

# FINDOC PRIME

WEEKLY ENGLISH

YEAR -5 | Vol 5 | Issue 12 | Ludhiana | Price Rs.2/-

Mobile: 9781848000

Thursday 23 May, 2024

Registered with registrar of newspaper New Delhi under RNI No. PUNENG/2019/78972 DATE : 21.10.2020

## TRACKS OF PROGRESS: A COMPREHENSIVE ANALYSIS OF INDIAN RAILWAY SECTOR

The Indian Railway Sector has made significant progresses, becoming the 4th largest railway system in the world with a total track length of 126,366 km and 7,335 stations. The sector has achieved a record track laying of 14.4 km per day, with a vision to reach 2024 MT freight loading by 2024. The Mumbai-Ahmedabad high-speed rail project, sanctioned at \$14.27 billion, is a testament to the growth and modernization efforts.

Furthermore, the railways have electrified 61,813 km of the Broad-Gauge network, aiming for 100% electrification to become the largest green railway network globally. With the commissioning of Wi-Fi at over 6,000 stations and the solarization of more than 1,000 stations, the Indian Railways is also focusing on digital and sustainable initiatives. The introduction of 400 new generation Vande Bharat Trains and the development of 100 PM Gati Shakti Cargo terminals for multimodal logistics highlight the sector's commitment to enhancing passenger and freight services.



## ROBUST INFRASTRUCTURE

The Indian Railway sector's infrastructure is vast and multifaceted, encompassing a wide range of segments that work together to form the fourth largest railway network in the world. Here's a detailed look at the key segments:

### Track and Stations

India has a total track length of 126,366 km with 7,335 stations. The track network includes a significant number of electrified tracks, with a goal to electrify the entire network.

### Electrification

As of February 2024, 61,813 km of Broad-Gauge network has been electrified, with a vision to become the largest green railway network in the world.

### Wi-Fi and Solarization

Indian Railways has commissioned Wi-Fi at 6,089 Railway stations and solarized more than 1,000 stations to achieve its green mission.

### Dedicated Freight Corridors (DFC)

Two DFCs are being fast-tracked, one on the Western route - Jawaharlal Nehru Port to Dadri and another on the Eastern route - Ludhiana to Dankuni, to support the modal freight share of the economy.

### FDI and Revenue

The sector allows 100% FDI under the automatic route and aims to contribute about 1.5% to the country's GDP.

### Freight and Passenger Trains

The railways operate 13,523 passenger trains and 9,146 freight trains daily as of 2022, highlighting its role in both passenger and cargo transportation.

### High-Speed Rail

Projects like the Mumbai-Ahmedabad high-speed rail are underway, which is sanctioned at a total cost of \$14.27 billion.

### Safety Systems

Systems like Automatic Block Signaling (ABS) have been provided at 3,946 Route Km, and Kavach has been deployed on 1,465 Route km.

### Manufacturing and Terminals

Government Plans include manufacturing 400 new generation Vande Bharat Trains and developing 100 PM Gati Shakti Cargo terminals for multimodal logistics over the next three years.

These segments collectively contribute to the robustness and efficiency of the Indian Railway sector, making it a critical component of the nation's infrastructure and economic growth.

## REVENUE GROWTH

The Indian Railway Sector has seen a consistent growth in revenue over the years. The revenue earning traffic and total traffic have been on an upward trajectory, with significant increases in both freight and passenger revenues over the years. The Indian Railways has also been investing in capacity augmentation, safety, and electrification to improve its services and efficiency, which has likely contributed to the revenue growth.

