of industrial processes enabled by Industry 4.0 technologies have opened innumerable opportunities for the emergence of Connective Industries across verticals. This paves the way for a human-centric Society 5.0 where high degree of convergence between cyberspace (virtual space) and physical space (real space) brings new value to citizens for enabling comfortable lives for citizens and society at large.



#### Gati Shakti National Master Plan

Integration of multiple ministries and departments under a centralized portal, ending silos and building a unified blueprint for national development.

# Smart Cities Mission

Building sustainable and citizen-friendly cities through smart solutions that assure core infrastructure to every citizen for leading a good quality of life.

#### Connected Industries offers resilient supply chains that contribute towards revitalizing industries and cities.

Hitachi is leading the Digital Transformation across multiple industries with the vision to accelerate sustainability and drive social change. For instance, the digitalization of water systems presents innovative solutions to the mounting water challenges India is facing. Leading the way for smart water management or Water 4.0, Hitachi's intelligent water solutions are ensuring optimum usage of the precious natural resource, equitable distribution supply to households, and quality drinking water supply for a healthier society. Smart water systems built by Hitachi India are ushering sustainable water management in line with progressive reforms initiated by Jal Shakti Ministry.

#### Jal Jeevan Mission

Functional household tap connection (FHTC) for every rural household by 2024.

Similarly, the digitalization of City Gas Distribution (CGD) networks promises clean energy to millions of citizens, while playing a crucial role in building a low-carbon society. Natural Gas, the cleanest burning hydrocarbon, has attracted the Government of India's attention, which now sets to build a Gas-based economy with Natural Gas occupying double the share in the energy mix by 2030. Hitachi India is coalescing its expertise in IT x OT x Products to empower CGD service providers scale their network, remote control entire operations through IoT-based sensors installed at sites and deliver safe and reliable gas supply to masses. Hitachi India through its Social Innovation Business is committed towards supporting India's "One Nation, One Gas Grid" mission and serving the nation in becoming self-reliant in energy production for continued sustainable industrial and economic growth.

While advancing the sustainable transformation of the steel industry and improving the lives of millions of people with a resilient social infrastructure based on the tenets of long-lasting steel, Hitachi India is supporting the automation of steel systems with its expertise in digital technologies, green technologies, and innovation.

# Hitachi Hi-Rel Power Electronics Pvt. Ltd.

-

- ... a

# Powering India through Social Innovation

Hitachi Hi-Rel Power Electronics Private Limited is the leading manufacturer of power electronics products that integrate Digital, Green and Innovation to contribute towards a sustainable and eco-friendly future. Their products and solutions are designed to optimize power usage and enhance energy efficiency for a lower carbon footprint, while leveraging digital technologies such as IoT integration into products and data-driven insights for superlative performance.

## Impact in Numbers

Installed Capacity

More than 3 GW capacity of Grid Tied Solar Inverters installation base across various states in India.

#### Reduced Carbon Footprint



Reduction of about 2.4 million metric tons carbon dioxide emission every year.

# Key Products & Solutions

Hitachi Hi-Rel invests in research and development to create state-of-the-art power electronic products. Their products incorporate advanced semiconductor devices, high-efficiency conversion techniques, and intelligent control algorithms, ensuring optimal performance and reliability.



#### UPS and Power Conditioning Back-Up Systems

An exceptional safeguard against power disruption reflecting Hitachi Hi-Rel's advanced technology with a proven track record in mission critical applications. Company offers UPS Systems 1Ø Input-1Ø Output from 1-10 kVA, 3Ø Input-1Ø Output from 5-250 kVA and 3Ø Input-3Ø Output from 10- 600 kVA ratings, Battery Charger & DRUPS (Diesel Rotary UPS Systems) along with customization.

#### Variable Frequency Drives (VFD)

An energy efficient means of process management, VFDs control AC motor speed and torque by varying motor input frequency and voltage, from medium & high voltage multi-level IGBT drives up to 14,280 kVA and low voltage drives ranging from 0.2 kW to 450 kW.

#### Grid Tied Solar Inverters

This high-performance solar central and string inverters generates more than 3 GW+ renewable power in Indian solar domain. It enables efficient power conversion, facilitating the widespread adoption of renewable energy.

#### Air Compressors

Customers get optimized compressed air solutions through superior compressor technology, universally applicable design, outstanding craftsmanship and superior quality. Hitachi Hi-Rel's rotary screw compression and vacuum technology innovation provide an environmental, reliable, quiet compressor that performs excellently and is easy to maintain.

#### Railway Inverters

Hitachi Hi-Rel created an energy supply system for Railway rolling stack application that can supply power to the AC Package Unit for air conditioning of AC Coaches.

#### Energy Storage Solutions

Hitachi Hi-Rel's distinguished energy storage solutions encompass advanced battery management systems, grid-scale storage solutions, and integration with renewable energy sources, enabling efficient energy utilization and demand response.

Hitachi Hi-Rel is also working on the ongoing development of EV chargers for large vehicles towards meeting the objective of green transport.

55

Hitachi Hi-Rel is on a mission to provide a distinguished and wide range of power electronics solutions required for social infrastructure projects that improves the wellbeing of citizens while serving India's quest for Aatmanirbhar Bharat (Self-Reliance) and sustainability.

Darshan A Shah, Managing Director, Hitachi Hi-Rel Power Electronics Pvt. Ltd.

