स्वच्छ भारत
एक कदम स्वच्छता की ओर

ncrtc
गति से प्रगति

VISION

Improve quality of life of people by providing **equitable**, **fast**, **reliable**, **safe**, **comfortable**, **efficient** & **sustainable** mobility solutions enabling **economic development** of NCR.

Creating Networks
for the Future

NCRTC

National Capital Region Transport Corporation (NCRTC) is a Joint Venture of Government of India and State Governments of Delhi, Haryana, Rajasthan & Uttar Pradesh and is mandated for designing, developing, implementing, financing, operating and maintaining Namo Bharat projects in the National Capital Region (NCR) to provide comfortable and fast transit to NCR towns and meet the high growth in transport demand.

NCRTC is an ideal example of cooperative federalism, wherein the partnership between the Centre and the four NCR states was established through a Memorandum of Understanding (MoU) signed on 29th June, 2011. NCRTC was formally incorporated on 21st August, 2013 as a Company under the Companies Act, 1956.

The ex-officio Chairman of the Board of Directors is the Secretary, Ministry of Housing and Urban Affairs (MoHUA), while all State Governments are represented on the Board through nominated senior officers.

Fast

Design speed of 180 kmph
Average speed of 100 kmph
3 times faster than Metro Rail

Background & History

The idea of a high-speed integrated commuter railway network to connect NCR was first mooted in 1998-99 in a study commissioned by Indian Railways.

The proposal was re-examined in 2006 in the light of extension of metro to some of the NCR towns.

The National Capital Region Planning Board (NCRPB) subsequently took up the study and recommended 8 Namo Bharat corridors to connect NCR towns in the Functional Plan on Transport for NCR, 2032, leading to signing of MoU and incorporation of NCRTC.

Important Milestones

1956
Interim General Plan suggested 'serious consideration for a planned decentralization to outer areas & outside the Delhi region'

1962
Master Plan for Delhi emphasized planning in regional context

1985
Enactment of NCR Planning Board Act by the Union Parliament

1998
Study commissioned by Indian Railways identified possibility of Namo Bharat network in NCR

2005
Regional Plan for Delhi, 2021 emphasizing on rail-based network in NCR

2009
Functional Plan on Transport for NCR, identifying 8 Namo Bharat corridors, approved in 2009

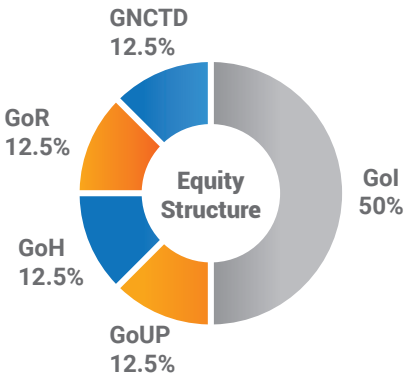
Equitable

Inclusive urban transport planning, social benefits for all strata of society

Equity and Legal Framework

Legal framework

NCRTC will take up the development of the Namo Bharat network in NCR under the legal cover of the Metro Railways (Construction of Works) Act (1978) and the Metro Railways (Operation and Maintenance) Act (2002) as amended through the Metro Railways (Amendment) Act (2009).



GNCTD - Government of National Capital Territory of Delhi
GoR - Government of Rajasthan
GoH - Government of Haryana
GoUP - Government of Uttar Pradesh
GoI - Government of India

2011
MoU signed between Ministry of Urban Development, NCRPB and State Governments for formation of NCRTC

2013
Incorporation of NCRTC under Companies Act, 1956

2019
- Approval of Govt of Haryana for Delhi-Gurugram-SNB Namo Bharat Corridor
- Delhi-Ghaziabad-Meerut Namo Bharat corridor construction started
- Approval of Govt of Rajasthan for Delhi-Gurugram-SNB Namo Bharat Corridor

2020
- First look of Namo Bharat train unveiled
- Approval of Govt of Haryana for Delhi-Panipat corridor