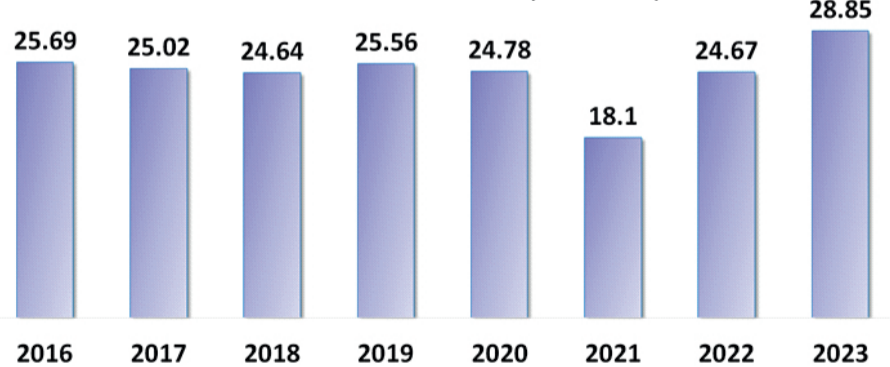
### Fiscal 2022-23

The Indian Railways registered a record revenue of 28.85 US\$ billion. This was nearly Rs. 34,000 Crores more than the previous year, reflecting a above 17% growth. Freight revenue during this period jumped to 19.56 US\$ bn, a growth of nearly 5% on the previous year. Passenger revenues registered an all-time high growth of 53% to reach 7.64 US\$ Bn.

### Fiscal 2023-24

As of the latest data available, the Indian Railways registered its highest revenue of Rs. 2.56 lakh crore for FY24, which is a jump of 6.66% on year. This indicates a continued upward trend in the sector's financial performance.

GROSS REVENUE OVER THE YEARS (US\$ billion)



## REVENUE GENERATING SEGMENTS

The two main revenue-generating segments of the Indian Railways industry are:

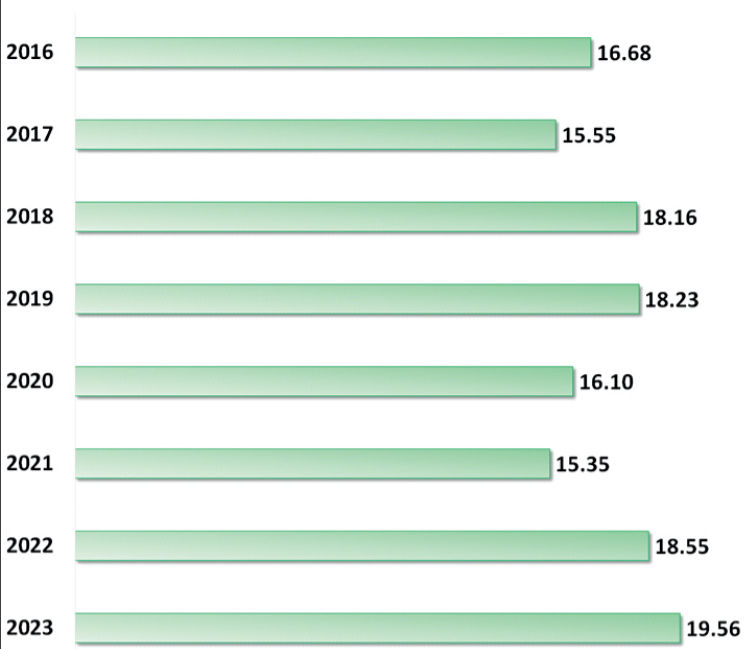
### Freight Business

On the freight side, the revenue has seen an impressive increase over the years, from 16.68 US\$ bn in 2016 to 19.56 US\$ bn in 2023. The sector's Vision 2024 with the slogan "Hungry For Cargo" aims to achieve targets of 2024 MT freight loading by 2024, indicating a strong focus on enhancing freight capacity and revenue.