# PROJECT HIGHLIGHTS IN

# Solarizing Rajasthan and Madhya Pradesh

Hitachi Hi-Rel Solar Inverters have been installed under PM-KUSUM Scheme (Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahaabhiyan) in Rajasthan & Madhya Pradesh. Under this ambitious scheme by the Government of India, the farmers can generate income from Solar Power generation to support their livelihood.

HITACHI

18 numbers of Hitachi 250 kW String Inverters installed in Rajasthan (3 MW, Bikaner Distt.) and Madhya Pradesh (1.5 MW Ratlam Distt.)

250 kW String Inverter operates at 1500 V DC and generate AC output at 800 V which can be fed to the grid with suitable power evacuation arrangement provided at Sub Station level of State/National Grid.

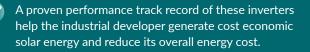
Due to robust design, reliable performance and Hitachi's customer support, this model is a product of choice for such small ground mount utility scale applications.

# **Solarizing Gujarat**

The SSDSP (Small Scale Distributed Solar Project) being installed at Jamnagar, Gujarat initiated Solar Photovoltaic project that requires conversion with highly reliable and state-of-the-art Solar Invertors, is equipped with superior conversion technology. Continuing with the last year's momentum under SSDSP Projects, Hitachi Hi-Rel supplied-

V

A total 146 numbers of 250 kW inverters to multiple projects of industrial/commercial establishments with a total capacity of 36 MW in this year.





# Hitachi High-Tech India Pvt. Ltd.

# Ushering in Innovation

Hitachi High-Tech in India is ushering in a new era through breakthrough innovations in measurement and analysis technologies for application in the Mobility, Industrial and Green Technology sectors. Our instruments are being used by top research institutions and private institutions in India.

# Solutions for Varied Fields

Hitachi High-Tech focuses on addressing challenges faced by customers by leveraging core technologies in 'Observation, Measurement and Analysis.' We are a reliable supplier of a variety of analytical instruments and give focus on customer value creation through Quality Control/Quality Assurance (QC/QA) solutions, incoming material inspections and Restriction of Hazardous Substances (RoHS) compliance solutions etc.



#### **Electron Microscopes**

Hitachi High-Tech provides High-Quality Electron Microscopes, including Scanning Electron Microscope (SEM), Transmission Electron Microscope (TEM), Focused Ion Beam (FIB), to meet diverse customers' needs in several fields including semiconductors, material science, and life science.

#### **Analytical Systems**

Offering a wide array of instruments for high-sensitivity thermal analysis (TGA), X-ray Fluorescence, Optical Emission Spectrometers, UV-Spectrometer, High performance Liquid Chromatograph, and dedicated instruments for multiple industries for screening purposes.





#### **IT Solutions**

Hitachi High-Tech provides high end solutions for various sectors like Manufacturing Execution System [HITPHAMS] for digitally managing operations at pharmaceutical production shop floor.



58

#### **Impurity Inspection Systems**

Impurity inspection systems for the emerging Lithium-ion cell manufacturing sector in India, thus contributing towards safer and green battery solutions.



**Explore the Solutions** 

Our constant endeavour is to meet the sophisticated needs in today's world through spectroscopic analytical technologies and electron beam technologies, thereby contributing towards rapid progress in diagnostic technologies and Make-in-India and thereby improving the quality of life.

Naoki Kozuki, Managing Director, Hitachi High-Tech India Pvt. Ltd.

# PROJECT **HIGHLIGHTS IN** INDIA

# Accelerating Digital Journey for a Pharma Company

Hitachi High-Tech has supported the implementation of a robust Manufacturing Execution System (MES) at a new block of a Pharma customer in India, enhancing their digital transformation (DX) and Best Manufacturing Practices Journey.

Acting as a digital backbone, MES plays a crucial role in empowering a pharmaceutical company by streamlining and optimizing their manufacturing processes. Its benefits include:

- Real-time visibility into the entire manufacturing process
- Helps enforce strict quality control measures by monitoring critical process parameters
- Real-time data analytics for data-driven decisions
- Helps ensure compliance with industry standards and regulations

- Accelerates time-to-market for pharmaceutical products
- Facilitates continuous process improvement leading to higher operational excellence
- - Optimizes material usage, reduces waste



# Hitachi India Pvt. Ltd. Infrastructure Systems Division

Building Resilient Social Infrastructure, the New India Needs

Hitachi India Pvt. Ltd. Infrastructure Systems Division is committed towards building a resilient and intelligent social infrastructure in India. From clean Oil & Gas solutions to intelligent water solutions, Hitachi is leveraging the group's IT x OT x Products expertise to create secure, sustainable, and citizen-centric social infrastructure.

#### **Key Solutions**



#### Pipe Network Management System

Locates system-accumulated customer information on maps to realize safe and secure water environments by using a variety of simulation functions.

#### Water Supply Operation System

Forecasts water demands based on temperature, weather, and more to adjust water intake and supply plans.



#### Water Distribution Control System

Uses hydraulic analysis to control distribution pumps and control valves under optimum conditions.

#### Water Leakage Management System

Hitachi's original algorithm uses collected data to estimate leakage area within District Metered Area (DMA).

#### Hitachi Water Feature Systems

By "Adding Life to Your Water", we utilise water to enrich people's lives by creating interactive spaces that bring people together in an immersive awe-inspiring experience. Water Elements bring life to the architecture and landscape. Hitachi bridges people and places through water experimentation, human interactions and excitement of the senses.

