



ANALYSIS REPORT ON INDIAN RAILWAYS

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Indian Railways bagging the status of the fourth-largest rail network in the world and the largest public enterprise has been serving passengers and freight to the farthest corners of the country since 1853. It is considered to be the lifeline of social and economic growth. It is owned and operated by the Government of India but over time to enhance its commercial sustainability, the strategic and planned privatization of its various verticals has been initiated strategically.

Due to the development of road infrastructure and rising income levels of the Indian population, the share of passenger and freight load on Indian railways has been reduced considerably and thus affected its revenue collection. Being an economical yet one of the safest modes of transportation, the railway is still the first choice for a majority of the Indian middle-class and lower-class population but declining revenue trends have affected its service, management, operations and infrastructural development at large.

It is one of the energy-efficient modes of transportation when it comes to long-distance travelling and bulk freight movement with a total track length of around more than 1,26,366 km. It operates around 13,523 passenger trains and 9,146 freight trains on its mammoth rail network on daily basis and moves the wheel of economic, social, and cultural advancement. To handle these huge operations continuously, it has a vast pool of 1.3 million human resources that made it the largest employer in the country and ranked eighth in the world.

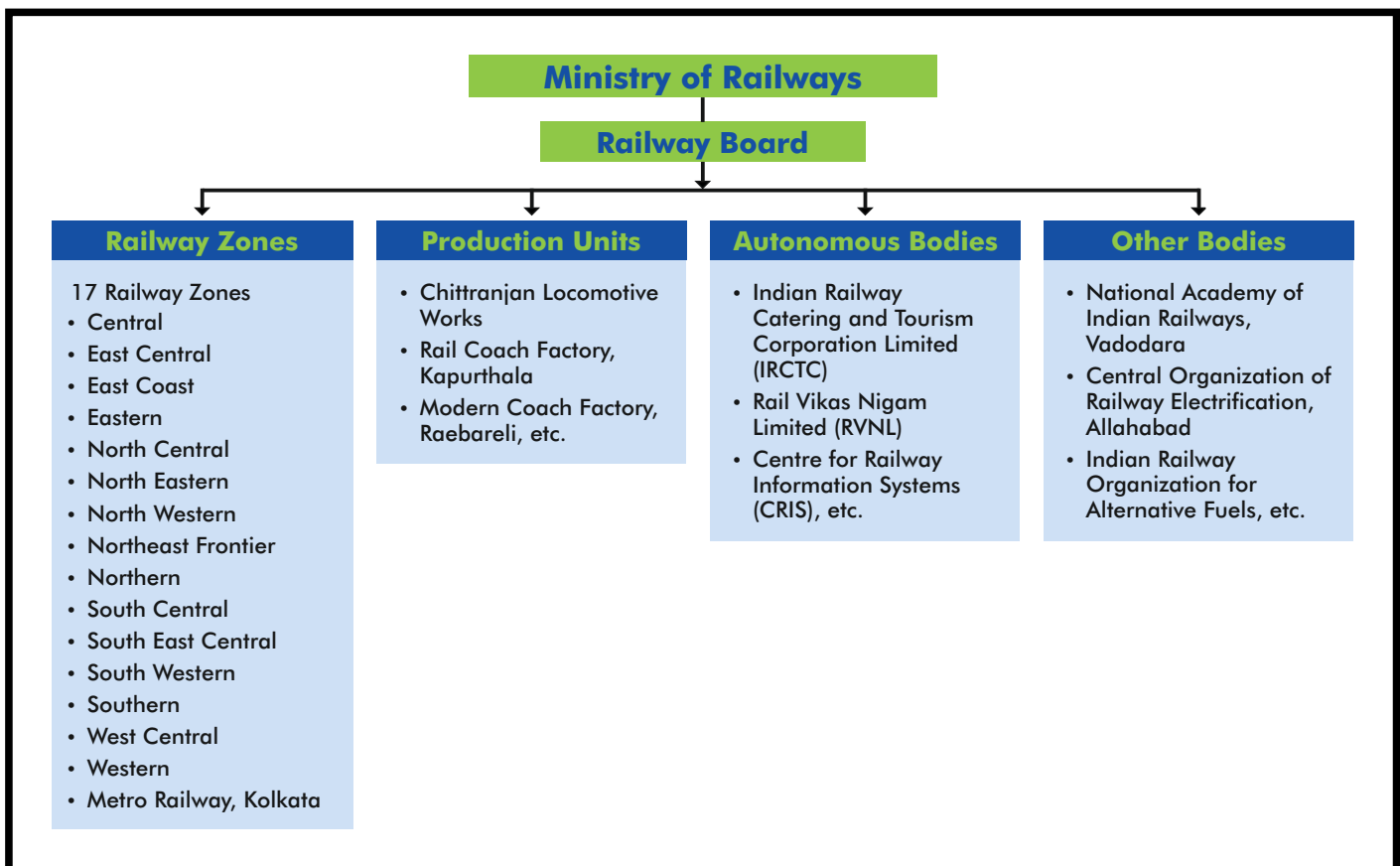
In recent times, due to the supporting policy framework of the Government of India, the revamp of Indian railways has been taking place where the focus is to make it commercially competitive and operationally attractive. This brings new opportunities for private players in the industry to play a huge role in catering to safe and reliable transportation needs. It thus attracts major foreign investment and helps in improving the railway's infrastructure related to freight and high-speed passenger trains at global standards.