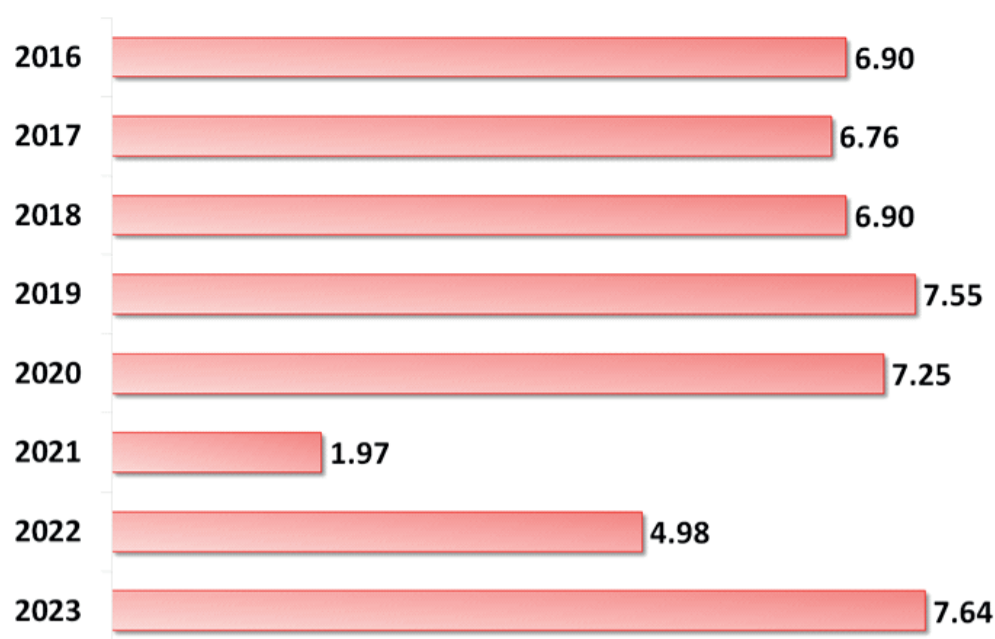
### Passenger Segment

The Indian Railway Sector has witnessed a significant growth in revenue from the passenger segment over the years. From 2015-16 to 2023-24, the passenger revenues have grown from 6.90 US\$ Bn to an estimated 7.64 US\$ Bn. This growth, however, has been slower than the nominal GDP growth rate and the growth in competing segments like aviation. Despite this, the railways are expecting to earn ₹106.67 per passenger in 2024-25, almost double the rate of ₹54.62 in 2015-16.

REVENUE FROM FREIGHT (US\$ billion)

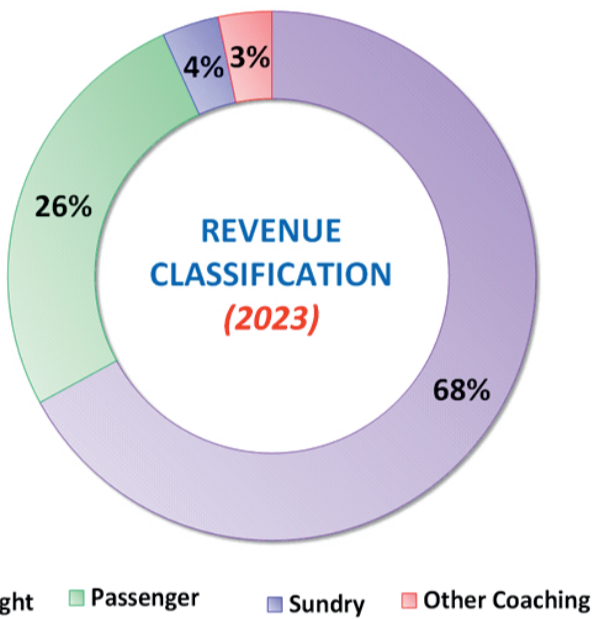


REVENUE FROM PASSENGERS (US\$ billion)



These segments are crucial for the Indian Railways as they not only contribute to the revenue but also reflect the growth and expansion of the network, indicating the railways' vital role in India's transportation infrastructure.