#### The Hitachi Advanced Water ICT solution

Manages water leakage and assures higher revenues with reduction of leakage using Hitachi's proprietary simulation analysis. Hitachi IoT solution for sewerage system provides real-time management of sewerage network. \_\_\_\_\_

Water

Hitachi combines the expertise in IT x OT x Products to power digital water systems for water treatment, optimization, and distribution across India. Green Technologies and Digital Technologies further empower Hitachi's goal to optimize the available potable water supply and sustainably meet India's ever-growing water requirements.





Explore Intelligent Water Solutions

# PROJECT HIGHLIGHTS IN

60

### Digitalizing Delhi's Sewage Infrastructure

Once a thriving waterbody with marine life, today River Yamuna is one of the world's most polluted rivers, with domestically generated sewage accounting for more than 80%<sup>1</sup> of the total effluents choking the river. Hitachi Infrastructure Systems Division partnered with the Delhi Jal Board to digitalize the Sewage Pumping Stations (SPSs) for improved performance, prevention of sewage overflow into city's water bodies, and safe drinking water supply to millions of Indian households.

Hitachi delivered the automation of 116 Sewage Pumping Stations around the city by installing Internet of Things (IoT) devices for anytime, anywhere monitoring of plant operations, paving the way for a smart, robust, and sustainable urban sewage system.

#### Rapid Urbanization in Pitampura meets Smart Innovation

Manual data recording in Pitampura water distribution network was prone to errors, but with Hitachi, the nation's first of its kind successful 24x7 operation and management process paved the way for other Indian cities to implement smart water management systems too.

#### **Key Hitachi Solutions**

Supervisory Control and Data Acquisition (SCADA) systems which enable:

- ✓ Remote and real-time monitoring
- Control of plant operations
- Intelligent decision making
- Preventive maintenance
- Yimely customer service delivery



#### Pipe Network Management System (PNMS) which:

- Provides equitable water distribution to residents
- Remotely monitors 14 local control points

1. https://timesofindia.indiatimes.com/city/delhi/domestic-sewage -to-blame-for-80-of-river-pollution/articleshow/88960352.cms

#### **DLF Project "The Camellias"**

The Camellias assimilates stunning architecture, breathtaking landscape design for a living experience far superior to anything experienced to date. Water Elements of Hitachi Water Feature System added life to this architecture and landscape. Designed as a feature, the water element impresses, enhances and fascinates.

Key deliverables for the project were swimming pools, water bodies at entrance gate, tower entrance lobby water features, water garden, clubhouse bio-ponds and reflecting pond, water features at lower ground, water features at clubhouse drop-off, rain mist water feature, and hot and cold tubs.

#### All India Institute Of Medical Sciences Delhi

# Ushering Green & Digital Hospitals: Enabling Energy Saving through ICT

Aging infrastructure, high energy-consuming equipment and 24/7 operations make hospitals one of the most energy consuming public buildings. With a mission to save energy and transform the healthcare sector, the Government of India sought to introduce Green & Digital hospitals, starting from its premier hospital All India Institute of Medical Sciences (AIIMS), New Delhi. Hitachi India joined hands with AIIMS hospital and utilized its proficiency in Information & Communication Technologies (ICT) to implement a host of energy saving measures, resulting in up to 30% energy savings and successfully achieving an ICT-based Green & Digital Hospital at AIIMS.







**Read About the Complete Project** 

### Oil & Gas

To harness the immense potential of Natural gas as a low carbon footprint resource, the Government of India wants to more than double the share of natural gas in India's energy mix. As an innovative partner, Hitachi India is collaborating with industry stakeholders to integrate the nation's gas infrastructure with the latest technologies and software such as SCADA (Supervisory Control and Data Acquisition) systems.

Hitachi's solutions are designed to meet the highest standards of safety, reliability, resiliency and maintainability, and are tailored to challenge harsh environments.



#### **Key Solutions**

Partnering with the Government of India, Hitachi India uses its Information Technology x Operational Technology x Products expertise to deliver comprehensive IoT enabled Lumada platform solutions that enable digital transformation in the City Gas Distribution (CGD) networks.

### The Lumada Portfolio of Solutions includes:



#### **Empowering India's City Gas Distribution Network**

Indraprastha Gas Limited (IGL) is one of the largest City Gas Distribution service providers in the country. Hitachi India was entrusted by IGL to co-create an efficient operations automation solution. After deep assessment of the customer's challenges and existing capabilities, Hitachi created a robust solution architecture to meet IGL's vision of a low carbon footprint society by:

- Enabling the network to become more safe, robust, and responsive
- Using the converging data to help in recognizing the peak hour consumption patterns for differential pricing during peak hours to be introduced



6

As India takes giant steps towards achieving Sustainable Development Goals and building a Sustainable India, smart and resilient social infrastructure has become a key priority. Our globally recognized IT x OT x Products are laying a strong foundation of digital water systems, efficient steel systems, and accelerating India's transition to a gas-based economy.

Takayoshi Ajiki, Director, Hitachi India Pvt. Ltd. Infrastructure Systems Division

## Steel



### Forging a Sustainable Path in Steel Industry

The Process Automation Engineering Group (PAEG), a part of Hitachi Infrastructure Systems Division, Hitachi India Pvt. Ltd. provides sustainable steel solutions, offering high Return on Investment (RoI), to the industry through its unique composite Industrial Automation (OT) and Digital Solutions (IT). The platform, Industrial Internet of Things (IIoT) accelerates the industrial digital transformation for superlative output while its proven IT x OT x Products proficiency makes it the preferred partner for an end-to-end execution of industrial projects (new and upgradation) for various manufacturing processes and standalone applications.