The Indian railways with initiatives such as leasing out the trains to private players, privatization of railway stations, advertising on trains and platforms, etc shifting its operations towards profitability along with a strong holding on its primary character of public service. The continuous electrification of the Indian railway, induction of high-speed trains, the safety measures like KAVACH are changing the age-old picture of Indian Railways whereas the role played during the pandemic has proved its unmatched contribution in knitting the web of One India.



To have budgetary control and fulfill its social commitments at large, the administrative and financial decision-making of the Indian Railways is majorly centralized. Yet for the seamless functioning of its vast network, it is divided into 17 different zones.

Governance structure under which Indian Railways



The decentralization of power is the necessity to handle its huge network and on the same line, the Committee on Restructuring Railways has been constituted in 2015 which recommended the empowerment at the zonal level and advocated for their independence from Railway Board. The view of the committee was that it will increase the competitiveness among zones and thus result in operational efficiency, up-gradation of services and net profitability.

The delegation of power related to procurement, financing, tendering, etc from zones to the division level will bring more transparency and make the processes more localized and independent from the commercial point of view. Whereas the non-remunerative peripheral activities of the railways like schools, hospitals, security, etc will need to be outsourced to private entities to ease out its financial burden and make its functioning more like a profitable business. This will also help the zones to create their revenue sources individually much like the railways of other countries such as Japan, UK, and China. Thus, in 2017 to realize these outcomes, the Government of India set up the Rail Development Authority (RDA).

Objectives of the Rail Development Authority (RDA)

Service Pricing

Suggestions on increasing the non-fare revenue

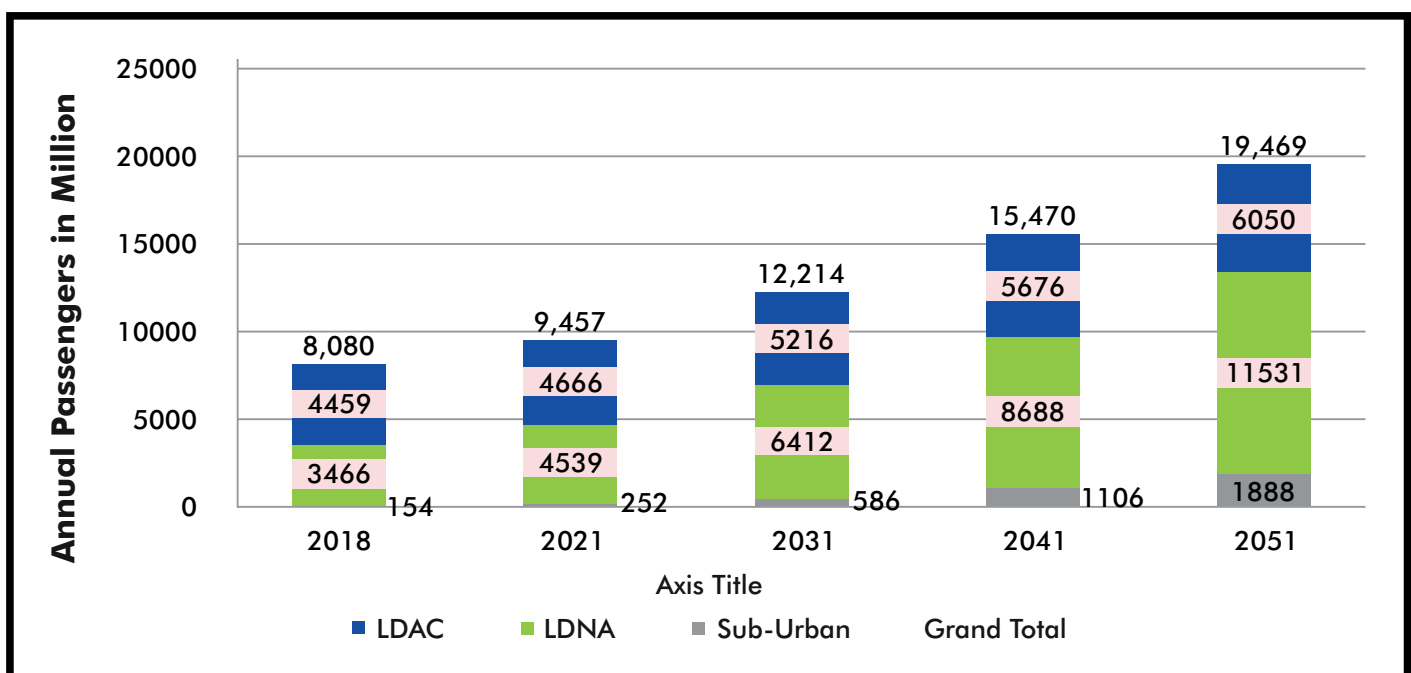
Measures to encourage participation of entities including market development in a fair manner

