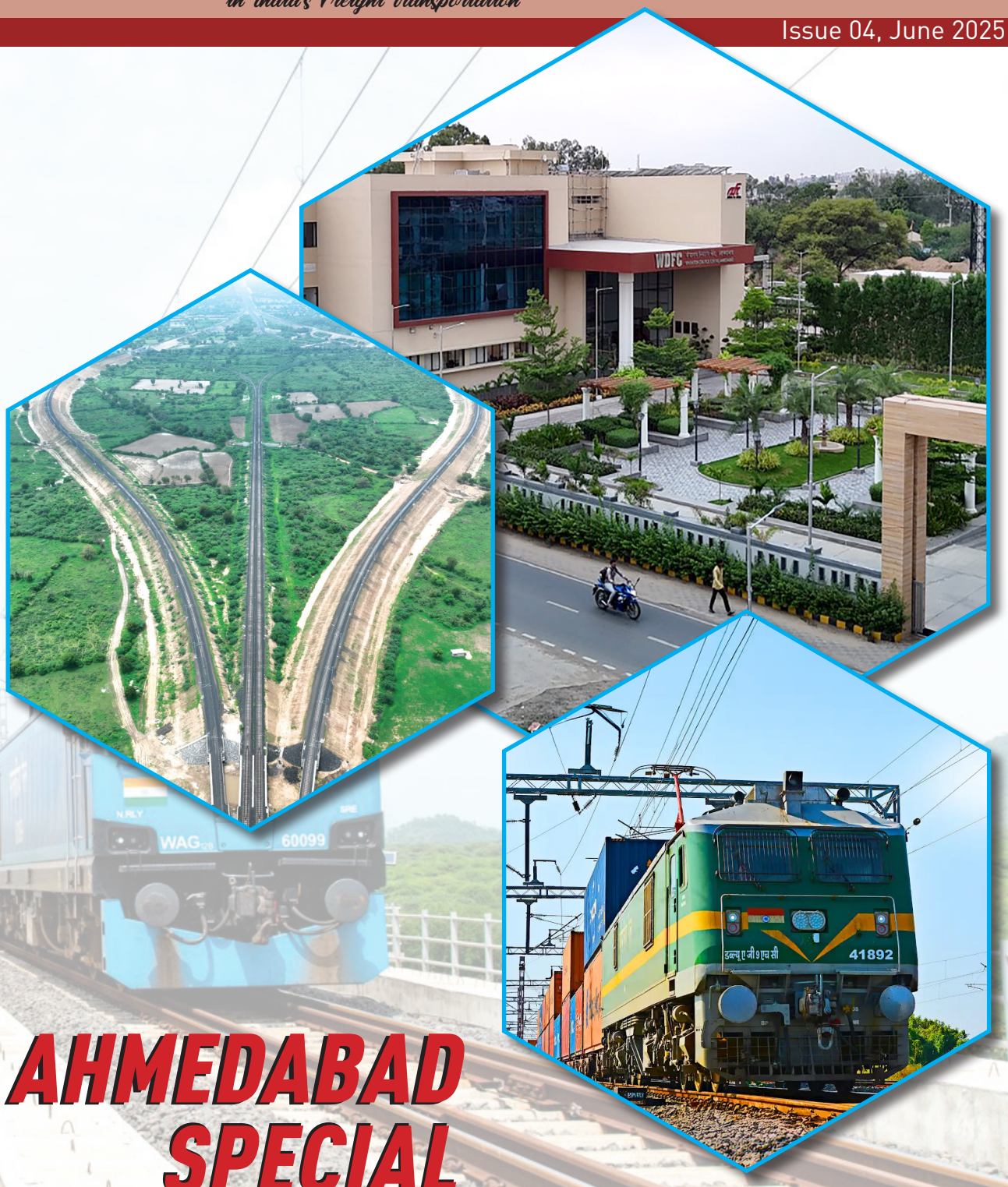
Dedicated Freight Corridors

GAME CHANGER

in India's Freight Transportation

Dedicated Freight Corridor

Issue 04, June 2025



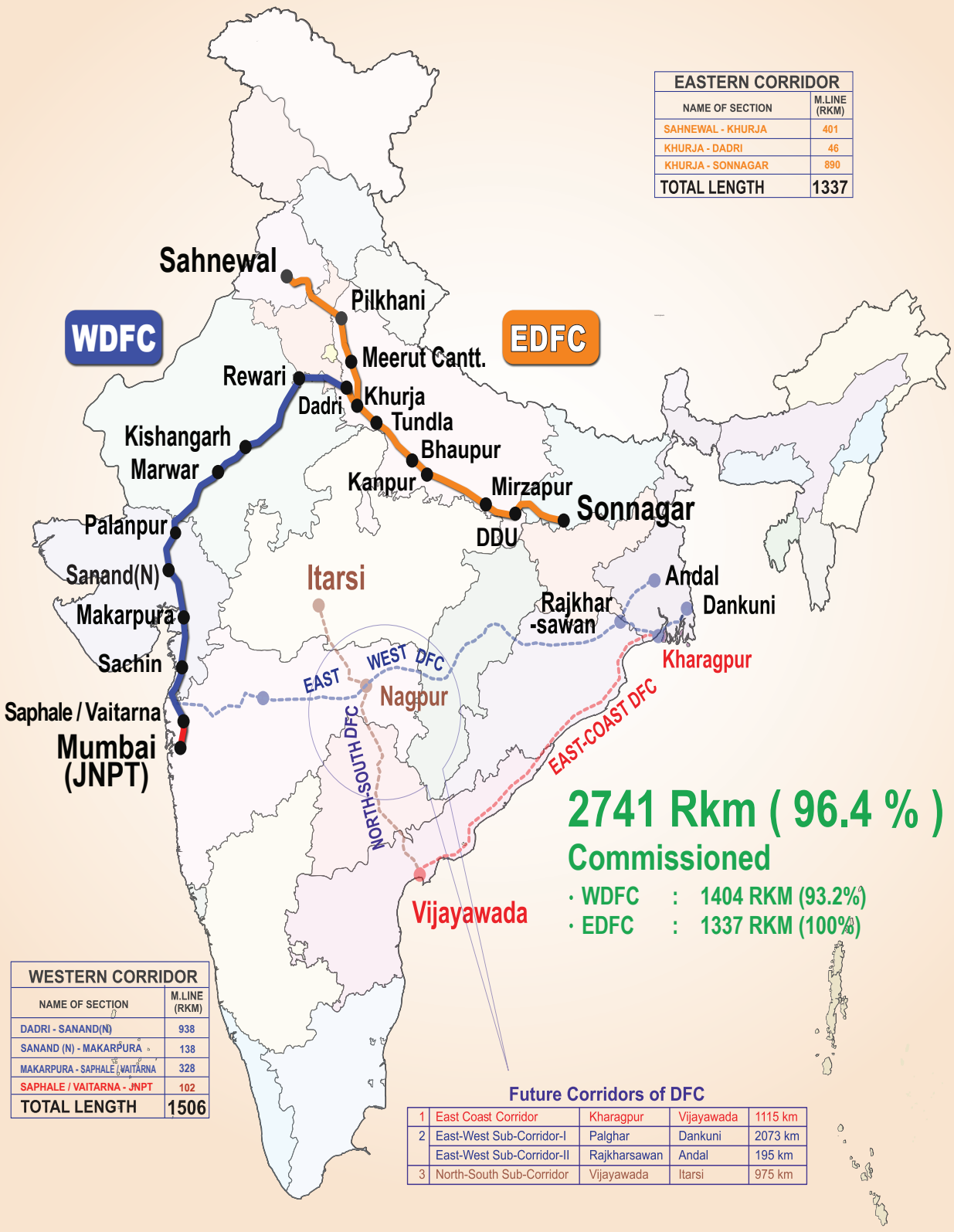
AHMEDABAD SPECIAL

डेडीकेटेड फ्रेट कोरीडोर

DFCCIL PROJECT MAP

(2843 Route km)

JUNE 2025



EASTERN CORRIDOR	
NAME OF SECTION	M.LINE (RKM)
SAHNEWAL - KHURJA	401
KHURJA - DADRI	46
KHURJA - SONNAGAR	890
TOTAL LENGTH	1337

WESTERN CORRIDOR	
NAME OF SECTION	M.LINE (RKM)
DADRI - SANAND(N)	938
SANAND (N) - MAKARPURA	138
MAKARPURA - SAPHALE / VAITARNA	328
SAPHALE / VAITARNA - JNPT	102
TOTAL LENGTH	1506

2741 Rkm (96.4 %)

Commissioned

- WDFC : 1404 RKM (93.2%)
- EDFC : 1337 RKM (100%)

Future Corridors of DFC

1	East Coast Corridor	Kharagpur	Vijayawada	1115 km
2	East-West Sub-Corridor-I	Palghar	Dankuni	2073 km
	East-West Sub-Corridor-II	Rajkharsawan	Andal	195 km
3	North-South Sub-Corridor	Vijayawada	Itarsi	975 km

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OCC Ahmedabad

Officers Rest House, Ahmedabad

Integrated Crew Lobby and Running Room, New Palanpur

Road Over Bridge in Palanpur - Makarpura Section, WDFC

From the Editor's Desk

Dear Readers,

Welcome to our 4th edition of Game Changer Magazine! DFCs *are now more than 96% commissioned and operational since over a year. At this juncture, it seems pertinent to showcase each of our field units which are all unique and bring their own features and characteristics. In this edition, we decided to showcase Ahmedabad unit and bring out this edition as Ahmedabad Special.*

Praveen Kumar
Managing Director, DFCCIL

This edition is close to my heart because it celebrates the incredible work done in this unit. This unit forms the heart of Western DFC and homes Operational Control Centre for WDFC. All the major ports of Gujarat are connected to our corridors through this unit at Palanpur. This unit also consists of some of the landmark structures of WDFC like Sanand loop line, Palanpur RFO, Narmada Canal Bridge and many more like them.

Apart from Ahmedabad unit, I'm particularly excited to share some remarkable developments with you. Our story on Port Connectivity shows how we're revolutionizing cargo movement from Gujarat's ports to the hinterlands. The feature on our Bridge Management System demonstrates how technology is truly becoming the backbone of our operations.

We've also included insights from Smart Rail Freight Systems worldwide because learning from global best practices has always been part of our journey. The launch of Kalamboli RFO marks another milestone in our expanding network. It is the biggest girder ever launched over DFC project.

While our focus on safe train operations and making records of train operations every month, we must appreciate that no achievement is meaningful without safety at its core. Every piece of technology that we employ at DFCCIL has this message at its core. Every time I visit our sites and interact with our teams, I'm inspired by the passion and innovation that drives DFCCIL forward. This magazine is our way of sharing those stories, celebrating our successes, and learning from each other.

As you read through these pages, you'll see that we're not just connecting cities and ports - we're connecting dreams, aspirations, and the future of freight transportation in India.

Thank you for being part of this incredible journey.

With warm regards,

Praveen Kumar

Praveen Kumar

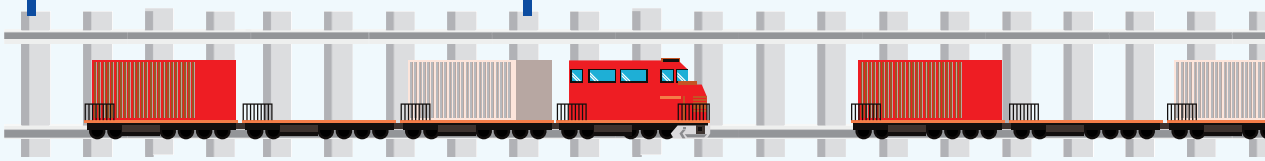
MILESTONES

2005

- Project announced by the then Hon'ble Prime Minister & Hon'ble Minister for Railways in budget special .

2006

- The then Hon'ble Prime Minister laid the foundation.
- WDFC at Mumbai in October.
- EDFC at Ludhiana in September.

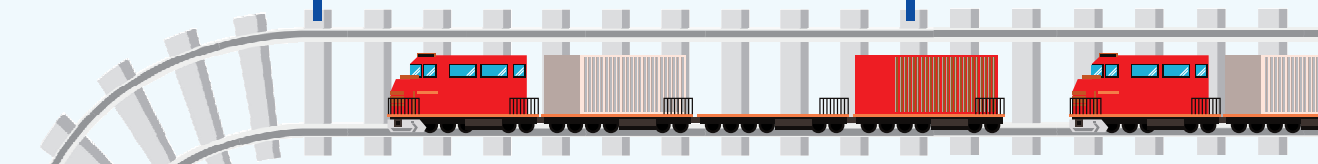


2018

- 15 August First Trial Train ran on WDFC.

2020

- Hon'ble Prime Minister Sh. Narendra Modi inaugurated Khurja-Bhaupur (351 km) section of EDFC on 29 December.

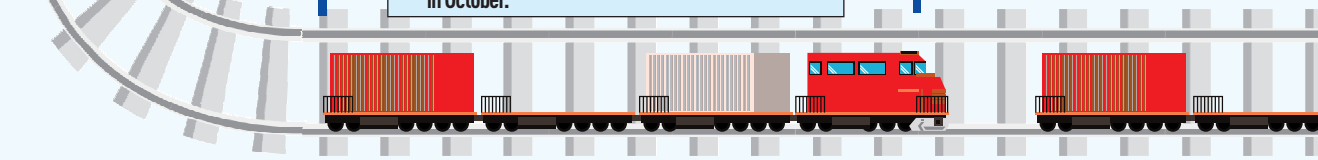


2021

- Hon'ble Prime Minister Sh. Narendra Modi inaugurated the Rewari - Madar section (306 km) of WDFC in January.
- Truck on Train (ToT) service started between New Rewari & New Palanpur in August.
- New Madar - New Palanpur (353 km) section opened in October.

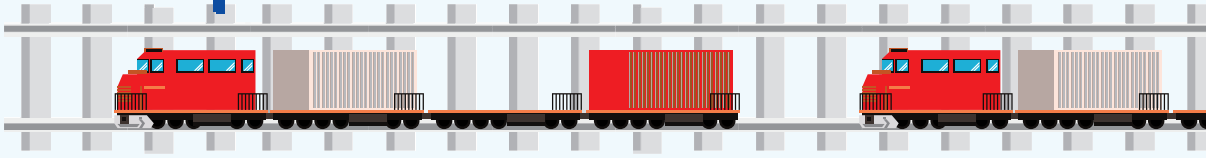
2022

- New DDU to New Sonnagar (137 k
- New Rooma to New Sujatpur section (13
- Hon'ble Prime Minister Sh. Narendra Mo (353 kms) section in June & New Palanp September.
- Inauguration of Heavy Haul Institu



2025

- DFCCIL Corporate Office relocated to Noida in February.
- First Global Heavy Haul seminar organised in June.



2007

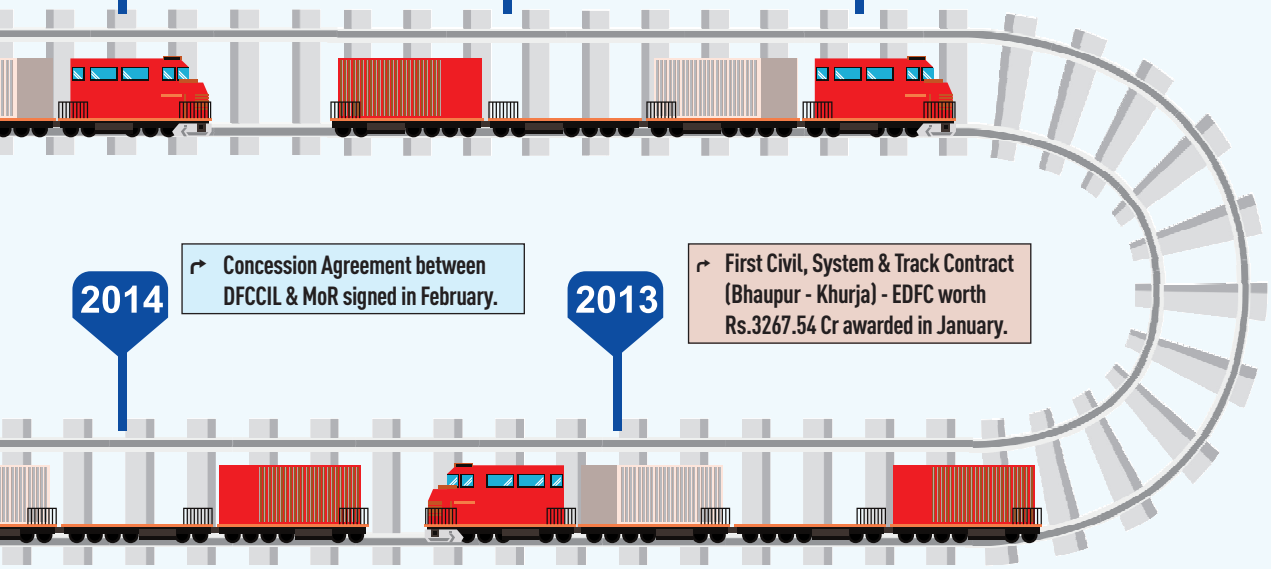
- Cabinet granted permission of land acquisition in November.

2009

- JICA loan approved for WDFC in September.

2011

- Loan Agreement signed with World Bank for USD 975 Million for EDFC-1 (Khurja - Bhaupur) in October.



2014

- Concession Agreement between DFCCIL & MoR signed in February.

2013

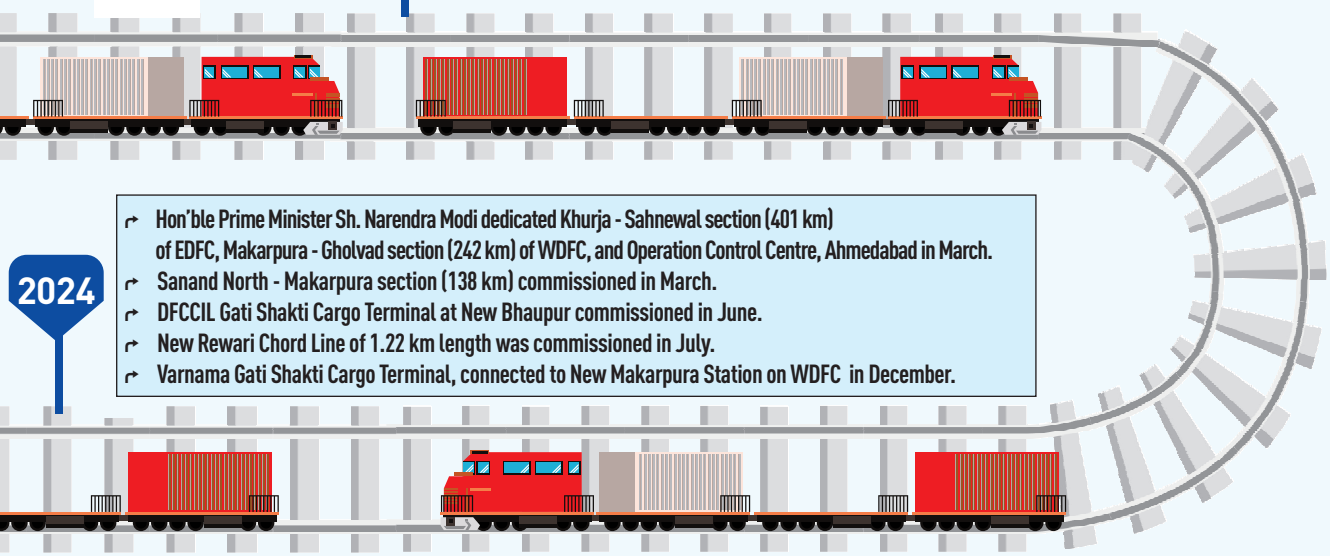
- First Civil, System & Track Contract (Bhaupur - Khurja) - EDFC worth Rs.3267.54 Cr awarded in January.

m) section commissionned in March.
0 km) of EDFC commissioned in March.
di inaugurated Madar-New Palanpur
ur - New Mahesana Section (75 kms) in

ute, Noida in June.

