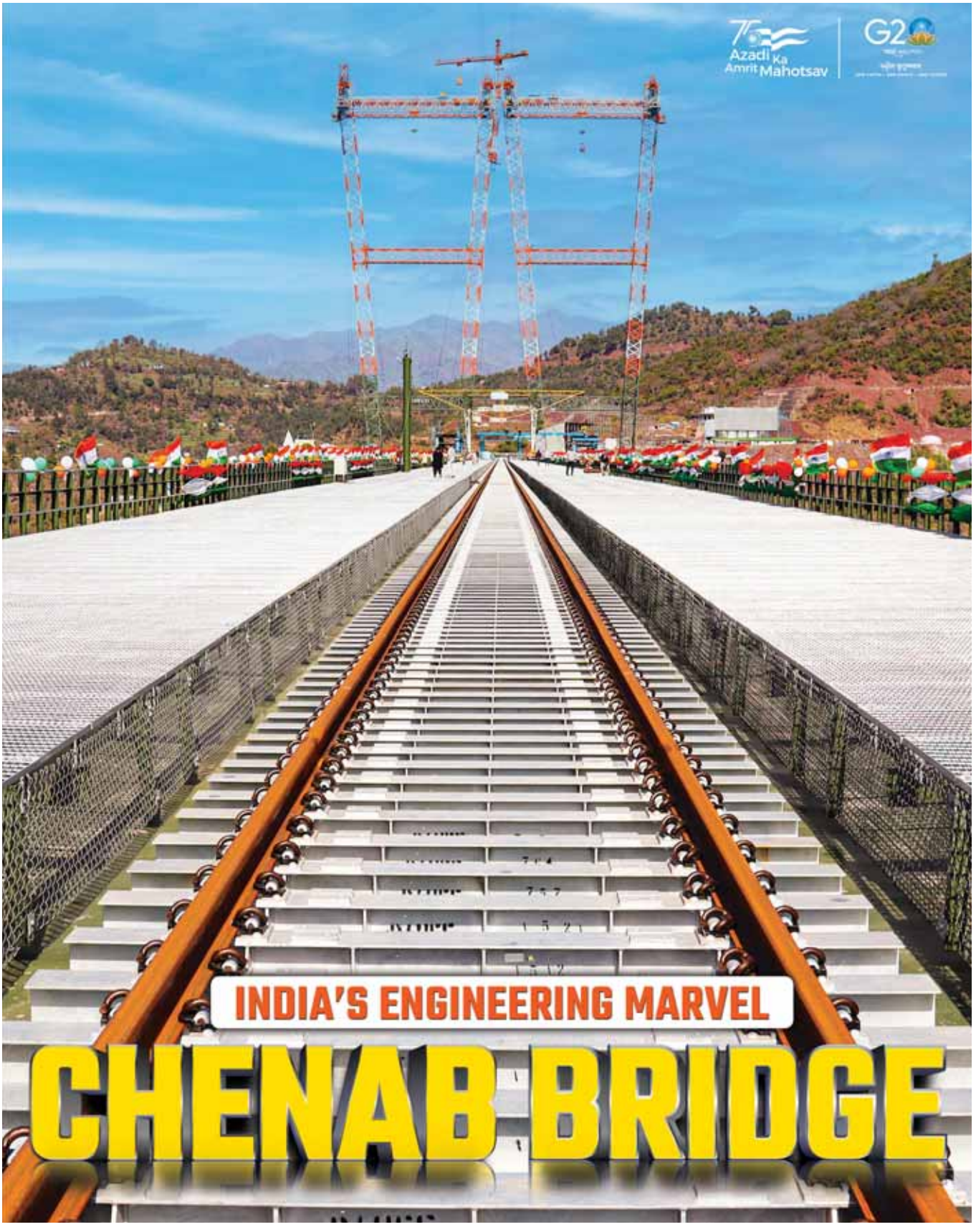
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5 **Hon'ble Prime Minister Shri Narendra Modi** Laid Foundation Stone

7 **Hon'ble Prime Minister Dedicated to The Nation** Upgraded Hosapete Railway Station and the Longest Railway Platform of the World

9 **Minister of Railways and Minister of Health** Flagged Off Jan Aushadhi Train

9 **Minister of Railways visited Jaipur**

10 **Seminar Held on Reimagining Indian Railways Harnessing** the Power of Data Analytics for Integrated Transportation

11 **Bharat Gaurav Deluxe AC Tourist Train** Flagged Off for 'Garvi Gujarat' Tour

12 **Minister of Railways Inspected Sivok – Rangpo** Rail Link Vande Bharat Project

13 **Minister of Railways visited** Chenab Bridge in Kashmir Valley

14 **Udhampur - Srinagar - Baramulla Rail Link Project**

20 **Lok Sabha Speaker Inaugurated Kota-Asarva Train**

20 **ICF Bagged Top Award for Energy Conservation**

21 **Minister of State for Railways Conducted** Inspection of Jamnagar Railway Station

22 **Minister of State Flagged Off Bidar-Kalaburagi** New DEMU Train Service

22 **Minister of State Flagged Off the Stoppage at** Tambaram for Chennai Egmore-Madurai Tejas Express

26 **Chairman & CEO Reviewed** Performance of Eastern Railway & South Eastern Railway

27 **Mission 100% Electrification** in the direction of Fast Moving Indian Railways

30 **Indian Railways Records Best Ever February Monthly** Freight Loading of 124.03 MT in February 2023

31 **Indian Railways to Set Up the Manufacturing Facility** of Forged Wheel Plant with the Capacity of 80,000 Wheels Per Annum for Next 20 years

32 **Achievements**

40 **Transforming Into World Class Railway Stations**

44 **International Women's Day Celebrated on Indian Railways**

51 **'Trans Tea Stall' opened at Guwahati Railway** Station for and by Transgenders

51 **Zonal Railways and Production Units News**

54 **Sports**

57 **IP Based Integrated Passenger** Information System on Indian Railways
Shri Santosh Kumar Agrawal & Shri Manish Kumar Gupta

62 **Hydrogen Ride to a Net Zero Future**
Shri Ishoo Ratna Srivastav

64 **Samosa**
Dr. Uppuluri Krishna Murty

Editorial



With the purpose that Jammu and Kashmir should get an alternate, dependable and an all seasons' public transport system, the rail link project known as Udhampur-Srinagar-Baramulla was launched. The bridge and tunnel construction work here was not an easy task keeping in view the risks like a possible earthquake, high velocity winds blowing here and adverse geographical conditions, but our engineers have brought this project to its near end stage by way of their skills, self-belief and of course, the use of technology. While accepting all the challenges, our engineers have successfully attempted construction works like building the highest rail bridge of the world – the Chenab Bridge, the first cable-based rail bridge –the Anji Bridge and the longest rail tunnel of the country - T49 (length 12.758 kms).

The Chenab Bridge in itself is not less than a miracle in the field of engineering. The bridge has been designed keeping in view the possible natural disasters and terrorists' activities. To construct the bridge, 28000 tons steel and special type of davidek steel bars numbering 18000, have been used. Specially designed sleepers made of steel numbering 2487 have been laid on 1315 meters long track of the Chenab Bridge. The track is capable of handling rail traffic with a speed of 100 kms per hour.

The Minister of Railway Shri Ashwini Vaishnaw recently carried out the trolley inspection of the track laid on the Chenab Bridge. While he appreciated all the engineers associated with the project, he also congratulated them. He said that they have fixed a target time of January 2024 by when train operations on the Chenab Bridge must start. When Udhampur-Srinagar-Baramulla section is put on the rail line, specially manufactured Vande Bharat Express Trains service shall be launched to run there. Vande Bharat Metro service shall also be started between Jammu and Srinagar. The maintenance tasks for the Vande Bharat trains shall be performed at Badgaon. In addition, there is a plan to build four 'P.M. Gati-shakti Cargo Terminals' between Banihal and Baramulla. A special training Academy shall be established for engineers at Jammu. After getting the training at this Academy, engineers and technicians will make their contribution to the other projects being undertaken elsewhere in the country. This marvel of both the nature, and engineering shall be visited by tourists in large number. Three places have been earmarked for this purpose.

Himalayas being young mountains, the soil here is soft, because of which building tunnels here was an extremely difficult task. For making tunnels, N.A.T.M. (New Austrian Tunneling Method) is used in general, but our engineers relied upon their new innovative method, the Himalayan Tunnel Method, which proved to be a success. The Railway Minister asked the engineers to create documentation of this method and publicize it at the world level. The tunnels in the Himalayas are being built in 'horse shoe' shape because of which they get sufficiently strengthened.

The Hon'ble Prime Minister, Shri Narendra Modi recently dedicated to the Nation The World's Longest Railway Platform (1507 meters) at Shri Siddharoodha Swami Ji Hubballi junction while he simultaneously dedicated various other projects in Karnataka State to the nation. This platform has been given a place in the Guinness Book of World Records.



Hon'ble Prime Minister Shri Narendra Modi Laid Foundation Stone

for Shivamogga-Shikaripura-Ranebennur New Line and Koteganguru Railway Coaching Depot at Shivamogga

Hon'ble Prime Minister Shri Narendra Modi laid foundation stone for Shivamogga – Shikaripura – Ranebennur new line & Koteganguru Railway coaching depot at Shivamogga, at a total cost of ₹1120 Cr on 27th February, 2023.

Hon'ble Prime Minister dedicated the Redeveloped Belagavi Station and Doubling of Londa – Belagavi –Ghataprabha at Belagavi completed at a total cost of ₹1100 Cr. on 27th February, 2023.

The new line project connecting Shivamogga, Shikaripura, and Ranebennur will come up at a cost of ₹995 Cr. Government of Karnataka is sharing 50% of construction cost with Government of India. State Government is also facilitating land acquisition for the project. The new line will ensure strong rail connectivity in Shivamogga, Davanagere and Haveri districts.

It will enable direct connectivity of Shivamogga with Bengaluru - Mumbai main railway route, thereby boosting trade and commerce in the entire region.

It will provide greater regional connectivity to Malnad region (Western ghats) and ease of transportation of areca nut, spices, handicrafts and other agri products. Eco and Cultural tourism of the region will find tremendous boost. This new line will facilitate easy travel for students as Shivamogga is an education hub.

The Railway Coaching Depot at Koteganguru will come up at a cost of ₹105 Cr. Koteganguru- which was a small station, 7 kms away from Shivamogga will be developed as a modern railway coaching terminal with 4 railway lines and 3 platforms. There will be two pit-lines which will enable safety examination of trains. This terminal will decongest KSR Bengaluru and Mysuru Railway terminals.

Belagavi Railway station is one of the oldest railway stations of South Western Railway. Belagavi Station has been redeveloped at a cost of ₹190 Cr. The remodeled building has world class modern amenities. It is equipped with ramps, lifts, escalators for convenience of Divyangjan passengers, a spacious concourse area and circulating area and parking space has been improved for easy movement of traffic. Retiring Rooms, Dormitories have been upgraded for the benefit of passengers. Murals, and art paintings have beautified the interiors of the station. Second entry provided at Shastri Nagar side will decongest main entry- which was a long pending demand of the local people. A Foot Over Bridge and a lift will connect the second entry with all platforms.

A ticketing counter is provided at second entry too. A modern and spacious food court is developed for satisfying the taste buds of passengers, and enhancing passenger delight. 'I Love Belagavi' – a Selfie point has become a point of attraction among the public and passengers.