Service standard bench marking on international norms

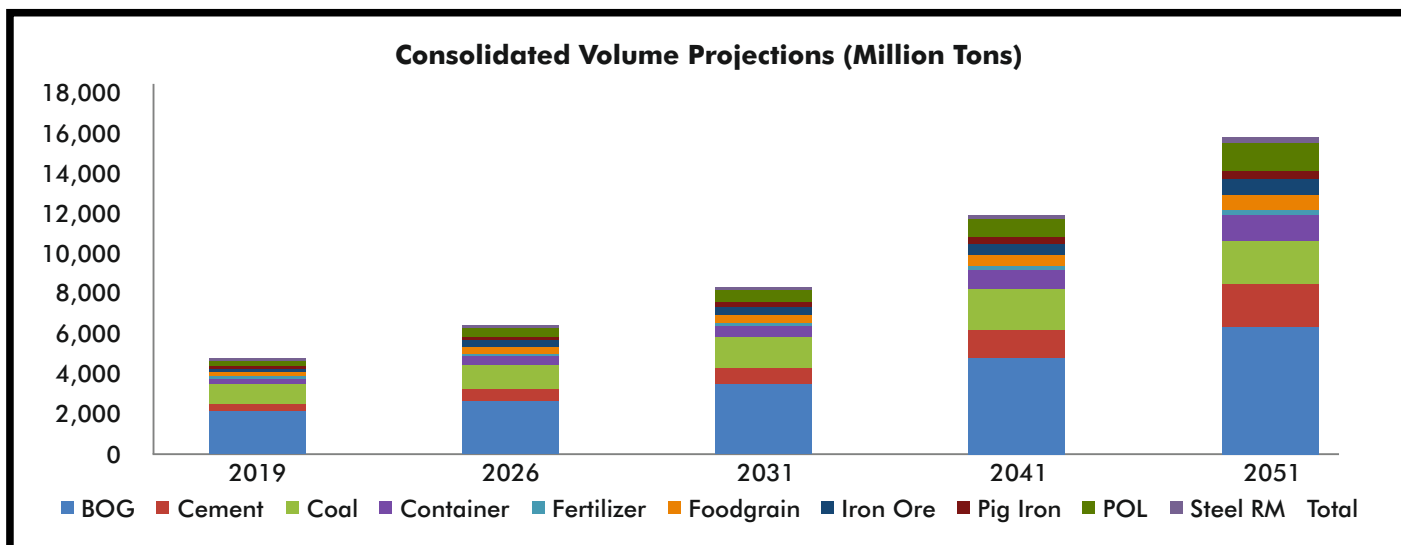
Protection of consumer interests

With the rising population, the commutation needs and frequency are also increasing over time, to cater to this huge demand, a total revamp of Indian Railways is needed. To address the same, a long-term railway development plan under the name of Rail Plan Vision 2030 has been envisaged by the Government of India. It will develop the capacity in terms of passenger and freight traffic and infrastructure by 2030 and prepare itself for the demand growth of 2050. The passenger and freight demand forecast along with sanctioned network plan under this vision document are:

Passenger Demand Forecast



Freight Demand Forecast



Details of Sanction Network

Sanctioned/Ongoing Works		Sanctioned Length (Km)	
3rd & 4th Line		156	
4th Line		1,087	
Doubling		1,194	
Tripling		4,152	
Total		17,340	
Length (Km)		508 Km	
Included HSR Corridor		Mumbai Ahmedabad, 508 km (As per NIP)	
Length (Km)		3,322 Km	
Included DFC Corridor		Eastern DFC, 1,839 Km (Under Construction)	
		Western DFC, 1,483 Km (Under Construction)	

Source: <https://indianrailways.gov.in/NRP%2015th%20DEC.pdf>

It is expected to increase the speed of passenger and freight trains considerably and reduce the overall cost by 30% over time. In addition, the continuous adoption of green fuel sources and outsourcing of various non-core activities of Indian Railways in a structured way is re-energizing the country's growth in an economic and greener way.



The revamp of Indian Railways under the Gati Shakti Master Plan, National Rail Plan Vision 2030, etc is opening up new avenues of growth in the industry. It will bring new employment as well as entrepreneurial opportunities for organizations, individuals, investors, etc to benefit each stakeholder while continuing its social commitments.

Major Growth Drivers in the Industry



The rapid urbanization and industrialization in all the parts of the country and the government's mandate to connect the farthest and remotest parts of the country through rail network are generating new opportunities for private entities to enhance their participation to write the new growth story of the Indian Railways during this major revamp much like IRCTC and bring the new spark.

The Diamond Quadrilateral network of high-speed rail to connect major metro cities of the country like Delhi, Mumbai, Chennai, etc and making freight transportation cheaper and efficient through dedicated freight corridors is reflecting its new character and playing a major role in the growth of industrial and economic activities in each part of the country. The ICT-based solutions with the use of the Freight Business development Portal are also helping to increase the freight traffic share for railways through transparency as the one-stop facility.

The improved operations and services of passenger trains and improved cargo delivery at competitive prices is the new approach of Indian railways. With the mantra of "Hungry for Cargo", Indian Railways is making a bold statement and working on a customer-centric business development approach to attract freight and cargo traffic from conventional and non-conventional streams.

On the line, the giant is working on policies that will enhance the ease of doing business with the industry. This scenario has helped the railways to touch the mark of 1400MT in freight loading in the fiscal year 20221-22 for the first time which was 15% higher than the previous fiscal year.

Important trends related to the industry

12bn

Annual Estimated
Passengers in 2031

8MT

Annual Estimated Freight
Demand in 2031

2,024MT

Freight Loading by
2024

\$16BN

Revenue from Freight
Traffic (2021)

Source: <https://www.investindia.gov.in/sector/railways>

The sector has planned a capital expenditure of US\$ 32 billion in the fiscal year 2022-23 to build a robust and safe railway infrastructure for both passengers as well as freight traffic and increase its contribution share to GDP from 1.5%. Besides this, the continuous electrification and operation of more than 1000 railway stations on solar power are curbing the carbon footprint of Indian railways.

The construction of 100 PM Gati Shakti Cargo terminals and manufacturing of 400 new generation Vande Bharat Trains in the coming three years along with the 2000 km rail network coverage under the state-of-art technology "KAVACH" in 2022-23 is going to enhance its efficiency and attractiveness alike. The dedicated train operations like Kisan Rail, Gaurav Bharat schemes, and preparation of inception of high-speed mono rails in near future are showing up a promising future for Indian Railways.

The Atmanirbhar Bharat and Make in India initiatives of the Government of India are also helping to develop basic functional expertise in the areas of production, manufacturing, and maintenance of coaches, wagons, tracks, etc. The invitation of bids for the Hydrogen Fuel Cell based Trains on the Indian tracks is the reflection of the aggressive and futuristic master plan of the railways which will make it capable enough to cater to the transportation demand of Indian urban masses sustainably.