2023

- Rewari-Dadri (127 km) of WDFC, Khurja-Khatauli (134 km) & New Dagmagpur -New Ahraura Road (23 km) of EDFC commissioned in March.
- Sahnewal -Khatauli section (267 km) commissioned in October. EDFC completed.
- Makarpura - Sachin section (130 km) of the WDFC was commissioned in November.
- Hon'ble Prime Minister dedicated DDU - Sonnagar section in July & New Bhaupur - New DDU section (402 Km) in December.



2024

- Hon'ble Prime Minister Sh. Narendra Modi dedicated Khurja - Sahnewal section (401 km) of EDFC, Makarpura - Gholvad section (242 km) of WDFC, and Operation Control Centre, Ahmedabad in March.
- Sanand North - Makarpura section (138 km) commissioned in March.
- DFCCIL Gati Shakti Cargo Terminal at New Bhaupur commissioned in June.
- New Rewari Chord Line of 1.22 km length was commissioned in July.
- Varnama Gati Shakti Cargo Terminal, connected to New Makarpura Station on WDFC in December.

BACKBONE OF BRIDGE INFRASTRUCTURE MANAGEMENT

SAURABH SINGH PATEL
GGM Bridges/CO

MOHAMMAD YAQUB
Jr. Manager Civil/CO

In the world of modern infrastructure, where scale meets complexity, few systems are as critical and as challenging, as the management of railway bridges. With over 7,000 railway bridges, Road Over Bridges (ROBs), and Foot Over Bridges (FOBs) under its purview, the Dedicated Freight Corridor Corporation of India Ltd. (DFCCIL) is tackling this challenge head-on. At the heart of this transformation lies a powerful digital innovation: the Bridge Management System (BMS) launched with the vision to digitize and modernize the health monitoring of critical infrastructure, the BMS represents a paradigm shift in how Indian Railways and DFCCIL approach asset integrity, safety, and sustainability.

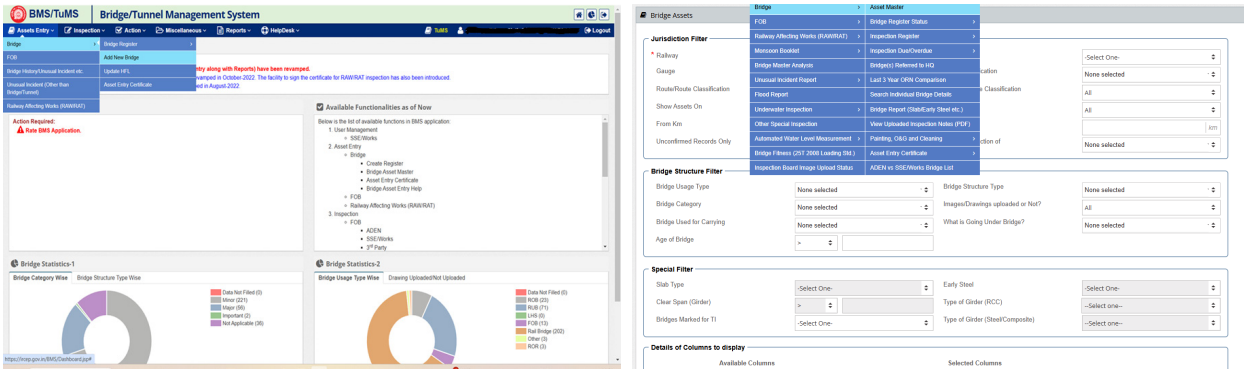
A Digital Backbone for Structural Integrity

Hosted on ircep.gov.in and managed by the Centre for Railway Information Systems (CRIS), BMS is a web-based platform that digitizes the entire lifecycle of bridge infrastructure. It stores a comprehensive dataset of each bridge's characteristics—from design specifications to maintenance logs and performance history—making it the single source of truth for asset managers.

What once depended on physical registers and fragmented records is now unified in a centralized digital repository. The result? Greater transparency, faster decision-making, and a fundamentally smarter way to manage one of the most critical components of the rail network.

Intelligent Maintenance, Proactive Safety

Bridges are inspected not only more regularly but also more intelligently. BMS leverages data analytics to monitor trends, detect anomalies like corrosion or



Snapshot of Bridge Asset Master

structural degradation, and recommend corrective actions before minor defects escalate into safety hazards. The platform transforms reactive maintenance into proactive intervention, drastically reducing the risk of accidents and service disruptions.

By integrating with real-time Water Level Monitoring Systems installed at key bridges, BMS sends early warnings when rising river levels pose threats. These alerts empower railway operators to act swiftly—rerouting trains, initiating emergency measures, and ultimately safeguarding human lives and public assets.

Seamless Integration, Strategic Insight

But BMS is not an isolated innovation. It is seamlessly integrated with the Track Management System (TMS), creating a unified digital ecosystem for railway infrastructure. This synergy allows for a holistic view of both tracks and bridges, enabling cross-functional coordination that boosts operational efficiency across the board.

The platform also supports strategic decision-making at the highest levels. With real-time dashboards, risk-based prioritization, and data-driven insights, BMS equips railway authorities to allocate resources more effectively and plan maintenance with precision.

More Than Infrastructure: A Catalyst for Sustainability and Inclusion

The impact of BMS goes beyond the rails. By eliminating the need for bulky paper registers—traditionally maintained by field engineers—BMS is expected to save nearly 100 trees annually, aligning with India's environmental goals and contributing to greener governance.

Culturally, BMS is a game-changer in how technology is democratized across the railway workforce. For the first time, digital tools are reaching section-level engineers—Sectional IMSD In-charge and IMSD In-charge —who are the frontline custodians of track safety. This empowerment not only bridges the digital divide within the organization but fosters a more inclusive, tech-enabled work culture.

Engineering Trust in Motion

At its core, the Bridge Management System is more than a digital tool—it is a symbol of India's evolving infrastructure ethos: safe, smart, and sustainable. In a world where aging infrastructure is a growing global concern, India is leading by example, proving that technology can be the bridge to a more resilient future.

As DFCCIL and Indian Railways continue to expand their freight corridors and modernize their networks, systems like BMS aren't just supporting operations—they're redefining what's possible.

> *Technology, when used wisely, drives not only speed but also safety and sustainability.*
>
> *— Bill Gates*

MOVING TOWARDS SAFER TRAIN OPERATIONS

JAWAHAR LAL
GGM/Mech/CO

Train passing through New Manauri Station of EDFC

Introduction

India's Dedicated Freight Corridors (DFC) have revolutionized freight transportation by creating separate networks for cargo trains, eliminating competition with passenger services on the main Indian Railway network. Currently, two major corridors operate: the Eastern Corridor connecting eastern India to the north, and the Western Corridor linking western regions to northern India, with seamless interconnection between them.

This paradigm shift has successfully transferred major freight operations from adjoining railway zones to the DFC network, allowing improved punctuality for passenger trains. However, accidents on DFC routes create severe operational disruptions, as adjoining zones have become dependent on smooth DFC operations.

Restoration Challenges After Accidents

DFC sections feature unique characteristics that complicate accident management:

Long Block Sections: While automatic block working enables faster traffic and optimal network utilization with fewer stations, it creates restoration challenges. Hot axle incidents require extended clearance times at reduced speeds, and slower trains become the ruling speed for entire sections until block clearance.

Relief Train Access: The most severe disruption occurs during accidents requiring restoration. Reaching accident sites poses significant challenges when multiple trains are trapped behind the affected train in the same block section. Relief trains often must move in the opposite direction (wrong-way running) at restricted speeds of 25 kmph, significantly extending response times.

Experience shows that relief train deployment takes extremely long, delaying service resumption. While no immediate alternatives exist, the focus remains on accident prevention and improved preparedness.

Accident Categories and Case Studies

Accidents affecting DFC operations for extended periods fall into three main categories:

Crew Lobby and Running Room, New Kanpur

Running Rooms at New Palanpur and New Ateli

Human Errors

February 4, 2025: In a severe accident during early morning hours, the loco pilot of train RTPR/41083 & 41461 disregarded red signal A3209, colliding with the rear of stable train MIGK/32192 in the New Shujatpur - New Rasulabad section. The impact launched the brake van airborne. While the guard escaped by jumping out, both the loco pilot and co-pilot were injured. This vigilance failure caused crores in damages and blocked the section for over 18 hours.

June 2, 2024: Similarly, train UP GVGN/60059 crew shot past red signal S-39 at New Sirhind before dawn, rear-ending the brake van of stabled train UP RTPR/23379+23403, derailing multiple vehicles and seriously injuring the running train's loco pilot.

Asset Failures

While DFC's modern infrastructure is designed for higher loads, some catastrophic failures have occurred:

June 2, 2024: Derailment in New Shujatpur - New Rasulabad section resulted from bearing failure and axle journal breakage in wagon WR 10089860181 BOXNHL due to hot axle conditions.

April 30, 2022: Train UP KNZ derailed near New Ekdil station's Down Home signal due to axle journal breakage from hot axle in the New Achalda – New Ekdil section.

DFCCIL's Safety Initiatives

Crew Welfare:

Since train crews are provided by Indian Railways, DFCCIL has constructed state-of-the-art Running Rooms at locations like New Kanpur, New Palanpur, and New Ateli. These facilities provide modern, hygienic accommodations with quality rest areas and wholesome

Installation of HABD on DFC Track

MVIS System Installed at New Daudkhan Station of EDFC

food, addressing the demanding nature of crew duties including night operations and extended stays away from home bases.

Technological Solutions

Hot Box Detectors: DFCCIL has installed cost-effective Hot Box Detectors across all block sections. These devices continuously monitor axle box temperatures in running trains, providing alarms when abnormal temperatures are detected, requiring immediate train stoppage and inspection. This equipment has proven enormously valuable in preventing hot axle-related accidents.

Future Outlook

While Indian Railways advances its ambitious KAVACH collision avoidance system, implementation will take time. Meanwhile, immediate solutions are needed to prevent human errors that cause tremendous costs to life and property.

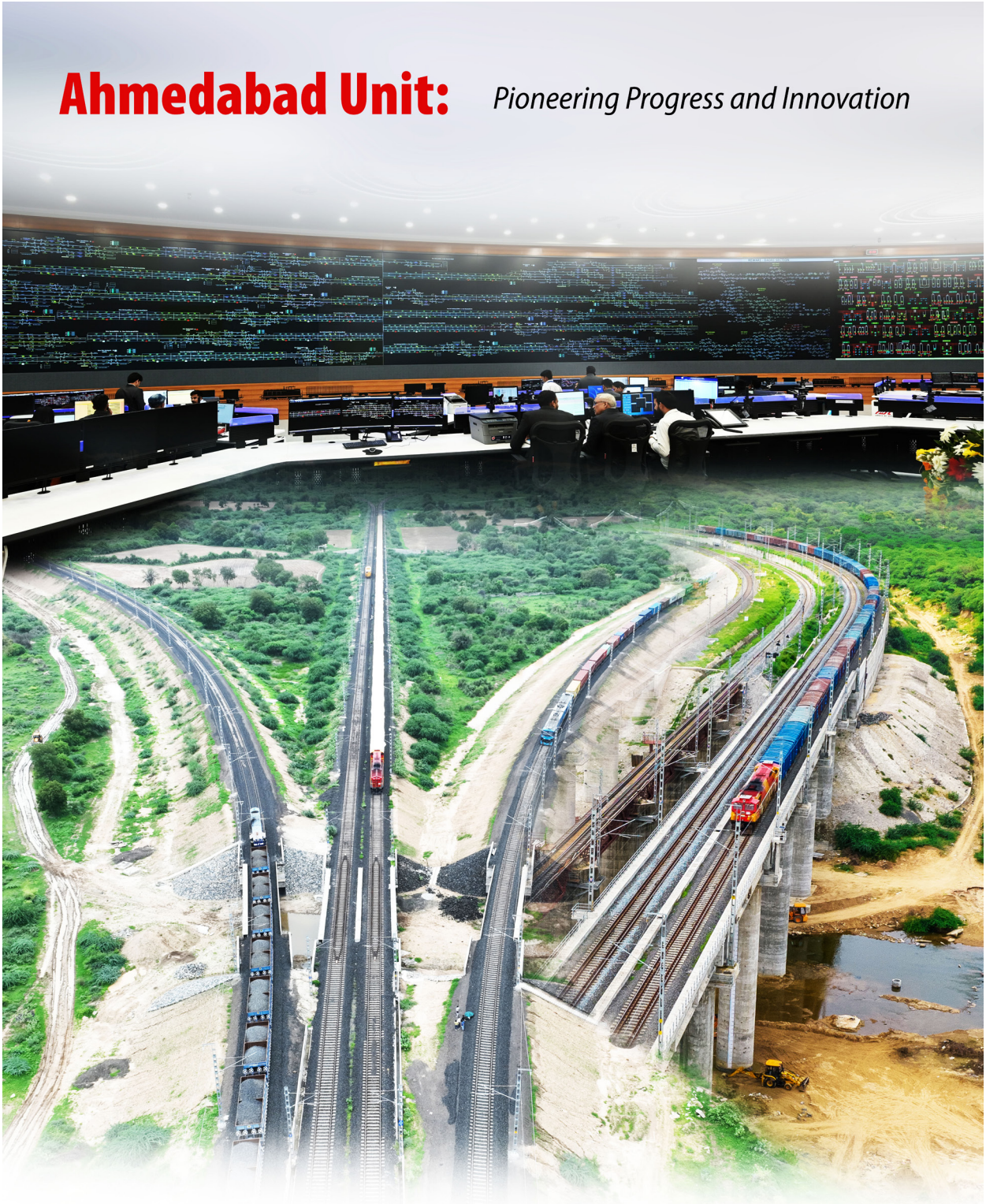
The DFC network's success in handling freight traffic near planned capacity demonstrates its effectiveness. However, the unique challenges posed by long block sections and automatic operations require continued focus on accident prevention, crew training, technological solutions, and emergency response preparedness.

The experience gained from these incidents provides valuable insights for improving safety protocols and operational procedures, ensuring that the DFC network continues to serve as the backbone of India's freight transportation system while minimizing disruptions to the interconnected railway network.

> *The best way to reduce accidents is through education, vigilance, and respect for the journey.*
>
> *— Dale Carnegie*

AHMEDABAD SPECIAL

Ahmedabad Unit: *Pioneering Progress and Innovation*



The Ahmedabad Unit holds a special place in the Dedicated Freight Corridor's success story with its cutting-edge technological innovations, the strategically vital Sanand Loop, and the modern Operations Control Centre (OCC) enhancing seamless operations. As a key logistics hub, the unit showcases a perfect blend of infrastructure excellence and operational efficiency.

SANAND CONNECTIVITY: AN ENGINEERING MARVEL

MANISH AWASTHY
Chief General Manager/ADI

Aerial View of Sanand (Diamond) Loop of WDFC

Introduction

Sanand Junction is a critical node for the interface between Indian Railways' Ahmedabad – Viramgam mainline and the Western Dedicated Freight Corridor (DFC). The objective was to develop a design that ensures smooth interchange of freight trains across these networks without surface conflicts and with minimal land acquisition impact. This paper outlines the chronological development of design concepts and the technical execution of the final plan.

Background

RITES initially proposed a junction near Sanand Railway Station between Ambli Road (Km 512.21) and Sanand (Km 523.84) to facilitate traffic exchange between the DFC and Indian Railways. The plan aimed to avoid operational conflicts on the busy BG double line of Ahmedabad division.

To this end, RITES developed a cloverleaf-type junction configuration and suggested a third line between Ambli Road and Sanand to prevent conflicting movements on the main railway line.

Design Evolution

RITES Plan (January 2008)

The clover-type design proposed by RITES was found to be deficient due to:

- Lack of connectivity for key traffic flows (e.g., Viramgam–Surendranagar to DN DFC).
- Physical obstruction due to an upcoming private dry port near Sanand.
- High social impact: One alignment encircled Godhavi village.
- No provision for sub-yards to manage stabling of trains.
- Interchange points scattered across four remote locations, complicating centralized control.

JICA Plan (July 2008)

The JICA proposal addressed all four-directional connectivity and included three sub-yards (North, South, East), each configured as a sandwiched yard between DFC lines or Indian Railways. Despite being functionally robust, the design suffered from:

- High cost (estimated at 370.17 Crores).
- Operational complexity due to requirement of three separate control cabins.
- Challenging civil design due to height and span of flyovers.

Director (OP & BD) Plan (April 2009)

This concept simplified the layout and reduced certain alignments, but:

- Missed two vital directional connections.
- Featured long alignments leading to higher land acquisition (with social resistance).
- Created drainage challenges due to multiple underpasses along the state highway.

Methodology

In response to high estimated costs and social impact concerns, the Chief General Manager (CGM), Ahmedabad unit, conducted a detailed technical feasibility review of all prior designs. A modified version of the JICA plan was developed to retain key operational benefits while minimizing cost and impact.

The Final Concept: Modified JICA Plan

Design Features

- Widened DFC Alignment: Main DFC tracks moved 410 m apart, forming a "bulb" shape, facilitating sharper crossing angles.
- Reduced Flyover Heights and Spans: Enabled better constructability and reduced structural costs.
- Improved Integration: All four directional interchanges retained.
- Estimated Cost: ₹178.85 Crores—less than half of the original JICA estimate.

Connectivity Overview

Four grade-separated connecting lines were constructed:

Each line was designed to operate without interference to existing Indian Railways operations.

Execution and Implementation

The CGM Ahmedabad unit, in collaboration with Contractor SLTG and Engineer NKC, executed the plan meticulously. Key operational goals achieved include:

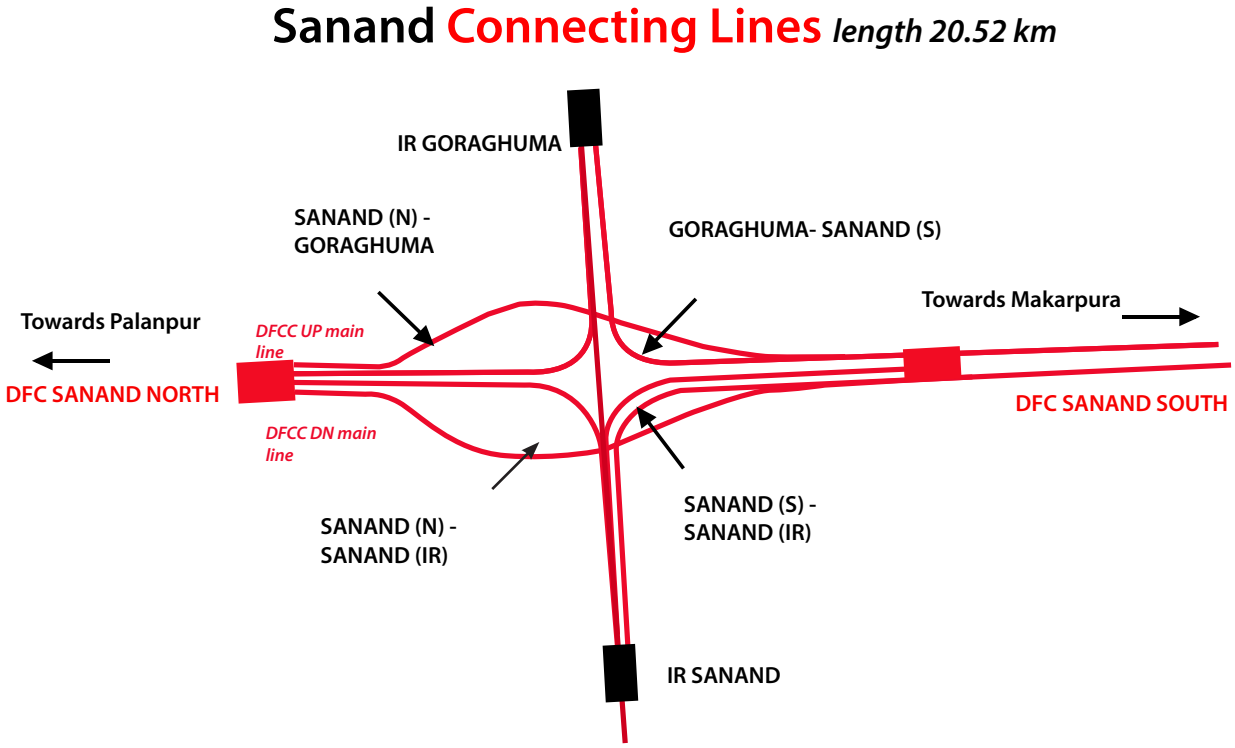
- No surface crossings between DFC and Indian Railways.
- Segregated bi-directional freight movement towards Rewari (Delhi) and JNPT (Mumbai).
- Reduction in congestion on the Ahmedabad Railway network.
- Flexible and scalable traffic movement enabled through independent lines.