#### **Key Solutions**

The Process Automation Engineering Group (PAEG) is an expert in creating data connectivity pipelines and edge computing capabilities using Hitachi's LUMADA Product HX-Hybrid Gateway cum Controller, cloud capabilities, data visualization, and analytics capabilities. The solution portfolio includes:

#### Process Observation and Efficiency Enhancement

Key production, utility, and quality indicators, among others, may be monitored and visualised in real-time using digital solutions on both online and mobile application platforms.

#### Service Support Platform

PAEG has established an infrastructure of local technical service support platform winning the trust and confidence of existing customers. The new innovative work methodology of "HIL@site and HTC@remote" has enabled Hitachi to seamlessly execute crucial projects comprising stakeholders dispersed across diverse geographic locations.

#### **Automation Systems**

PAEG offers a composite package of IT x OT x Products in the areas of Level-1 and Level-2 Automation. PAEG has developed a new Level-2 Automation System with digital visualization feature specifically for developing country markets offering value to customers at a competitive price.

 $\bigcirc$ 

#### **Smart Business Insights**

Process Insights, Energy Insights, Utility Insights, Maintenance Insights, Safety Insights, Effluent Insights, Real-Time Location Tracking.

#### **Composite Automation & Digital Solutions**

Level-2 Customer Experience (CX) and User Experience (UX) visualization, power monitoring and scheduling system, and Management Information System (MIS) among others.

# PROJECT HIGHLIGHTS IN INDIA

#### **SAIL** with Hitachi

The Steel Authority of India Limited (SAIL), Rourkela, Odisha worked closely with Hitachi India and Hitachi Japan BU (Social Infrastructure Systems Business Unit) along with other consortium partners, to successfully commission a new hot rolling mill project in Rourkela, Odisha amidst the COVID-19 pandemic period. PAEG contributed towards making a positive economic, environmental, and social impact on the project by participating in commissioning of L1, L2 & L3 (MES - Manufacturing Execution System, SYC – Slab Yard Control, CYC - Coil Yard Control) systems, without Original Equipment Manufacturers (OEMs) physical presence at site, thus providing SAIL with automation systems and digital solutions that allow them to:

- 🥪 Deliver high-quality products 🛛 🔗 Optimize efficacy and resources
- Add economic, environmental, and social value to the nation



Learn More



Integrated with environment-friendly new technologies, Rourkela Steel Plant (RSP) has been conferred with the Greentech Environment Award-2022 and the Greentech Export Award-2022 for its contribution to environmental sustainability.

#### Tata Steel, Kalinganagar

Tata Steel, Kalinganagar plant is one of the largest Green Field projects in steel. Currently, PAEG is commissioning Pickling Line and Tandem Cold Mill (PLTCM) plant along with Hitachi Japan BU (Social Infrastructure Systems Business Unit). This project will help Tata Steel in achieving their goal of capacity expansion and further enhance their product basket.

#### JCAPCPL, Jamshedpur | Tata Steel, Khopoli

The Jamshedpur and Khopoli plant require separate digital makeovers and PAEG is presently executing the projects at said plants with a focus on the Rol benefits for the end user. After completion, each plant's respective unit will have improved process and operational efficiency.



## Semiconductors

 $\bigcirc$ 

#### **Revolutionizing Industries with Sustainable Semiconductor Solutions**

Harnessing our decades of market experience and advanced technologies, Hitachi India Pvt. Ltd. - Infrastructure Systems Division offers highly reliable and energy-efficient power Semiconductor products for a wide range of industries, including Rolling Stocks, Construction Machinery, Electric Power Generation and Transmission Facilities, Automotives, Home Appliances, etc. Meticulously designed and manufactured to the highest standards, Hitachi semiconductors are key devices for driving efficiency improvement through energy optimization, thus contributing to a sustainable and prosperous future for all.





#### IGBTs

Hitachi high voltage insulated-gate bipolar transistor (IGBT) correspond to a wide range of applications including inverter-converters of traction, windmill and solar for energy conversion and storage.

#### **Key Solutions**

The Process Automation Engineering Group (PAEG) is an expert in creating data connectivity pipelines and edge computing capabilities using Hitachi's LUMADA Product HX-Hybrid Gateway cum Controller, cloud capabilities, data visualization, and analytics capabilities. The solution portfolio includes:



#### **Single Chip Integrated Circuits (ICs)**

Their range is instrumental in controlling brushless direct current (DC) motors leading to power saving of 50-60% against conventional induction motors in appliances.



#### **Power Diodes**

They are instrumental in controlling and protecting the control units of automotives like alternators, engine and LED lights ensuring safety and convenience.

# PROJECT HIGHLIGHTS IN

Hitachi's formidable presence in the semiconductor sector continues to grow, solidifying its position as a leading supplier in critical industries. Hitachi Infrastructure Systems Division proudly serves as the primary IGBT supplier to renowned propulsion manufacturers, including CG, Bharat Heavy Electricals Limited (BHEL), and Medha Servo Drives Pvt. Ltd, playing a pivotal role in the electrification of locomotives and commanding a dominant market share of over 50%.

Furthermore, Hitachi's collaboration extends to esteemed motor manufacturers such as Lucas-TVS, Ambar Group, IFB, and

more, who are at the forefront of pioneering brushless DC Motors (BLDC) technology for inverter-driven appliances. By working together, Hitachi is advancing cutting-edge solutions along with collectively contributing to reducing carbon footprints. This commitment aligns seamlessly with India's ambitious net-zero emissions target, signifying our dedication to a sustainable future for all.