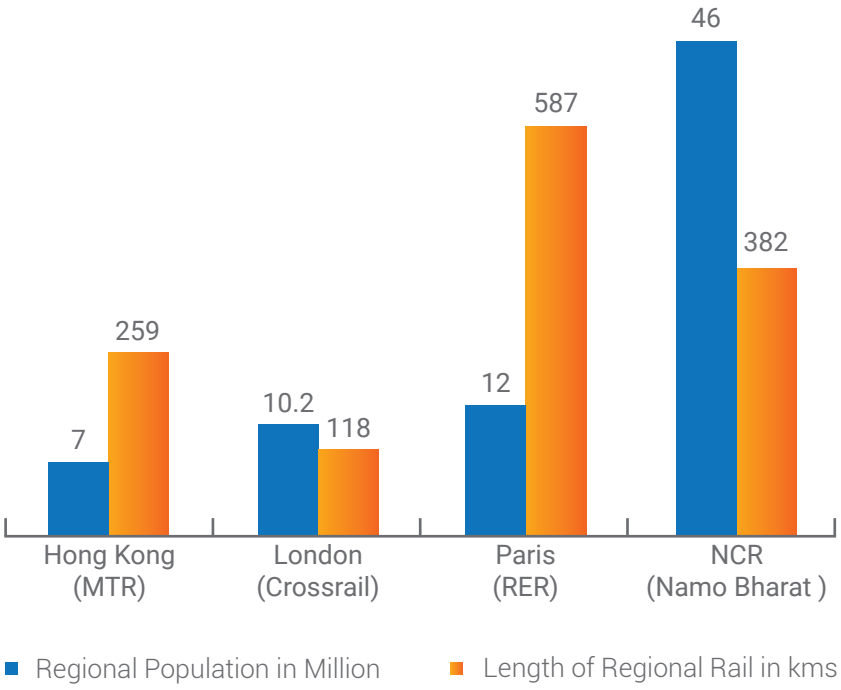
2021
Construction in full-swing on the 82 Km long Delhi-Ghaziabad-Meerut Namo Bharat corridor

Reliable

High reliability of time

National Capital Region (NCR)

- Area approx. 58,000 kms
- Fastest growing population in the world – 46 million as per 2011 census
- 15 million vehicles
- 73 % commuters use personal vehicles
- 250 thousand vehicles of transient nature
- Accounts for 7% of the total GDP of entire India



Safe

Safe and secure travel

Namo Bharat

Namo Bharat is a rail-based, high-speed, high-throughput transit system aimed at bringing people and places closer in National Capital Region. Once operational, Namo Bharat will act as the transportation backbone for the region, while ensuring a balanced and sustainable urban development.

NAMO BHARAT IS DIFFERENT FROM METRO				
	Design Speed	Operational Speed	Average Speed	Travel Time for 100 kms
Namo Bharat	180 kmph	160 kmph	100 kmph	1 hour
METRO RAIL	90 kmph	80 kmph	32 kmph	3 hour

Comfortable

Weather conditioned coaches, transverse seating coach for business class for extra comfortable travel

Prioritized Corridors in Phase-1

Out of 8 identified corridors, 3 are prioritized in Phase 1.

The Delhi-Ghaziabad-Meerut corridor is the first Namo Bharat project being implemented in India and will be closely followed by Delhi-Gurugram-SNB-Alwar and Delhi-Panipat corridors.

NAMO BHARAT CORRIDORS IN NCR	
Prioritized Corridors in Phase - I (382 km)	
Delhi - Ghaziabad - Meerut	82 km
Delhi - Gurugram - SNB - Alwar	198 km
Delhi - Panipat	103 km

OTHER CORRIDORS (As per functional plan on Transport for NCR - 2032)
Delhi - Faridabad - Ballabhgarh - Palwal
Ghaziabad - Khurja
Delhi - Bahadurgarh - Rohtak
Ghaziabad - Hapur
Delhi - Shahadra - Baraut

Sustainable

Efficient energy use
Lower emissions
Easing road congestion
Significant reduction in pollution

The **fastest**,
safest and
most comfortable mode
of travel in NCR

Namo Bharat Phase-I
Namo Bharat Phase-II

High Frequency

Less waiting time

383 kms

600 Coaches

6 Depot

2.5 Million daily ridership

System Specifications of Phase I

Parameters	Delhi - Meerut	Delhi-Gurugram-SNB-Alwar (198 km)			Delhi - Panipat
		Delhi-SNB	SNB-Sotanala	SNB-Alwar	
Total Length (km) approx.	82	107	33	58	103
Estimated travel time (min)	~60	~70	~20	--*	~65
No. of total stations	24	16	4	--*	17