Results and Outcomes

The implemented solution stands as a testament to DFCCIL's engineering acumen and strategic project planning:

- Successfully met all technical requirements at less than 50% of the original proposed cost.
- Mitigated public resistance and land acquisition issues.
- Enhanced freight capacity and operational reliability on the Western DFC.

Connection Code	Description	Length (km)
SSN	Sanand North – IR Sanand	3.16
GSN	Sanand North – IR Goreghuma	6.19
SSS	Sanand South – IR Sanand (double line)	2.09
SSG	Sanand South – IR Goreghuma	5.38
DFC Mainline (UP & DN)	Sanand North – Sanand South	2.60 (each)
Total Bridges (incl. RFOs)		23 Nos

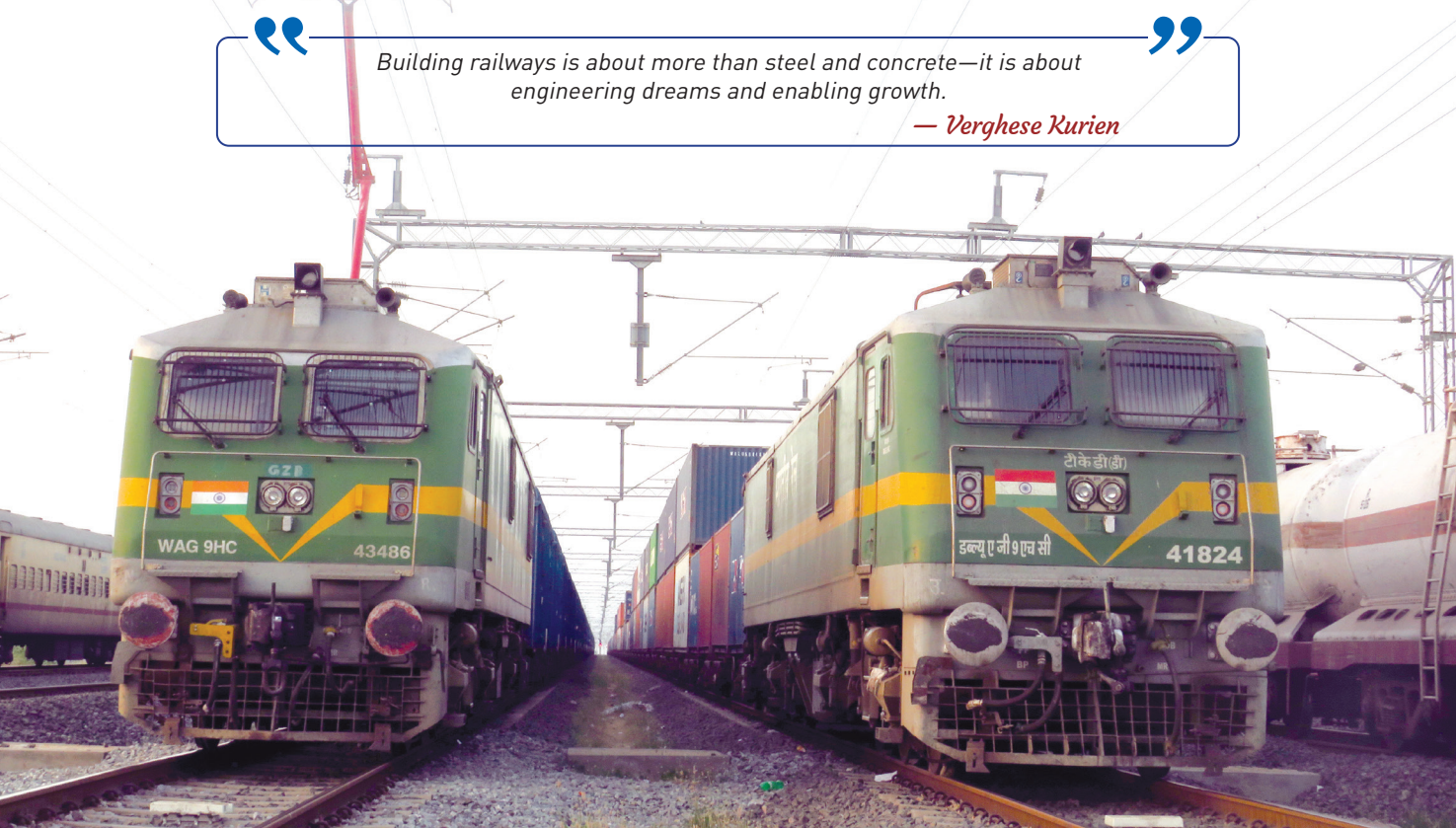


Schematic Layout of Sanand (Diamond) Loop

Conclusion

The Sanand Junction project demonstrates the importance of iterative design, cross-disciplinary collaboration, and site-based feasibility assessment in large infrastructure projects. The modified JICA plan, as executed, provides a replicable model for future DFC–Railway interchange nodes in India and abroad.

> *Building railways is about more than steel and concrete—it is about engineering dreams and enabling growth.*
>
> *— Verghese Kurien*



NEW AGE OPERATION MANAGEMENT: OPERATIONAL CONTROL CENTRE, AHMEDABAD

PRAVEEN TIWARI
AGM/ OP&BD/ ADI

Aerial view of OCC Building, Ahmedabad

Introduction

The Dedicated Freight Corridor Corporation of India Limited (DFCCIL) is a public sector enterprise established to develop, construct, and operate dedicated freight corridors (DFCs) across India. These corridors aim to enhance freight transportation efficiency by alleviating congestion on the existing railway network, increasing train speeds, and boosting freight capacity.

DFCCIL currently operates two main corridors:

- Eastern Dedicated Freight Corridor (EDFC): Ludhiana (Punjab) to Sonnagar (Bihar)
- Western Dedicated Freight Corridor (WDFC): Dadri (Uttar Pradesh) to Jawaharlal Nehru Port (Maharashtra)

These corridors incorporate technological advancements such as higher axle loads (32.5 tons per axle), higher operational speeds (up to 100 km/h), and modern signalling and electrification systems.

Technological and Strategic Advancements

DFCCIL contributes to significant economic and strategic outcomes:

- Reduced logistics costs and improved supply chain efficiency
- Support to "Make in India" and "Atmanirbhar Bharat" initiatives
- Reduced carbon emissions by promoting a shift from road to rail transport

The OCCs serve as the operational nerve centers of

Inside view of OCC Ahmedabad

DFCCIL corridors, with Prayagraj managing EDFC and Ahmedabad overseeing WDFC.

Operational Control Centre (OCC)

OCC was commissioned on 24 March 2023 to manage the entire WDFC, covering 1,506 km and 48 DFC stations across five states: Uttar Pradesh, Haryana, Rajasthan, Gujarat, and Maharashtra

Infrastructure

- Complex Area: 3.07 acres
- Built-up Area: 12,867 m²
- Control Room Area: 1,480 m²
- Green Building Features: Solar power, rainwater harvesting, and centralized monitoring via a Building Management System (BMS)

Control and Communication Capabilities

The OCC is equipped with:

- A 70-meter-long video wall for real-time monitoring
- Two war rooms and one disaster management room
- Ergonomic and acoustically optimized interiors

The video wall displays:

- Real-time train positions Complete track layouts, signal status, and route indications.

Integrated Technologies

The Ahmedabad OCC integrates several advanced technologies:

- Train Management System (TMS)
- Global System for Mobile Communications – Railway (GSM-R): Enables real-time communication between loco-pilots and station masters
- Supervisory Control and Data Acquisition (SCADA): Centralized control of the 2x25kV electric traction system
- Control Office Application (COA)
- Dedicated Freight Information System (DFIS)
- Freight Operation Information System (FOIS)
- Crew Management System (CMS)

Dual Optical Fiber Cable (OFC) ensures redundancy in data transfer between the OCC and stations.

The Complex also includes a state-of-the-art Network Operation Centre (NOC), to provide reliable data & voice communication.

SCADA Integration and Power Management

The OCC manages over 190 power supply installations, including:

- 25 Traction Substations (TSS)
- 166 Switching Posts (SP/SSP)

GSMR Server Room at OCC Ahmedabad

Signal & Telecommunication Battery Room at OCC Ahmedabad

SCADA Capabilities Include:

- Remote operation of circuit breakers, interrupters, motorized isolators, and transformers
- Real-time power monitoring and cost optimization through an Energy Management System

The OCC also features Non-Traction SCADA, a first in Indian Railways, managing 11kV substations and low-voltage power supplies at all 48 stations.

Building Management and Safety Systems

The OCC integrates advanced monitoring and safety infrastructure:

- HVAC, water supply, electrical, and fire protection systems
- CO sensors in basement levels
- Public address systems
- Fire Suppression: IG541 gas system with 16 hazard zones using a mix of nitrogen (52%), argon (40%), and carbon dioxide (8%)

Renewable Energy Integration

- Installed Solar Capacity: 80 kWp, with an additional 50 kWp planned
- The solar installations reduce dependency on conventional energy and align with green energy objectives

Conclusion

The Ahmedabad OCC epitomizes DFCCIL's commitment to operational excellence and technological modernization. With integrated systems for train management, power control, and environmental sustainability, the OCC strengthens India's freight rail network and supports long-term economic growth.

> *When innovation meets precision, infrastructure transcends from structures to lifelines.*
>
> *— Kalpana Chawla*

TWIN ROB, PALANPUR: THE GATEWAY OF DFCCIL IN GUJARAT

Fabrication, Assembly and Launching of 27m Span Twin Bow String Girders: Importance and Challenges

NEERAJ KUMAR SINGH
Dy.PM/ADI

Aerial View of Twin ROB, Palanpur (WDFC)

Spanning a total length of 2,843 km, DFCCIL comprises two major corridors—Western (WDFC) from Dadri (Uttar Pradesh) to JNPT (Maharashtra), and Eastern (EDFC) from Ludhiana (Punjab) to Sonnagar (Bihar). The project involves the acquisition of over 11,000 hectares of land, 230 million cubic meters of earthwork, and the elimination of all level crossings. A significant portion of the construction is being undertaken by Larsen & Toubro (L&T), a company renowned for its engineering excellence and decades of project delivery across infrastructure sectors. DFCCIL is considered to be the flagship project of Ministry of railways, Govt. of India and later on Hon'ble Minister declared it as ***"The jewel of India Railways"***

This paper focuses on one of the major engineering challenges encountered during DFCCIL's entry into Gujarat—construction of a Twin Road Over Bridge (ROB) consisting of two 27-meter span Bow String Girders in Palanpur, the first city of Gujarat on the northern frontier.

Introduction and Importance: The Twin ROB

As part of the Western DFC (WDFC), DFCCIL's corridor from Dadri to JNPT was under rapid development. While CTP-1 and CTP-2 were in progress in Haryana and Rajasthan, L&T was awarded the CTP-3 package, extending from Palanpur to Vadodara in Gujarat.

The alignment cuts through central Palanpur, adjacent to the Indian Railways' tracks. The city's main access is via a PSC girder bridge that connects the local roads to NH-27 at Aroma Circle—forming the arterial route for Palanpur. The location experiences high vehicular and train traffic, complicating any large-scale modifications or constructions.

Multiple surveys were conducted to explore alignment alternatives. However, given land constraints, the existing bridge could not be reconstructed or elevated further without extended approach ramps. It was ultimately decided to launch Bow String Girders, which offer several benefits:

- Prefabrication in smaller units allows for ease of transportation and field assembly.
- Greater vertical clearance compared to PSC or composite girders.
- Visually appealing structure.

- Feasible construction on relatively modest foundations.

Challenges

Land Availability

The site is centrally located within a dense urban zone, surrounded by residential and commercial buildings, including hospitals. Limited space restricted access for construction and manoeuvring heavy equipment such as cranes.

Dismantling the Existing Structure

Dismantling of the PSC girder and deck slabs had to be done during restricted railway blocks. One side had to remain operational to ensure continuous traffic flow.

Utility Shifting

Underground utilities like telecom cables, gas pipelines, water mains, and electrical lines had to be relocated—requiring coordinated planning to avoid delays.

Traffic Management

Securing approvals and coordinating with state agencies for road closures and diversions was time-consuming.

Rehabilitation of Nearby Slum Area

The surrounding area included densely populated settlements requiring rehabilitation measures and stakeholder coordination.

Movement of Heavy Machinery

Due to space and safety concerns, heavy machinery operations were restricted to night hours.

To address these challenges, DFCCIL implemented:

- Detailed planning and sequencing of works.
- Advanced machinery for bridge slab removal.
- Deployment of a 700-ton capacity super lifter crane (due to crane positioning constraints).
- Regular coordination meetings with local authorities.
- Safety-compliant traffic diversions and partial closures.
- Rigorous scheduling for railway blocks.

Fabrication, Assembly, and Launching

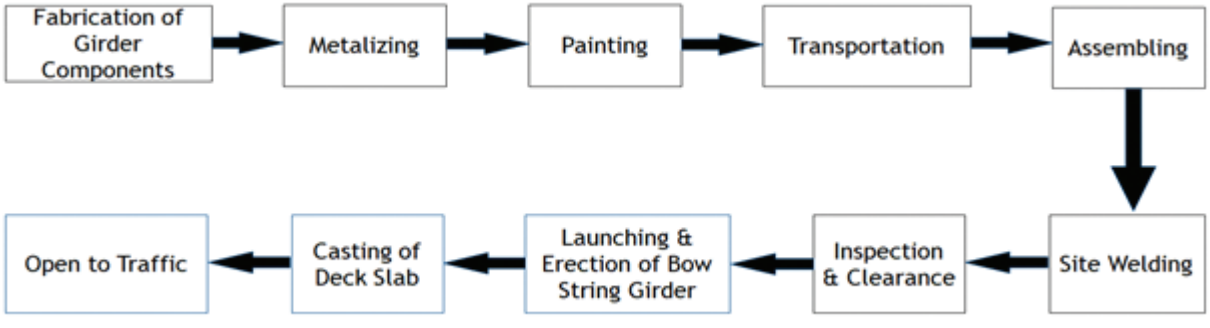
Fabrication

Fabrication began post raw material inspection, adhering to the following standards:

- Indian Railway Standard (IRS) Specification for Steel Girder Bridges (B1-2001).
- BS-110(R) Guidelines for Steel Girders, March 2016 with July 2017 amendments.
- IRS Code for Metal Arc Welding for Structural Steel Bridges (Revised 2001).

Quality Assurance

- Approved raw materials and welding consumables.
- Certified welders and welding procedures (WPSS).
- Strict adherence to welding parameters.



Flow Diagram of Construction of ROB

Raw material and Dimension check

Dismantling of existing PSC Girder

Assembling of BSG

Launching of BSG

Assembly

The girders were assembled at bridge height over the existing approach road. Key steps included:

- Levelling the area and placing two rails over concrete blocks.
- Installing trolleys with wheels over the rails on both sides.
- Assembling began with the bottom tie beam.
- Cross beams were used to connect rail trolleys for stability.
- Girder components were then assembled over this setup.

Launching

Key steps in the launching process:

- Trolley insertion under the bottom chord of the girder.
- Fixing winch diversion pulleys at both ends.
- Attaching wire ropes to the arch ends.
- Launching under synchronized winch operation at a safe speed (0.5 m/min).
- Operation executed under a scheduled traffic and power block.
- No jacking from trestles was permitted.

Pre-Checks

- Raw material dimensional verification.
- Field validation before site dispatch.

Conclusion

The successful launch of the Twin ROB in Palanpur, without disrupting the city's core traffic or affecting rail operations on the busy Delhi-Mumbai route, marks a major milestone. This achievement not only symbolizes DFCCIL's engineering prowess but also represents the official gateway into Gujarat for the Dedicated Freight Corridor, effectively linking Dadri to Ahmedabad.

> *What you give, you give to yourself*
> *What you do not give, you give up.*
>
> *— Alejandro Jodorowsky*

SCADA FOR NON-TRACTION POWER SUPPLY

GOVIND SAINI
GM/Elect/ADI/DFCC

SANTOSH ANKAM
PM/Elect/ADI/DFCC

Introduction

Non-Traction Power Supply (NTPS) refers to the electrical power utilized for non-traction purposes such as station lighting, signaling systems, office and residential complexes, pumps, and workshops in DFCCIL. NTPS ensures the smooth operation of all auxiliary infrastructure essential to railway functioning.m

To enhance reliability, efficiency, and real-time monitoring of NTPS, Supervisory Control and Data Acquisition (SCADA) systems are being commissioned in DFCCIL.

The Role of SCADA in NTPS

NTPS SCADA is a centralized system used for monitoring and controlling NTPS assets such as:

- 33/25/11 kV substations
- Energy parameters of Qtrs.
- Distribution Transformers (DTRs)
- DG-Sets
- Lighting
- HT panels
- Pump installation

SCADA enables remote supervision of these assets, improving fault detection, load management, and energy efficiency.

Benefits of SCADA-Integrated NTPS

Real-Time Monitoring

Operators can visualize live parameters like voltage, current, load, and breaker status across the NTPS network.

Fault Detection and Isolation

SCADA facilitates swift identification and isolation of faults in the electrical distribution network, minimizing downtime.

Energy Management

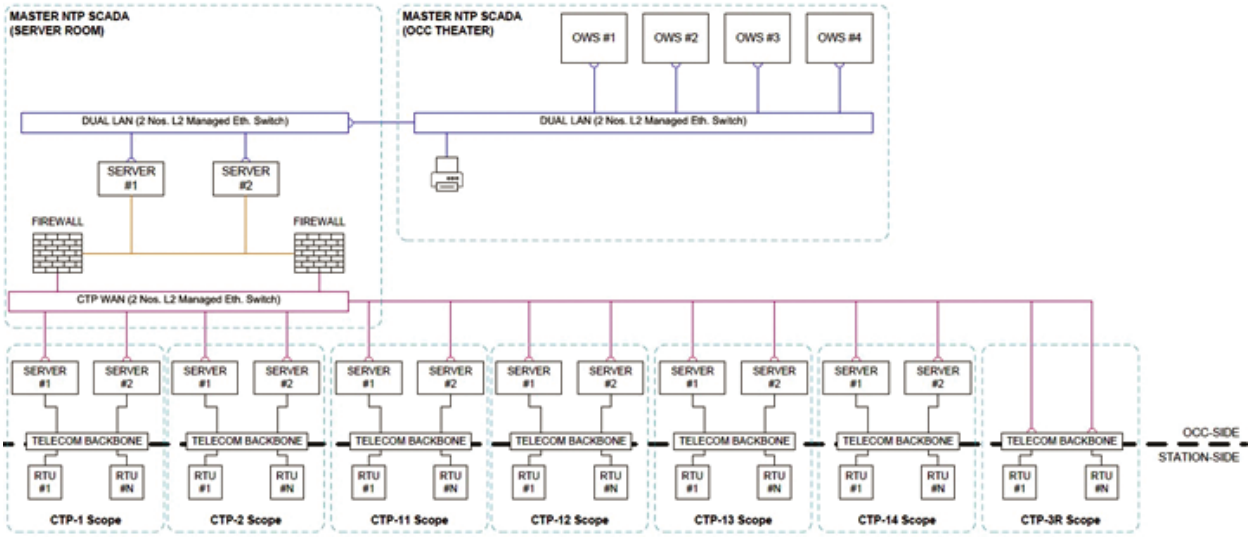
With precise data collection, SCADA operator can analyze power consumption trends, optimize usage, maintain records and reduce wastage.

Remote Control and Automation

Circuit breakers and lighting systems can be remotely controlled and scheduled, improving operational efficiency.

Event and Alarm Logging

Historical logs help in root cause analysis, preventive maintenance, and performance audits.