## REVENUE CLASSIFICATION

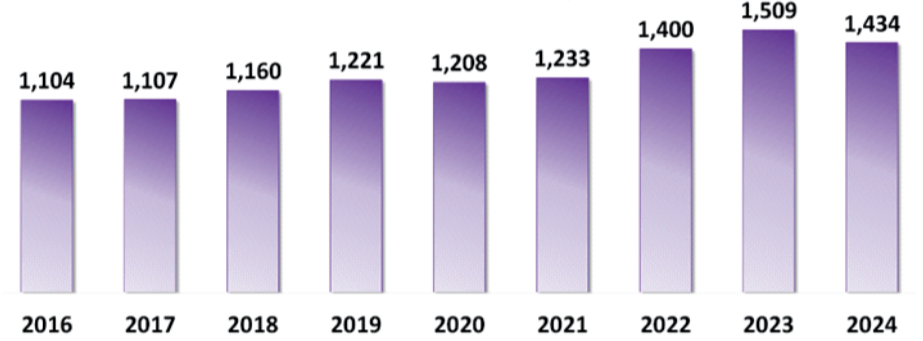


## FREIGHT & VOLUME

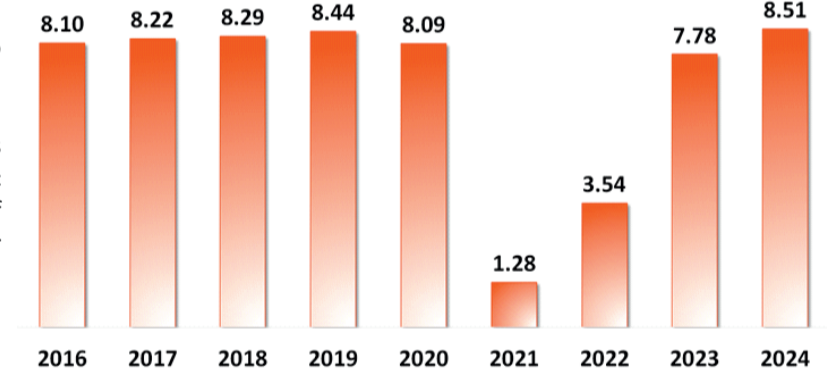
### FREIGHT TRAFFIC

The Indian Railway Sector has seen a significant evolution in freight traffic over the years. Despite the challenges posed by the Covid-19 pandemic, there has been a continuous rise in freight traffic during the last three years. For instance, the total originating freight traffic was recorded at 1233.22 million tonnes (MT) in 2020-21, which increased to 1400.27 MT in 2021-22, and further to 1509.07 MT in 2022-23. This growth is attributed to improvements in freight cargo transportation and the progressive commissioning of the Dedicated Freight Corridor, which has notably reduced transit times on these routes.

FREIGHT TRAFFIC OVER THE YEARS (million tonnes)



PASSENGER VOLUME OVER THE YEARS (billions)



**PASSENGER VOLUME**  
On the passenger volume front, Indian Railways has experienced fluctuations primarily due to the impact of the pandemic. The passenger traffic saw a steep decline during 2020-21 with only 1.28 Bn passengers, a significant drop from the 8.44 bn passengers in 2018-19 and 8.09 bn in 2019-20. However, there has been a gradual recovery post-pandemic, with the railways working towards enhancing passenger services and capacity. The volume of passenger traffic is a critical indicator of the sector's health and its ability to meet the transportation needs of the country's population. As the railways continue to modernize and expand, the passenger volume is expected to improve, contributing to the overall growth of the sector.