*yet in proposal stage

System Specifications of Phase I

Parameters	Specifications
No. of Tracks	Two (Ballastless Track)
Track Gauge	Standard Gauge- 1435 mm
Axle Load	17 T
Class of accommodation	Standard/ Business (one coach per train)
Traction power	1 x 25 KV AC overhead catenary type suitable for 180 kmph speed
Signalling	CATC (ETCS Level-2) modern signalling system with virtual blocks & ATO functionality over LTE backbone
Automatic Fare Collection (AFC)	QR Code based ticketing and EMV (Europay, Mastercard, Visa) Open Loop contactless card based on NCMC (National Common Mobility Card) standards

High Capacity

Transports large number of passengers to their destinations in shortest time

Multi-Modal Integration

NCRTC has extensively worked with Government of India, four State Governments, local authorities and transport systems to develop deep Multi-Modal integration (MMI) at Namo Bharat stations. Namo Bharat stations will be integrated with various metro lines, Airport, and Bus stands, wherever possible:

Modes	MMI with Namo Bharat
Metro Rail Systems	▪ **Metro in Delhi:** - With 7 metro lines, at Ghaziabad, Anand Vihar, New Ashok Nagar, SKK, INA, Aerocity, Indraprastha, Kashmere Gate, Munirka, Burari X-ing ▪ **Metro in Meerut:** - Corridor-I of Meerut Metro operated on Namo Bharat infrastructure - Corridor-II of Meerut Metro: At Begumpul ▪ **Metro in Gurugram** - Rapid Metro: Udyog Vihar ▪ **Bawal Metro:** - At Panchgaon, Kherki Daula
Airport	At Indira Gandhi International Airport, Delhi – Aerocity Metro Station
Indian Railways	Hazrat Nizamuddin & Anand Vihar
ISBTs	Sarai Kale Khan, Kashmere Gate, Anand Vihar, Panchgaon, Panipat
Other Bus Terminal/ Depot	Kaushambi Bus Depot, Sahibabad Bus Adda, Ghaziabad New Bus Adda, Muradnagar Bus Stand, Bhaisali Bus Adda, Bawal, Gannur, Panipat Bus Stand etc.
Roads	Ring Road, Eastern Peripheral Expressway, Delhi-Meerut Expressway

User Friendly System

Seamless movement, IT enabled seamless information system

Corridor Highlights

Delhi-Ghaziabad-Meerut Namo Bharat Corridor

The Delhi-Ghaziabad-Meerut Namo Bharat Corridor passes through one of the most densely populated sections of the National Capital Region. Starting from Sarai Kale Khan in Delhi, the corridor will go up to Modipuram in north of Meerut city, joining many urban nodes such as Anand Vihar, Sahibabad, Ghaziabad, Murad Nagar, Modi Nagar together with high speed connectivity.

The 82-km long corridor will have 24 stations including two depots. Civil construction is going on aggressively on the corridor.

As per the Detailed Project Report (DPR), complete corridor will be opened for public by 2025. The daily ridership is expected to be more than 8 lakh passengers.

Within Meerut City, NCRTC will run local transit (Metro on the Namo Bharat infrastructure itself. This will be done by taking some value Engineering initiatives and by adding few more stations specifically for Metro operations only.

Saving Landspace

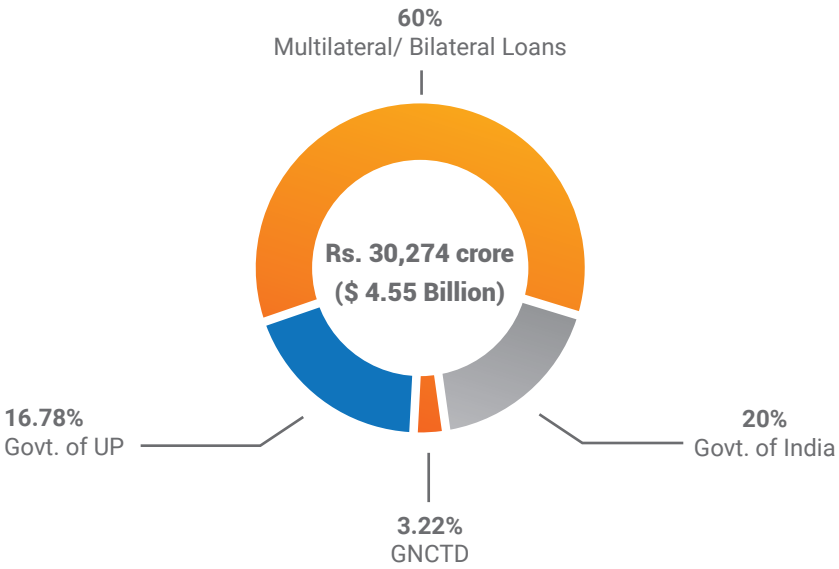
Catalyst for growth, driver of regional development