OCC Ahmedabad NTP SCADA Architecture

System Overview

The architecture is structured into station-side and OCC-side (Operational Control Center) segments, interconnected via a telecom backbone.

Station-End Operations

- At each station, sensors continuously monitor various electrical parameters (e.g., voltage, current, breaker status, alarms).
- These parameters are collected in real-time by Remote Terminal Units (RTUs) installed at the station-side.
- The RTUs interface with sensors and other field devices using standard protocols and act as the data acquisition units for the SCADA system.

Communication Network

- The collected data from RTUs is transmitted over a dedicated fiber optic telecom backbone to the OCC.
- This ensures low-latency, high-reliability communication for real-time monitoring and control.

Firewall and Security

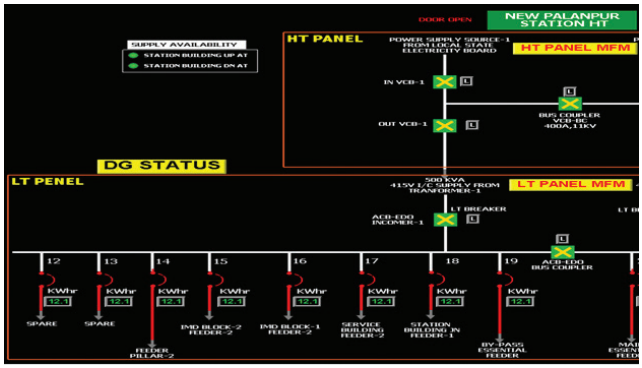
- The firewall acts as a critical layer of protection, isolating the station-side network from the OCC master system.
- Only authorized protocols such as IEC 60870-5-104 are allowed, ensuring standard and secure communication.

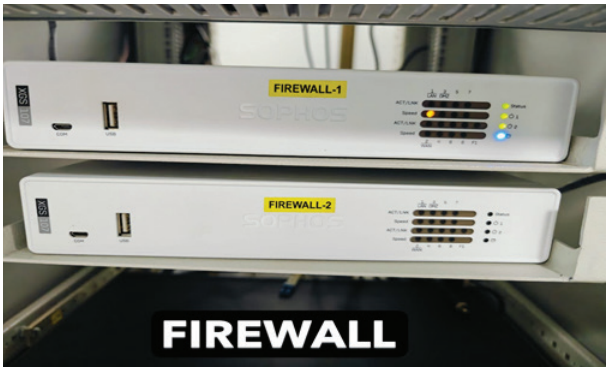
Master SCADA Server

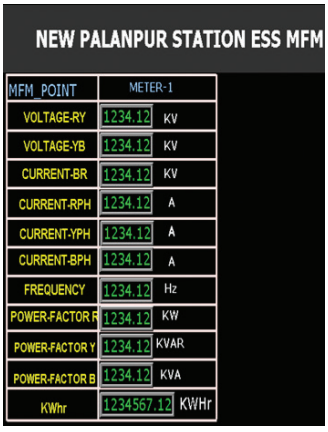
- The master SCADA servers aggregate all the data from different RTU's of all Stations.
- They process and manage the data centrally, enabling system-wide supervisory control, historical data logging, and analytics.

Operator Workstations (OWS)

- Processed data is displayed on Operator Workstations (OWS #1 to #4) located in the OCC Theater.
- Operators can view real-time data, respond to alarms, and







issue control commands as required, ensuring efficient operation and safety of the power supply system.

Below are some visual representations of the Equipment's installed:

Below are some visual representations of the various parameters in OWS:

Conclusion

The SCADA architecture deployed for the Non Traction Power Supply (NTPS) along the Western Dedicated Freight Corridor represents a robust, scalable, and secure framework for real-time monitoring and control of vital traction power infrastructure. By leveraging high-speed fiber optic communication, protocol-standardized RTUs, and a multi-tiered server architecture with centralized supervision at OCC Ahmedabad, the system ensures operational reliability, efficiency, and rapid response to critical events.

The seamless integration of field data acquisition, secure transmission, and user-friendly visualization at the OCC empowers operators to make informed decisions, enhances system diagnostics, and supports predictive maintenance. Furthermore, the built-in redundancy, UPS-backed infrastructure, and adherence to global communication standards (IEC 60870-5-104) collectively ensure uninterrupted SCADA functionality across diverse operational scenarios.

This architecture not only addresses present-day operational needs but also lays a strong foundation for future expansion and integration with smart grid technologies, affirming DFCC's commitment to modern, intelligent, and resilient railway electrification infrastructure.

> *Automation in power supply is critical to the reliability and efficiency of modern rail networks.*
>
> *— Ratan Tata*

ALH - RAKSHAK: SMART SURVEILLANCE

for S&T installations at Unmanned Locations

ROOP KISHORE BAGHEL
GM/S&T/ADI

RAJAGIRI SHIVA KUMAR
JPM/S&T/ADI

Dedicated Freight Corridor Corporation of India Ltd. (DFCCIL) has been emphasising focus on safety and security of high-value signalling and telecom (S&T) assets at ALH & TH which are unmanned locations situated in remote or isolated areas. Addressing this need, DFCCIL, Ahmedabad unit has launched the "ALH - Rakshak" initiative: an integrated security solution combining CCTV surveillance, intrusion monitoring, and human deterrence technologies at Auto Location Huts (ALH) and Telecom Huts (TH).

The Need for Enhanced Surveillance

Auto Location Huts and Telecom Huts house critical S&T equipment such as Electronic Interlocking (EI), MSDAC, TMS, Power Supply systems for Signalling & Telecom, OFC equipment, SDH and GSM-R systems which are vital to the safe and seamless operation of freight trains. Traditionally, these locations are unmanned and susceptible to vandalism, theft, or inadvertent trespassing, posing significant safety risks and operational disruptions.

Recognizing this vulnerability, the "ALH - Rakshak" system has been designed to offer round-the-clock automated surveillance with proactive deterrence measures.

Key Features of 'ALH - Rakshak'

CCTV Surveillance with Remote Monitoring

High-definition IP based dome, bullet and PTZ cameras are strategically installed at ALH/TH locations to provide 24x7 video surveillance. These cameras are integrated with Network Video Recorders (NVRs) connected to adjacent stations and Central control room via a secure DFC own optical fiber network. The video feeds can be accessed in real time at Central Control room & through Mobile Application and archived for forensic analysis.

Intrusion Detection and Monitoring

AI-enabled cameras with optical area marking covering ALH boundary triggers alerts upon detecting unauthorized entry or suspicious movement within the protected perimeter. This allows real-time intrusion detection and immediate alarm notification at Central control room and SMS notification to concerned executives via SMS Gateway.

Human Deterrence Mechanism

To actively deter intruders, the system includes automated warning systems such as:

- Face detection with AI enabled analytics.
- Pre-recorded audio warnings/Hooter alarms at ALH to inform trespassers that they are under surveillance.
- Integration with alarm systems at nearby stations or OCC (Operation Control Centres).
- Attention drawing feature: When trespasser enters the optical boundary, the feed of the CCTV automatically enlarges on the security screen at Central Control room/ OCC which draws the attention of the security officials.
- Monitoring of track: Tracks can also be monitored against any sabotage using PTZ camera provided at GSM-R Tower.

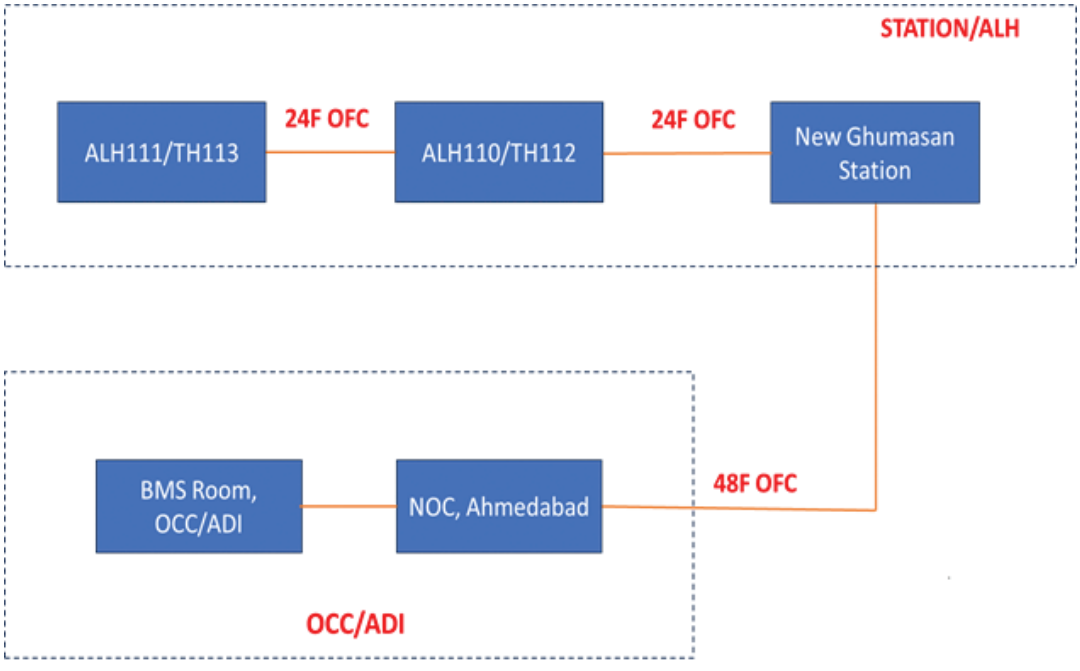
These mechanisms serve as both a psychological and physical deterrent, preventing unwanted access and minimizing damage or theft.

Chronology of Intrusion Detection

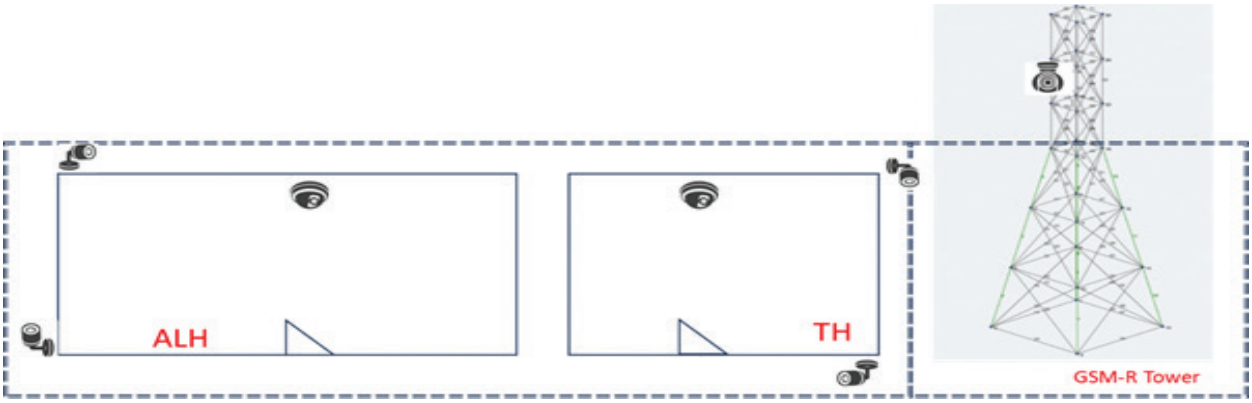
Event I: The camera is triggering fixed audio message like "You are entering into Prohibited Area" when a trespasser tries to cross the Optical area marking defined by DFCCIL.

Event II: While the trespasser crosses the defined marking area and tries to enter the ALH boundary, the camera sends trigger to NVR and the NVR sends SMS to predefined officials via the GSM Gateway.

Event III: When the trespasser tries to break the ALH/TH room, the hooter goes ON and also alarm is triggered at the Central Control Room.



Schematic Diagram for Data Flow



Key Material/Component specifications:

IP Cameras -	5MP (Dome, Bullet & PTZ type) IR-enabled, AI inbuilt Cameras (Night vision, motion, AI based Face, and Vehicle detection as well as Optical area marking)
NVR	32-channel, 4 SATA
Hooter	110 dB, weatherproof
GSM Gateway	5G SIM-based with auto-dial
Power Backup	UPS with 4–6 hrs. back up
Connectivity	Redundant Fiber/Internet based Mobile Application
Cables	High-performance CAT6
Power Supply	230V

Operational Impact and Future Scope

Since its pilot implementation, the ALH - Rakshak system has led to a significant reduction in incidents of equipment tampering and theft, especially during night hours. Field staff report increased confidence in system integrity, while remote monitoring capabilities have improved supervisory control and resource optimization.

Conclusion

"ALH - Rakshak" - A paradigm shift in infrastructure protection, blending modern surveillance with intelligent automation. In a time when operational continuity and safety are critical, DFCCIL's proactive approach underscores its commitment to innovation and asset security. This initiative sets a benchmark for effectively leveraging the technology to guard vital rail infrastructure in DFCCIL..

Installation Photographs:

SHUNTING SARTHI: ENHANCING THE SAFETY

VIKASH KUMAR
DY PM/S&T/ADI

MAHESH KUMAR MEENA
JPM/S&T/ADI

Truck on Trains at New Palanpur Station (WDFC)

Introduction

The truck on train services was unique initiative launched by western Dedicated Freight Corridor with an aim for business growth, road decongestion and pollution control. This unique initiate is win-win condition for both DFCCIL and dairy companies. This initiative has shown huge potential of business growth particularly for the perishable commodities to be transported form one corner of country to the other corner with minimum transportation time and subsequently reducing the logistic charges to carry out the businesses.

However, this initiative poses the significant safety challenge while reverse shunting the Truck on Train racks either during loading the trucks on train or deloading the truck from train. While reverse shunting of the ToT rack, the loco pilot has to completely dependent upon the best communication procedure between the Loco pilot and shunter available near the ramp point of shunting. Any miscommunication between the shunter and Loco pilot leads to the severe consequences including the derailment of the ToT racks.

In order further enhance the confidence of LP for rear shunting at ToT loading/unloading ramp, Chief General Manager, Ahmedabad office has started a pilot project namely "Shunting Sarthi" where Hi-resolution camera feed, installed near loading/unloading ramps, is integrated to the Loco-pilot tablets using the wireless communication through radio wave antenna.

Project Details

IP bullet cameras were installed at the loading ramp's endpoint. These cameras offer a fixed, comprehensive view of the track behind a train. The video is streamed to the driver's tablet device, helping in alignment during reverse movement of the goods train to the ramp.

Wireless Surveillance Integration for Freight Operations

Three 5MP IP bullet cameras have been mounted on a 22-foot pole located at the freight loading/unloading area. These cameras are designed to deliver crystal-clear video quality with wide-angle coverage, even in challenging lighting conditions. The cameras are wirelessly connected to a Network Video Recorder

Specification of the materials used	
IP Cameras	5MP bullet camera, IR vision, weatherproof (IP67)
Connectivity	Wi-Fi based, secured network connectivity with NVR
NVR	8-channel, 4TB storage capacity,
Display for Driver	Android tablet with secure app access to live camera feed
Power Supply	230 V AC Stabilized with surge protection at camera and NVR

(NVR) installed 1 kilometre away, inside the office premises. Both the cameras and NVR are configured on the same secure Wi-Fi network, ensuring reliable and uninterrupted video transmission without the need for physical cabling between the two points.

Monitoring Access

The live feed from the cameras is monitored from the office location where the NVR is installed. A tablet device is provided to the Loco Pilot, enabling them to view video footage directly from the loading/unloading zone during operations. This enhances the driver's situational awareness and coordination with ground staff, especially during reversing and alignment of goods trains.

Key Features of Shunting Sarthi

1. Additional safety enhancement: - Shunting Sarthi will enhance the safety measure for rear shunting significantly as Loco Pilot will exactly know the location of dead end using the tablets video and accordingly, loco pilot will be able to regulate the speed of ToT to stop at the dead end in addition to the communication between shunter and Loco Pilot.

2. Remote Surveillance of the ToT track and yards: - Shunting Sarthi can also be integrated with station CCTV system to further enhance the surveillance of the yards track against any kind of sabotage.

3. Real-time Monitoring: Enables prompt responses and improves safety during freight handling.

4. Remote Access: Both office staff and train operators have live access to visual data.

Block diagram

Impact on Operations

- Enhances safety and visibility.
- Enables efficient and well-co-ordinated shunting with shunters.
- Saves time and provides additional confidence to driver for shunting.

Conclusion

The installation of CCTV cameras at the loading ramp end point of Truck on Train marks a significant step towards enhancing safety and efficiency in goods train shunting movement. By providing video feedback directly to Loco Pilot tablet, the system ensures assistance for shunting and supports safer reverse shunting procedures. This proactive approach not only modernizes train handling but also aligns with DFCCIL's vision for longer, heavier and safer freight corridor operations.

> *Every backward movement needs forward-thinking technology.*
> *— Nandan Nilekani*

A Journey Captured Through the Lens

This section presents a curated compilation of images reflecting the unit's evolution, growth, and significant contributions in shaping the future of freight movement.

PHOTO GALLERY

Rail Flyover (RFO-25) at Banaskantha on Palanpur Connecting Lines in New Palanpur- New Makarpura Section of WDFC

PHOTO GALLERY

WDG-4G locomotive hauling double stack container train near Palanpur.

Freight train passing over Rail Flyover No. 86

PHOTO GALLERY

India's most powerful locomotive, WAG-12, hauling a goods train with ease

Freight train traversing the twin-box ROB at Palanpur.

PHOTO GALLERY

Hon'ble Prime Minister Sh. Narendra Modi inspecting the model of a Rail Flyover at Ahmedabad OCC.

Controlling of Sanand North Station by all Women Staff

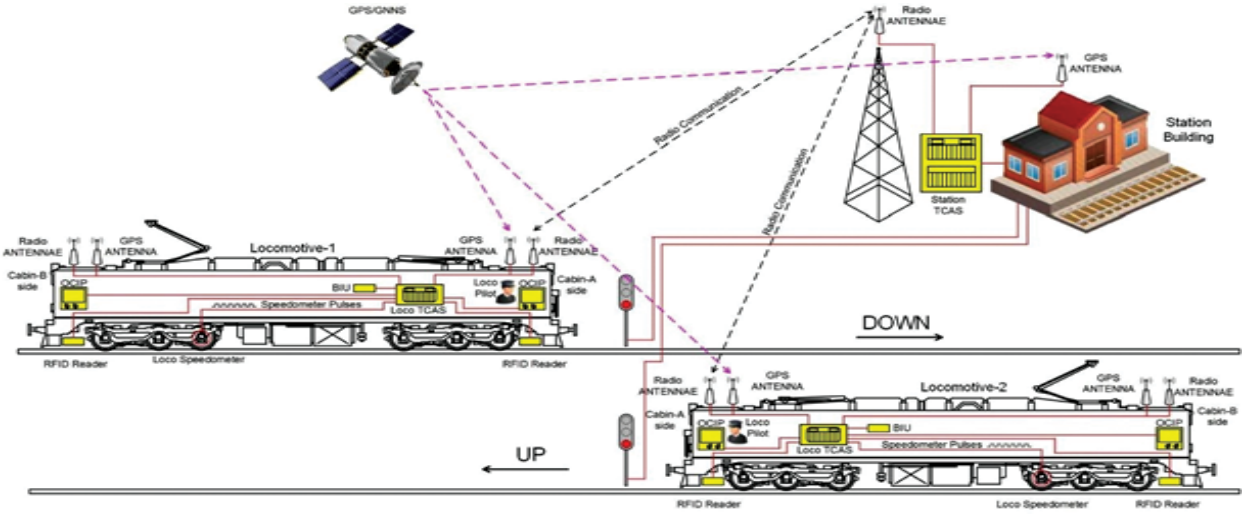
PHOTO GALLERY

Loading of Amazon parcels into a High-Capacity Parcel Van underway at New Sanand station

Truck-on-Train service carrying milk tankers on the New Palanpur–New Rewari stretch.