The sector has planned to increase its contribution to GDP form 1.5%



Indian Railways while sketching its new picture, want to make the private and global investment a strong pillar. Earlier it has been financed through budgetary outlay and its internal sources of revenue like passenger and freight revenue, etc only. But to continue with the social commitments for such a vast population, the sector felt the need to create other sources of revenue generation, where private investment through the PPP model and global investment in form of Foreign Direct Investment (FDI) played a massive role and increase the operational efficiency and service quality.

Since 1992, efforts to privatize the Indian Railways and increase private sector participation through strategic disinvestment are on a priority of the government. Over time, the Government of India has allowed 100% FDI through the PPP model in the areas like construction, operation, and maintenance under automatic routes and opened new avenues for global players in the industry. All such efforts pave the way for bringing around US\$ 1.2 billion in FDI investment in the railway-related component category between 2000-2021.

Along with this, the Indian Railway Catering and Tourism Corporation (IRCTC) led tour packages all over India and the neighboring countries like Nepal, leasing out the railway coaches in various thematic tourist circuits, advertisement at stations, level crossings, and premier trains are also increasing the revenue through private partnership and investment while making railways more profitable and aesthetically appealing.

The mandate to move towards green fuel sources to support this vast rail network the global collaborations like one with Hitachi Energy India to provide key electric components worth around Rs 160 crore will prove to be a game changer. The Memorandum of Understanding between India and Australia to promote long-term infrastructure cooperation for the mutual benefit of both countries is also finding a way for transferring the best global practices in the development of the sector to facilitate the public at large.

Besides this, the strong policy framework and the positive outlook of the Government of India attracted a loan of US\$ 356 million for the expansion of Chennai Metro from the Asian Infrastructure Investment Bank (AIIB), a loan of US\$ 500 million from the Asian Development Bank (ADB) for the expansion of Bengaluru and Karnataka Metro Rail including the construction of two new Metro lines, etc.

The scenario brings energy and hopes toward a profitable and brighter future for investment in the sector by promising the transformation potential through realistic assessment. This is creating a positive environment to realize the higher revenue targets and new business opportunities for the private players across the various dimensions and find ways to adapt international best practices to enhance the efficiency, security and robustness in all the spheres of its operations and revenue generation in the long run.

The Covid 19 pandemic has brought a significant thump to each dimension of Indian Railways. The vast lifeline network came to stand still during the first phase of lockdown and thus disturbed the public and goods movement, supply chain network and distribution across the country. It has significantly impacted its revenue collection and soared the losses.

During the pandemic, the sector has shown remarkable resilience and discouraged unnecessary travel by suspending the various categories of concessional bookings like one for senior citizens. But still, the Indian railways have fulfilled their social commitments and utilized their mammoth network including the production facilities for the public service.

The railways have not only delivered the fuel stocks, medical equipment, essential goods supply, general goods, etc to the far-flung areas of the country during a time of distress through parcel trains but also provided bulk cooked food from IRCTC kitchens to the people in need. Even the e-commerce giants like Amazon India have also announced to use of the service of Parcel trains during lockdown to continue their operations to cater to the additional demand.

Goods delivered through trains



Source: <https://www.investindia.gov.in/siru/indian-railways-vs-covid-19-case-study>

The manufacturing and production facility of Railways has also been leveraged to manufacture Personal Protective Equipment (PPE) kits, ventilators, simple medical beds, medical trolleys, etc. Even the railway hospitals were made available for Covid patients and in addition around 2,500 rail coaches were converted into isolation coaches to deal with any medical emergency across the country.

The seamless functioning of Oxygen Express Trains at short notice to address the Oxygen supply crisis during the second wave of Covid 19 was remarkable and once again proved that the Indian Railways is the lifeline of the country. These trains have not only fulfilled the oxygen demand in India but also delivered Oxygen to the neighboring country Bangladesh.

Due to this proactive instance and preparedness, many lives in the country are still alive and many faces have found smiles during the pandemic. Gain time, the Indian Railways has proved its importance not the white elephant of the Indian economy but it is one of the critical public utilities to the country in the time of distress if utilized in a planned manner.

Four Pillars to fight Covid- 19

1



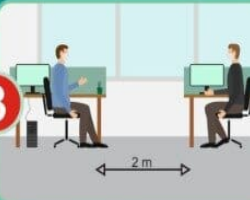
FACE COVER/MASK- Wearing a face cover/ mask acts as a "source control" by preventing respiratory droplets spreading infection without the persons knowledge. This is one of the most essential tool in this fight.