Map of Delhi – Ghaziabad – Meerut corridor

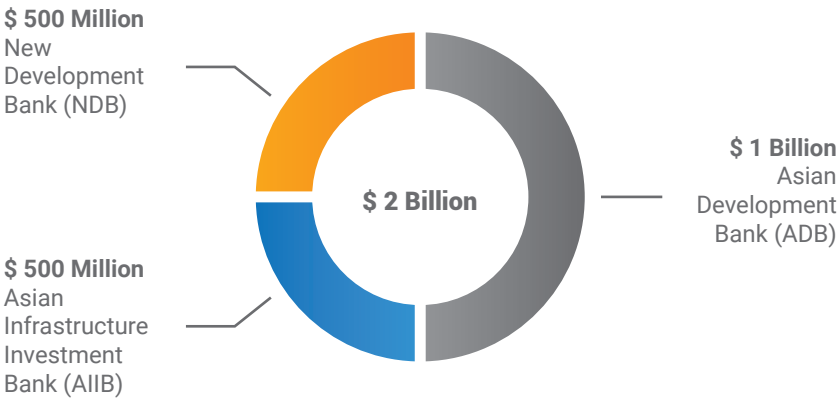
Land Value Capture (LVC)

Augmenting revenue sources and enhancing densification in the region

Project Funding



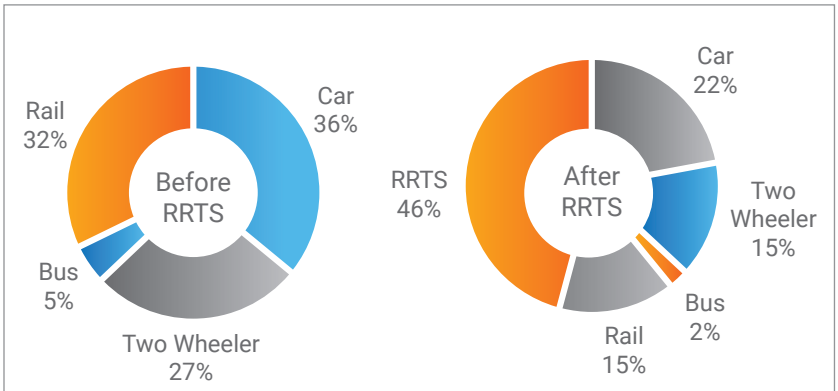
Multilateral Funding



Universal Accessibility

Priority seating

Increase in share of public transport from 37% to 63% once Delhi-Ghaziabad-Meerut corridor is operational.



Reduction in Pollutants

Pollutant	Yearly reduction (in 000 tons)
Particulate Matter (PM)	~60
Nitrogen Oxides (NOx)	~475
Hydrocarbons (HC)	~800
Carbon Monoxide (CO)	~800
Significant reduction in pollutant emissions	

Expected Economic Internal Rate of Return (EIRR) of more than 19%

Integrating National Capital Region

Bringing cultures together

Delhi-Gurugram-SNB-Alwar Namo Bharat Corridor

This corridor passes through the industrialized areas of Haryana and Rajasthan, and will be constructed in three stages. The construction of the corridor is majorly along the edge of National Highway.

First Stage: A 107 km stretch from Sarai Kale Khan in Delhi to SNB Urban Complex (Shahjahanpur-Neemrana-Behror) i.e, just ahead of Bawal (Haryana), enroute touching various regional nodes like Gurugram, Manesar, Panchgaon, etc. This section will have 16 stations. The DPR of this stage has been approved by the respective State Governments and is under active consideration of the Government of India.

Pre-construction work such as Geo-Technical Investigation, Pile Load Tests, Topographical Survey & Alignment Design, Road Widening, Shifting of Electrical Utilities are in progress at various locations.

Second Stage: The line would be extended by over 33km from SNB to Sotanala, with Shahjahanpur, Neemrana, and Behror in between. The DPR of this stage has been approved by NCRTC Board and is under active consideration of the State Government of Rajasthan.