KAVACH: POWERING SAFE AND EFFICIENT FREIGHT MOVEMENT

VIKAS SRIVASTAV
GGM/S&T/WDFC/CO



Kavach System at a glance

As the Indian Railways strides towards a future of enhanced safety and modernization, the deployment of the indigenous Train Collision Avoidance System (KAVACH) along the Western Dedicated Freight Corridor (WDFC) would be a transformative milestone. Spanning 1465 kilometres, it promises to improve freight operations with cutting-edge technology, ensuring safer and more efficient train movement. Let's explore the planning of this initiative, which reflects DFCCIL's commitment to faster & safter freight operation.

A Vision Rooted in Safety and Self-Reliance

The KAVACH is a cornerstone of the Indian Railways' safety agenda, aligning with the "Make in India" initiative championed by the Honourable Prime Minister. According to the IRSEM (Indian Railways Signal Engineering Manual), Automatic Train Protection (ATP) systems with cab signalling are mandatory for trains exceeding 140 kmph. At such high speed, signal visibility drops dramatically, from 16 seconds at 90 kmph to just 6.5 seconds at 220 kmph (assuming a 400-meter visibility range)—posing a significant challenge for loco pilots. Add to this the fog-prone sections and the stress of monitoring signals over long 40-km block sections (compared to 10 km on traditional Indian Railways), and the need for an advanced safety system with Kavach becomes clear.

KAVACH, addresses these challenges by providing cab signalling and automatic protection, giving loco pilots critical reaction time and reducing human error. With most of the WDFC corridor featuring automatic signalling and double-line electrified tracks, KAVACH is poised to enhance safety and operational efficiency across this vital freight artery.

Objectives and Features

The core objective of the KAVACH is to ensure incident-free train operations, protecting costly assets like tracks, overhead equipment (OHE), locomotives, rolling stock, and human resources. By mitigating risks such as Signal Passing at Danger (SPAD), collisions (head-on, side, and rear-end), and over-speeding, often caused by human factors like lapses in concentration or misjudgment, KAVACH promises a safer railway network.

UHF Antenna for Kavach on Tower

DMI: Driver Machine Interface

The system's standout features include:

- **Speed Supervision:** Prevents over speeding and manages Temporary and Permanent Speed Restrictions (TSR/PSR).
- **SPAD Prevention:** Automatically intervenes if a loco pilot misses a signal.
- **Cab Signalling:** Displays signal aspects and movement authority via the Driver Machine Interface (DMI).

Loco Kavach installed in a Loco

- **Emergency SOS:** Manual activation available from both loco and station.
- **Collision Avoidance:** Protects against head-on, side, and rear-end collisions.
- **Rollback Protection:** Prevents unintended forward or reverse movements.
- **Automatic Whistling:** Activates at level crossings to reduce pilot workload.
- **Train Monitoring:** Computes train length and enables centralized monitoring via the Network Management System (NMS).

KAVACH's trackside components—Stationary TCAS units, RFID tags, and radio equipment will interface with existing signalling systems, while the on-board subsystem (Loco KAVACH), ensuring seamless integration for operations. The existing communication backbone of OFC will be utilized for the communication requirement for Kavach & its NMS, thus minimizing new infrastructure costs.

Challenges and Strategic Solutions

Deploying KAVACH across the WDFC's diverse terrain requires meticulous planning. The system relies on a UHF-based radio telecommunication subsystem. A detailed Received Signal Strength Indicator (RSSI) survey, complemented by drone and cable route surveys, will assess the need for additional towers.

The corridor already hosts 285 GSM-R towers (mostly

RFID Tag

Station Kavach Installed at a Station

lattice-type), but extra 30-40 meter towers may be required near Automatic Location Huts (ALHs) or level crossings to ensure continuous Movement Authority (MA) updates—a critical factor for success.

No new buildings will be required; existing relay rooms and ALHs will house equipment.

The Road Ahead: A Safer, Smarter DFC

KAVACH as an aid to loco pilots will transform operations for loco pilots and will make the train operation stress free. By addressing human error, enabling high-speed operations in adverse conditions, and leveraging indigenous technology, it sets a global benchmark for freight corridors. It promises to strengthen India's logistics network, ensuring that every journey is safer and more efficient. This initiative is not just a technical upgrade, it's a step toward a future where railways lead the charge in sustainable transportation.

> *Keep building skills from the ground up like scaffolding-beam by beam, bolt by bolt, link by link, level by level*
>
> *— Anonymous*

INNOVATION AT WORK: LAUNCHING KALAMBOLI RFO

VIKAS KUMAR
CGM/Mumbai

Successful Launching of Kalamboli RFO

DFCCIL Sets New Benchmark with Launch of Longest Rail Flyover Girder at Kalamboli

In a landmark achievement for India's freight transportation network, the Dedicated Freight Corridor Corporation of India Limited (DFCCIL) has successfully launched the longest Open Web Steel Girder in its history. The event took place on May 12, 2025, at Kalamboli, a crucial node in the JNPT–Nilje section of the Western Dedicated Freight Corridor (WDFC).

This newly installed girder, measuring 110.5 meters in length and weighing approximately 1500 tonnes, now stands as the longest Rail Flyover (RFO) girder constructed by DFCCIL to date. The scale and complexity of the project make it a defining moment in the journey toward creating world-class freight infrastructure in India.

Engineering Marvel: Radial Shifting over Active Tracks

What made the launch particularly impressive was the use of a sophisticated radial shifting technique. The girder was maneuvered 34 meters laterally over an operational Indian Railways track—a task that required advanced civil and structural engineering, precision equipment, and close coordination among various technical teams.

This complex operation was a culmination of months of detailed planning, structural analysis, and logistical arrangements. The successful launch without disruption to the existing railway operations is a testament to DFCCIL's emphasis on safety, innovation, and operational excellence.

Leadership and Recognition

The momentous occasion was witnessed by the Managing Director of DFCCIL, who praised the engineering and project management teams for their exceptional dedication and execution. The presence of senior leadership underscored the significance of the milestone not just for DFCCIL but for India's broader infrastructure development ambitions.

Girder Launching initiated

Girder Successfully Launched

Girder Launching in Progress

Addressing the assembled teams and media, the MD noted, "The successful launch of this record-setting RFO is a proud moment for DFCCIL and for Indian infrastructure. It showcases our ability to deliver high-impact projects that are technologically advanced and strategically critical."

Strategic Importance of the Kalamboli RFO

Kalamboli serves as a vital junction connecting India's largest container port, Jawaharlal Nehru Port Trust (JNPT), to the national freight network. The new flyover will facilitate seamless movement of dedicated freight trains, reducing bottlenecks and minimizing conflicts with passenger train operations.

With India's logistics and supply chain sectors rapidly evolving, the completion of infrastructure such as the Kalamboli RFO will enhance freight capacity, reduce transit times, and contribute significantly to the 'Make in India' and 'Gati Shakti' initiatives by improving the competitiveness of domestic manufacturing.

A Step Toward World-Class Logistics

This milestone is not just a technical accomplishment—it is a reflection of DFCCIL's larger mission to revolutionize freight transportation in India. With projects like this, DFCCIL is setting new benchmarks in project execution, technological integration, and stakeholder collaboration.

As India strides toward becoming a global manufacturing and export powerhouse, infrastructure like the Kalamboli Rail Flyover will play a crucial role in laying the foundation for a modern, efficient, and sustainable logistics network.

> *If we desire progress, we must build the roads and bridges that lead to it.*
>
> *— John F. Kennedy*

THE JOURNEY TO NEW CORPORATE OFFICE: SEAMELESS RELOCATION

D.L. YADAV
GM/ Admin/CO

New Corporate Office of DFCCIL: Propelling a New Era of Organizational Growth

Introduction

The Dedicated Freight Corridor Corporation of India Limited (DFCCIL) has made a significant stride in its growth trajectory by successfully relocating its Corporate Office to a new, state-of-the-art sprawling office complex at Sector 145, Noida. This strategic move from its previous location at the Supreme Court Metro Station building complex underscores commitment of DFCCIL towards fostering a modern and dynamic work environment. Designed to enhance innovation, collaboration and efficiency, the new Corporate Office complex provides an optimal platform for employees to excel and propel organizational growth. This relocation is a testament of long-term vision and unwavering commitment of DFCCIL to excellence. With its new Corporate Office, DFCCIL is poised to further amplify its capabilities and solidify its position as a leader in the freight transportation sector, ushering in a new chapter brimming with opportunities for future expansion, growth and success.



Swanky & Grand: Inside View of the New Corporate Office

Need for Relocation

DFCCIL occupied 8106 sqm of office space spanning over 3rd to 5th floors with an additional 469.20 sqm at the ground floor of the Supreme Court Metro Station Building Complex. This included 50 uncovered car parking spaces. Furthermore, an additional 90.36 sqm on the Platform and Concourse Level was also available for essential utilities and services and 1325.90 sqm as circulating area at the ground floor. Notably, two Project Management Consultants (PMCs) also operated from this location. However, the Supreme Court Metro Station building was a DMRC owned structure and the long-term operational requirements of DFCCIL could not be fully met within the constraints of a hired facility. This highlighted the need for DFCCIL to establish its own independent, purpose-driven Corporate Office — a space that would better reflect its identity, support evolving operational demands and align with its strategic vision for the future.

Initial Planning: Laying The Ground-work for a Smooth Transition

The shifting/relocation endeavor (from Supreme Court Metro Station building to Sector 145, Noida) was characterized by meticulous planning and execution, commencing with multiple site visits involving top management and key operational personnel at cutting edge level. These visits and high-level meetings served to outline the broad contours of the shifting plan, including critical timelines. Subsequently, the Admin Department of the Corporate Office took the lead in detailed planning, meticulously charting out every aspect of the relocation process.

Inventory Assessment

To accurately determine the scope of shifting/relocation work, a comprehensive inventory assessment was done at the Old Corporate Office. This included a detailed listing of all furniture and fixtures such as chairs, tables, sofas, wooden almirahs, refrigerators, small tables, bookcases, compactors, etc. The Electrical, Signal & Telecommunication (S&T) and Information Technology (IT) Departments also pooled in their resources for inventory assessment of their respective assets. The inventory included critical technical assets such as servers, switches, network hardware, telecommunication devices, UPS systems, electrical fittings, LED TVs and LED screens, etc. These assets were assessed for redundancy, usability, as well as handingover to incumbent agencies, viz. CRIS (Centre for Railway Information Systems) and NCAMPA (National Compensatory Afforestation Fund Management and Planning Authority), as per mutual agreements. This meticulous inventory assessment exercise helped in precisely gauging the scale of the relocation and define the scope of work for vendor shortlisting, thereby ensuring a precise and efficient shifting process.

Parallelly, dismantling, transportation and reinstallation of essential furniture/fixtures, IT, S&T and electrical infrastructure at the new Corporate Office in Sector

145 was planned in such a way to ensure uninterrupted service continuity during shifting/relocation exercise.

Nomination of Nodal Officers

To ensure seamless inter-departmental coordination and to ensure safe handling of inventory, Tools & Plants (T&P) and legacy records, nodal officers were also nominated from each department with the following key objectives:

- Enhance inter-departmental coordination
- Ensure the safe custody of inventory, T&P, and records
- Facilitate a smooth transition to the new Corporate Office

These nodal officers played a pivotal role in the inventory assessment, location identification, marking and the disposal of obsolete and redundant record/items.

Allocation of Surplus Furniture And Fixtures: Optimizing Resource Utilization

In preparation for shifting to the new Corporate Office (having customized furniture and fixtures), a thorough assessment was undertaken to identify surplus items. To optimize resource utilization, close coordination was made with incumbent agencies (CRIS and NCAMPA) to secure their agreement for acquiring the surplus furniture and fixtures through mutual agreement. Furthermore, all Field Units were also taken on-board to distribute the remaining surplus items on a first-come, first-served basis. Meetings were also held with representatives from all Field Units to finalize their specific requirements, ensuring a smooth and efficient allocation process.

Shortlisting of Logistics Vendor: Selecting a Reliable Partner

A meticulous approach was adopted to finalize the terms and conditions for shortlisting the logistics firm capable of handling the intricate shifting work. This included arranging pre-bid visits and inspections of the inventory viz. furniture, fixtures, server room, compactors and AC units, by prospective bidders. A pre-bid meeting was conducted in both physical and online modes to ensure transparency and inclusivity. This thorough process facilitated selection of a reliable and competent partner, significantly contributing to the overall success of the relocation.

Formation of Teams

To ensure a seamless relocation process, four dedicated teams were constituted, each headed by a Deputy General Manager (DGM)/Manager-level officer of Admin Dept. to meet the challenge of speedily shifting/relocation without affecting day to day operations:

- Team 1 (Loading and Dispatch): This Team, headed by Sh. Rajan Sadana, Dy GM/Admin, supervised the packing as well as loading of material/record/furniture/fixtures at the Old Corporate Office in close coordination with nodal officers. This Team closely worked with supervisors and labours deployed by logistics firm and ensured that the trucks were loaded fully and securely before dispatch. Timely rest, rotation and refreshment of labours was

Shifting in Progress: Safe, Secure & Completed with Precision

New Corporate Office Building: Ready to foster Innovation, effciency & Growth

ensured by this Team for timely completion of loading activities. Ms. Asha, PS actively assisted this team in transportation of individual PCs/IT assets.

- Team 2 (Unloading and Material Management): This Team was headed by Ms Nisha Wasan, Manager/ Civil (Admin) and assisted by Sh. Jai Prakashs and Sh. Praveen Kumar, (both Jr Exec/Civil). This team actively supervised the unloading of material at the New Corporate office, ensuring the safe custody of all materials. This Team also maintained close coordination with Noida Unit officials.
- Team 3 (Negotiation with Stakeholders): This Team was comprised of Sh. Bismay Banejee, Sh. Amit Kumar, Managers/Admin and Sh. Praveen Kumar, Junior Manager. This Team negotiated with DMRC for settlement of outstanding dues and secured further possession of 6 rooms on the 5th Floor for the registered office. This Team alongwith Sh. Rajan Sadana, Dy GM also held effective negotiation with CRIS & NCAMPA for handing over of surplus inventory.
- Team 4 (Seating Plan and Allocation): This Team headed by Ms. Nisha Wasan, Manager/Civil (Admin), Sh. Ganesh Pandey, Manager/Admin alongwith Sh. Jai Prakashs, Jr Exec/Civil/Admin developed a comprehensive seating plan for the new Corporate Office and ensured floor-wise and department-wise allotment of seats, optimizing space utilization and workflow.
- Team 5 (Packing/lifting/delivery of carton box at designated storage space, work stations, chambers): This Team comprising of MTS, Sanitation, Plumbers, Carpenters, Gardeners, Electricians, S&T staff, etc. under direct supervision of Admin Department worked diligently in ensuring packing of individual material/items, lifting and delivery of carton boxes at designated places. This Team actively rendered timely assistance in removal of fixtures, electrical items, hardware, sanitation fittings, etc.

Each team worked diligently, duly assisted by MTS and sanitation staff, often dedicating extra hours even on Saturdays and Sundays, to complete their assigned tasks within the given timeframe. These Teams displayed exceptional ability in seamlessly orchestrating the relocation while ensuring minimal disruption to daily operations. These Teams efficiently managed the intricacies of the relocation process and were instrumental in facilitating a smooth and efficient transition to the new Corporate Office complex.

Precise Execution

The sheer scale of the shifting/relocation operation was quite big and impressive. Items for shifting ranged from fragile objects like glass framed wooden almirahs to sensitive record as well as iron almirahs. All these items were got packed with suitable and adequate packing material under close supervision of Admin Team.

A total of 66 truck trips were made to transport office

A Freight Train Carrying Open Wagons Passes by the New Corporate Office, Noida

furniture, fixtures, equipment and essential documents from Supreme Court Metro station building to the new Corporate Office Complex in Sector 145, Noida.

In addition, the delivery of surplus furniture/fixture to various field units was also ensured involving an additional 25 truck trips to Ajmer/Jaipur Units (06 trucks), Tundla Unit (03 tracks), DDU Unit (04 trucks), Prayagraj Unit (06 trucks), Ambala Unit (04 trucks) and Noida Unit (02 trucks).

A total of 45 rounds of four wheelers were also made for transportation of PC/IT assets individually allotted to corporate office employees.

Relocation at new Corporate Office

Recognizing the critical importance of a well-designed workspace, swift establishment of essential amenities at the new Corporate Office was prioritized to ensure a seamless transition. Proactive measures were taken to set up necessary utilities and other critical infrastructure in coordination with the Noida Unit, creating a functional environment that effectively supported employee comfort and enhanced overall efficiency.

Essential ongoing service related contracts viz. sanitation, transport and canteen were reviewed/reworked to meet enhanced functional and operational requirement for seamless transition to new Corporate Office.

Space Allocation at new Corporate Office

Thoughtful allocation of space at new Corporate Office

was made to facilitate efficient workflow to support the diverse operational requirement of the organization. As far as possible, Floor-wise/Department-wise allocation of Office Chambers/Cubicles/Cabins at new Corporate Office was made for better inter-departmental synergy. Other essential services viz. canteen facility, horticulture, housekeeping, etc. were speedily put in place. This meticulous attention to detail in creating a conducive workspace has been instrumental in enabling employees to adapt quickly and seamlessly to their new surroundings while maintaining high levels of performance.

Shuttle Arrangements

Recognizing the potential challenges posed by the new location, free transportation services were swiftly provided between the Botanical Garden Metro Station and the office premises, ensuring a convenient and hassle-free daily commute for employees. This commendable initiative demonstrates a genuine commitment of DFCCIL towards employee well-being and the cultivation of a supportive work environment. This thoughtful initiative has undoubtedly contributed to a more positive and supportive work environment, fostering a strong sense of care and appreciation among employees.

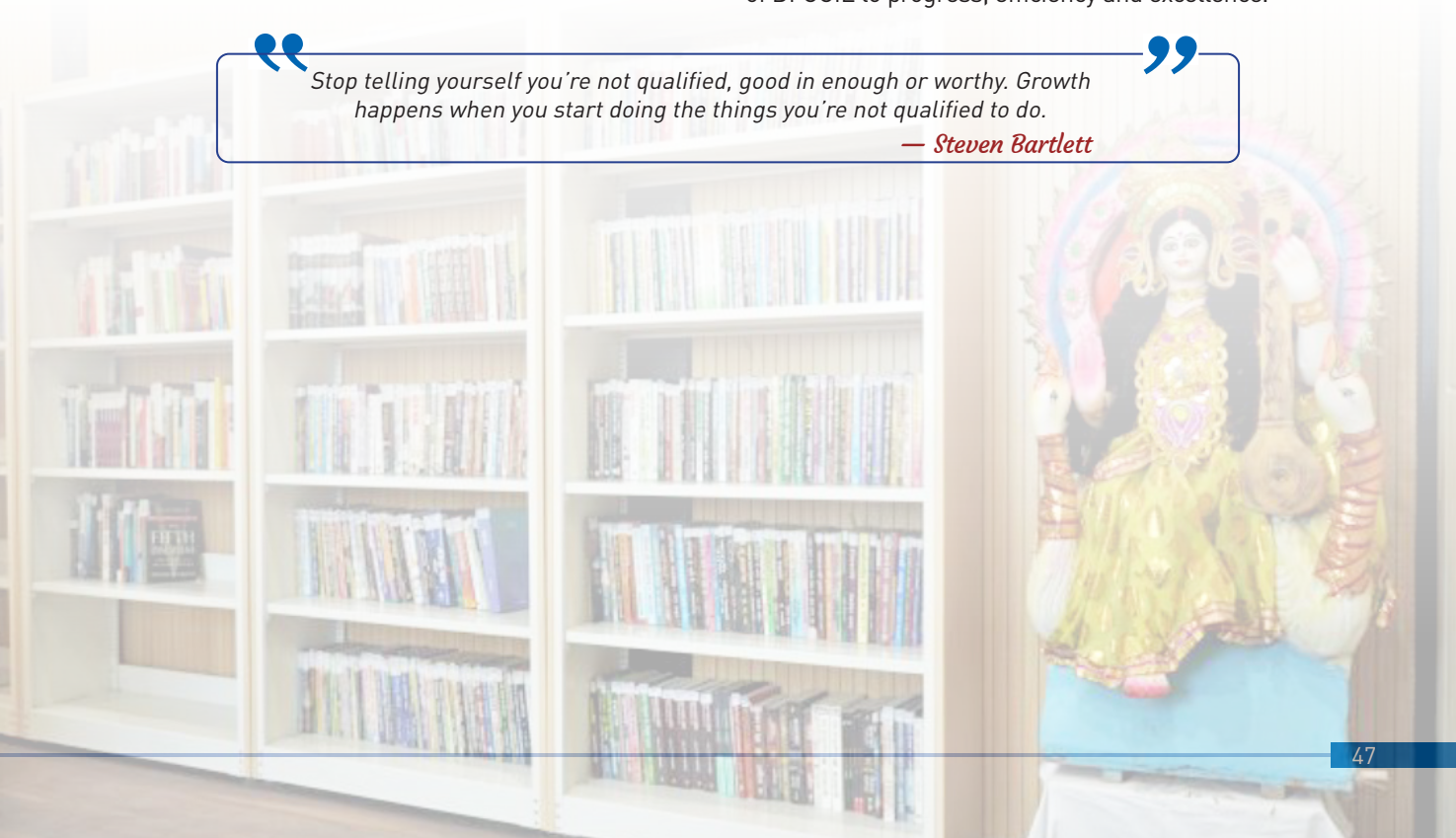
Conclusion

As DFCCIL establishes itself within its new Corporate Office, the organization is strategically positioned to leverage the immense potential of this modern facility to drive future growth. The new office space serves as a powerful symbol of DFCCIL's ongoing progress, its ambitious vision for the future and its steadfast dedication to providing a world-class working environment for its employees.