# Hitachi Lift India Pvt. Ltd.

Pioneering Vertical Mobility Solutions

Hitachi Lift India Pvt. Ltd. provides safe, secure, comfortable, and high-quality elevators and escalators to meet the growing need for highly efficient vertical transportation solutions in India. Hitachi Lift India has a strong existing customer base and is expanding its footprints in the Indian market with a mission to make India ready for a sustainable and effortlessly transportable future.

# Impact In Numbers



Achieved by the regenerative system used in Machine room and Machine Room-Less Elevators\*

\*Regeneration applicable on selective models and savings depend on various usage factors.



**Products** 

## **Elevators**

 $\bigcirc$ 

As buildings become larger and taller, Hitachi Lift India strives to achieve improved safety and energy-saving solutions. Hitachi Lift India produces the most efficient, economical, and reliable elevators that can be installed easily, including Machine Room-Less Elevators, Machine Room Elevators, Home Elevators, and Freight Elevators.



Explore More



## **Escalators**

Hitachi's innovative Escalators provide efficient operation and maintenance with energy saving in mind. The passengers' convenience and comfort of use is priority, and Hitachi's escalators ensure reliable performance in the constantly changing conditions of operation.



Explore More

# **Moving Walkways**

Hitachi brings together its expertise in electrical and electronic technology to build slimmer, energy-efficient, and passenger-friendly Moving Walkways, both horizontal and inclined, equipped with comfort-driven and safety-first features.



Explore More

Hitachi Lift India has been supplying and maintaining lifts and escalators in India since 2008. We want our passengers to move safely, comfortably and we strive hard to develop green, environment-friendly elevators with minimal carbon footprint through "collaborative creation."

- Masaya Sakakibara, Managing Director, Hitachi Lift India Pvt. Ltd.

# PROJECT HIGHLIGHTS IN

## Elevating "The Amaryllis"

In the process of being built by The Unity Group, The Amaryllis in Delhi is a 160,000 square-meter residential project that has 5 phases. Phase 2 consists of 10 high-rise residential towers that will be 143 meters tall, with 35 floors. The building requires 40 elevators. Hitachi Lift India partnered to provide 40 elevators that have an earthquake emergency operation system which detects earthquakes and stops quickly on the closest floor so that people can get out without being stuck in the elevator.



 $\bigcirc$ 

# Hitachi India R&D

Empowering Lives Through Sustainable Innovation

For over a decade, Hitachi's Research & Development Centre has been instrumental in offering cutting-edge technologies and fostering innovations. The distinctiveness of Hitachi's R&D lies in its centralized ownership of the technology platforms and the know-how which is integral to Hitachi Group's IT x OT x Products, allowing to establish a value creation cycle that extends from collaborative creation to development.

#### **Our Vision**

Partnering in 'Digital India' and 'Make in India' initiatives of the Government, Hitachi India R&D's exemplary prowess in Artificial Intelligence (AI), data and technology to deliver green, AI based digital solutions support people's livelihood through a sustainable society.

## **Key Strategies**

 $\bullet$ 

PHILE P

#### **Global Strategy**

Hitachi India R&D is working towards expanding Global AI engineering, thereby accelerating co-creation with customers across the world.

#### **Regional Strategy**

Hitachi India R&D's vision is aimed at expanding the Social Innovation Business by addressing challenges with a focus on digital and green technology solutions.



Smart City

Human-Computer

Interaction & Visualization

Speech Acoustics & Video Analytics

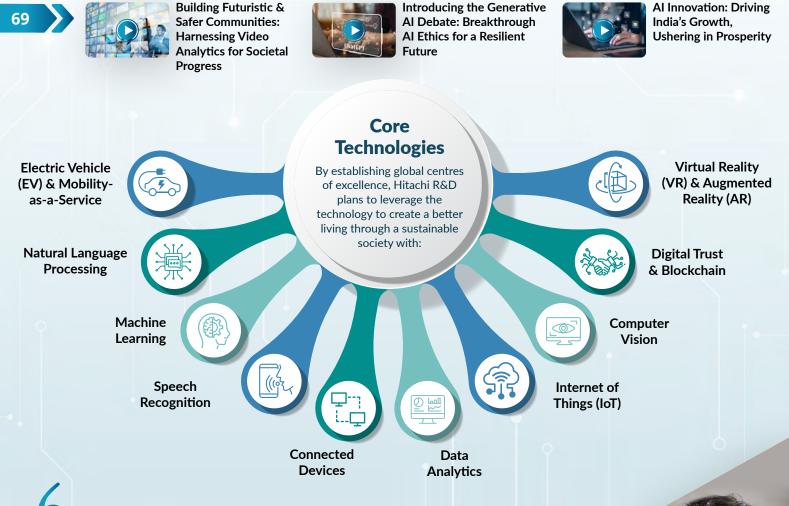
Green Mobility ()

Financial Services AI

Artificial Intelligence

Key Areas in Focus Digital
 Security

68



Hitachi India R&D has 2-pronged strategy. On global collaboration, it is focused on next-generation research in artificial intelligence and edge computing in support of Green Energy, Mobility and Social Innovation solutions worldwide. On regional incubation, it is dedicated to Business Transformation of its Enterprise clients in India, using the Digital latest-and-greatest.

Kingshuk Banerjee, Director and Head of R&D Centre, Hitachi India Pvt. Ltd.