## EXPORTS GROWTH

The Indian Railway Industry has been a significant contributor to the country's export sector. Have a glance at the exports in the Indian Railway Industry-

### Export Growth and Value

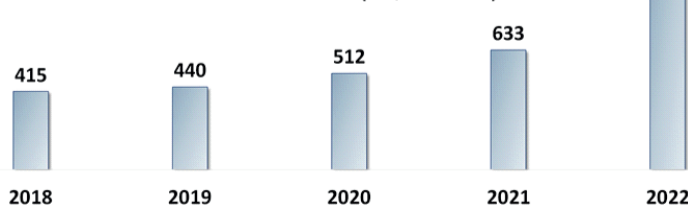
According to data from the Ministry of Commerce and Industry, the exports of railway-related products and services from India have been steadily increasing over the years. The country was one of the Top 20 exporters in railways globally as of 2017, and the export value has grown at a Compound Annual Growth Rate (CAGR) of **27.05%** during 2010-2017, reaching **US\$ 303.29 million**. Exports of Railway or Tramway Locomotives in India averaged 120.89 USD Million from 1996 until 2023, with an all-time high of 622.26 USD Million in 2014. In the financial year 2022, the exports were valued at around 1249.38 US\$ million, marking a significant increase from previous years.

#### Export Components

The export components include a wide range of products such as:

- Locomotives
- Coaches
- Railway parts and equipment
- Signaling systems
- Track Materials

YEARLY EXPORT OF RAILWAYS (US\$ MILLION)



#### Key Destinations

Indian railway products are exported to various countries around the world, including advanced markets where the quality and reliability of railway products are of utmost importance.

India has emerged as a notable exporter of **rolling stock**, including locomotives, coaches, and wagons. Some of the countries to which India has exported rolling stock include *Sri Lanka, Bangladesh, Myanmar, Vietnam, and several African nations*. Furthermore, India has also been exporting various **railway equipment and components**, such as *signaling systems, track components, and electrification equipment*. These exports have been made to countries in **Asia, Africa, and South America**.

#### Export Promotion Efforts

The Indian government has taken several initiatives to boost exports in the railway sector. This includes opening new markets, participating in international bids, and promoting the **'Make in India'** initiative to encourage domestic production of railway equipment that meets global standards.

While the Indian railway sector has traditionally focused on domestic requirements, the export growth in recent years indicates the sector's increasing competitiveness and global recognition for its products and services.

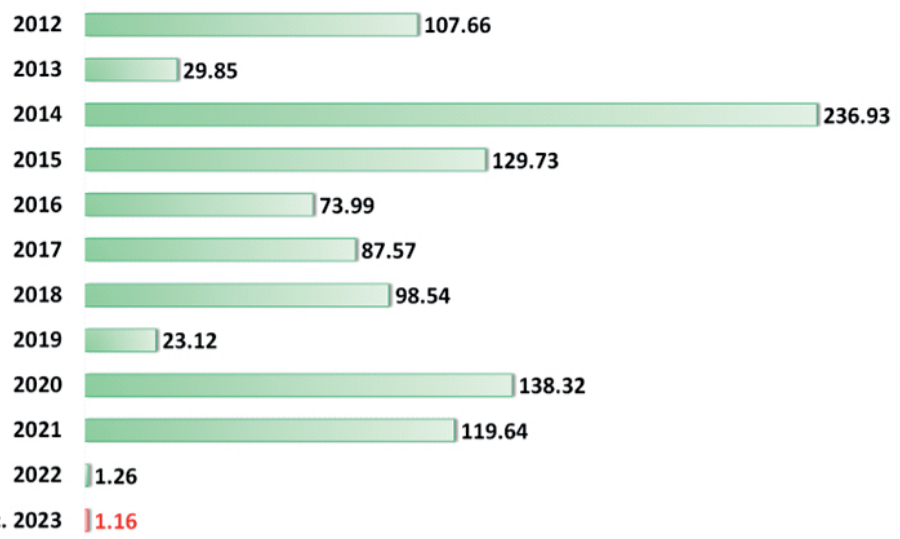
## FOREIGN DIRECT INVESTMENT

Foreign investment in the Indian Railway Industry has seen significant changes and growth over the years. Traditionally, the Indian railway sector was a state-owned and operated infrastructure facility, and foreign direct investment (FDI) was prohibited. However, recognizing the need for modernization and expansion, the Indian government decided to open up the sector for private investments and FDI.