The number of platforms has been increased from existing 3 to 4 and a Coaching Depot has also been constructed. These will help to meet the growing transport demands of the region in future. The new Coaching Depot with pitline facility enables primary maintenance of rakes (trains), & mandatory safety checks. Thus, new trains can be started from Belagavi itself in eddition to having passing trains originating from Hubballi, Vasco da Gama, Bengaluru or Pune. This will boost connectivity to the city of Belagavi.

The doubling of Londa-Belagavi-Ghataprabha railway section has been completed at a cost of ₹930 crores. This line eenhances capacity and safety along the busy Londa - Miraj route which is part of the Mumbai - Bengaluru railway line. The newly doubled section will result in speeding up of express trains, reducing detention and thus saving the time of passengers. It will also enhance connectivity and promotes trade, commerce and economic activities in the region. Further, farmers, students and tourists will benefit from the enhanced connectivity. Belagavi, being a hub of education, medical care, agriculture and industry – will benefit immensely from these projects.

These railway projects will give an immense fillip to the upgradation of connectivity and transport infrastructure in Karnataka. Better railway connectivity will result in reduction of logistic cost and strengthen the supply chain of essential commodities. Passengers will benefit from improved punctuality and world-class amenities at stations.



The new line project connecting Shivamogga, Shikaripura, and Ranebennur and interiors of Belagavi Railway Station

Hon'ble Prime Minister Dedicated to The Nation Upgraded Hosapete Railway Station and the Longest Railway Platform of the World

Key Railway Projects at Dharwad, Karnataka and Flagged Off Trains from The Longest Platform Through Video Link



Hon'ble Prime Minister Shri Narendra Modi dedicated the Electrification of Hosapete – Hubballi - Tinaighat (245 RKM) Railway line, upgraded Hosapete Railway Station and the Longest Railway platform of the world, to the nation.

Hon'ble Prime Minister Shri Narendra Modi dedicated the Electrification of Hosapete – Hubballi - Tinaighat (245 RKM) Railway line, Upgraded Hosapete Railway Station and the Longest Railway platform of the world, at a total cost of ₹550 crore, in a public function held at Dharwad on 12th March, 2023. He also flagged off Train No 17317 (SSS Hubballi – Dadar) & Train No 07319 (SSS Hubballi - Secunderabad Jn) with Electric Engine simultaneously from Longest platform in the world through Video Conference link.

The Electrification of Hosapete-Hubballi - Tinaighat (245 RKM) Railway line and upgradation of Hosapete Railway Station has been completed at a cost of ₹532 crore. The route passes through districts of Vijayanagar, Koppal, Gadag, Dharwad, Uttara Kannada and Belagavi. This Railway line is a major coal route of Karnataka linking Steel plant and Thermal power plant with Mormugao Port (Goa).

The electrification will facilitate seamless operation of trains on electric traction and will make the route carbon neutral, leading to zero pollution. It also reduces dependency on Diesel, saving ₹250 cr per year and over 2.5 lakh kilo-litres of diesel per year.

The Hosapete Railway station has been upgraded jointly with Ministry of Tourism, GoI on 50:50 cost sharing basis. The Hosapete railway station serves as the rail-head for the tourist destinations of the region, most importantly the UNESCO world heritage site of Hampi. The junction has been upgraded with modern passenger amenities. The station façade has been designed depicting the theme of Hampi monuments and temples. The new station building has facilities such as retiring rooms and VIP lounge. The station is Divyang friendly with Braille signage, ramps and Lift. The circulating area has been improved to cope with the future demand of traffic with well demarcated parking area. A separate space has been earmarked for food plaza for satisfying the taste buds of passengers and



enhancing passengers delight. Murals and art depicting Hampi architecture adorn the walls of the station building. Tourist information centre is provided in concourse area, to facilitate information to the tourists.

The Longest Railway Platform of the World at Shree Siddharoodha Swamiji Station, Hubballi has been constructed at a cost of ₹20.1 Cr, as part of remodelling of Hubballi yard. To facilitate easy receipt and dispatch of trains at Shree Siddharoodha Swamiji Hubballi Station, Yard remodelling was successfully commissioned with electronic interlocking in February 2021. This will enhance the operational capacity of the yard and caters to future transportation needs of Hubballi-Dharwad region. Three new platforms have been added in addition to the existing 5 platforms, one of which, i.e. Platform No. 8 has earned the distinction as the longest railway platform in the world with a length of 1507 m. The Guinness Book of World Records recognised this as the longest railway platform in the world on March 2, 2023.



These railway projects in Karnataka will give an impetus to the overall growth of connectivity and transport infrastructure in Karnataka. Improved connectivity and World class amenities at stations would benefit passengers.

Big boost to Rail-Infra in Karnataka!

- The World's Longest Railway Platform (1507 m) at Shree Siddharoodha Swamiji Hubballi Junction is recognised by the Guinness Book of World Records.
- The electrified Hosapete-Hubballi-Tinaighat Railway line will benefit major cities like Vijayanagar, Koppal, Dharwad, Belagavi etc.
- The newly electrified Hosapete-Hubballi-Tinaighat Railway line will save approx. ₹250 Cr. & 2.5 Lakh kilo-litres of diesel per year.
- Design inspired by Hampi's temples and monuments, the Upgraded Hosapete railway station is decorated with murals and arts of Hampi architecture.

  Upgraded Hosapete Railway Station is equipped with modern amenities like retiring rooms, VIP lounge, food court, etc. for better passenger conveniences.

Minister of Railways and Minister of Health Flagged Off Jan Aushadhi Train

Shri Ashwini Vaishnaw, Minister of Railways and Dr. Mansukh Mandaviya, Minister of Health and Family Welfare flagged off the 'Jan Aushidhi Train' (Chhattisgarh Sampark Kranti Express) from Hazrat Nizamuddin Railway Station on 3rd March, 2023. Senior officers of Health & Family Welfare Ministry and Railway Board were also present on the occasion.



Shri Ashwini Vaishnaw, Minister of Railways and D. Mansukh Mandaviya, Minister of Health and Family Welfare flagged off the 'Jan Aushidhi Train

In its 1,278 Km journey from Hazrat Nizamuddin to Durg, the train will touch 184 stations including stoppages at Veerangana Laxmibai Jhansi, Saugar, Katni Mudwara, Umaria, Shahdol, Anuppur Jn. Pendra Road, Bilaspur Jn., Bhatapara, Raipur Jn. and Durg. This train will educate and create awareness among people about quality generic medicines made available by the government at affordable prices.'Jan Aushadhi Diwas' is observed every year on 7th March to raise awareness about 'Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana' and to promote generic medicines.

Minister of Railways visited Jaipur



Railway Minister Shri Ashwini Vaishnav inspected the Carriage and Wagon Maintenance Depot

Shri Ashwini Vaishnaw, Minister of Railway inspected the carriage and wagon maintenance depot, Jaipur and reviewed the preparations for operation of Vande Bharat. The Minister inspected the Khatipura station and took acquaintance about the passengers' facilities in newly constructed building.

Shri Ashwini Vaishnaw discussed in detail with the officers on all the subjects related to maintenance of Vande Bharat Train in North Western Railway and gave guidance on it. Shri Ashwini Vaishnaw discussed on safety, construction projects, electrification works, station redevelopment, increase in passengers amenities in the review meeting conducted with Shri Vijay Sharma, General Manager-North Western Railway and Heads of departments. He applauded the performance of NWR and specifically appreciated them on infrastructure works, punctuality of passenger trains, goods loading, track-maintenance etc.

Minister of Railways inspected the Khatipura station also. Shri Ram Charan Bohra, MP, Jaipur and Shri C. P. Joshi, MP, Chittorgarh were also present during the inspection.

Seminar Held on Reimagining Indian Railways Harnessing the Power of Data Analytics for Integrated Transportation



Shri Ashwini Vaishnaw alongwith senior officers of Railway Board inaugurated the seminar on reimagining Indian Railways Harnessing the power of data analytics for integrated transportation

A technical seminar for Ministry of Railways to explore the options of integrating data analytics to transform the railway network was hosted on 3rd March, 2023 by Centre for Railway Information System (CRIS) at National Rail Museum, New Delhi. The seminar was attended by Minister of Railways Shri Ashwini Vaishnaw along with senior officers of Railway board, Zonal & Divisional Railways and Industry partners.

The Minister highlighted the need for rapid transformation of Indian Railways using AI and Quantum computing technology. He further stated that country needs a rapid change to catch up with the rest of the world and Indian Railways should lead the change by adopting latest technologies and innovations. During the seminar, MD,CRIS informed that CRIS has collaborated with ISRO for live tracking of trains under Real Time Train Information System (RTIS) project. It will help the Railways run trains efficiently. Satcom & Satnav based IoT devices are being deployed on the trains.

During the seminar, presentations on topics related to data analytics and its application for decision making in Indian Railways & Logistics sector and data analytics journey of Indian Railways were made by Dr. R Gopalakrishnan, General Manager Data Analytics, CRIS, Mr. Ganesh Ramamoorthy, Managing Vice President, Gartner, Dr. Kandukuri Raju, Transportation Domain Consultant with Travel, Transportation and Hospitality (TTH) ISU of TCS, Professor Narayan Rangaraj, Industrial Engineering and Operations Research, IIT Bombay Mr G V L Satya Kumar, Executive Director (Strategic Planning Implementation), Railway Board and Mr. Mukund Shastri, Chief Data Science Officer & Group VP, Comviva Technologies. The presentation were followed by interaction with all stakeholders.

The seminar is a significant initiative that acknowledges the importance of innovation and technology in providing an efficient and reliable transport system. The integration of data analytics can play a crucial role in transforming the railway network and addressing the various challenges faced by the Indian Railways.

The distinguished speakers brought a wealth of knowledge and expertise in data analytics along with extensive experience in the transportation and IT sectors. They will share their insights, experiences, and ideas on how to optimize the use of data analytics in the Indian Railways.

Data analytics may provide valuable insights that can help in optimizing various operations of the Indian Railways. It can be used to improve maintenance, enhance the efficiency of the train schedules, and reduce operational costs. By analysing data, Indian Railways can predict the demand for trains, and plan to provide adequate resources. This, in turn, can help in reducing congestion and minimizing delays. Data analytics can also play a vital role in enhancing customer experience by providing better services and help in providing an integrated transportation system. By analysing data, Indian Railways can identify the busiest routes, and can plan better intermodal transportation to ensure efficient and seamless transportation service.

Bharat Gaurav Deluxe AC Tourist Train
Flagged Off for 'Garvi Gujarat' Tour

Bharat Gaurav Deluxe AC Tourist Train was flagged off 28th February, 2023 from Delhi Safdarjung Railway Station for 'Garvi Gujarat' tour by Shri Ashwini Vaishnaw, Minister of Railways, Shri Parshottam Rupala, Minister of Fisheries, Animal Husbandry and Dairying, Smt. Darshana Jardosh, Minister of State for Railways and Shri Devusinh Chauhan, Minister of State for Communications. Senior officers of various ministries and IRCTC were present on the occasion. IRCTC Ltd, a public sector undertaking under Ministry of Railways, is running the train.



Shri Ashwini Vaishnaw , Minister of Railways alaongwith Shri Parshottam Rupala, Minister of Fisheries and other senior officers flagged off Bharat Gaurav AC Deluxe Tourist train

Bharat Gaurav policy was launched on 23rd November, 2021 to realise the vision of Hon'ble Prime Minister Shri Narendra Modi to showcase India's rich cultural heritage and magnificent historical places to the people of India and the world. Core strength of the professionals of the tourism sector is being leveraged to develop/identify tourist circuits and run theme- based trains to tap the vast tourism potential of India.