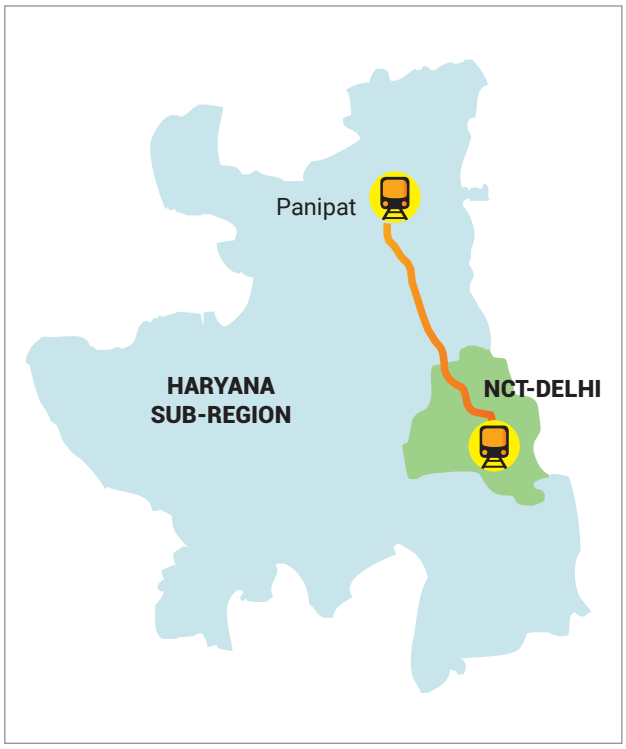
Third Stage: SNB to Alwar.

Weather Proof

Equipped to run on time even during adverse climatic conditions

Delhi-Panipat Namo Bharat Corridor

Moving towards north-west direction from Delhi, this Namo Bharat corridor will connect Delhi to towns like Murthal, Gannaur, Samalakha and Panipat in Haryana. Sarai Kale Khan will be the originating station and interoperably connect the other two corridors of Namo Bharat Phase-I with this corridor. The corridor will go through Kashmere Gate ISBT before moving towards Panipat. Overall, this corridor will include 17 stations.



Since the region is populated with large residential and industrial areas with number of educational and hospitality institutions, this Namo Bharat corridor has significant potential to act as a catalyst for growth and regional development. Not only will the corridor cut down on travel time significantly, it will also boost the skill development and employment opportunities in the region. Delhi-Panipat corridor has been approved by Govt. of Haryana and is now under active consideration of Govt. of India and Govt. of National Capital Territory (NCT) of Delhi.

Multi Modal Integration

Seamless integration with rail, road and air

Benefits

- Improved quality of life
- The implementation of Namo Bharat is part of 'Comprehensive Action Plan' (CAP) for Air Pollution Control in Delhi & NCR' and the recommendation of 'High Powered Committee on Decongesting Traffic in Delhi'
- Small footprint – High throughput
- Efficient use of energy and non-conventional resources like solar power
- Enabling modal shift
- Namo Bharat Corridors by seamlessly connecting Delhi, Uttar Pradesh, Rajasthan and Haryana will bring people and places closer in NCR.
- Reduction in migration of people to Delhi due to increased high-speed connectivity
- Access to affordable housing around NCR