2



HYGIENE- One should wash / sanitize hands every time they enter and exit a group setting, and every couple of hours while in it. Disinfecting high touch surface like door knobs should at least be done twice a day.

3



DISTANCING- It spreads through respiratory droplets released when people cough, sneeze, talk, or even just breathe. The physical distancing of at least one meter between people is required.

4



SCREENING-

Self declaration and thermal screening measure before entering a building or public place is necessary. Such daily check-ins encourage employees to report symptoms. Use of 'Arogya Setu' app on mobile is essential.

We have to become used to this new normal social behaviours for at least next 12 to 18 months.

Dawai Bhi - Kadai Bhi



NORTH CENTRAL RAILWAY
Mobility is our Hallmark



The Indian Railway's restructuring and revamping of its operations to make it profitable and sustainable are the priority of the Government of India. Thus, the ministry has received a total budgetary outlay of US\$ 18.40 billion for the fiscal year 2022-23. The rolling out of 400 the Vande Bharat trains, implementation of a high-speed rail corridor, improvement in safety and security of train journey, stations, and network through the use of 4G technology, 100% electrification of the rail network, construction of the world's highest railway bridge at Chenab bridge are some of the exemplary steps taken by the Ministry of Railways to modernize its image and upgrade its infrastructure to make the operations more resilient.

India has committed at the world forum to be carbon neutral by 2070 in which the railway plays a significant role when it comes to increasing the carbon emission levels in the country. Thus, some of the major policy frameworks to support infrastructure development, finding new avenues of scalability, revenue generation, and security enhancement to streamline its vast network operations and cut down the carbon emissions to align with the Nationally Determined Contributions (NDCs) are as under:

National Rail Plan

The plan is to make Indian railways "future ready" by 2030. The goal is to increase the share of freight traffic by 45% in a cost-effective way. It has the objective to cater to the demands of future growth in both passenger and freight traffic upto 2050 in a sustainable way while increasing both operational capacities and revenue streams. It will also upgrade the speed of golden quadrilateral and golden diagonal routes and work for the elimination of all level crossings by 2024.