Till date 16 Bharat Gaurav circuits have been established and this Garvi Gujarat Yatra is the 17th circuit on the lines of the 'Ek Bharat Shrestha Bharat' scheme of Govt. of India to showcase the heritage of vibrant Gujarat. On this paitern, 10 more circuits are in offing.

This special tourist train operated by IRCTC can accommodate 156 tourists onboard. It departed from Delhi Safdarjung Railway Station today on 8 days tour. Boarding & deboarding facility is provided at Gurugram, Rewari, Ringas, Phullera & Ajmer Railway Stations for convenience of tourists.

This train tour package has been designed on the lines of Govt. of India Scheme of 'Ek Bharat Shrestha Bharat' conceptualized on the life of Great Freedom Fighter Sardar Vallabh Bhai Patel. The first stoppage of this train tour package has been kept at Kevadiya wherein the Statue of Unity will be the centre of attraction. The entire train will cover a distance of 3500 KMs approx during the course of 8 days journey.

The visit of World's tallest statue– Statue of Unity, Champaner archaeological park which is a UNESCO world heritage site, Adhlej Step Well, Akshardham Temple at Ahmedabad, Sabarmati Ashram, Modhera Sun Temple and the Rani ki Vao, another UNESCO site at Patan are the major heritage treasures included in the tour itinerary. Beside the visit of Somnath Jyotirlinga, Nageshwar Jyotirlinga, Dwarkadheesh Temple and Beyt Dwarka are the religious sites covered in 8 days tour. There will be two night stay in the hotels, one each at Kevadiya and Ahmedabad respectively, while the visit of places at Somnath and Dwarka will be covered in the day halt at the destination.

The State of Art Deluxe AC Tourist Train has a host of astounding features including two fine dining restaurants, a modern kitchen, shower cubicles in coaches, sensor based washroom functions, foot massager. The fully air-conditioned train provides two types of accommodation viz. 1st AC and 2nd AC. The train has enhanced security features of CCTV cameras and Security Guards for each coach and also equipped with infotainment system in the entire train.



Minister of Railways Inspected Sivok – Rangpo Rail Link Vande Bharat Project



Shri Ashwini Vaishnaw, Minister of Railways Inspected Tunnel No. 14 of Sivok - Rangpo Rail Link Project and he is seen with the industrious workers .

Shri Ashwini Vaishnaw, Minister of Railways, visited Sikkim on 6th March, 2023. The Minister inspected bridges, tunnels, and station yards of the railway connectivity project between Sivok and Rangpo to connect the state of Sikkim with rest of the country, along with senior railway officials. The Minister reviewed the progress of the work and urged the officials to complete the work at the earliest.

The Minister also announced that prestigious Vande Bharat train will reach Rangpo in Sikkim by December, 2024.

The Minister said that the rail link project between Sivok and Rangpo is being executed very carefully as there are several bridges and tunnelling works in this tough terrain of the Himalayan region; but good progress is being made. The Minister stated that Indian Railways will extend the Sivok-Rangpo rail link project first to Gangtok and then upto Nathula located at Indo-China border.

Shri Vaishnaw, inspected the proposed Rangpo station of Sikkim on 7th March, 2023. He also inspected Tunnel No. 14 of the Sivok – Rangpo new rail link project. The Minister reviewed the progress of the work and urged the officials to complete the work at the earliest. While inspecting the proposed Rangpo station, the Minister said that it is one of the 5 railway stations that would be developed under the Sivok – Rangpo rail link project. The station building is proposed to be of 12,850 square metres with car parking, 24X7 power backup, solar panels on roof, divyang friendly facilities, etc. He also inspected the Tunnel No. 14 of the Sivok – Rangpo new rail link project and reviewed the progress of the tunneling works. This new rail link project connecting Sivok (West Bengal) and Rangpo (Sikkim) is about 45 kms long and is characterised by 14 nos. tunnels, 23 nos. bridges and 5 nos. stations. The entire length of tunneling work of this project is about 38 km. This new line will be extended further to capital city of Gangtok bringing railway connectivity to the state capital.

Minister of Railways visited Chenab Bridge in Kashmir Valley



Shri Ashwini Vaishnaw, Minister of Railways conducted trolly inspection of the Chenab Bridge y

Railway Minister Shri Ashwini Vaishnaw visited Chenab Bridge in Kashmir Valley and conducted trolly inspection of bridge and tunnels to see the progress of the USBRL project to be completed by Jan/Feb-2024. Allocated ₹6000 crores in the year 2022-23, before 2014, this allocation was 800 corores per year. After connecting with Udhampur-Srinagar- Baramulla train service, specially built Vande Bharat train will be started from Kashmir Valley and will soon be connected to Indian Railways network. Shri Ashwini Vaishnaw, arrived at Chenab Bridge in Kashmir Valley on 26th March, 2023 and saw the progress of the USBRL Project. Shri Ashutosh Gangal,GM/NR, MD/ KRCL, Shri Sanjay Gupta, CAO/C, USBRL and other senior railway officials of Northern Railway and USBRL project welcomed the Minister.

Officials of the USBRL Project briefed the Railway Minister about the world's highest railway bridge Chenab and progress of the project. The Minister conducted a trolley inspection of the Chenab Bridge and tunnels of the USBRL project. The Minister appreciated the hard work of all the railway staff involved in this project and their dedication towards duty despite various challenges and adverse conditions. Minister also interacted with major metro cities media persons. Video and audio arrangements were provided at the world's highest Railway bridge at Chenab river by providing 300 MBPS Internet bandwidth from JIO, 100 MBPS Airtel Internet network, 100 MBPS BSNL Internet as well as on OFC cable from Salal. While addressing the media persons gathered there from across the Nation, Shri Vaishnaw announced the following:

- USBRL Project to be completed by Jan/Feb-2024
- Allocated ₹6000 crores in the year 2022-23, before 2014 this allocation was 800 corores per year.
- After connecting with Udhampur- Srinagar-Baramulla train service, specially built Vande Bharat train will be started.
- A Special Training Academy for Engineers will be created at Jammu.



Shri Ashwini Vaishnaw, Minister of Railways took technical know-how from the heigher officers.



Udhampur - Srinagar - Baramulla Rail Link Project (USBRL)

- To provide an alternative and a reliable all-weather transportation system to Jammu & Kashmir, Govt. of India planned connecting the Kashmir valley with the Indian Railways network by the Udhampur – Srinagar - Baramulla Rail Link Project (USBRL) in 1999. It was declared a National Project in 2002.
- A construction marvel in the tough Himalayan terrain the Udhampur-Srinagar-Baramulla Rail Link (USBRL) project will prove to be a game changer in the overall development of this hilly region, generating immense opportunities for transport, trade and tourism.
- This project has been the most challenging work undertaken post-independence by Indian Railways. The alignment of USBRL involves construction of a large number of Tunnels and Bridges in highly rugged and mountainous terrain with most difficult and complex Himalayan geology.
- The Project has 38 Tunnels with a total length of 119 Km. The Sumber-Arpinchala T-49, 12.75 Km (under-construction) and the Pir Panjal T-80, 11.2 Km, are India's longest transportation tunnels. There are 931 Bridges having combined length of 13 Km. The Chenab Bridge (Bridge-44), the highest railway bridge in the world and Anji Bridge (Bridge-35), Indian Railway's first cable stayed rail bridge are special bridges on the project.
- Electrification of the in-operation 136 Km Banihal - Baramulla section has been completed. At present trial runs and speed tests are being conducted. The trains will soon run on electric power instead of diesel. This move will help in phasing out use of fossil fuel in train operation in the ecologically sensitive Himalayan region. This will also cut down on train running cost, reduce carbon footprint and project Railways as a sustainable and eco-friendly mass transportation system.

Sections Completed and Operational

1. Jammu-Udhampur section (55 Km) commissioned in April 2005.
2. Quazigund - Baramulla section (118 Km) opened in three phases.
   - Anantnag - Mazhom (68 Km) on 11th Oct, 2008.
   - Mazhom - Baramulla (32 Km) on 14th Feb, 2009.
   - Quazigund - Anantnag (18 Km) on 28th Oct, 2009.
3. Banihal - Quazigund (18 Km) section alongwith 11.215 Km Pir Panjal Tunnel made operational on 26th June 2013.
4. Udhampur – Katra (25 Km) section was inaugurated by Hon'ble PM on 4th July, 2014.



Katra - Banihal Section

Katra-Banihal (111 Km) remaining portion of the national project is the toughest for construction of the new railway line due to difficult and varied Himalayan geology and presence of deep riverine gorges.

TUNNELS

The Katra- Banihal section predominantly involves tunnelling.

- There are 27 Main Tunnels and 8 Escape tunnels. Total tunnelling work equals 164 Km.
- Sumber-Arpinchala T-49, 12.75 Km is slated to be the longest transportation tunnel in India.

BRIDGES

- There are 37 bridges (26 Major and 11 Minor) on Katra – Banihal section.
- Four mega bridges, the Chenab Bridge, the Anji Bridge, Bridge 39 and Bridge 43 are in this section.

STATIONS

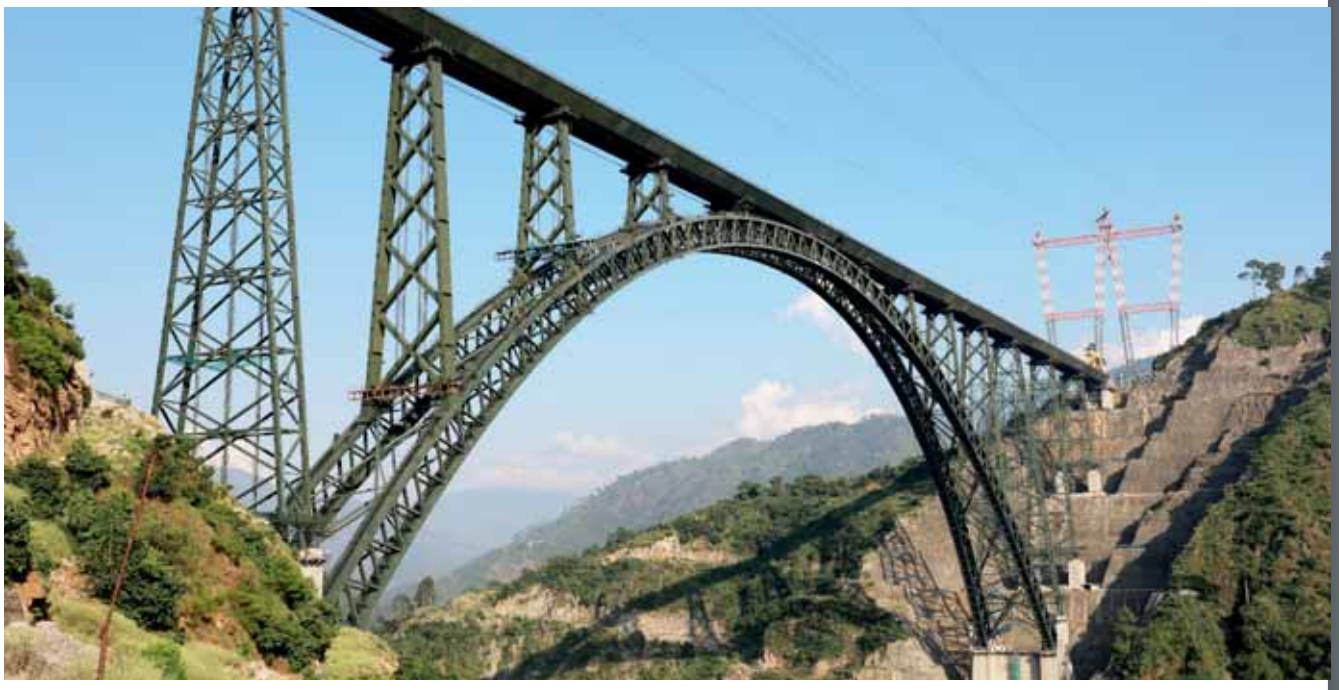
Seven Railway stations are being constructed in the Katra-Banihal section, Four in Reasi District i.e. Reasi, Salal-A, Dugga and Basindadhar and three in Ramban district i.e. Sangaldan, Sumber and Arpinchala. Some of these stations are partly located in Tunnels or on Bridges or both. Arpinchala station is nearly complete while work on the others is ongoing at a fast pace. Ballastless Rail line is being laid. Other works like construction of portals, ventilation of tunnels and signal and telecom works are also on-going simultaneously.