The relocation was a truly collective achievement, showcasing seamless coordination between Admin teams, various departments and external vendor. Exceptional attention to even the smallest details ensured a smooth and exceptionally well-organized transition, significantly minimizing potential errors and maximizing overall efficiency. From the initial comprehensive assessments to the final placement of furniture and equipment, no aspect was overlooked.

The strategic relocation to the new Corporate Office at Sector 145 marks the beginning of an exciting new chapter in DFCCIL's journey. This milestone has been made possible by way of coordinated efforts of the entire organization—from top management to employees at the cutting-edge level—reflecting a shared commitment of DFCCIL to progress, efficiency and excellence.

> *Stop telling yourself you're not qualified, good in enough or worthy. Growth happens when you start doing the things you're not qualified to do.*
>
> *— Steven Bartlett*



SMART RAIL FREIGHT SOLUTIONS ACROSS GLOBE

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Light Freight Railways, Japan

Introduction

Rail freight has long been the backbone of industrial economies, providing scalable, low-emission transport over long distances. In India, while freight volumes have grown, infrastructure has lagged. The Indian Railways' continued emphasis on bulk commodities has limited its ability to attract smaller, high-value and time-sensitive cargo. As noted by NITI Aayog, issues like inflexibility, delays, and poor multimodal integration have deterred wider industry adoption.

To address this, India has launched structural reforms, most notably the development of Dedicated Freight Corridors (DFCs)—high-capacity, electrified lines that separate freight from passenger traffic. These corridors are projected to improve efficiency, reduce transit times and logistics costs, and contribute ₹16,000 crore to GDP. As India undertakes this freight transformation, it can benefit from global innovations already reshaping the logistics landscape.

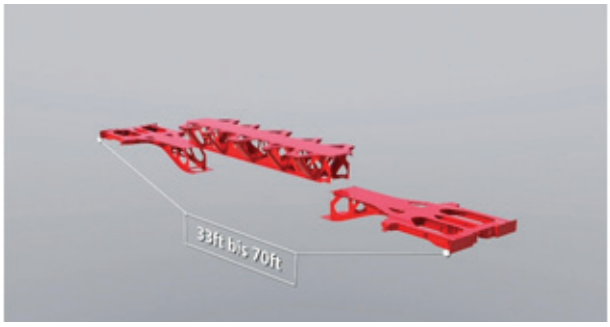
Across the world, nations are deploying next-generation freight technologies that enhance flexibility, efficiency, and sustainability—many of which offer valuable lessons for India's evolving strategy.

Modular Freight Wagon Systems

A major innovation in rail freight is the modular wagon system, which replaces fixed-structure wagons with customizable platforms featuring interchangeable superstructures. Operators like DB Cargo, Wascosa, and InnoFreight are at the forefront of this shift, allowing a single underframe to carry various cargo types—open bulk, tankers, or covered wagons—via universal anchorage. InnoFreight's twin-wagon units, made from high-strength steel and optimized for semi-automated manufacturing, are a prime example. These systems increase flexibility, reduce turnaround time, and ease maintenance as underframe and superstructures are interchangeable. According to the International Union of Railways (UIC), modular systems can improve wagon utilization by up to 30%, greatly enhancing operational efficiency.

Roll-On/Roll-Off (RO-RO) Freight Systems

RO-RO freight systems, such as Sweden's Flexiwaggon, enable vehicles to be horizontally loaded onto rail wagons from any flat surface—eliminating the need for terminal infrastructure like ramps. Wagons can be individually loaded from both sides, even with OHE masts in place, reducing train loading and unloading time to just 15–20 minutes. Designed for medium-distance hauls (150–200 km), the system accommodates trucks, trailers, and refrigerated cargo up to 50 tonnes, operating at speeds up to 120 km/h. It facilitates seamless intermodal transfer, cuts logistics costs, and reduces emissions. European Commission studies suggest RO-RO systems can reduce road freight mileage by up to 25% on key corridors, positioning them as a scalable and sustainable freight solution.



Freight Technology Innovations across the Globe

Light Freight Railways (LFR)

Light Freight Railways (LFRs) use electric multiple units (EMUs) to move small cargo loads within urban areas, easing congestion and emissions. Japan's M250 Super Rail Cargo is a leading example, offering high-speed delivery for time-sensitive goods like small and medium sized e-commerce parcels. With distributed traction and container compatibility, it combines efficiency with environmental benefits. European systems like Cargo Sprinter mirror this model, creating zero-emission corridors and enhancing last-mile logistics. Trials in Germany suggest LFRs can reduce freight-related urban emissions by up to 40% compared to diesel trucks.

High-Speed Freight Trains (NGT CARGO)

The Next Generation Train (NGT CARGO), developed by the German Aerospace Centre, introduces high-speed, autonomous freight for long-haul corridors. With automatic loading and unloading, self-powered wagons, Digital Automatic Couplers, onboard motors, and roller floors for containerized cargo, the system enables last-mile delivery without shunting. Capable of speeds up to 400 km/h and using virtual coupling for flexibility, NGT CARGO is tailored for high-value, time-sensitive goods such as electronics, pharmaceuticals, and perishables. Forecasts indicate it could capture up to 20% of the European air cargo market by 2040, offering a competitive, low-emission alternative.

Indian Rail Freight Innovations

India's rail freight modernization is advancing through high-speed initiatives and hybrid models tailored to emerging logistics demands. One such innovation is the CARGO LINER, a double-decker train that combines passenger transport (72 passenger plus 2 toilets at one end) on the upper levels with freight handling on the lower deck (47 m3 of cargo). This model is especially suited for regional and semi-urban markets, offering cost-effective, space-efficient operations without the need for dedicated infrastructure. Its freight compartment accommodates approximately six tonnes using palletized ULDs, allowing for rapid, mechanized loading and unloading.

Another upcoming concept is Vande Cargo, on the similar technology of Vande Bharat high-speed platform, marks a bold move toward dedicated, digitally controlled, and safety-enhanced freight services. It reflects a broader shift in India's rail freight strategy—from bulk-centric transport to agile, integrated, and future-ready logistics. According to NITI Aayog, such initiatives could raise rail's freight market share from 27% to over 40% by 2030.

At the heart of this transformation are the Dedicated Freight Corridors (DFCs)—Eastern and Western—India's flagship infrastructure projects designed to decongest

existing lines and streamline high-density freight traffic along industrial and port routes. By separating freight from passenger operations, DFCs reduce delays, enable longer, heavier trains and seamless operation. The Ministry of Railways estimates that DFCs have already contributed ₹16,000 crore to GDP, mainly by lowering logistics costs and enhancing reliability. With average freight speeds doubling to 50–60 km/h and transit times halved on key routes, DFCs are enabling a major modal shift from road to rail, lowering emissions and fuel use. As an infrastructure backbone, DFCs are critical to scaling innovations like Vande Cargo and CARGO LINER, and advancing India toward a globally competitive freight ecosystem.

Globally, rail freight innovation is being driven by technologies like Digital Automatic Coupling (DAC) and Virtual Coupling. DAC integrates mechanical, pneumatic, and data links in a single automated operation—enhancing safety, reducing manual labour, and ensuring uninterrupted power and communication between wagons. Virtual Coupling, meanwhile, allows multiple trains to run in close formation without physical couplers, using real-time communication and advanced signalling to improve flexibility and boost capacity. Trials in Germany and Switzerland show that these can increase network capacity by 15–30% and shorten train formation times.

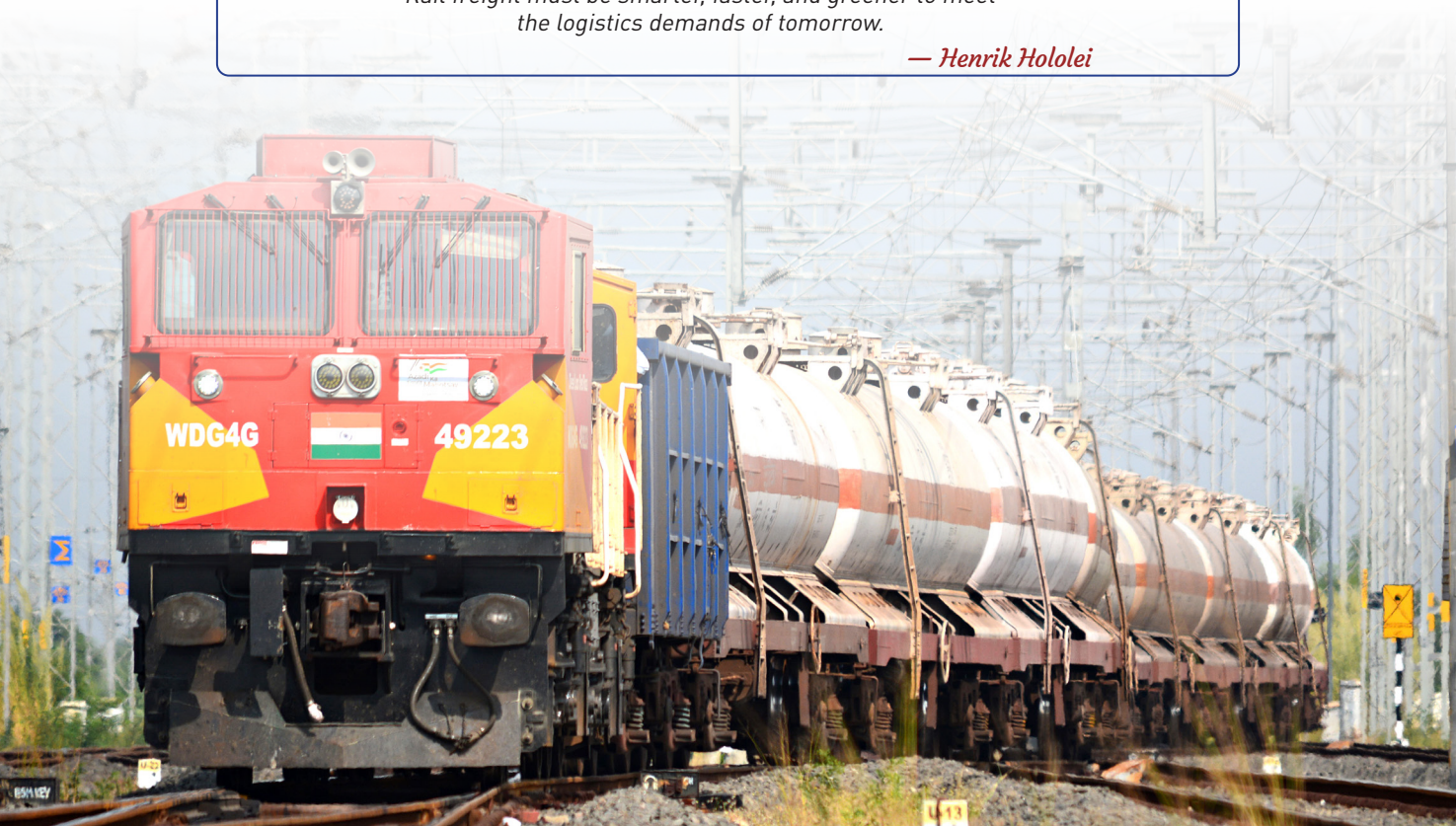
India is aligning with these trends by incorporating DAC and Virtual Coupling into initiatives like Vande Cargo and Cargo Liner. Despite challenges, their integration within DFC operations will be pivotal in improving speed, cutting delays, and raising overall freight handling capacity—paving the way for a globally competitive and future-ready rail freight ecosystem.

Conclusion

Rail freight is undergoing a strategic transformation, driven by the need for greater efficiency, reliability, and sustainability. Innovations like modular wagons, high-speed freight trains, and digital systems such as DAC and Virtual Coupling are redefining how goods move. India's modernization push—through DFCs, Vande Cargo, and Cargo Liner—signals a clear shift from legacy models to a tech-driven, future-ready rail network.

By combining infrastructure upgrades, policy reforms, and global best practices, India is addressing key inefficiencies while laying the groundwork for resilient logistics. These advances position the country to emerge as a model for emerging economies, setting new benchmarks in sustainable, high-performance freight for the 21st century.

> *Rail freight must be smarter, faster, and greener to meet the logistics demands of tomorrow.*
>
> *— Henrik Hololei*



PORT CONNECTIVITY OF DEDICATED FREIGHT CORRIDORS

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AGM OPN BD/CO

JNPT to be directly connected with DFCCIL Network

Introduction

Dedicated Freight Corridors (DFCs) are a transformative infrastructure initiative aimed at revolutionizing freight transport through high-speed, freight-only railway networks. By enhancing connectivity between major ports, industrial hubs, and hinterlands, DFCs reduce logistics costs, boost trade efficiency, and drive economic growth. This article aims to provides an in-depth analysis of the port connectivity of the DFCs, their specific impacts on port-related logistics, and the resulting business opportunities and economic benefits, corroborated with reports, facts, and figures as of May 2025.

Overview of Dedicated Freight Corridors

The Dedicated Freight Corridor (DFC) project, conceptualized in 2005, was designed to address the delays caused by freight and passenger trains sharing tracks. DFCs allow faster (up to 100 kmph vs. 25 kmph), heavier, and longer freight trains, greatly improving capacity. The Eastern Dedicated Freight Corridor (EDFC), spanning 1,337 km from Ludhiana to Sonanagar, is fully operational since February 2024, handling 220 trains daily and connecting eastern ports, coal mines, and power plants. The Western Dedicated Freight Corridor (WDFC), covering 1,506 km from Dadri to JNPT, is 93.2% complete as of April 2024, with full completion expected by October 2025. It currently handles 175 trains daily, serving western ports.

Port connectivity of the DFCs

DFCs optimize port-to-hinterland connectivity, significantly impacting India's export-import (EXIM) trade and domestic logistics. Below is a detailed examination of port linkages, supported by data.

Western Dedicated Freight Corridor (WDFC)

The WDFC connects western ports to northern and further to eastern industrial and consumption centers, reducing transit times and costs for EXIM cargo. Key port linkages include:

- **Jawaharlal Nehru Port (JNPT), Navi Mumbai:** India's largest container port, Jawaharlal Nehru Port Trust

Loading and Unloading process at JNPT

(JNPT), handles approximately 5.8 million TEUs annually as of 2024, accounting for about 42% of the country's containerized cargo. The integration of the Western Dedicated Freight Corridor (WDFC) has significantly enhanced logistics efficiency, reducing the transit time between JNPT and Dadri from 75 hours to 48 hours and cutting overall logistics costs by 15–20%. This development has also led to a 25% reduction in container turnaround time at JNPT. This is greatly benefiting key industries such as electronics, textiles, and pharmaceuticals by improving supply chain reliability and reducing delivery times.

- **Mundra Port, Gujarat:** Mundra Port, India's largest private port, processes around 6.7 million TEUs and 155 million tonnes of cargo annually as of 2024, handling a diverse mix that includes coal, fertilizers, and automobiles. The integration of the Western Dedicated Freight Corridor (WDFC) has significantly enhanced Mundra's connectivity to northern markets, reducing transit times by 30%. This improvement has led to a 10–15% reduction in coal transport costs and a 12% decrease in costs for containerized goods. As a result, export volumes from Mundra to northern India increased by 12% in 2024. The port now facilitates approximately 20% of India's containerized EXIM trade through its WDFC connectivity, further solidifying its role as a crucial logistics hub in the country's supply chain network.
- **Pipavav Port, Gujarat:** Port Pipavav handles approximately 1.3 million TEUs and a significant volume of dry bulk cargo annually, playing a key role in supporting agricultural and industrial exporters. With the integration of the Western Dedicated Freight Corridor (WDFC), the port has experienced a reduction of 20 hours in transit time to the Delhi NCR region. This improvement has led to a 12% decrease in logistics costs for both perishable and industrial goods, enhancing the competitiveness of exports. In 2024, agricultural exports such as grains saw an 8% increase, reflecting the efficiency gains. Additionally, the share of freight moved by rail from Pipavav rose by 15%, underscoring the port's growing reliance on high-speed, cost-effective rail connectivity provided by the WDFC.
- **Kandla Port, Gujarat:** Kandla Port, a major hub specializing in liquid and bulk cargo, handles around 135 million tonnes annually, including key commodities such as petroleum and grains. The integration of the Western Dedicated Freight Corridor (WDFC) has

significantly streamlined the transport of petroleum products to northern refineries, reducing transit time by 25% and contributing to more stable and reliable supply chains. As a result, petroleum throughput to northern India increased by 10% in 2024. Additionally, the share of freight moved by rail from Kandla rose by 18% following the WDFC integration, highlighting the port's growing reliance on faster and more efficient rail logistics.

- **azira Port, Gujarat:** Hazira Port handles approximately 25 million tonnes of cargo annually, with a strong focus on steel, chemicals, and containerized goods. The port's connectivity to the Western Dedicated Freight Corridor (WDFC) has significantly improved logistics efficiency, reducing transit time to northern markets by 20%. This enhancement has led to a 10% reduction in transportation costs for bulk cargo, benefiting key industrial sectors. In 2024, container traffic from Hazira to the National Capital Region (NCR) increased by 7%, reflecting the growing demand for faster and more cost-effective cargo movement enabled by WDFC integration.

Eastern Dedicated Freight Corridor (EDFC)

The EDFC primarily serves domestic freight but enhances eastern port connectivity for bulk commodities. Key port linkages include:

- **Kolkata/Haldia Port, West Bengal:** Kolkata and Haldia ports collectively handle around 65 million tonnes of cargo annually, serving as vital gateways for coal, steel, and agricultural exports. The EDFC now manages 60% of the ports' rail-bound freight, substantially boosting operational efficiency and reinforcing their strategic importance in eastern India's logistics network.
- Paradip Port, Odisha: Paradip Port, handling approximately 135 million tonnes of cargo annually, is a key hub for the export and domestic movement of iron ore and coal. The development of Eastern Dedicated Freight Corridor (EDFC) feeder routes has reduced transit time for coal and ore shipments by 15 hours, significantly enhancing logistics efficiency. Additionally, Paradip's share of rail freight rose by 10% with the integration of EDFC feeder routes, reinforcing its role as a critical node in India's bulk cargo supply chain.

Business Possibilities Enabled by DFC Port connectivity

DFC port connectivity unlock significant business opportunities, leveraging faster and cheaper freight movement.