### Current Scenario

As of recent years, the Indian Railways has been undergoing a transformation with substantial investments aimed at improving infrastructure and services. The government has allowed 100% FDI under the automatic route in the railway infrastructure sector. This move is intended to attract foreign capital, technology transfer, and innovative practices.

FDI INFLOW OVER THE YEARS (US\$ Mn)



- Between the financial years 2021 and 2023, the value of FDI inflow into the Indian railway sector amounted to nearly \$1.23 billion.
- FDI inflows in railway-related components stood at \$1.40 billion from April 2000 to December 2023.
- The government has also taken initiatives to attract more foreign investment in the railway sector, such as the National Rail Plan (NRP) and the Dedicated Freight Corridor (DFC) project, which aims to construct dedicated freight corridors to decongest the existing rail network.
- The Indian government has been actively seeking foreign investment and expertise in areas like high-speed rail, rolling stock manufacturing, and advanced signaling systems to upgrade the country's railway infrastructure.

The liberalization of FDI policies in the railway sector is a strategic move to boost infrastructure development, enhance passenger and freight services, and contribute to the overall growth of the Indian economy. With these initiatives, the Indian Railway Industry is poised to become a modern, efficient, and sustainable mode of transportation, backed by both domestic and foreign investments.

## GOVERNMENT INITIATIVES

The Indian government has implemented several initiatives, policies, and schemes to transform the Indian Railways sector. Here's a detailed overview:

### Initiatives

#### Electrification of Railways

About 94% of the total Broad Gauge (BG) network has been electrified, with a substantial increase in the pace of electrification from 1.42 Km/day (2004-14) to about 18 Km/day (2022-23)

#### Replacement of Coaches

Approximately 23,000 conventional coaches have been replaced by Linke Hofmann Busch (LHB) coaches since 2015, enhancing safety and ride quality.

#### The Kavach

The 'Kavach' system, aimed at preventing train collisions, has been deployed on 1,465 Route km and 139 locomotives on South Central Railway. It is certified for Safety Integrity Level-4.

#### Intrusion Detection System

To prevent accidents involving elephants, an Intrusion Detection System has been commissioned on identified vulnerable sections over Northeast Frontier Railway.

### Policies

#### Dynamic Pricing Policy

The Ministry of Railways has introduced a dynamic pricing policy that includes various charges like Busy Season Charge, Development Surcharge, and Congestion Charge.

#### Freight Policy Measures

The Ministry has introduced several freight policy measures to promote the movement of goods traffic through railways, offering incentives to boost the economy.

#### National Rail Plan (NRP) 2030

The NRP aims to create a 'future ready' railway system by 2030, increasing the modal share of the Railways in freight to 45%.

### Schemes

#### Gati Shakti Multi-modal Cargo Terminal (GCT)

This scheme aims to enhance cargo handling capacity and improve logistics efficiency.

#### Amrit Bharat Station Scheme

Under this scheme, proposals are invited for the redevelopment of railway stations to enhance passenger amenities.

#### 100-Day Plan

This plan includes passenger-friendly measures like a 24-hour ticket refund scheme, a 'super App', and PM Rail Yatri Bima Yojana, alongside investments in Vande Bharat trains, modernization, and expanded metro networks.

These efforts reflect the Indian government's commitment to modernizing the railway sector, improving operational efficiency, and ensuring safety and convenience for passengers and freight customers.

## NOTABLE TRENDS AND ACHIEVEMENTS

### Modernization And Infrastructure Upgrades

- o The Indian Railways has planned an investment of INR 1,15,399 crore under the National Rail Plan (NRP) for modernizing and upgrading infrastructure between 2022 and 2024.
- o The Western and Eastern Dedicated Freight Corridors, spanning 3,360 km, are expected to be fully operational this year, aiming to enhance freight transportation capacity.
- o The Indian Railways aims to achieve 100% electrification of its broad-gauge routes, reducing dependence on fossil fuels and promoting sustainability. The national transporter has so far electrified 95% of the broad-gauge track network in 2023-24.