Chenab Bridge

An Arch bridge across the river Chenab in Reasi district of J&K, it is the highest Railway Bridge in the world.

Important Milestones

- Prior to the construction of the Bridge, 26 Km approach roads and 400m long tunnel was built to reach the site.
- Cable crane was commissioned on 31st August 2013 for erection of steel arch, trestle and piers.
- Incremental launching over 2.74 degree circular and transition curve of 268m length was successfully done for the first time in Indian Railways (Nov 2017).
- Joining of 467m long Arch span was the most critical activity. Precision was to be maintained, so that both end of arch meet with no error for prefect fit of last segment of arch without any additional stresses. The Arch closure ceremony was conducted on April 2021.
- The other major milestone was the 'Golden Joint' of the Deck. The 785m long deck superstructure was launched from both Kauri and Bakkal ends and was finally joined over the Arch. The Golden Joint ceremony was conducted on 13th August, 2022.
- The Track linking activity over the Chenab Bridge has been completed using 2,487 sleepers laid over by LWR on bridge with expansion joints at abutments S10 & S180 and junction of approach and main span S70.

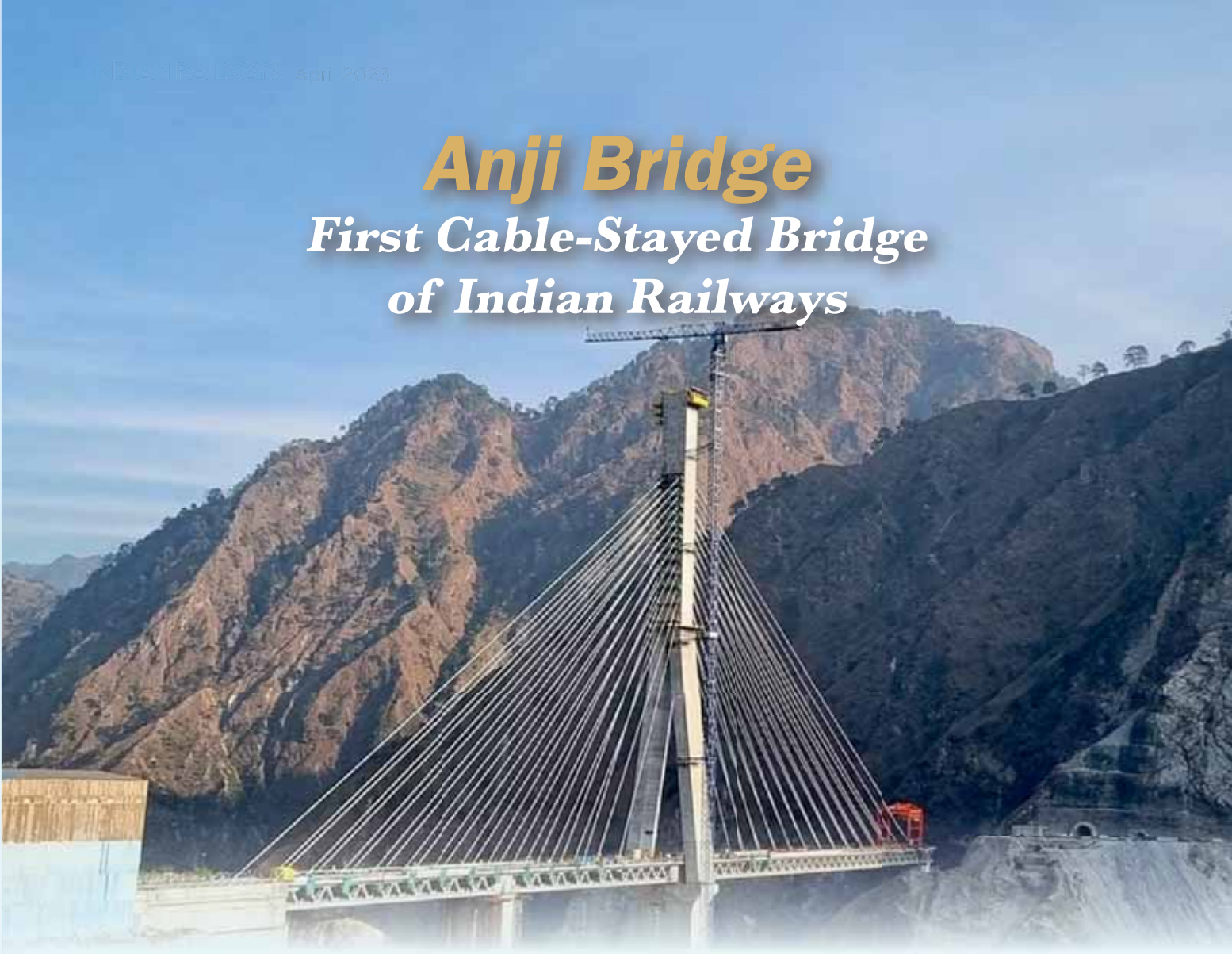


Socio - Economic Development

- 205 Km of Approach roads constructed for the project have provided connectivity to inaccessible areas.
- 73 villages (around 1.5 lakh people) have benefitted from them.
- More than 500 lakh man days of employment generated in Katra-Banihal section of the project so far. 65% employment has been given to locals.
- Permanent jobs given in Railways to 799 eligible land givers.
- Skill development training given to Artisans, most beneficiaries are employed now.

Anji Bridge

First Cable-Stayed Bridge of Indian Railways



The Anji bridge is being constructed in Reasi district of Union territory of Jammu and Kashmir under the most challenging Udhampur-Srinagar-Baramulla-Rail Link (USBRL) Project of Indian Railways. The bridge is about 80 km by road from Jammu.

Anji Khad Bridge is country's 'first cable-stayed bridge' of Indian Railways connecting Katra and Reasi in Jammu and Kashmir. The bridge is a part of the national project of Udhampur-Srinagar-Baramulla Rail Link (USBRL) Project.

The bridge is located in the young fold mountains of Himalayas having extremely complex, fragile and daunting geological features in the form of faults, folds and thrusts and besides seismic proneness of the region. Detailed site specific investigations were carried out by IIT, Roorkee and IIT, Delhi. Slopes of the mountain supporting one foundation of main span have been stabilised by a special hybrid foundation on Katra end due to space constraints. The major portion of the bridge works including Main Pylon with 40 m deep Hybrid foundation, Central Embankment and Ancillary Viaduct were carried out on Srinagar end.

Total length of the bridge is 725.5 m. Considering ease of construction and typical site conditions, bridge has been divided into 4 parts:

i. 120 m long approach viaduct (called 'ancillary viaduct') on Reasi side.

ii. 38 m long approach bridge on Katra end (CA2).

iii. Main bridge, crossing the deep valley (473.25 m cable stayed portion).

iv. Central embankment (94.25 m), located between the main bridge and an approach (ancillary) viaduct.

The Bridge

- The main Bridge over Anji is a Cable Stayed Bridge with a total length of 473.25 m consisting of main span of 290 m.
- Anji Khad Bridge connects tunnel T2 and T3 on the Katra-Banihal Section of the Udhampur- Srinagar-Baramulla Rail Link project.
- Anji Khad Bridge has a single main pylon of height 193 m from the top of foundation, standing at a height of 331 metres above the river bed.
- The total length of Bridge is 725 m consisting of Main Bridge having the length of 473.25 metres, Ancillary viaduct of 120 metres length, Approach Bridge of 38 meters on Katra end and the central embankment of 94.25 metres length.
- It is an asymmetrical cable-stayed bridge balanced on the axis of a central pylon. The total Deck width of Bridge is 15 m.
- The Anji Khad Bridge has support of 96 cables having cable length varying from 82 m to 295 m. The micro piles of 40 metre depth all around the circumference of 20 metre hybrid well foundation were used in Main Pylon construction.
- The Bridge shall carry a single railway line plus a 3.75 m wide service road, there is a 1.5 m wide footpath on each side of the deck with an overall width of 15 m.
- The Anji Khad Bridge has been designed to handle heavy storms of strong winds. The design wind speed considered is 213 Kmph.

Various unique techniques and equipments are being used like DOKA Jump form Shuttering & Pump Concreting System to increase efficiency, providing higher safety for workers and for saving construction time by about 30 percent. State of the art Tower crane (imported from Spain) of 40 T capacity with extendable height up to 205 mtrs is being used for enhancing the construction activities at heights up to 193 m. The Anji Khad Bridge will have an integrated monitoring system by means of numerous sensors installed at various locations on the bridge.



Design Criteria

- The work for Detailed Design and Construction Supervision (DDC) of this iconic Bridge has been assigned to the Italian Company ITALFERR (A Company belonging to the Italian State Railways Group 'Ferrovie dello Stato Italiane') and Proof Checking was assigned to the Company COWI, UK. Design has been based on Indian Codes integrated by Eurocodes, where necessary.
- The design speed of the line is 100 km/h, limit that does not pose problems for the train-structure interaction.
- Site specific Earthquake parameters studies were carried out by Department of Earthquake Engineering, Indian Institute of Technology, Roorkee to define the seismo-tectonic framework for the region.
- Due to the importance of the bridge, a large number of sensors shall be placed on it to monitor structural health of the bridge during service.

Wind Tunnel Tests:

- Because of the long span and the deep valley, tests in the Wind Tunnel were conducted, in order to evaluate the aerodynamic actions (static aerodynamic coefficients) and to investigate about aero elastic phenomena (galloping, flutter and vortex shedding).

Structural Redundancy

- The following provisions guarantee the 'robustness' of the bridge:
  - Two consecutive stays missing: the bridge remains in service for transit of trains at a limited speed (30 km/h) and reduced rail traffic limitations.
  - Three consecutive stays missing: no collapse of the bridge under the permanent loads.
- Explosion of 40 kg (TNT equivalent) on the deck: no collapse of the bridge under the permanent loads and possible quick repair with limited cost.

Present Status of The Bridge

- The Ancillary viaduct portion completed.
- Central Embankment (1st Phase) is completed.
- All substructure completed.
- The launching of the superstructure is in progress. Cumulative launching of 388.75 m out of 441.25 m completed along with stay cable erection of 21 x 4 = 84 nos. out of 24 x 4 = 96 stay cables has been completed.

READERS
are requested to send their
SUGGESTIONS/FEEDBACK
editorindianrailways@gmail.com

Lok Sabha Speaker Inaugurated Kota-Asarva Train

In view of demand of the regional public, the railway administration has decided to run a new train between Kota-Asarva-Kota as train number 19821/19822. On 03.03.2023, this train was flagged off by Shri Om Birla ji, Honorable Lok Sabha Speaker and MP Kota-Bundi in the dignified presence of Shri CP Joshi ji, Honorable MP, Chittaurgarh.