1. **Port-Centric Logistics and Warehousing:** Multi-Modal Logistics Parks (MMLPs) located near key ports such as JNPT and Mundra, as well as along Dedicated Freight Corridor (DFC) nodes like Khurja and Sanand, play a pivotal role in integrating rail, road, and port logistics. These hubs have helped reduce overall logistics costs by 20–25% through more streamlined and coordinated cargo movement. The sector is also witnessing increased investment in warehousing and cold storage infrastructure, with major firms like DHL and Maersk expanding operations near JNPT and Mundra. Logistics companies are leveraging DFC capacity to strengthen EXIM supply chains
2. **Export-Import Trade Enhancement:** The Dedicated Freight Corridors (DFCs) are playing a transformative role in enhancing India's global competitiveness by significantly lowering logistics costs—from the current 13–15% of GDP to a targeted 8% by 2030. This reduction is critical for boosting the performance of major export sectors, including textiles and pharmaceuticals. Improved port-to-market connectivity via DFCs also presents a major opportunity for the rapidly expanding e-commerce sector, projected to reach $320 billion by 2030. Companies like Amazon are already piloting

Train Passing through Palanpur Yard

freight movement along the WDFC's Rewari-Palanpur section to enable faster delivery of goods, including same-day service from ports to key urban markets. Furthermore, the WDFC has led to an 18% reduction in container transport costs between JNPT and Delhi, directly enhancing export margins and strengthening India's position in global supply chains.

3. **Port-Linked Manufacturing:** The Western Dedicated Freight Corridor (WDFC) is strategically aligned with the Delhi-Mumbai Industrial Corridor (DMIC), facilitating the growth of manufacturing hubs near key ports such as JNPT and Mundra. One of the prominent DMIC nodes, Dholera Smart City in Gujarat, is emerging as a critical industrial hub. The reduced freight costs enabled by the WDFC, are proving to be a major attraction for industries such as electronics and automobiles, encouraging them to set up operations in these DMIC nodes.

4. **Agricultural Exports via Ports:** The Eastern Dedicated Freight Corridor (EDFC) has significantly improved the transport of perishable goods by reducing transit times for products like fruits and seafood by 40%, helping to minimize spoilage and waste. This has opened up considerable opportunities for cold chain investments near key ports.

5. **Energy and Bulk Commodities:** The Eastern Dedicated Freight Corridor (EDFC) plays a vital role in ensuring the reliable supply of coal to power plants by linking Paradip and Haldia ports, reducing transit time by 15 hours. The Western Dedicated Freight Corridor (WDFC) enhances Kandla Port's connectivity, supporting 85% of India's imported crude oil transport, which is critical for the country's energy security. These DFCs offer significant opportunities by stabilizing supply chains for essential sectors like energy and fertilizers. In 2024, DFCs handled 20% of India's coal freight, contributing to smoother operations and cost reductions.

6. **Economic and Societal Impacts:** The DFCs have significantly enhanced port efficiency, reducing JNPT's dwell time from 2.5 to 1.8 days in 2024 and improving Mundra's container handling efficiency by 20%. Freight volumes surged, with 350 trains operating daily across EDFC and WDFC. These developments have lowered port-to-hinterland freight costs, contributing to reduced commodity prices. Additionally, port-linked Multi-Modal Logistics Parks (MMLPs) and DMIC projects are expected to generate 2.5 million jobs by 2030. Fully electrified DFCs are set to save 500 million tonnes of CO2 over 30 years By replacing 80 trucks with each 1.5 km-long DFC train, road congestion near ports, such as NH-48 near JNPT, has eased.

Future Outlook

The completion of the Western Dedicated Freight Corridor (WDFC), expected by October 2025, along with the ongoing development of the East Coast Corridor, will significantly strengthen connectivity to major ports such as Visakhapatnam and Chennai, which together handle 127 million tonnes of cargo annually. These enhancements will be further supported by strategic infrastructure projects, including the Multi-Modal Logistics Hub (MMLH) at Dadri, the Integrated Multi-Modal Logistics Hub (IMLH) at Nangal Chaudhary near New Dabla, the MMLP at New Sanjali, and the Inland Water Transport (IWT) terminal at New Jeonathpur. These initiatives are set to boost EXIM (export-import) traffic by improving the efficiency and capacity of port-DFC linkages.

Aligned with the National Rail Plan, which aims to increase the rail freight share to 45% by 2030, the development of Gati Shakti multi-modal cargo terminals will further expand last-mile connectivity. Additionally, the adoption of emerging technologies will optimize end-to-end port and DFC operations, reduce dwell times, and improve cargo visibility.

Conclusion

India's Dedicated Freight Corridors, through robust port connectivity, are transforming logistics by reducing transit times (e.g., 48 hours from JNPT to Dadri), cutting costs (15-20%), and fostering sustainable trade by reducing carbon footprints. Business opportunities in logistics, manufacturing, exports, agriculture, and energy contribute significantly to GDP. Despite challenges, strategic investments and future expansions will ensure DFCs drive India's economic resilience and global trade competitiveness.

> *There is nothing more enjoyable than doing the impossible.*
>
> *— Walt Disney*

MODIFICATION OF ARBITRAL AWARDS

SANJEEV GUPTA
ED/Finance

The current article discusses a recent ruling rendered, by a five-judge bench in Gayatri Balasamy v. ISG Novasoft Technologies Limited. The question of whether courts have the jurisdiction to modify arbitral verdicts was the main topic of the Honourable Supreme Court of India's discussion as per provisions contained in Arbitration and Conciliation Act of 1996.

Background

The primary issued deliberated were whether the court has the authority to alter an arbitral judgment under Sections 34 and 37 of the Arbitration and Conciliation Act, and if so, under what conditions may this happen. Regarding the modification of arbitral awards, there exist contradictory rulings. The controversy arises because the Arbitration and Conciliation Act, 1996, does not expressly empower courts to modify or vary an arbitral award. Section 34 of the 1996 Act only confers upon courts the power to set aside an award. The judgement highlights the need for clarity by citing several contradictory court rulings on award modification.

Important Questions Answered

Modification Power:

The Court examined whether and to what extent Indian courts have the authority to alter an arbitral award.

Severability:

It was also discussed whether the ability to change

an award can only be used if it is severable, meaning that portions of it can be changed without affecting the award as a whole.

Legal Framework

Sections 34, 37, and 5 of the Arbitration and Conciliation Act, which regulate the narrow range of judicial intervention in arbitral awards, are specifically highlighted in the ruling. It emphasizes that although Section 34 permits the setting aside of awards for certain reasons, it does not specifically confer the authority to modify.

Legal Precedents

Several significant decisions have been cited in judgement, such as

i) McDermott International Inc. v. Burn Standard Co. Ltd., which established that arbitrators' mistakes cannot be corrected by courts. Role of court is limited to setting aside the award, leaving the parties the option to initiate fresh arbitration proceedings if they wish.

ii) Project Director, NHAI v. M. Hakeem, which determined that an arbitral award cannot be modified by a court. As a result, the award can either be set aside or remanded to the arbitral tribunal.

iii) Numaligarh Refinery Ltd. v. Daelim Industrial Co. Ltd which held that courts should ordinarily refrain from substituting their interpretation for that of the arbitrator. However, where the parties, with full knowledge, have consented to refer the matter to arbitration, the court may intervene and modify the award when it is demonstrably and reasonably justified

Arguments For and Against Modification

Support for Modifications

Counsels suggested that Section 34 should include modifying powers since it would expedite justice and avoid lengthy re-arbitration procedures. Citing the legal maxim "omne majus continet in se minus" - the greater contains the lesser and it was argued that the authority to set aside should inevitably encompass the authority to amend.

Opposed to Changes

Opponents argued that such power cannot be inferred because there is no specific legislative authority to modify awards. They stressed that permitting changes or modifications would compromise arbitral rulings' finality and might make it more difficult to enforce them under international agreements like the New York Convention

Conclusion of the Court

The Supreme Court concluded (4:1 majority judgement) that that the Court has a limited power under Sections 34 and 37 of the 1996 Act to modify the arbitral award which can be exercised under the following circumstances:

1) When the award is severable, by severing the "invalid" portion from the "valid" portion of the award.

2) By correcting any clerical, computational or typographical errors which appear erroneous on the face of the record

3) Post award interest may be modified in some circumstances

4) Article 142 of the Constitution applies, albeit, the power must be exercised with great care and caution and within the limits of the constitutional power

Concluding Comments

The ruling upholds the fundamental requirements that the arbitration procedure continue to be effective and that any adjustments or alterations to verdicts must be expressly authorized by law. It highlights that parties must abide by the arbitration agreement and that courts have little power to change the results of arbitration proceedings. By defining the parameters of judicial involvement in arbitral decisions and reaffirming the significance of party autonomy in arbitration agreements, this decision sets a major precedent in the interpretation of the Arbitration and Conciliation Act.

> *Modifying an award is not a weakness of the system, but its greatest strength—the ability to correct and refine truth."*
>
> *- Dr. Rohan Mehta*

ENERGY MANAGEMENT IN DFCCIL

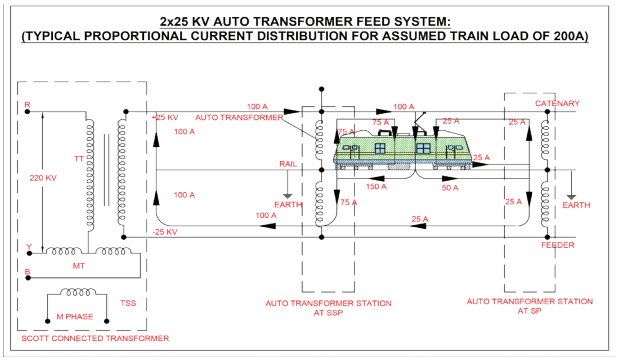
P. K. BHATT
JGM /Elect /WC

12000 HP Loco Plying through WDFC

Vision 2020 of the Indian Railways brings out its responsibility towards climate protection & reduction in the carbon footprint through introduction of energy efficient technologies in traction as well as non-traction applications. Its envisages sourcing at least 10% of energy through new & renewable sources i.e. solar & wind & achieving about 15% saving in energy through improved energy efficiency. The electrical system in DFCCIL has been conceptualized to encapsulate energy efficiency from the inception stage. Considering that the heavy haul freight system on DFC will have significant impact over the energy bill, various initiatives have been taken to manage the energy consumption. This includes:

Adoption of 2X25 kV AT feeding system

For electrification of DFC tracks, 2x25 kV AT feeding system has been adopted being the universal norm for high speed rail networks across the world. The system offers inherent operational advantages s.a :



Current Distribution in 2 x 25 KV System

- Operation of higher tonnage freight trains at higher speeds.
- Reduced unbalance on the utility transmission network.
- Higher spacing between sub-stations
- Reduced voltage drop
- Reduced inductive interference.
- Increased sub-station spacing (60-80 km)

As per study conducted by Enotrac for UIC, electrical distribution efficiency for 2x25 kV is 97.6% against 92.95% efficiency in 25 kV system. Power density is approx.1 MVA/RKM in 2x25 kV system against 0.4 MVA/RKM in 25 kV system.

Scott Connected Tranformer at one of the Sub-Station

Use of Scott and 'V' connected Traction Transformers

Legacy system over IR suffer with inherent drawbacks s.a unbalance on the state grid due to single phase traction loads. Considering quantum of the power requirement and fault levels in 2x25 kV system in DFC, existing single phase transformers would not have complied to grid code requirements. Accordingly, Scott and 'V' connected transformer configuration has been adopted to convert three phase power to two phase minimizing the unbalance on the grid.

Dynamic Power Factor compensation at TSS:

The TSS's proposed on the corridor's have provision of dynamic power factor correction equipment with a combination of static & variable capacitors to achieve near unity power factor & maximum rebate from the utilities on energy bill.

Three Phase Electric Locomotives

Locomotives plying over DFC network are based on 3-phase IGBT technology which facilitates regeneration of 5%-10% of energy consumed by utilizing the braking energy for traction purpose, with state of the art features s.a VVVF drive, vehicle control unit, vigilance control, constant mode of operation features etc.

Harnessing of renewable energy:

Government of India has set a ambitious target of achieving 500 GW capacity addition from non-fossil fuels by the year 2030. To contribute in meeting the target, DFCCIL plans to create green corridors through

Dynamic Power Factor Compensation

Three Phase Electric Locomotive with Regenerative Features

solarisation of the tracks. As per initial study conducted there is potential of approx.. 140 MW on EDFC & WDFC. Apart from this the vacant space at stations is being identified for installation of grid connected solar system. Ajmer unit is alone adding 1530 kWp at various stations. With commissioning of these systems, the station can achieve near carbon neutral status. For new corporate office building recently operationalized at Noida, DFCCIL has roped in REMCL for development of solar plans in the vacant land and embankments. This will assist in achieving carbon neutrality for the office complex in future. Further with stabilization of the system we strive to get BEE star rating for the office complex. Considering traction energy consumption is more than 99% of the entire energy need solarization of the corridor and integration with traction installations can further reduce the energy bill of IR.

Use of energy efficient equipment

DFCCIL has already issued policy guidelines for procurement of BEE star rated equipment. DFCCIL has adopted Variable Refrigerant Flow based heating ventilation & air-conditioning system (VRFHVAC) for the corporate office & regional headquarters with centralize monitoring & control features. These systems are extremely efficient, reliable & energy saving & require minimum time for installation. Similarly, light fittings used in project are LED based having higher lumens/watt output compared to fluorescent lamps. All these initiatives help in reducing the carbon footprint of the organization.

Energy Optimization Study

To optimize the energy consumption during the operational phase, Energy Optimization Study is being carried out with the following objectives:

- Reducing energy consumption in train operation through driver advice system (DAS).
- Achieve scope of emission reduction by reducing specific energy consumption in train operation.
- Development of software & detailed hardware specifications for DAS.

Driver Advice System (DAS)

- It is advisory system only with no intervention with locomotive control.
- There exist large scope of energy saving by running trains at optimum speed as specific energy consumption of locomotive is directly related with speed.
- The system monitors train movement in the adjacent sections & calculates optimum efficient speed based on locomotive operating curve, running time slot available & track parameters.

Renewable & other Energy Saving Initiatives taken by DFCCIL

- it advices optimum efficient speed to the driver through hand held interface.
- It also advices for switching 'OFF' auxiliaries in locomotives during extended halts.
- It also gives coasting advice to the drivers.

As per the outcome of the study, energy saving in the range of 5-7% can be achieved. Scheme to be implemented on freight locomotives in future.

Conclusion

With above initiatives & fusion of new technology items, DFCCIL aspires to achieve energy efficiency in its operation and maintenance through implementation of various means such as renewable sources, Driver Advise System, energy efficient equipment procurement & green building concepts, DFCCIL can certainly maintain minimal carbon footprint at par global freight railway networks.

> *Innovation and sustainability must power our infrastructure if we want a future worth inheriting.*
>
> *— Ratan Tata*

BANKING CYBER FRAUD VIA MOBILE: A GROWING THREAT IN 2025

ASHOK KUMAR MISHRA
AGM/Finance/CO

As mobile banking continues to gain widespread adoption, cyber fraud targeting mobile users has surged at an alarming pace, posing serious risks to both individuals and financial institutions. The ease and convenience of managing finances through smartphones has inadvertently opened a new and lucrative avenue for cybercriminals, who are deploying increasingly sophisticated techniques to steal money and personal data.

Rising Incidence and Financial Impact

The scale of this threat is staggering. Between April 2024 and January 2025, India reported ₹4,245 crore in digital financial fraud losses across 2.4 million incidents, a 67% increase over the previous year. These numbers underscore the growing vulnerability of mobile platforms and the urgency with which banks and users must act *(sourced from official statistics presented by the Ministry of Finance in the Rajya Sabha)*

Prevalent Forms of Mobile Banking Cyber Frauds

Fraudsters impersonate legitimate users and trick telecom operators into issuing a duplicate SIM card. Once activated, they intercept calls and SMSes, including OTPs used for two-factor authentication, enabling unauthorized access to bank accounts.

Account Takeover

Using stolen personal information—often harvested from social media or leaked databases—criminals answer security questions and reset passwords, taking full control of the victim's banking app.

Phishing and Fake Apps

Deceptive apps, often indistinguishable from genuine banking or investment platforms, lure users into entering their credentials. Once logged in, users unknowingly give full access to attackers. Brand impersonation is commonly used to enhance legitimacy.

Social Engineering and Identity Theft

Fraudsters posing as bank officials or customer service agents manipulate users into disclosing personal information, OTPs, or login credentials under the guise of account verification or problem resolution.

E-commerce and Purchase Scams

Cybercriminals exploit online marketplaces by offering popular products or fake event tickets—particularly during high-demand periods like festivals or major sporting events. Customers pay in advance but never receive the promised goods or services.

Security Challenges and Systemic Gaps

Despite the widespread implementation of two-factor authentication (2FA), fraudsters continue to find ways around these safeguards. In several cases, transactions occurred without OTP alerts, pointing to systemic lapses in security. By executing SIM swaps or altering contact details linked to bank accounts, fraudsters bypass OTP requirements and gain seamless access.

These incidents raise concerns not only about external threats but also about the need for internal process improvements and technology upgrades within the banking system.

Preventive Measures: Building a Stronger Defense

DO's	DONT's
• Password protect the mobile phone. It is recommended to set the maximum number of incorrect password submissions to no more than three • Choose a strong password to keep your account and data safe • Review your account statements frequently to check for any unauthorised transactions • Change your IPIN It is an Internet password that is given to customers to access their NetBanking. It is a confidential password for the security of their account. regularly • Report lost or stolen phone immediately to your service provider and law enforcement authorities	• Never share your PIN including UPI or confidential information over the phone or internet. Never share these details with anyone • Don't click on links embedded in emails/social networking sites claiming to be from the bank or representing the bank • Don't transfer funds without due validation of the recipient, as funds once transferred cannot be reversed • Don't store sensitive information such as credit card details, mobile banking password and user ID in a separate folder on your phone • Don't forget to inform the bank of changes in your mobile number to ensure that SMS notifications are not sent to someone else • Never reveal or write down PINs or retain any email or paper communication from the bank with regard to the PIN or password • Be cautious while accepting offers such as caller tunes or dialer tunes or open/download emails or attachments from known or unknown sources • Be cautious while using Bluetooth in public places, as someone may access your confidential data/information • Be careful about the websites you are browsing. If it does not look authentic, do not download anything from it • Never share your UPI PIN, Cust ID, Password, OTP, Card No./PIN/CVV with anyone even if they claim to represent Bank.

User's Rights in Case of Banking Fraud (As per Cyber Law & RBI Guidelines):

Type	Rights
1. Right to Lodge a Complaint (IT Act Section 66, 66C, 66D)	**If you're a victim of digital or mobile banking fraud:** • You can file a complaint at your local police station/cybercrime cell under the IT Act, citing: o Section 66 (hacking or data breach) o Section 66C (identity theft) o Section 66D (fraud via impersonation) • You can also file a complaint via the national cybercrime portal: www.cybercrime.gov.in
2. Right to Report Fraud to Your Bank (RBI Circular - 2017)	**As per RBI's 2017 circular on "Customer Protection – Limiting Liability of Customers in Unauthorised Electronic Banking Transactions", customers have:** • Zero liability if the fraud is reported within 3 days of the unauthorized transaction. • Limited liability if the fraud is reported within 4–7 days. • Liability shared by customer and bank if reported after 7 days. • No liability if the fraud occurred due to bank's negligence, even if reported later.
3. Right to Reimbursement	**Banks must:** • Refund the disputed amount within 10 working days of notification (for cases with zero or limited liability). • Provide temporary credit if investigation takes longer.
	Right to File a Complaint with the Banking Ombudsman (or RBI Integrated Ombudsman) If you're unsatisfied with the bank's response: • Lodge a complaint under the Integrated Ombudsman Scheme, 2021 via: https://cms.rbi.org.in • Ombudsman can direct the bank to compensate you and take corrective actions.

Conclusion: Awareness is the Ultimate Firewall

Cyber fraud via mobile banking is not just an IT problem—it's a national security and economic concern. Every informed employee is a cyber shield. Every aware customer is a transaction protected.

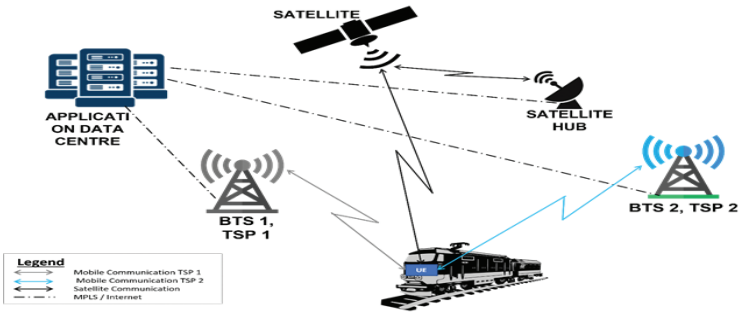
Let us pledge to stay alert, spread awareness, and build a safer digital banking ecosystem—together.