### Passenger Amenities and Services

Under the 'One Station, One Product' scheme, the Indian Railways plans to set up over 2,000 stalls at stations by 2024, promoting local businesses and enhancing passenger experience. As of November 2023, 1,189 OSOP outlets were made operational at 1,083 stations.

The 'Rail Madad' mobile app, launched in 2022, aims to provide a centralized platform for addressing passenger grievances and improving customer service.

In November 2021, Indian Railways announced that 102 semi-high-speed Vande Bharat Expresses will commence operations by 2024, with at least 10 new trains scheduled to be launched by August 2022 that will connect 40 cities.

### Freight Transportation and Logistics

- o The Indian Railways aims to increase its freight loading capacity. Vision 2024 has been envisaged to achieve targets of 2024 MT freight loading by 2024, capturing a larger share of the freight transportation market.
- o The development of Multi-Modal Logistics Parks (MMLPs) is underway, 100 PM-GatiShakti Cargo Terminals for multimodal logistics facilities will be developed over next three years, facilitating efficient freight movement.

### Public-Private Partnerships (PPP)

- o Investors would receive up to 40% of the total project cost as viability-gap funding (VGF) and be allowed to utilize the space above platforms and tracks commercially under this PPP Model. The expansion of the major ports through PPP funding has been granted for 7 ports ranging from US\$0.7 billion.
- o The 'New Train at a Glance' scheme, launched in 2022, allows private entities to finance, procure, operate, and maintain new trains on selected routes.

### Coach Modernization - LHB Coaches

- o Since 2015, about 23,000 conventional coaches have been replaced by Linke Hofmann Busch (LHB) coaches, which offer better safety, ride quality, and higher seating capacity.

### Safety Systems - Kavach Deployment

- o The Kavach system, India's indigenous Train Collision Avoidance System (TCAS), has been deployed on 1465 Route km and 139 locomotives on South Central Railway. Tenders for the Delhi–Mumbai & Delhi–Howrah corridors have also been awarded.