With the operation of this new train, the passengers of stations like Kota, Bundi, Mandalgarh etc. of Kota division will get new train facility to travel on this route. This new train number 19821/19822 is being run twice a week from Kota on every Tuesday and Friday and from Asarva every Wednesday and Saturday.

In Kota-Asarva-Kota journey, this trains will hault at Bundi, Mandalgarh, Parsoli, Basi Berisal, Chanderiya, Kapasan, Fatehnagar, Mavli Jn, Ranapratapnagar, Udaipur City, Zansar, Jai Samand Road, Dungarpur, Lusadiya, Raigadh Road, Himmatnagar, Nandol Dehegam, Sardargram and Asarva stations. With the operation of this new train, the people and students of this area will get direct connectivity and there will be economic and social development of this area.



Shri Om Birla Lok Sabha Speaker and MP Kota-Bundi flagged off Kota-Asarva-Kota

ICF Bagged Top Award for Energy Conservation



Shri R.K. Singh, Minister of Power gave award for Energy Conservation to ICF which was received by Shri Debi Prasad Dash, Principal Chief Electric Engineer

Integral Coach Factory, Chennai has been recognized as top performer among Indian Railway Production Units in PAT (Perform, Achieve and Trade) Scheme for 2016-2019 and awarded for energy saving and installation of green energy systems. This award was given by Shri R.K. Singh, Minister of Power, New & Renewable Energy in a function held on 1st March, 2023 at New Delhi. The award was received by Shri Debi Prasad Dash, Principal Chief Electrical Engineer, ICF, along with other ICF officers and staff. It is pertinent to note that 2023 is the 10th year of implementation of the PAT scheme by the Bureau of Energy Efficiency (BEE), Ministry of Power. Integral Coach Factory, Chennai, has achieved a net saving of 41% in specific energy consumption on the target set by Bureau of Energy Efficiency (BEE). This reduction was achieved by using clean fuels and introducing a number of energy conservation measures. ICF meets its entire electric energy requirement from its 10.5 MW windmills set up at Tottapalli Village of Tirunelveli District and 3.5 MW solar PV (photovoltaic) installations on the roof top of the buildings and the factories in ICF premises. Shri B.G.Mallya congratulated all the officers and staff for this remarkable award.

Minister of State for Railways Inspected Jamnagar Railway Station

Smt. Darshana Jardosh, Minister of State for Railways conducted inspection of Jamnagar railway station on 6th March, 2023. On this occasion, Smt. Darshana Jardosh was accompanied by Smt Bina Ben Kothari, Mayor of Jamnagar, DRMs of Rajkot & Bhavnagar Divisions as well as other senior railway officers of both the Divisions.

Smt. Darshana Jardosh reviewed the various passenger amenities at Jamnagar station. She also inspected the 'One Station One Product' stall and the catering stalls located at the station. Thereafter, Smt. Jardosh reviewed the progress of the ongoing railway projects of Rajkot & Bhavnagar Division with the respective Divisional Railway Managers. The details of station redevelopment project of Jamnagar station was also discussed in detail.



Smt. Darshana Jardosh, Minister of State for Railways conducted inspection of Jamnagar Railway Station and also inspected the 'One Station One Product' stall

Minister of State for Railways Inspected Jaipur Railway Station



Minister of State for Railways Smt. Darshana Jardosh observed the model related to redevelopment of Jaipur station

Smt. Darshana Jardosh, Minister of State for Railways inspected Jaipur Railway Station. During the inspection, Minister of State for Railways took the overview of the model for redevelopment of Jaipur station which has been erected in the concourse hall of station. She also took information on the passenger amenities to be provided for the passengers. Smt. Jardosh checked the quality by drinking tea on catering stall & paid by scanning the QR code. She also inspected 'one station one product' at Jaipur station and also inspected the Gandhinagar Jaipur station.

KIND ATTENTION

AUTHORS/WRITERS contributing articles for the magazine are requested to restrict their articles to a reasonable size. Ideally an article should not exceed 1000 WORDS.

In view of the space constraints of the magazine, sometimes it becomes difficult to include longer articles. All are requested to appreciate our problem and co-operate.

Minister of State Flagged Off Bidar-Kalaburagi New DEMU Train Service

Shri Bhagwanth Khuba, Minister of State for Chemicals & Fertilizers and New & Renewable Energy, flagged off Train No. 07746 Bidar–Kalaburagi new DEMU Train Service on 04th March, 2023 from Bidar Railway station in the presence of Shri Raghunathrao Malkapure, MLC, Shri Raheem Khan, MLA and Shri Babu Balaji, Chairman, Bidar Urban Development. and other senior Railway officials were also present on the occasion.



Shri Bhagwanth Khuba, Minister of State for Chemicals & Fertilizers flagged off Bidar-Kalaburagi new DEMU train service

Minister of State Flagged Off the Stoppage at Tambaram for Chennai Egmore-Madurai Tejas Express



Dr. L. Murugan, Minister of State for Information and Broadcasting flagged off the stoppage at Tambaram for Chennai Egmore-Madurai Tejas Express

The inaugural introduction of stoppage at Tambaram was formally flagged off to start by Dr.L.Murugan, Minister of State for Information and Broadcasting, Fisheries, Animal Husbandry and Dairying, in the presence of Shri T.R.Baalu, MP, Smt K. Vasanthakumari, Mayor of Tambaram, Shri S.R.Raja, MLA on 26th February 2023 for Train No.22671 Chennai Egmore–Madurai Tejas Super Fast Express. The stoppage at Tambaram was much sought after by the passengers. This stoppage will also benefit businessmen and merchants traveling between the two cities.

New Foot Bridge at Tikaria Station Inaugurated by MP, Banda

Newly constructed Foot Bridge was inaugurated by Shri R. K. Singh Patel, MP, Banda on 22nd February, 2023.

In the function, MP Shri R. K. Singh Patel, highlighting the development works done in Tikaria as well as Markundi, talked about making Bansapahar station a halt station for passenger trains. On this occasion, representatives of Shri Avinash Chandra Dwivedi, MLA, Manikpur- Shri Ravi Tripathi, Shri Dinesh Singh, Shri Chandan Tripathi Gram Pradhan of Tikaria and many dignitaries were present in the function.



New Foot Overbridge Inaugurated at Kamalganj Station



Member of Parliament, Farrukhabad Shri Mukesh Rajput inaugurated newly constructed Foot overbridge (F.O.B.) at Kamalganj station on Farrukhabad-Kanpur Anwarganj rail section of Izzatnagar Division on 3rd January, 2023 by unveiling the plaque.

Speaking at the occasion, MP expressed his gratitude to the railway administration for constructing the foot over bridge. He further said that Izzatnagar division will continue to expand passenger amenities and facilities at the stations as per future requirements. The bridge was constructed at the cost of ₹ 1.5 crore.

Flagged Off of Ranaghat-Bangaon New EMU Train

Shri Suvendu Adhikari, Leader of Opposition, West Bengal Legislative Assembly & MLA and Shri Jagannath Sarkar, MP flagged off inaugural run of Ranaghat-Bangaon new EMU train at Ranaghat Station on 09.01.2023 in the presence of Shri Partha Sarathi Chatterjee, MLA. Shri Suvendu Adhikari, thanked Hon'ble Prime Minister and Minister of Railways for extending continuous support of Central Government towards infrastructure development & commuter friendly initiatives in West Bengal and for introducing the new EMU train which will fulfill demand of local inhabitants, artisans, traders & students who will be immensely benefitted from increased mobility.



MP, Satna Flagged Off Experimental Stoppage of Trains



Shri Ganesh Singh, MP, Satna flagged off for experimentation stoppage of Train No. 15160 Durg-Chhapra Sarnath Express at Jaitwar station and Train No. 22189 Jabalpur-Rewa Intercity Express at Jukehi station on January 22. On this occasion, Shri Neelanshu Chaturvedi, MLA Chitrakoot, Shri Narayan Tripathi, MLA Maihar, other dignitaries, a large number of general public and media representatives along with railway officers and employees of Jabalpur division were present.

Experimental Haults of Trains at Stations Inaugurated by MP/Satna

On 6th March, 2023, Shri Ganesh Singh, MP Satna flagged off the experimental haults and started the stoppage of train number 11071 from Lokmanya Tilak Terminus to Banaras Kamayani Express at Majhgawan Station, train number 12167 from Lokmanya Tilak Terminus to Banaras Express at Maihar Station, train number 12186 Rewa-Rani Kamalapati Rewanchal Express at Amdara Station and train number 15159 Chhapra-Durg Sarnath



Express at Unchehra station and by sending it to the destination. On this occasion, separate inauguration ceremonies were organized at Majhgawan, Maihar, Amdara and Unchehra stations.

MP, Guna Inaugurated Experimental Haults at Kolaras and Badarwas Railway Stations



Dr. Krishna Pal Singh Yadav, MP, Guna welcomed the train number 12198 Gwalior-Bhopal Intercity Express on reaching Kolaras and Badarwas stations on 6th March, 2023 and inaugurated the hault of the train by showing green flag and sending it to the destination. On this occasion, MLA Kolaras Shri Birendra Raghuvanshi and other dignitaries, were present.

Experimental Stoppage of 4 Pairs of Trains Inaugurated by MP Rajgarh

Ministry of Railways has provided experimental stoppage for six months to train number 22983/22984 Kota-Indore-Kota Express, 19167/19168 Ahmedabad-Varanasi City-Ahmedabad Sabarmati Express, 19165/19166 Ahmedabad-Darbhanga-Ahmedabad Sabarmati Express and 21125/21126 Ratlam-Bhind Ratlam Express at Sarangpur station of Bhopal Division. On 10th March, 2023, on arrival of train number 22983 Kota-Indore Express at Sarangpur station, Shri Rodmal Nagar, MP Rajgarh started stoppage of the trains by flagging off the train. On this occasion, MLA Sarangpur, Shri Kunwarji Kothar and other dignitaries were present on behalf of Railway Administration.



Experimental Stoppage Inaugurated at Shajapur Railway Station by MP, Dewas



Train number 19165/19166 Ahmedabad-Darbhanga-Ahmedabad Express has been provided stoppage for six months on an experimental basis by the Ministry of Railways at Shajapur Railway Station of Bhopal division of West Central Railway. On 11th March, 2023, Shri Mahendra Singh Solanki, MP, Dewas started the stoppage of train number 19165 Ahmedabad-Darbhanga Express by welcoming it on arrival at Shajapur station. On this occasion railway officials and employees were present on behalf of the railway administration.

Experimental Stoppage of 2 Pairs of Trains Inaugurated at Pachor Road Station by MP Rajgarh

Train number 11125/11126 Ratlam-Gwalior-Ratlam Express and 21125/21126 Ratlam-Bhind-Ratlam Express have been provided stoppage at Pachor Road station of Bhopal division of West Central Railway on experimental basis for six months by the Ministry of Railways. On 10th March, 2023, Shri Rodmal Nagar, MP Rajgarh flagged off stoppage of train number 11125 Ratlam-Gwalior Express from Pachor Road station. On this occasion railway officers and employees were present on behalf of the railway administration.



Stoppage of 5 Pairs of Trains Inaugurated by MP/Bhopal



Train number 12969/12970 Express, 19303/19304 Express, 19339/19340 Dahod-Bhopal-Dahod Express, 19343/19344 Express and 22631/22632 Express have been provided new stoppages at Sant Hirdaram Nagar station of Bhopal Division on experimental basis for six months. MP Bhopal, Sadhvi Pragya Singh Thakur welcomed the train number 19340 Bhopal-Dahod Express on its arrival at Sant Hirdaram Nagar station on 11.03.2023 and inaugurated hault of the train by showing green flag and sending it to the destination.