PROJECT **HIGHLIGHTS IN** INDIA

#### Partnering with a Leading Public Sector Bank: Securing & Optimizing Digital Payments

Hitachi India R&D is working extensively on the banking and payments industry in India to drive the digital penetration as envisioned under Digital India and accelerate the nation's progression towards "Cash-lite Economy". For facilitating the expansion of the digital payments landscape in India, Hitachi India R&D is partnering with Hitachi Payments in India to offer merchant-centric analytics solutions for a leading public sector bank. The solution aims to increase transaction revenue of payments business by delivering proactive value-added services to customers. Through this partnership, Hitachi India R&D hopes to address the needs of Banks merchant ecosystem.

Hitachi India R&D is committed towards optimizing the payments ecosystem and focuses its research activity on developing data analytics solutions targeting the operational improvement of different payment channels including ATM, Point-of-Sale (PoS). For instance, R&D researches on solutions to enhance the efficiency of merchant management services by behavioral and suspicious transaction analysis.



Al Innovation: Driving

Embracing Sustainability: Driving Green Transformation

#### Ensuring People's Wellbeing along with Protecting Planetary Boundaries

Hitachi places sustainability at the core of its business strategy, considering it as an integral part of its Growth, and a value creation for business and society. As outlined in its visionary Mid-term Management Plan 2024, Hitachi aspires to "Support people's quality of life with data and technology that fosters a sustainable society."

In this endeavor, Hitachi, through its Social Innovation Business, aims to solve social and environmental challenges to realize a future that balances protection of the planet and people's individual wellbeing.

# **Contribution to the SDGs**

The United Nations outlined 17 Sustainable Development Goals (SDGs) - a blueprint to achieve a better and more sustainable future for all. India has declared its unwavering commitment towards achieving the SDGs and uplift the most vulnerable sections of the society, collaborating with all stakeholders. Concurrently, laying a strong thrust on environmental sustainability, the Prime Minister of India took a pledge at the COP26 event in Glasgow to achieve Net Zero carbon emissions by 2070.<sup>1</sup>

Partnering with India in achieving the ambitious goals, Hitachi has outlined 13 SDGs where it can have direct impact and can contribute towards realizing a sustainable society, while striving to contribute towards the achievement of SDGs.



Taking a holistic perspective on Sustainability, Hitachi is addressing the manifold dimensions of development by adopting robust Environmental, Social, and Governance (ESG) practices as it progresses on its journey of becoming a Sustainable Organization.

 $\bigcirc$ 

#### Environment

Hitachi is cognizant of the growing urgency of climate change and its debilitating effects by harnessing its expertise in Green, Digital, and Innovation to help achieve a decarbonized society. Hitachi is pursuing a decarbonization business that contributes to the reduction of CO<sub>2</sub> emissions, leveraging collaborative creation with partners and stakeholders.

#### **Decarbonized Society Climate Change Mitigation/Adaptation**

#### **Hitachi's Environmental Vision**

"Hitachi will resolve environmental issues and achieve both a higher quality of life and a sustainable society through its Social Innovation Business in a collaborative creation with its stakeholders."



**Efficient Society** Saving and Recycling Resources

**Society with Nature** Preservation of Ecosystems

#### **Our Long-Term Environmental Targets:**

- Achieve carbon neutrality throughout the value chain by fiscal 2050
- Achieve carbon neutrality at our own business sites by 2030
- Optimizing up to 50% efficiency of water and other resources by fiscal 2050 compared to fiscal 2010 levels

As climate change innovators, Hitachi Social Innovation is POWERING GOOD by supporting the Government of India in building a net-zero emissions future where citizens can lead a greener, healthier, and comfortable life in harmony with nature.



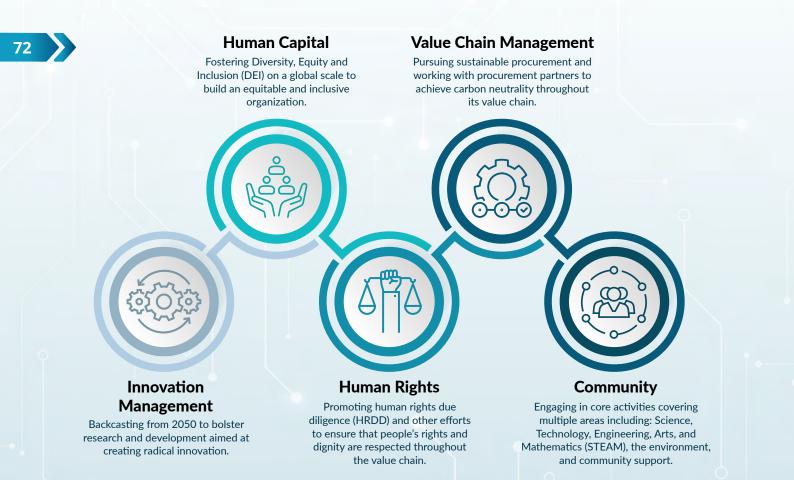
How Hitachi India is **Powering a Sustainable** Society

#### Social

At Hitachi, we believe that our people are the most important factor in continuing to provide value to our customers and the broader society to build a sustainable world.. Hence, Hitachi is advancing the all-round wellbeing of its employees, partners, and the community through multifarious activities:



71



#### Governance

Hitachi is a committed proponent of ethical business practices and effectually implements internal controls and practices to maintain regulatory compliance, transparency in governance, honesty and business integrity.