> *The digital revolution is a double-edged sword—it empowers, but also exposes us to new risks.*
>
> *— Satya Nadella*

DATA CONNECTIVITY FOR CRITICAL COMMUNICATION

ALOK SHANKAR PANDEY
Group General Manager (IT)

Background The Indian Railways operates thousands of trains ferrying- passengers and freight across the length and breadth of the country on a daily basis. Train operations at such large scales necessitate extensive coordination amongst various stakeholders, both while the train is stationary and on the move. Some of this coordination involve mission critical communications with a very high quality of service compliance requirements. Given the criticality of these communications they are presently being handled manually with the necessary safeguards built-in as part of the manual process.



Communication Architecture

Solution Architecture

The proposed solution architecture envisages leveraging of existing communication technologies in a two-tier layered architecture to achieve the desired levels of reliable quality of service guaranteed communication. The solution architecture diagram at the conceptual level is at figure 1.

At the conceptual level, the solution envisages provisioning of User Equipment (UE) with at least two (02) mobile SIM slots and a Satellite modem. The primary mode of communication with the UE will be based on existing 4G Mobile Data service provided by the Telecom Service Providers (TSPs) along the existing track alignments. In areas where reliable mobile data connectivity is not available, the UE communications will be through the secondary path that is i.e over the Satellite. This two-tier communication architecture with inbuilt application safeguards will help achieve the desired reliability and quality of service required for mission critical communications like online real time issuance of Caution Order.

Suggested Development Roadmap

Application An application with built-in quality of service requirements (acknowledgement from receiver at far end) to service the desired user requirement with end-to-end encryption needs to be developed. The application should have a GIS integration for which an open source /propriety GIS solution depending on features presently required and envisaged in future will be adopted as part of the application development.

Hosting of Mission Critical Applications.
The mission critical applications can be hosted at an identified captive data centre (DC) with a Near Line Data Centre (NLDC). To support the application throughput and latency requirements the DC must be suitably deployed at forward edge along the important routes. DC along one route can also act as DR for DC along a different route.

Primary Layer Communication. Primary Mode of Communication between Application DC and UE will be using TSPs network. The following needs to be ensured for reliability of communications: -

(a) **Drive Test.** Rail mounted drive test to ascertain the areas of reliable mobile connectivity needs to be undertaken as the first step.

(b) **Coordination with TSPs.** On conclusion

of drive test, wherever feasible TSPs be approached for densification of the mobile network. TSPs can also be approached for provision of a Class based Access Service (service akin to dedicated mobile connectivity for select UEs along select BTSs).

Secondary Layer Communication. Secondary Mode of Communication between Application DC and UE will be using Satellite Connectivity. Actions that need to be under are given below: -

(a) Satellite Communication Hub. A satellite hub needs to be established for uplink and downlink communication with the satellite at an identified location. This satellite hub will enable communication with UE while on the move in areas of unreliable mobile data coverage.

(b) Coordination with ISRO. Provision of satellite connectivity would require coordination with ISRO to ascertain availability of and to obtain the satellite communication bandwidth for communication between the hub and UE.

(c) Coordination with WPC, DoT. Coordination with WPC, DoT will be required for allocation of satellite communication frequencies.

(d) Connectivity between Application Data Centre and Satellite Hub. MPLS connectivity with path redundancy should be catered for connecting the satellite Hub with all DCs.

9. UE. The U/E must be ruggedized and hardened at the OS layer. Recently unveiled BHAR OS with MDM and role based access control can be considered as OS for the UE.

10. Application Data Centre to UE Communication. The connectivity between the Application DC and UE will be encrypted end to end. VPN over mobile services can be used as an additional layer of security. Besides the commercial grade encryption, additional layer of encryption employing encryptors from agencies like ITI, BEL, ECIL etc must also be considered to ensure security of data in transit.

Pilot Implementation. A pilot implementation as under should be explored before full scale deployment is considered.

(a) Phase-I. Identification of routes along which the pilot is to be implemented and location of corresponding application DC.

(b) Phase-II. Conduct of track mounted drive test to evaluate reliability of mobile connectivity and identification of areas of weak/ no mobile signals along the route.

(c) Phase-III. Primary mode of communication trials. This will involve coordination with TSPs for densification of TSP network, provision of class based access and encrypted channel for communication between application DC and UE.

(d) Phase-IV. Secondary Mode of Communication Trials. This will involve the following:-

(i) Coordination with ISRO for satellite bandwidth in areas of weak /no mobile signals.

(ii) Coordination with WPC and ISRO for establish of satellite hub for mission for critical communication.

(e) Phase-V. Coordination with BEL, ITI, ECIL for provisioning of encrypt hours for secure communication between application DC and UE.

Conclusion and Future Scope. Once the pilot implementation has been successfully trial evaluated, the proposed solution can be scaled up to cover the entire IR network and be exploited further for other mission critical communications and intra train communications also by upgrading the UE to a mobile/ satellite gateway with adequate bandwidth support.

Appreciation is a necessary part of supervision

— Anonymous

REFLECTIONS @ DFCCIL

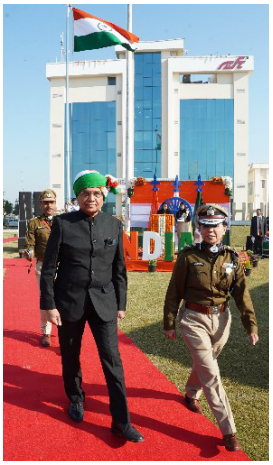
December 2024

The first rake from the Varnama Gati Shakti Cargo Terminal (GCT), integrated with New Makarpura Station on WDFC, flagged off on 21 December

January 2025

Singing of MOU with Gati Shakti University, Vadodara on 3 January

January 2025



Republic Day Celebrated at Corporate Office, Noida on 26 January

February 2025

Inauguration of New Corporate office in Noida by MD/ DFCCIL on 3 February

REFLECTIONS @ DFCCIL

March 2025

Breakthrough achieved at Kundevahal Tunnel on 26 March

March 2025

Celebration of International Women's Day on 7 March

April 2025

Signing of the MOU with IIT Roorkee on 15 April

REFLECTIONS @ DFCCIL

April 2025

Vollyball and Table Tennis Matches during DFC Sports Meet

April 2025

DFC Sports Meet fostering Team Spirit & Camaraderie on 4-5 April

May 2025

Visit of the World Bank Team of Prayagraj on 12 May

Visit of UIC delegates to the Rewari - Dadri Section on 15 May

REFLECTIONS @ DFCCIL

May 2025

Inauguration of Creche at the Corporate Office on 28 May

June 2025

Drawing Competition & Exhibition by Children on the occassion of World Environment Day on 5 June

June 2025

Tree Plantation on the occassion of World Environment Day on 5 June

REFLECTIONS @ DFCCIL

June 2025

Presentation by Ms. Kari, Chair IHHA at Corporate Office on 18 June

MOU signed with Monash University on 19 June

June 2025

Celebration of International Yoga Day at Corporate Office Noida on 21 June

Indian Railways News

Hon'ble Prime Minster inaugurates Chenab Bridge: World's Highest Rail Arch Bridge in J&K

Prime Minister Narendra Modi on 06.06.2025 inaugurated the Chenab Bridge, the world's highest railway arch bridge, during his visit to Jammu and Kashmir to launch a slew of key infrastructure projects worth ₹46,000 crore.

Hon'ble Prime Minister Narendra Modi Inaugurated the Chenab Bridge.

Soaring 359 metres above the Chenab River, the 1,315-metre-long steel arch bridge is built to withstand high seismic and wind loads. It will reduce travel time between Jammu and Srinagar by two to three hours.

PM Modi also inaugurated the Anji Bridge, India's first cable-stayed railway bridge, constructed in one of the most challenging terrains in the region.

Present at the inauguration were Union Railways Minister Ashwini Vaishnaw, Union Minister of State Jitendra Singh, Jammu and Kashmir Lieutenant Governor Manoj Sinha, and Chief Minister Omar Abdullah.

A major highlight of the visit is the dedication of the Udhampur-Srinagar-Baramulla Rail Link (USBRL) to the nation. Spanning 272 km and built at a cost of approximately ₹43,780 crore, the project includes 36 tunnels totaling 119 km and 943 bridges, ensuring all-weather rail connectivity to the Kashmir Valley.

These initiatives aim to significantly boost road and rail connectivity across the Union Territory, with a focus on improving accessibility, promoting tourism, and generating employment.

Amrit Bharat Station Inaugurated

Hon'ble PM Sh. Narendra Modi inaugurated 103 redeveloped railway stations across India under the Amrit Bharat Station Scheme on May 22, 2025. More than 1300 railway stations across length and breadth of country are being developed under Amrit Bharat Scheme. The modernized stations feature enhanced passenger amenities, regional architecture, and improved infrastructure, aiming to drive local economic growth and provide a seamless travel experience. Hon'ble PM Sh. Narendra Modi virtually inaugurated the stations from Deshnok, Rajasthan.Executive Lounges and Meeting Spaces, Landscaping and Unique Requirements, catering Sustainable Solutions, Multimodal connectivities at stations facilities for Divyangjans, Roof Plazas and Ballastless Tracks.

These features aim to transform railway stations into vibrant city centers, enhancing the overall passenger experience and promoting local economic growth.

Pamban Bridge - India's First Vertical Lift Bridge Inaugurated

Hon'ble PM Sh. Narendra Modi inaugurated the new Pamban Rail Bridge - India's first vertical lift sea bridge and flagged off a train and a ship from the road bridge

R N Ravi, Governor of Tamil Nadu, Ashwini Vaishnaw, Minister of Railways, Dr. L. Murugan, Minister of State and other dignitaries were also present and witnessed the operation of the bridge in Rameswaram, Tamil Nadu on 6th April, 2025. Hon'ble PM highlighted that this bridge is India's first vertical lift railway sea bridge, allowing big ships to sail underneath while enabling faster train travel.

Hon'ble PM Inaugurated the New Pamban Rail Bridge.

The Prime Minister underscored that the new train service will enhance connectivity from Rameswaram to Chennai and other parts of the country. This development will benefit trade and tourism in Tamil Nadu, while also creating new job and business opportunities for the youth.

Narendra Modi, Prime Minister flagged off Rameswaram-Tambaram (Chennai) New Train Service

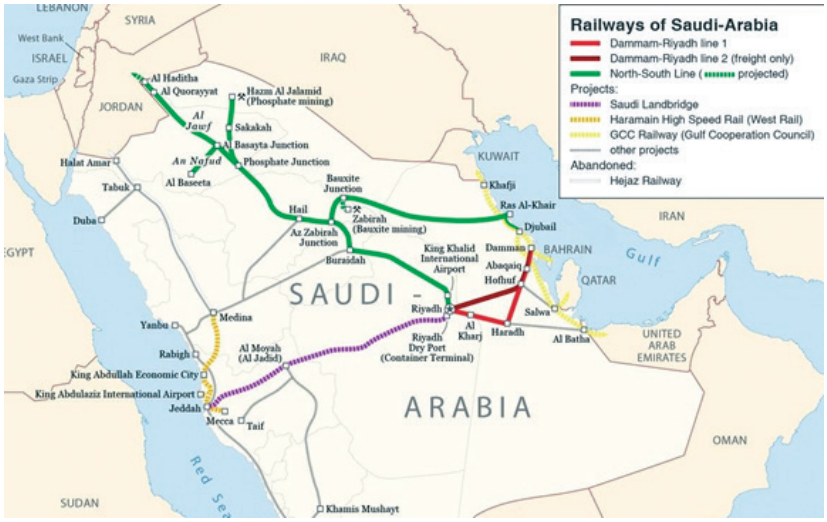
World Railways News

Saudi Arabia Launches Landbridge Design Tender

Saudi Arabia Railways (SAR) has issued a tender for the lead design consultancy services contract on its long-planned Saudi Landbridge railway network. The estimated US $7 Bn project comprises more than 1,500km of new track. The core component is a 900km new railway between Riyadh and Jeddah, which will provide direct freight access to the capital from King Abdullah Port on the Red Sea. Other key sections include upgrading the existing Riyadh-Dammam line, a bypass around the capital, and a link between King Abdullah Port and Yanbu.

The Saudi Landbridge is one of the kingdom's most anticipated project programmes. Recently, the project has been under negotiation between Saudi Arabia and China-backed investors keen to develop it on a public-private-partnership (PPP) basis. However, the launch of a design tender directly by SAR suggests that Riyadh is looking at other options to develop it alongside the Chinese proposal.

In December 2023, a team of US-based Hill International, Italy's Italferr and Spain's Sener had been awarded the contract to provide project management services for the programme.

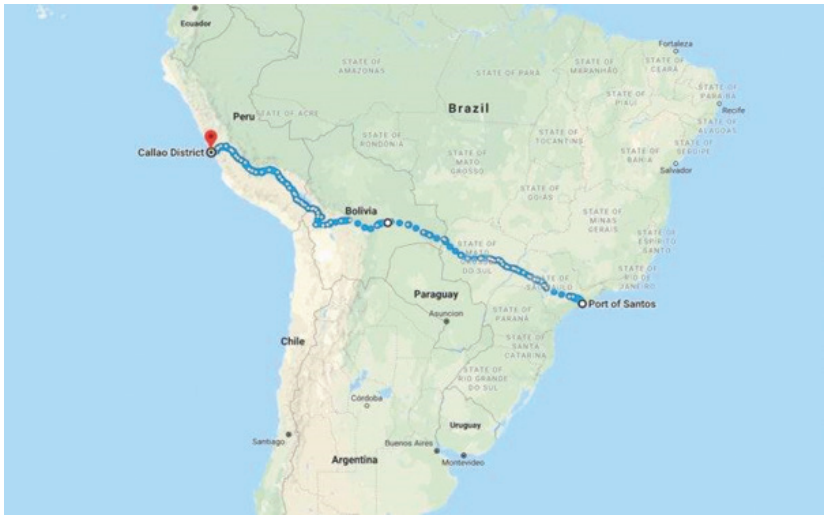


Alignment of Landbridge network

Brazil, China Discuss Railway from Peruvian Port to Brazil Territory

Proposed alignment of Bio Oceanic Corridor

The Brazil–Peru Railway or Bi-Oceanic Railway is a proposed transcontinental railroad project that will link the Atlantic and Pacific Oceans via Bolivia. Known as the Central Bi-Oceanic Railway,



Proposed alignment of Bio Oceanic Corridor

the planned 3,000km route would run from the port of Puerto Santos in Brazil to Puerto de Ilo in Peru, crossing 1,700km of Bolivian territory in between. Due to its reach and projected trade benefits, the megaproject has been dubbed 'the Panama Canal of the 21st century', as well as drawing comparisons with Qhapaq Ñan, a historic 35,000km road network in South America that gained UNESCO World Heritage status in 2014. In 2017 it was estimated to cost € 12 Billion.

Italian Section of Brenner Base Tunnel Hits Completion Milestone

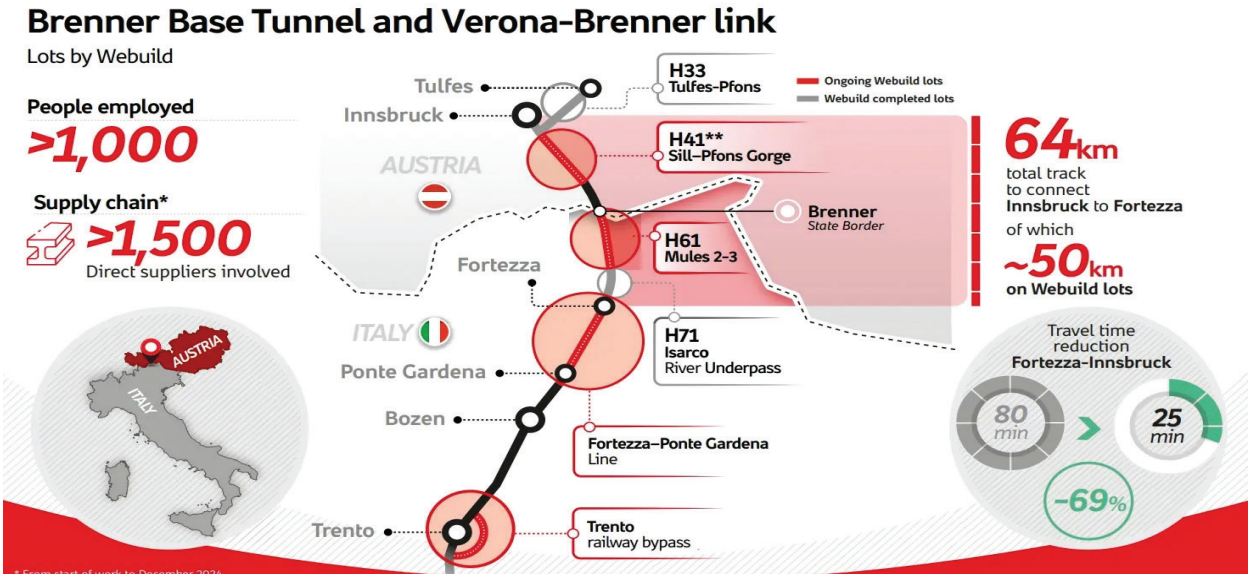
Works on the Italian side of the Brenner Base Tunnel (BBT) have been completed following Tunnel Boring Machine (TBM) Flavia's 14 kilometre journey beneath the Alps.

The new structure, which will become the longest railway tunnel in the world at 64 kilometres, hit the significant milestone within Lot Mules 2-3 and was carried out by a consortium led by Webuild on behalf of BBT SE.

The Brenner Base Tunnel is set to connect Fortezza, Italy, and Innsbruck, Austria, at travel speeds of up to 250km/h, cutting current journey times from 80 minutes to 25, forms part of the Muninch–Verona railway axis and will serve as a crucial element in the Scandinavian–Mediterranean Corridor.

Inside view of Brenner Base Tunnel

Lot Mules 2-3, the largest lot involved in the infrastructure project, forms the main section on the Italian side of the project and involves the excavation of a 65-kilometre long tunnel system, more than 40 of which have been excavated using TBMs.



Alignment of Brenner Base Tunnel

GLOBAL HEAVY HAUL SEMINAR 2025

DFCCIL successfully hosted its first-ever Global Heavy Haul Seminar 2025 on June 20–21 at Bharat Mandapam, New Delhi, under the theme "Beyond Construction: Sustaining Heavy Haul Networks with Predictive Maintenance." The event brought together industry leaders and experts from 07 countries, including 18 international delegates, making it a truly global platform for the exchange of ideas on the future of heavy haul operations.

A notable highlight was the participation of Ms. Kari Gonzales, Chair of the International Heavy Haul Association (IHHA), whose insights on global innovation and collaboration set a compelling tone for the seminar.

The event also witnessed massive participation from the Ministry of Railways, RDSO, and Zonal Railways, reaffirming the collective commitment of Indian Railways towards fostering a forward-looking, technology-driven freight ecosystem.

Featured five technical sessions and a panel discussion, the seminar delved into key focus areas such as predictive maintenance, rail-wheel interaction, lifecycle management, real-time infrastructure intelligence, and sustainability in heavy haul networks. By creating this international knowledge-sharing platform, DFCCIL reaffirmed its commitment not just to building world-class freight corridors, but also to shaping the global dialogue on heavy haul railways.

DFCCIL even announced plans to make the seminar a biennial event, with the next edition scheduled for February 2027, themed "Digital Twins to Dynamic Tracks: Reinventing Infrastructure Maintenance in the Age of AI."

Dedicated Freight Corridor

डेडीकेटेड फ्रेट कोरीडोर कॉर्पोरेशन ऑफ इण्डिया लिमिटेड

Dedicated Freight Corridor Corporation of India Ltd.

A Govt. of India (Ministry of Railways) Enterprise

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