Sustainable Growth

Employment Opportunities

Education & Skill Development

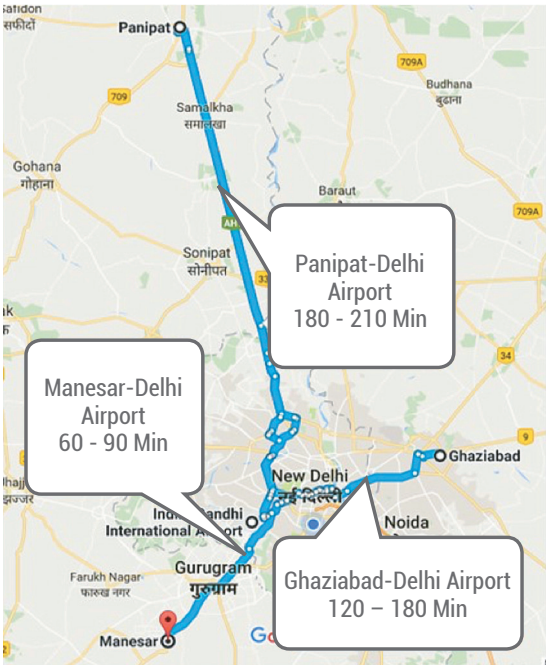
Safe & Comfortable

Inter-operability

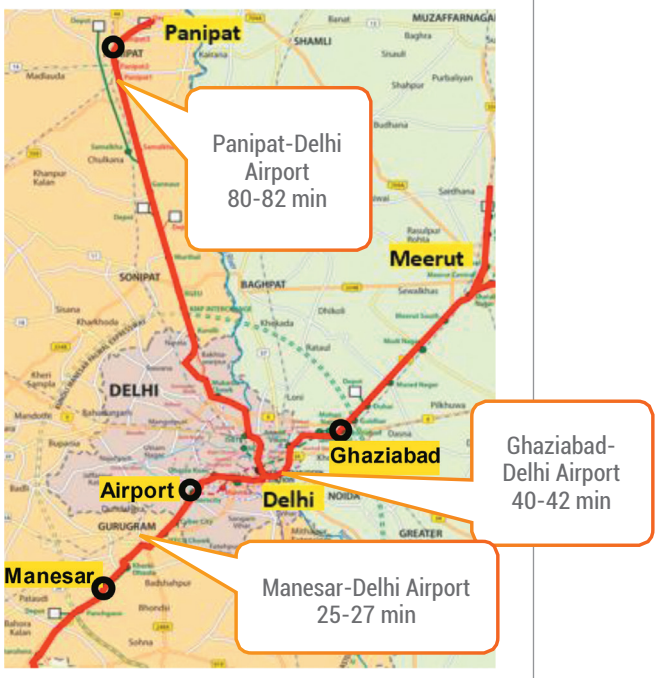
Seamless movement without interchange among the priority RRTS corridors

Significant Reduction in travel time

Presently by Road (Average)



Travel Time Average by Namo Bharat



High Reliability

High-Speed High Frequency

Multi-Modal Connectivity

Seamless Travel

Energy Efficient

Polycentric Development

Industrial/commercial hubs to be in reach of a larger population

Thrust on Make in India

Trainsets

These 100% Made-in-India Trainsets will have state-of-the-art features to enhance commuters experience and comfort. The Namo Bharat trainsets are being manufactured in Savli, Vadodara (Gujarat).

Track Structure

The pre-cast ballastless tracks for Namo Bharat, which support design speed of 180 kmph, will be indigenously manufactured in India. RRTS tracks will support high-performance and will require low maintenance thus reducing the life-cycle cost.

Platform Screen Doors (PSDs)

NCRTC is working for indigenous development of Platform Screen Doors. The PSDs act as a safety barrier between the passengers on the platform and the train/track, besides helping in better crowd management at the stations. The indigenously developed PSDs will be used for upcoming BRTS/MRTS/Namo Bharat/ high-speed rail projects of India and abroad.

Transit Oriented Development (TOD)

Creation of new economic/ industrial zones

State-of-the-art modern trains

- Aerodynamic stainless-steel coach, 3.2 m wide, about 22 m long
- 6 car air-conditioned rake extendable up to 9 cars
- Automatic plug-in-type doors with indicators
- 2x2 Transverse seating
- Onboard Wi-Fi
- Comfortable space for standing passengers; luggage rack
- Mobile/Laptop charging points, CCTV cameras
- Double glazed, tempered safe large glass windows offering panoramic view
- Public announcement & display system, dynamic route map display, an infotainment display, along with other necessary communication facilities
- Gangway clearance, optimized aisle width with grab handles and rails for standing passengers
- Energy Efficient systems meeting highest standards

Energy Efficient

Education & Skill Development

Reduction in Pollution and Congestion

Employment Opportunities

Sustainable Growth

Multi-Modal Connectivity

On-time Project Implementation

Working day & night to bring India's first RRTS

Latest Technological Solutions adopted in Namo Bharat

- **Common Data Environment** as a single source of truth across organization (including consultants & contractors) to enable efficient project management, improves transparency
- **Internet of Things (IoT)** to send live status over LTE network for operations and maintenance
- **Condition Based Maintenance** for real time monitoring and failure prediction of equipment
- **SPEED:** An in-house IT tool for online project monitoring & risk mitigation
- **iDREAMS:** An integrated Real-time Enterprise Asset Management System which would bring digital transformation in the way rail assets are being managed in India.
- **GATI:** An application, developed in-house, which works on Geo-fencing technology & Artificial Intelligence based face recognition system. It helps employees mark attendance from sites, offices, and homes.

Panipat

Meerut

NCT-Delhi

SNB

Alwar

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