#### Corporate Governance

Promoting sound and highly transparent management to achieve sustainable growth of corporate value.

#### Business Ethics and Compliance

Formulated in-house regulations in line with international standards and enforced strict compliance with them throughout the Group.

#### Risk Management

Monitoring and analyzing the dynamic business environment, strengthening risk management systems.

#### Information Security

Ensuring cybersecurity as a key management issue and engaging in information security governance efforts.





View Our Interactive Sustainability Infographic



Download Hitachi Sustainability Report Diversity, Equity, and Inclusion (DEI): Unlocking Innovation, Driving Social Impact

Inspired by its mission of contributing to the society and enhance the wellbeing of people, encompassing its exceptionally skilled workforce, Hitachi is ardently endeavoring to metamorphose into a human-centric organization that respects and values everyone. Consequently, Hitachi is seamlessly incorporating the venerable tenets of Diversity, Equity and Inclusion (DEI) across its business and organizational proficiencies, establishing the bedrock for a robust and tenacious ecosystem that ingrains DEI as an integral facet of Hitachi's work culture and ethos. Hitachi has a place for everyone, welcoming diversities in colleagues' background, age, gender, sexuality, family status, disability, race, nationality, ethnicity religion or any other visible or internal traits that makes two individuals different.

By embracing each other's distinctiveness, we enable an environment for everyone to contribute openly, unlocking Transformation, Innovation, and Growth, propelling us towards building a better, inclusive, and sustainable society.

 $\bigcirc$ 

Hitachi has been distinctive in its culture, values and credibility that is impactfully demonstrated through Hitachi's Founding Spirit resting on the robust pillars of Harmony, Sincerity, and Pioneering Spirit. I strongly believe that a diverse workforce working in an inclusive environment enables innovation and we at Hitachi India are well-equipped to charter a rather inclusive and forward-looking DEI roadmap.

Ashutosh Anshu, CHRO, Hitachi India

# **DEI – Strong Pillars of a Resilient Organization**



#### Diversity

• At Hitachi, Diversity implies a place for everyone, regardless of background, age, gender, sexuality, family status, disability, race, nationality, ethnicity, religion, and many other characteristics.





#### Equity

At Hitachi, Equity means we treat everyone fairly. We recognize that each of us is different, and each of us needs varied conditions to thrive. We put in place policies, adaptations to allow everyone to access the same opportunities.

#### **DEI Driven Targets**



At Hitachi, Inclusion means that everyone feels respected, heard, and involved. It implies an open, empathetic culture and attitude. Including the different voices and varied perspectives that diversity brings, enables us to reach better decisions and unlock innovative ideas.



Striving to become a DEI led organization, Hitachi is adopting the global themes of gender balance, cultural diversity, and multi-generational workforce at workplace as one of the efficacious strategies and has committed itself to realizing impactful action-driven DEI targets:

30% female executive and corporate officers by fiscal 2030.

30% non-Japanese executive and corporate officers by fiscal 2030.

To promote women empowerment, Hitachi India has set a milestone of achieving 25% gender diversity ratio by 2024. Currently, 21% of its workforce is women and in line with the global target for DEI strategy, Hitachi India aims to achieve 30% women workforce by 2030.

#### **Our DEI Initiatives**

To achieve its DEI targets, Hitachi has commenced a continual action-oriented journey with empowering initiatives:

- Awareness and sensitization programs around DEI
- Development programs for hiring managers, women, future leaders
- 📀 Form diverse employee groups/communities 🛛 😪 Unconscious bias awareness for all employees
- Celebrating events around special occasions (International Women's Day, Pride Day, Disability Day, regional and national cultural days of importance etc.)
- Implementing diverse hiring practices
- Organizing wellbeing and health programs
- Adopting and advocating Inclusive and gender neutral language
- Implementing flexible work arrangements

#### SANKALP - Hitachi India's Maiden DEI Event

Hitachi India hosted its maiden grand event SANKALP (The Determination for DEI)– Hitachi India's Annual DEI and Human Rights Due Diligence (HRDD) Meet – India Chapter. The event saw participation from across Hitachi's Group Companies in India.

The primary goal of this conference was raising awareness on DEI and HRDD, supporting to instill a sense of urgency to make our workplaces more diverse and inclusive with an ecosystem that promotes and advocates equity at workplace. The panel of leaders

represented varied group companies, as well as external guests from academia and renowned DEI consulting firms, delving on the pragmatic meaning of inclusion, the importance of inclusive intelligence, ways to foster it at work, and the roles of leaders to foster DEI led culture. With events like SANKALP, Hitachi India is placing DEI at the heart of its evolution to foster social innovation and create a positive social impact.



Embracing Diversity, Equity and Inclusion (DEI) into Work Ethos & Culture

74

Empowering the Future: Hitachi's Ethical Commitment to Corporate Social Responsibility (CSR)

# CSR

8

In pursuit of its commitment towards corporate social responsibility and sustainable development of the society, Hitachi India undertook an array of impactful CSR initiatives that address the critical societal challenges, empowering local communities. By channelling its resources, expertise, and vision to give back to society, Hitachi India remains steadfast in its mission to create a brighter and more sustainable future for all.

### **Key Highlights**

# Spreading Awareness for Sustainable Plastic Management

Hitachi strives to instil a culture of responsible waste disposal in residents' hearts through targeted campaigns and educational initiatives.

#### Empowering Women Entrepreneurs for a Greener Future

Women entrepreneurs received training and support in plastic waste recycling, fostering environmental sustainability and promoting social upliftment.