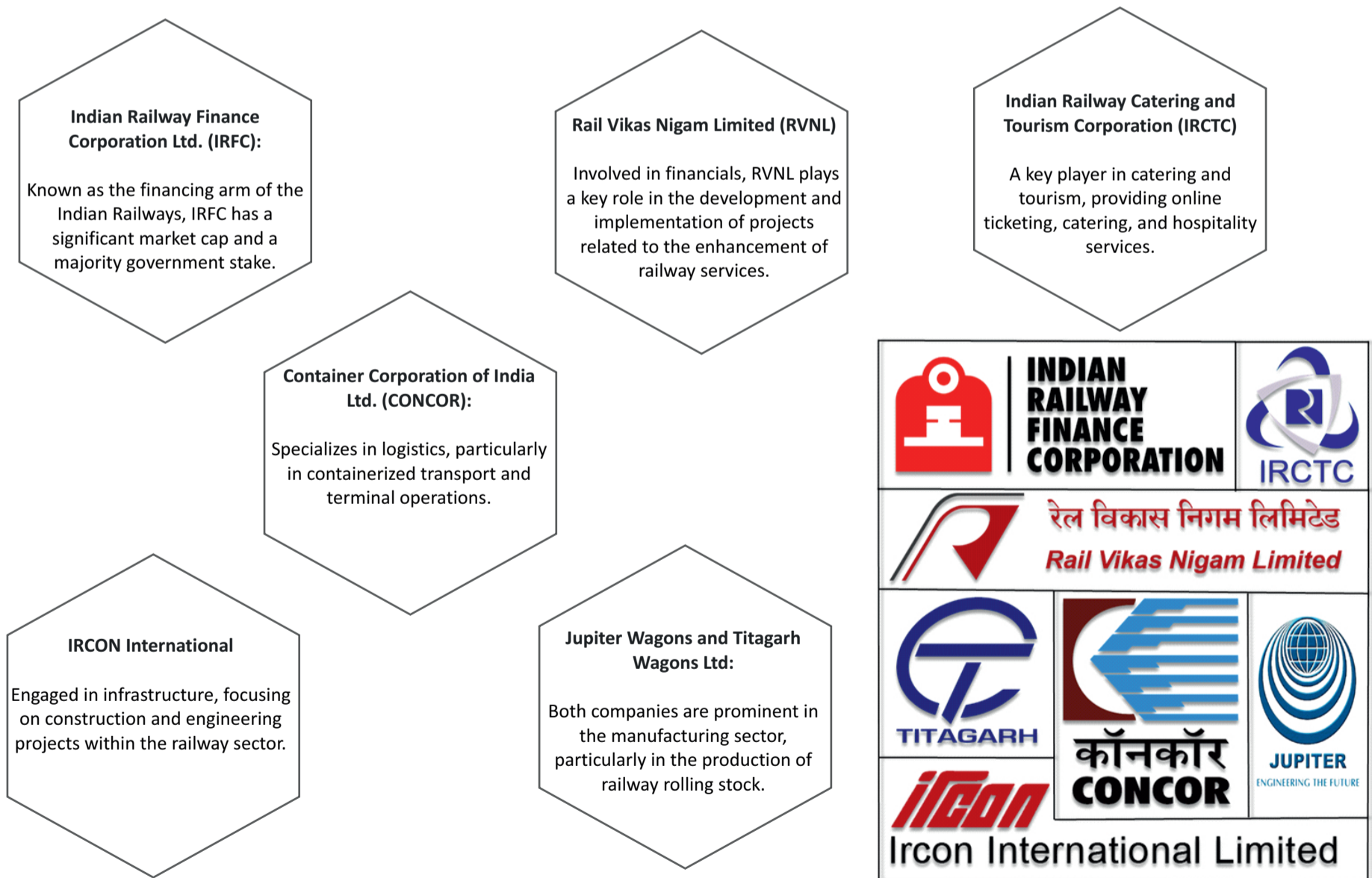
### High-Speed Rail Projects - Mumbai-Ahmedabad Bullet Train

- o The first bullet train project in India is expected to start operations around mid-2026, connecting Mumbai and Ahmedabad in just two hours.

### Bridge Engineering Marvels

- o **Chenab Bridge:** The world's highest single arch bridge, part of the Udhampur-Srinagar-Baramulla Railway Link (USBRL) project, aims to improve connectivity in Jammu and Kashmir.
- o **Anji Khad Bridge:** India's first cable-stayed bridge, located in Jammu & Kashmir.
- o **Bogibeel Bridge:** A jointless welded steel rail and road bridge over the Brahmaputra River, reducing travel time significantly between Assam and Arunachal Pradesh.
- o **New Pamban Bridge:** India's first vertical lift bridge, enhancing connectivity between the Indian mainland and Rameswaram.

## Major Players of IRS



Additionally, the Rail Land Development Authority (RLDA) is involved in significant redevelopment projects, including the transformation of major railway stations like New Delhi Railway Station and Chhatrapati Shivaji Maharaj Terminus (CSMT) in Mumbai as part of the 'Amrit Bharat Station Scheme'. These entities contribute to the robust growth and modernization of India's railway infrastructure, enhancing passenger amenities and integrating multimodal transportation facilities.

## WAY AHEAD

To wrap up, the Indian Railway sector stands as a dynamic and evolving entity, integral to the nation's progress. Its ongoing projects and future plans not only reflect the sector's current achievements but also its potential to shape India's destiny as a leading global economy. The railway industry's contribution is expected to make India the third-largest market globally, accounting for 10% of the global market, with freight traffic projected to increase to 3.3 billion tonnes by 2030. This robust expansion and modernization drive underscore the sector's vital role in propelling India towards its ambitious economic goals.