General Manager, WCR met MPs of Kota Division

An important meeting of Shri Sudhir Kumar Gupta, General Manager, West Central Railway was held with the MPs of Kota Division to discuss passenger amenities and development and expansion of railway facilities. The MPs present in the meeting appreciated various works being done with regard to passenger facilities in the past years, 100% railway electrification work in WCR, etc. Shri Dushyant Singh, MP Jhalawar Baran, Shri Subhash Chandra Bahedia, MP Bhilwara, Shri Sukhbir Singh Jaunapuria, MP Tonk, Shri Sudhir Gupta, MP Mandsaur, and representatives of MPs/MLAs apprised about the regional issues.



Chairman & CEO Reviewed
Performance of Eastern Railway & South Eastern Railway



Shri Arun Kumar Lohati, Chairman & CEO attended a review meeting at Kolkata.

Shri Anil Kumar Lahoti, Chairman & CEO, Railway Board, reviewed performance of ER & SER in a meeting held at Eastern Railway's Headquarters, on 24th February, 2023. In the meeting, Shri Arun Arora, GM/ER & Metro Railway, Kolkata, Ms Archana Joshi, GM/SER submitted their presentation to Chairman & CEO, to highlight the performance of respective Zonal Railways in the current financial year. Shri Lahoti also inaugurated a technical seminar held at Kolkata.

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Mission 100% Electrification

in the direction of Fast Moving Indian Railways



Indian Railway is working in a mission mode to become the largest Green Railway in the world and is moving towards becoming a 'net zero carbon emitter' before 2030.

The existing Broad Gauge network of Uttarakhand is 347 Route kilometre, which is 100% electrified, resulting in saving on account of reduced line haul cost (about 2.5 times lower) a heavier haulage capacity, increased sectional capacity, reduced operating & maintenance cost of electric loco, energy efficient and eco-friendly mode of transportation with reduced dependence on imported crude oil, saving foreign exchange.

Uttarakhand state's territory falls in Northern & North Eastern Railway's jurisdiction. Some of the major railway stations in Uttarakhand are: Dehradun, Haridwar, Roorkee, Rishikesh, Kathgodam and Tanakpur. Some of them have religious importance and some are tourist attraction places. Badrinath, Kedarnath, Yamunotri, Gangotri, Hemkund Sahib, Mussoorie, Nainital, Jim Carbet & Haridwar are a few to name. Kathgodam station is an important



station with annual passenger footfall of about 7 lac and this terminating station acts as entry point of Kumaun region of Uttrakhand. First train to this station reached on 24th April, 1884.

Some of the prestigious trains of Uttarakhand state are: Nanda Devi, Haridwar Express, Mussoorie Express, Utkal Express, Kumaun Express, Doon Express & Shatabdi Express. Further from Rishikesh to Karnprayag, a new line work is under construction which will be another landmark achievement of Indian Railways, bringing Char Dham pilgrimage route on Indian Railways' circuit. This route is sanctioned along with electrification, in sync with Railways' policy of 100% electrified network.

Meghalaya Gets Electric Trains for the First Time

Indian Railway is progressing at full throttle for becoming Net Zero Carbon Emitter by 2030. In an endeavour for complete electrification, Northeast Frontier Railway has achieved another milestone by commissioning Dudhnai–Mendipathar (22.823 Track Kilometre) single line section and Abhayapuri–Pancharatna (34.59 Track Kilometre) double line section on 15th March, 2023. The Central Organization for Railway Electrification (CORE) has carried out the electrification work in these sections.

Mendipathar is the only railway station in the north-eastern state of Meghalaya which is in operation since 2014 after being inaugurated by the Hon'ble Prime Minister of India. After commissioning of electric traction, trains hauled by electric locomotive will now be able to operate directly from Mendipathar in Meghalaya which will increase the average speed. More passenger & freight carrying trains will be able to operate through these sections with full sectional speeds. Punctuality will also increase in this section. Parcel & freight carrying trains hauled by electric locomotives from other states will be able to reach Meghalaya directly.

Electrification will significantly improve the mobility of trains in Northeast India. In addition to the reduction in pollution due to the shift from fossil fuel to electricity, the efficiency of the Railway system in the region will also improve. This would facilitate seamless traffic and also save time of the trains moving to and from northeastern states apart from savings in precious foreign exchange.

Broad Gauge Network of Chhattisgarh is 100% Electrified



On the lines of setting the target of achieving Net Zero Carbon Emitter by 2030, the Indian Railways has 100% electrified existing Broad Gauge network of Chhattisgarh. The 1,170 Route kilometre, resulting in saving on account of reduced line haul cost (about 2.5 times lower), heavier haulage capacity, increased sectional capacity, reduced operating & maintenance cost of electric loco, energy efficient and eco-friendly mode of transportation with reduced dependence on imported crude oil, saving of foreign exchange. Chhattisgarh state's territory falls in South East Central & East Coast Railway's jurisdiction. Some of the major railway stations in Chhattisgarh are: Bilaspur, Raipur, Durg & Korba. Bilaspur is the largest railway station in Chhattisgarh and is located on the Mumbai-Howrah main line. It is an important junction and connects major cities like Mumbai, Delhi, Kolkata, Chennai, Hyderabad, and Bangalore. Chhattisgarh State has the highest freight loading in the country and significant Railway's revenue generate from here. Some of the prestigious trains of Chhattisgarh state are: Durg-Jagdalpur Express, Chhattisgarh Express, Samta Express, Kalinga Utkal Express. These trains provide convenient connectivity to various parts of the state and other major cities in India.

The Existing Broad Gauge Network of Odisha is Now 100% Electrified

On the lines of setting the target of achieving Net Zero Carbon Emitter by 2030, the Indian Railways has 100% electrified existing Broad Gauge network of Odisha. The existing Broad Gauge network of Odisha is 2,822 Route kilometre, which is 100% electrified, resulting in saving on account of reduced line haul cost (about 2.5 times lower), heavier haulage capacity, increased sectional capacity, reduced operating & maintenance cost of electric loco, energy efficient and eco-friendly mode of transportation with reduced dependence on imported crude oil, saving of foreign exchange. Further, new Broad Gauge network shall be sanctioned along with



electrification, in sync with Railways' policy of 100% electrified network.

Odisha state's territory falls in the jurisdiction of East Coast, South Eastern & South East Central Railways. Some of the major railway stations in Odisha are: Bhubaneswar, Cuttack, Puri, Sambalpur, Bhadrak, Rourkela, and Jharsuguda. The railway network plays an important role in the transportation of minerals, agricultural products, and other goods from Odisha to other parts of the country.

First railway line in Odisha was constructed between Cuttack - Khurda Road - Puri in 1897.

Some of the prestigious trains of Odisha state are: Howrah-Puri Express, Konark Express, Coromandel Express, Hirakud Express, Visakha Express, and Bhubaneswar-New Delhi Rajdhani Express. These trains provide convenient connectivity to various parts of the state and other major cities in India.

Indian Railways Prioritises Coal Transportation to Meet The Projected Demand for Rakes by the Power Sector



Coal transportation by Indian Railways in terms of tonnage and NTKM has increased by 11.92 % and 24.51 % in this current fiscal (upto Feb). Loading of rakes for power sector from various sources in the current fiscal (April-Feb) is 408 rakes per day against 344 rakes per day in the last year i.e. an increase of 64 rakes per day. In the month of February 2023, 426.3 rakes per day have been loaded for Power houses against 399 rakes per day in February, 2022 i.e. an increase of 27.3 rakes. In order to meet the projected demand for rakes by the power sector in the coming fiscal, following action has been taken:-

- Higher induction of coal carrying wagons - 7692 BOXNHL and 1052 BOBRN wagons have been inducted during April-22 to January-2023. Around 32,534 BOXNHL and 2450 BOBRN wagons indents are pending.
- During the current fiscal, 1018 freight locomotives have been added to the fleet of IR till end of February-2023. This increase is expected to continue.
- 4500 Kms of new track is expected to be commissioned in 2022-23, majority of which is on coal carrying routes. This will further improve turnaround of coal carrying rakes.
- Keeping in view the rising demand in the next few years, a comprehensive planning of the Energy Corridor has been done with planned investment of one lakh crores ranging over around 100 projects.

Indian Railways Records Best Ever February Monthly Freight Loading of 124.03 MT in February 2023



Indian Railways has recorded best ever February Monthly freight loading of 124.03 MT in February '23. The incremental loading in the month of February has been 4.26 MT i.e. a growth of 3.55 % over the previous best February figures achieved in 2022.

With this, Indian Railways has had 30 straight months of best ever monthly freight loading.

IR has achieved an incremental loading of 3.18 MT in Coal, followed by 0.94 MT in Fertilizers, 0.66 MT in Balance of other Goods, 0.28 MT in POL and 0.27 MT in Container.

Increase in automobile loading has been another highlight of Freight Business in FY 2022-23 and 5015 rakes have been loaded in FY 2022-23 till February as compared to 2966 rakes during the same period of last year i.e. a growth of 69%.

The cumulative freight loading from April 22 to February 23 has been 1367.49 MT as against 1278.84 MT achieved in 2021-22 i.e. an incremental loading of 88.65 MT, with a growth of 6.93 % over same period last year.

The freight NTKMs (Net tonne kilometers) have increased to 73 Billion in February 23 from 70 Billion in February 22 registering a growth of 4.28%. The cumulative freight NTKMs from April 22 to February 23 has been 82 Billion as against 74 Billion with a growth of 10.81 % over the same period of last year.

The sustained efforts of Indian Railways to increase supply of Coal to Power houses, in close coordination with Ministries of Power and Coal, have been one of the key features of the freight performance in the month of February. The loading of Coal (both domestic and imported) to Power Houses increased by 3.39 MT in January with 45.63 MT Coal being moved to Power houses as against 42.24 MT last year, i.e. a growth of 8.02 %. Cumulatively, in the first eleven months of the year, IR has loaded more than 79.69 MT extra coal to Power Houses as compared to the same period of last year, with a growth of more than 15.44 %.

The commodity wise growth numbers show that IR has achieved growth in almost all commodity segments with the following growth rates :

Commodity	Variation (MT)	% Variation
Coal	3.18	5.70 %
Fertilizer	0.94	25 %
Balance of Other Goods	0.66	6.51 %
POL	0.28	7.77 %
Container	0.27	4.32%

Indian Railways to Set Up the Manufacturing Facility of Forged Wheel Plant with the Capacity of 80,000 Wheels Per Annum for Next 20 years



To meet the requirement of forged wheels for the rolling stock, Indian Railways has floated a tender for setting up a manufacturing plant in the country with assured offtake of 80,000 wheels per annum for next 20 years so that the requirement is met from domestic sources. It is an important initiative in the direction of Make in India Initiative for Import Substitution.

The bidding process was very transparent and competitive. Tender was opened on 24th January, 2023. Three Bids from the following firms have been received from M/s Steel Authority of India Ltd, M/s Bharat Forge, Pune and M/s Ramakrishna Forgings, Kolkata. Price Bid was opened on 14th March, 2023. L1 is from M/s Ramakrishna Forgings Ltd., Kolkata. L2 is from M/s Bharat Forge, Pune, L3 is from SAIL. The successful bidder will set up the manufacturing facility within 36 months from the award date and supply the wheels of various types @80,000 p.a. to consider the learning curve and economies of volume, the price applicable will be reduced by 2% every year upto 3 years and the 4th year onwards, the applicable price will be 94% of the quoted price which is valid for the balance period of 20 years. The pre-determined price variation clause is applicable for the price on quarterly basis.