#### 

#### Streamlining Plastic Waste Management

By collaborating with the Municipal Corporation of Gurugram and other civil bodies, the initiative aims to create a robust system for handling plastic waste.

#### Frontline Worker Training

A total of 712 well-trained frontline workers ensured an efficient waste management process through waste collection and segregation across various locations.

#### Community Engagement

Successful awareness campaigns through street plays, posters, and radio broadcasts effectively engaged the community and drove behavioural changes towards waste management.

# Sustainable Single-Use Plastic Management

00

In collaboration with the Ideas to Impact (i2i) Foundation, Hitachi India's visionary project, "Efficient Use and Management of Single-Use Plastics (SUPs) in the Municipal Corporation of Gurugram, Delhi NCR" seeks to revolutionize how plastic waste is creating and imbalance in the Environment and how we as responsible citizens can contribute to mitigate the risk by using plastic efficiently and sensibly. The initiative was undertaken in selected wards of Gurugram, Delhi NCR post carrying out a baseline study. The successful launch event organized on November 28th, 2022, saw active support from the Joint Commissioner of MCG and Swachh Bharat Mission, Dr Naresh Kumar, that marks a significant stride towards a cleaner, greener, and more sustainable future for Gurugram through this CSR initiative.

# Enhancing Mental Health Services for Rural Communities

Hitachi India collaborated with United Way Delhi for the transformative project, 'Improving Mental Health for Rural Communities,' focusing on empowering women and vulnerable groups in Gurugram District's rural areas, particularly Sohna villages.



### Key Highlights

#### Awareness and Accessibility

The project strived to raise awareness about mental health and improve access to mental health services within the local community, specifically the Sohna villages in Haryana.

#### Training and Capacity Building

Training programs were conducted to equip community health workers and hospital staff with essential knowledge and skills to identify and address mental health issues effectively.

#### Empowering Community Women

Various health and mental health sessions were conducted for community women and frontline workers, focusing on promoting healthy living and disease prevention.

#### Establishing Mental Health Support Centres

A dedicated room in Sohna Block Hospital, Gurugram District, Haryana was equipped with essential resources, providing valuable support to patients visiting the hospital.

By addressing the pressing issue of mental health and fostering a supportive environment, the project paved way for transformative change, touching the lives of numerous beneficiaries and creating a positive impact on society.

#### **Key Highlights**

#### Addressing Menstrual Hygiene Knowledge Gap

The SHE project was aimed to bridge the knowledge gap surrounding menstruation and menstrual hygiene.

#### Establishing a Sanitary Napkin Manufacturing Unit

Offering affordable and high-quality sanitary napkins to the local women, a manufacturing unit has been now set up in Nuh block, Mewat district. Hitachi India's role has been to support the community through providing environment friendly packaging equipment that helps in migration of plastic packaging of sanitary pads to cloth based packaging.

#### Behavioural Change and Empowerment

The initiative has encouraged better menstrual hygiene practices empowering women with the knowledge and skills to lead healthier lives.

#### Creating Financially Empowered SHEs

The project established SHEs in each village, nurturing skilled and financially empowered women who played a crucial role in transforming the community.

# Hitachi's Sustainable Health Enterprise (SHE) Initiative

Hitachi India partnered with Sulabh Sanitation Mission Foundation for the "Sustainable Health Enterprise (SHE)" project, emphasised on menstrual hygiene and health awareness across five villages of Nuh district of Mewat in Haryana: Hirmithla, Rewasan, Dhanduka, Satputiaka, and Husainpur.



76

The project's inauguration was graced by Hitachi India's CSR team emphasizing the need for this transformative initiative. Door-to-door campaigns along with community meetings extended the project's impact, providing vital information and resources for proper menstrual management to all women.

# Hitachi's Empowering Skill Development and Education through Nutrition Gardens

In 2022, Hitachi India partnered with Navsahyog Foundation for a transformative CSR initiative, setting up Nutrition Gardens in village schools. This immersive approach fostered valuable skills and knowledge among children in villages across Tamil Nadu and Karnataka, with a growing presence in 200 villages.



#### **Key Highlights**



#### Experiential Learning for Holistic Development

This initiative enabled children to actively participate in tending vegetables, harvesting crops, and learning about nutritional values under the guidance of teachers.



#### **Empowering Youth Entrepreneurship**

In regions with limited job opportunities, the initiative nurtured skills that empower youth to become entrepreneurs, addressing unmet needs in villages.



#### Collaboration with Navsahyog Foundation and IIM Bangalore

Partnered with Navsahyog Foundation, Hitachi India collaborated with IIM Bangalore in developmental activities in five Gram Panchayats of Tumkur District, Karnataka under Unnath Bharath Abhiyan - an initiative by the Government of India.



#### Sustainable Impact

Hitachi India identified potential opportunities, including the Telemedicine solution, to ensure the long-term sustainability of the initiative, enhancing benefits for children in the villages.

By fostering experiential learning and nurturing a spirit of entrepreneurship, Hitachi India empowered the next generation of leaders, creating a lasting impact on rural communities.

Hitachi India's impactful CSR initiatives are a testament to its resolute dedication to societal wellbeing, channelling innovation and compassion to create a meaningful difference in the lives of those it touches.





Social Innovation Business www.social-innovation. hitachi/en-in



Knowledge Hub www.social-innovation. hitachi/en-in/knowledge-hub/



Hitachi India www.hitachi.co.in



Sustainability www.hitachi.co.in/ sustainability/