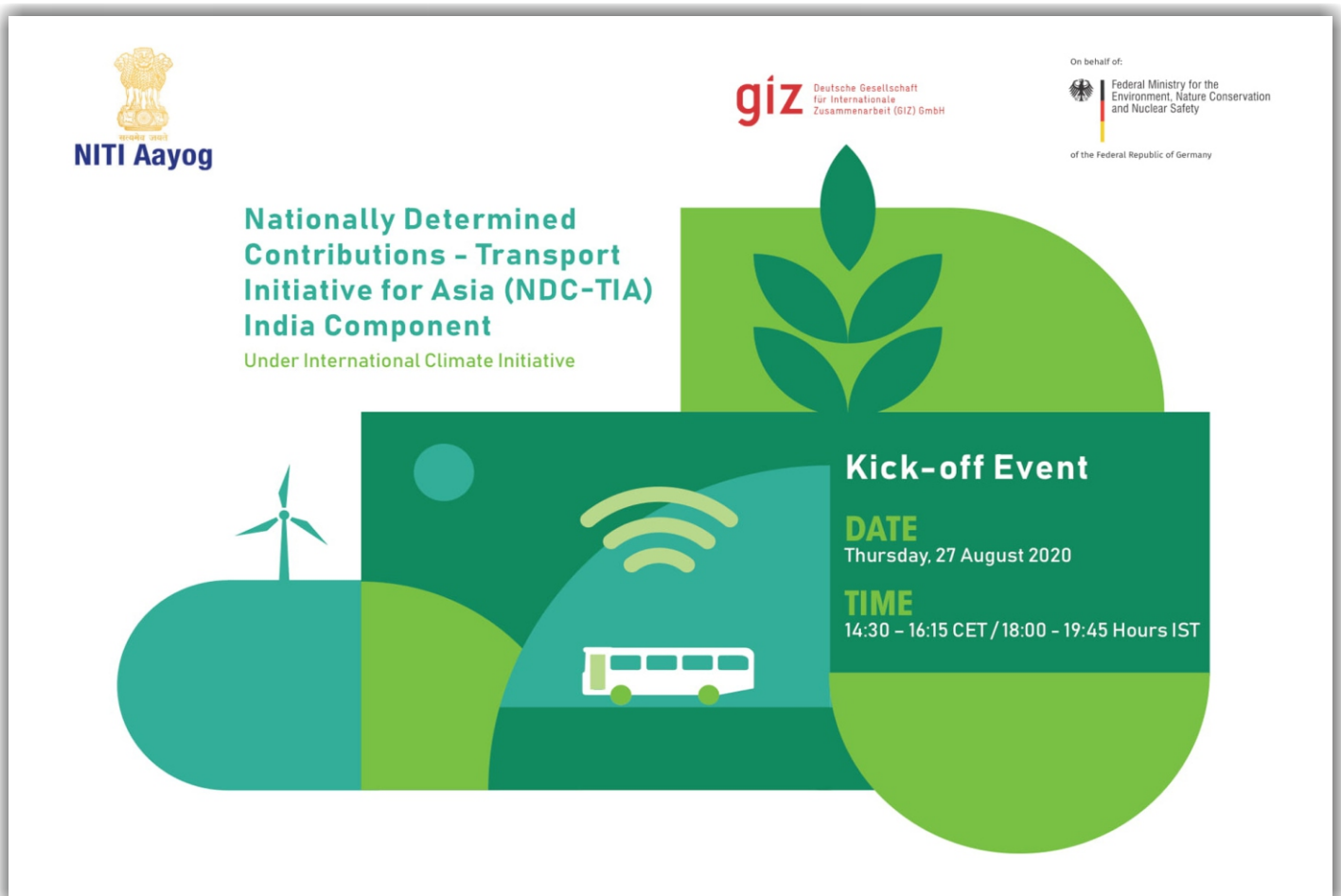
Dedicated Freight Corridors

To develop the high-speed increased capacity railway corridor exclusively for freight movement, the Ministry of Railway has institutionalized the Dedicated Freight Corridor Corporation of India. Its purpose is to plan the development, construction, operation and maintenance of these corridors to increase the freight transportation share by providing efficient, reliable, and cost-effective additional capacity for Indian Railways.

Bharat Gaurav Scheme

The scheme is launched in 2021 to run theme-based tourist circuit trains like Ramayana Express by the IRCTC and other private players. It will bring the people close to their cultural and spiritual heritages while boosting tourism in these places of national importance. This will also provide livelihood opportunities to the regional people while adding a new revenue stream for railways.

In addition, the Ministry of Railways has announced to cut down its carbon emissions significantly through various measures like 100% electrification, use of solar power, etc, and the objective to become the first “net zero” carbon emitter in the world by 2030. Thus, the increased revenue from the capacity creation for freight transport, increased private sector participation, technology adoption for better operational security, etc is paving the right direction through these government initiatives and opening up new avenues of opportunities for all the stakeholders to cater to the rising demands.



The poster features a stylized landscape with a wind turbine, a sun, and a bus. The text is arranged in a clean, modern layout with green and blue accents.

NITI Aayog

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

On behalf of:
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
of the Federal Republic of Germany

Nationally Determined Contributions - Transport Initiative for Asia (NDC-TIA) India Component
Under International Climate Initiative

Kick-off Event

DATE
Thursday, 27 August 2020

TIME
14:30 – 16:15 CET / 18:00 – 19:45 Hours IST

The growth and development of Indian railways in the last few years is growing at a positive rate and thus the industry is going to be the third largest in the world by securing around 10% of the total global market share. In this scenario, the sector is expected to generate more than one million jobs and continue to hold the position of the biggest employer in the country in near future also.

The “Adarsh Station” scheme along with the successful implementation of the “Swachh Bharat” mission across the country has changed the scenario of the Indian railway including the platforms and tracks. The change is significant in all dimensions, but the commercial and social obligations of this jumbo sector still need to be clear to enhance its profitability on account books and need explicit policy guidelines.

Thus, the sustainable pricing with reliable, efficient, safe and robust operations of semi and high-speed passenger trains, dedicated freight corridors, and multi-modal connectivity infrastructure is capable enough to write the colorful future of the carbon-neutral Indian railways in the future while flipping its old aged picture across the globe.



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19. <https://railanalysis.in/>
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22. <https://dfccil.com/>

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