S. No	Firm	₹per tonne
1	M/s Ramakrishna Forgings, Kolkata	1,88,100
2	M/s Bharat Forge, Pune	2,75,000
3	M/s Steel Authority of India Ltd	2,89,500

Presently, SAIL is supplying at an average rate of ₹1,87,000 per tonne. Existing Domestic Capacity is SAIL - 40,000 wheels, RINL-80,000 wheels (yet to start regular commercial production)- Total-1,20,000.

Indian Railways has been importing various types of forged wheels required for locomotives and coaching stock (LHB) since 1960s from UK, Czech Republic, Brazil, Romania, Japan, China, Ukraine and Russia. In this year (2022-23), 80,000 wheels worth approx. 520 Crore are imported from China & Russia, with remaining 40,000 being sourced from SAIL. Currently, due to Russia-Ukraine Crisis, all the import requirement of wheels is being met from China. Requirement of wheels is projected to increase upto 2 lac by 2026 onwards due to induction of more and more high speed trains.

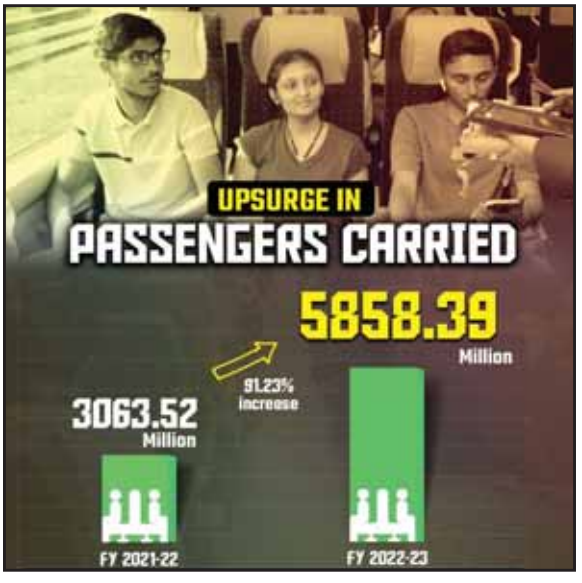
ACHIEVEMENTS





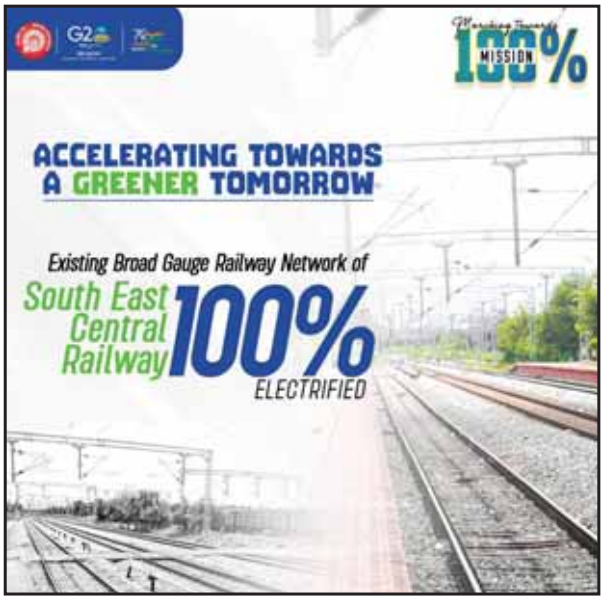









MISSION 100% ELECTRIFICATION
ACCELERATING TOWARDS A GREENER TOMORROW
Existing Broad Gauge Railway Network of
Central Railway 100% ELECTRIFIED


MISSION 100%
ACCELERATING TOWARDS A GREENER TOMORROW
Existing Broad Gauge Railway Network of
South East Central Railway 100% ELECTRIFIED


ENHANCING MOBILITY, ENSURING SAFETY
FIRST-TIME IN INDIAN RAILWAYS HISTORY
MORE THAN 500
Electronic Interlocking Stations Commissioned in any Financial Year
Transforming interlocking systems with electronic advancements for efficient and safe train operations


ENHANCING MOBILITY
ENSURING SAFETY
ELECTRONIC INTERLOCKING STATIONS COMMISSIONED
343
32.94%
456
FY 2021-22
FY 2022-23
*Data as on 28th February, 2023


PROGRESS OF TRACK RENEWAL
1ST APRIL TO 31ST JANUARY
CUMULATIVE TRACK RENEWAL
3,567
4,329
FY 2021-22
FY 2022-23

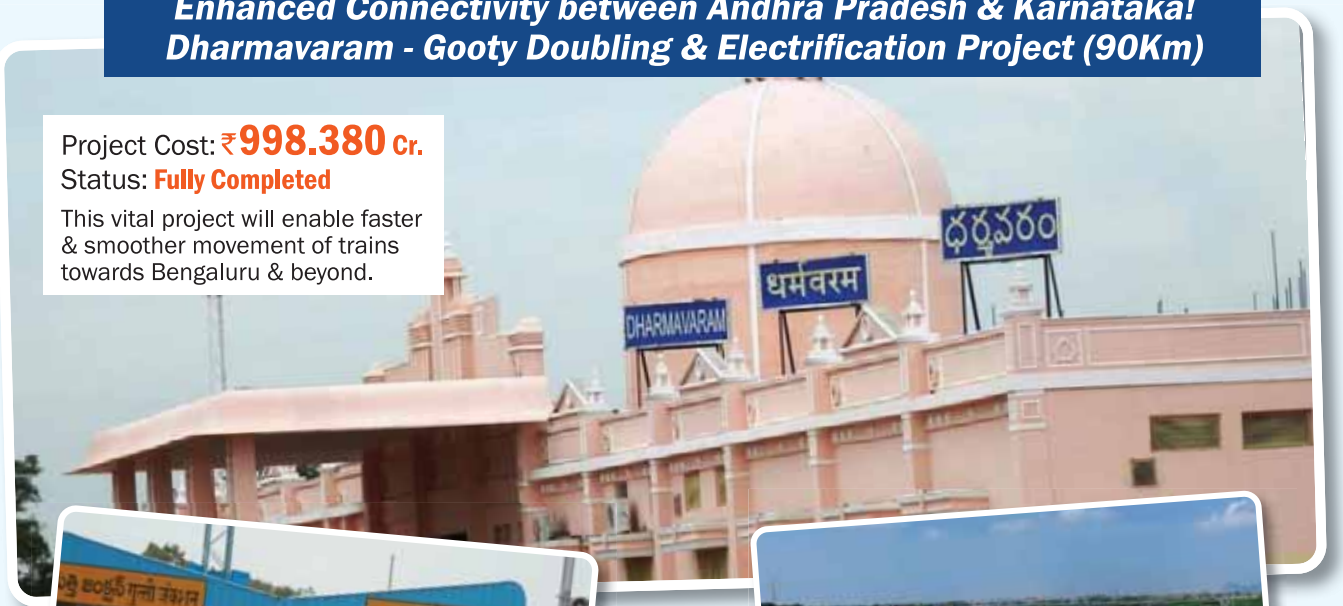

ELECTRIC LOCO PRODUCTION
IN FY 2022-23
864
ELECTRIC LOCO
Chittaranjan Locomotive Works
374
ELECTRIC LOCO
Banaras Locomotive Works
316
ELECTRIC LOCO
Patiala Locomotive Works
174
ELECTRIC LOCO

Progress Report

Enhanced Connectivity between Andhra Pradesh & Karnataka! Dharmavaram - Gooty Doubling & Electrification Project (90Km)

Project Cost: ₹998.380 Cr.
Status: **Fully Completed**

This vital project will enable faster & smoother movement of trains towards Bengaluru & beyond.







Ahmedabad-Mahesana (64.27km) Gauge conversion Project

Project Cost: ₹620 Cr.
Status: **100% Completed and Operational**

This project will streamline train operations, reduce travel time between Ahmedabad and Mahesana & increase the freight carrying capacity on the major Ahmedabad–Delhi route.







Bullet Train Project : Physical Progress



Gujarat
Overall:**32.93%**
Civil Works:**54.74%**

Maharashtra
Overall:**13.72%**

Pile work: **257.06 Km**
Pier Works:**155.48 Km**
37.64 Km Girders launched
8003 trees transplanted
83,600 saplings planted

Rishikesh-Karnaprayag New Rail Line Project



Overall Progress: **37%**
Overall Progress: **95 Km**

Bridges: **3** Important Rail Bridges, **3** Road Bridges and **15** minor bridges completed
6 Breakthrough of **15.3** km completed

Set to bring seamless connectivity to Mizoram

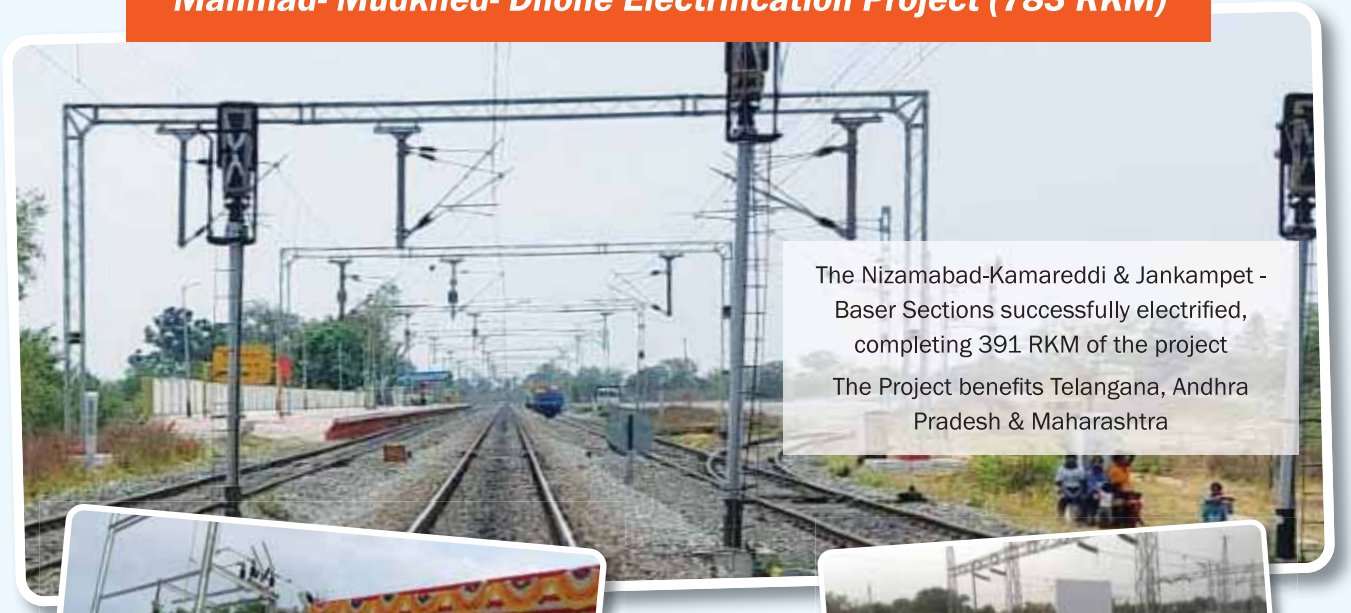


Bhairabi - Sairang Railway Line (51.38 km) Project
Overall Progress: **87%**
Bridge Works Completed
Major: **5/55**
Minor: **75/87**
ROB/RUB: **6/9**
Tunnels: **12600m/12853m**





Manmad- Mudkhed- Dhone Electrification Project (783 RKM)



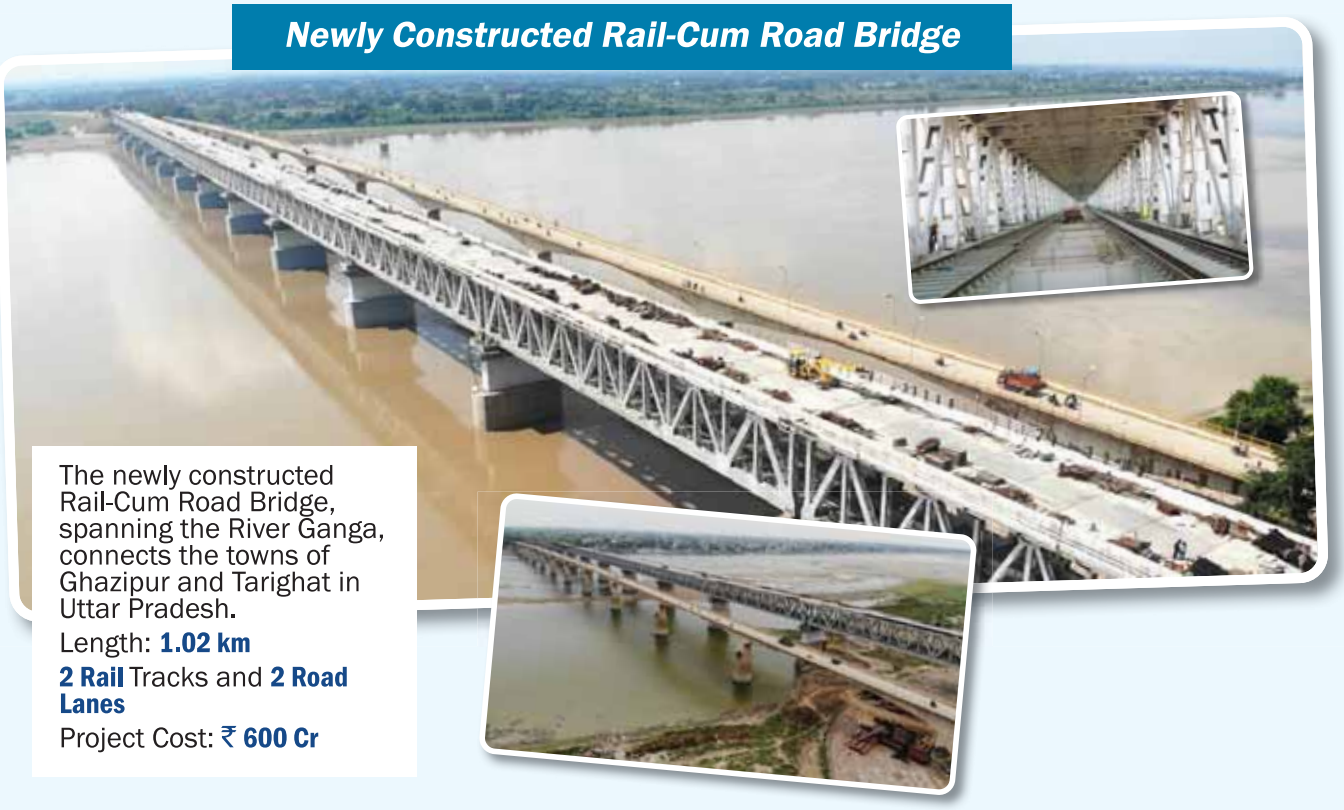
The Nizamabad-Kamareddi & Jankampet - Baser Sections successfully electrified, completing 391 RKM of the project

The Project benefits Telangana, Andhra Pradesh & Maharashtra





Newly Constructed Rail-Cum Road Bridge



The newly constructed Rail-Cum Road Bridge, spanning the River Ganga, connects the towns of Ghazipur and Tarighat in Uttar Pradesh.

Length: **1.02 km**

2 Rail Tracks and **2 Road Lanes**

Project Cost: ₹ **600 Cr**

From Old Coaches to New Dining



Expanding the culinary excellence with the launch of the New Rail Coach Restaurant at Siliguri Junction, adding to the existing culinary destinations of Indian Railways.





INDIAN

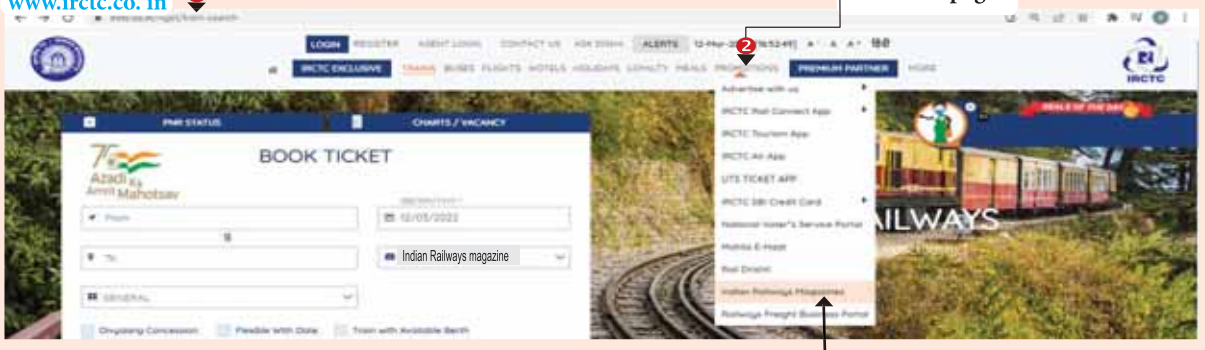
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STEP 1

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Please go to the Promotions of this page ❷



❸ Click on 'Indian Railways' magazine

STEP 3



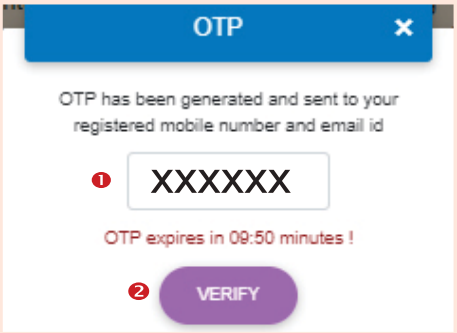
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❷ If you don't have login ID, click the guest login.

❸ Please submit your email and mobile no. in it

❹ Press SUBMIT

STEP 5



❶ Write the OTP received on your registered mobile no.in the box and

❷ Verify

STEP 6



❶ Payment mode (card, net banking, UPI, wallet, international card and ipay) and

❷ Choose the option of payment gateway.

❸ Press MAKE PAYMENT

RAILWAYS
online to Indian Railways magazine

STEP 2

1. If you are a railway personnel, please click' yes ', if not click ' no'.
2. If yes, please upload your RQID/ I D/PPO no. and a scanned copy of your authenticated I D proof.
3. For Bharatiya Rail patrika , click Hindi and for Indian Railways magazine, click English
4. Click one, two or three for the no. of years for which you want to subscribe.



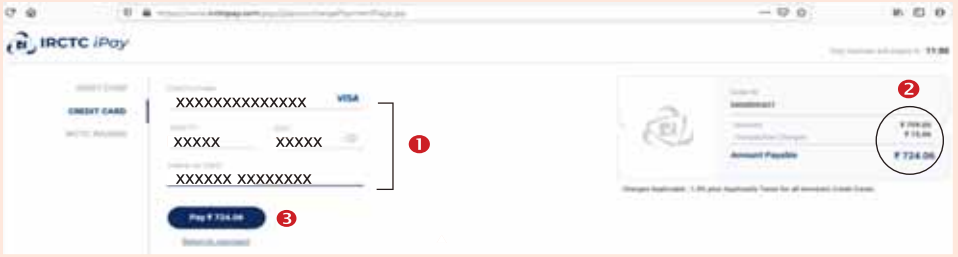
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STEP 7



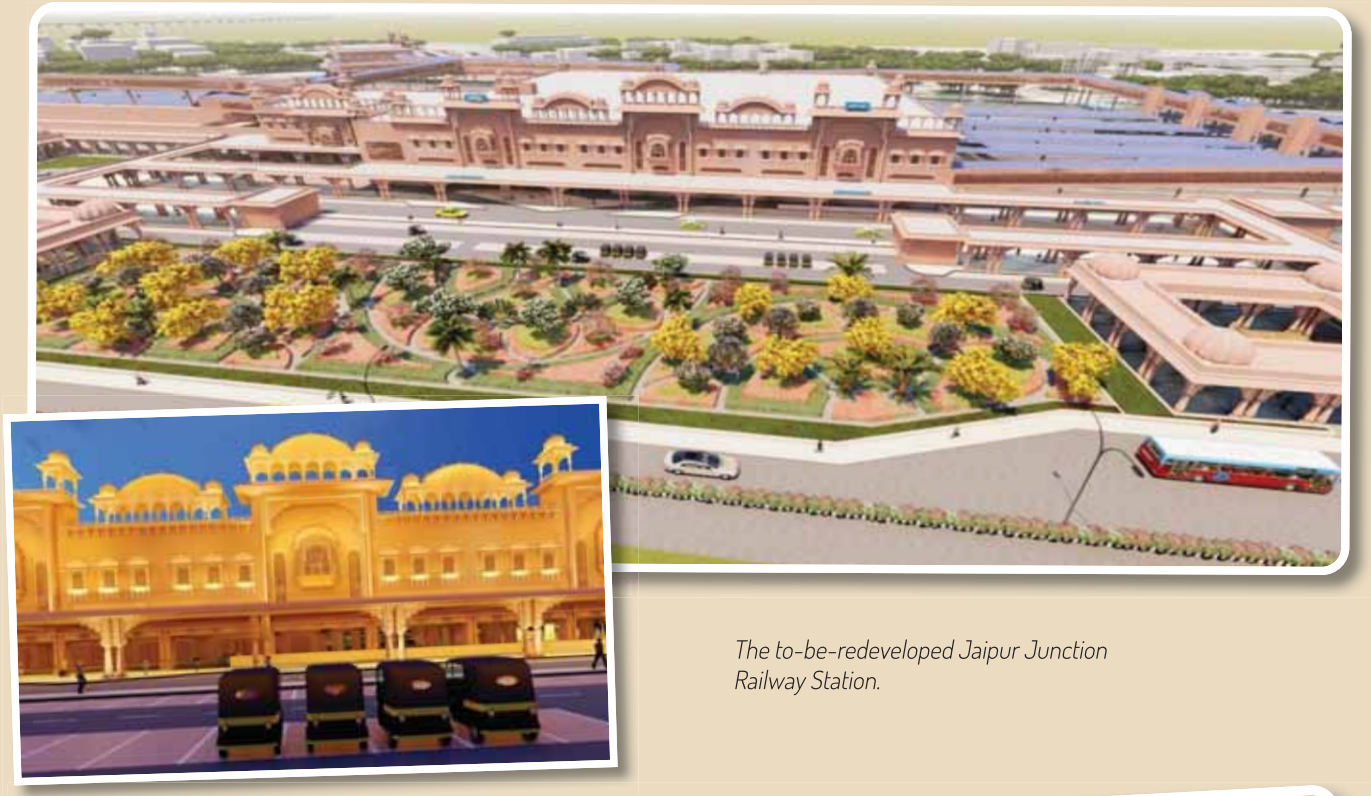
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2. If satisfied press PAY.
3. See the details of payment amount.
4. Payment successfully will appear on the screen on completion of bank OTP procedure.

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For more details contact- 011- 47845378, 47845380 email : irbrhelp@gmail.com

Transforming Into World Class Railway Stations



The to-be-redeveloped Jaipur Junction Railway Station.



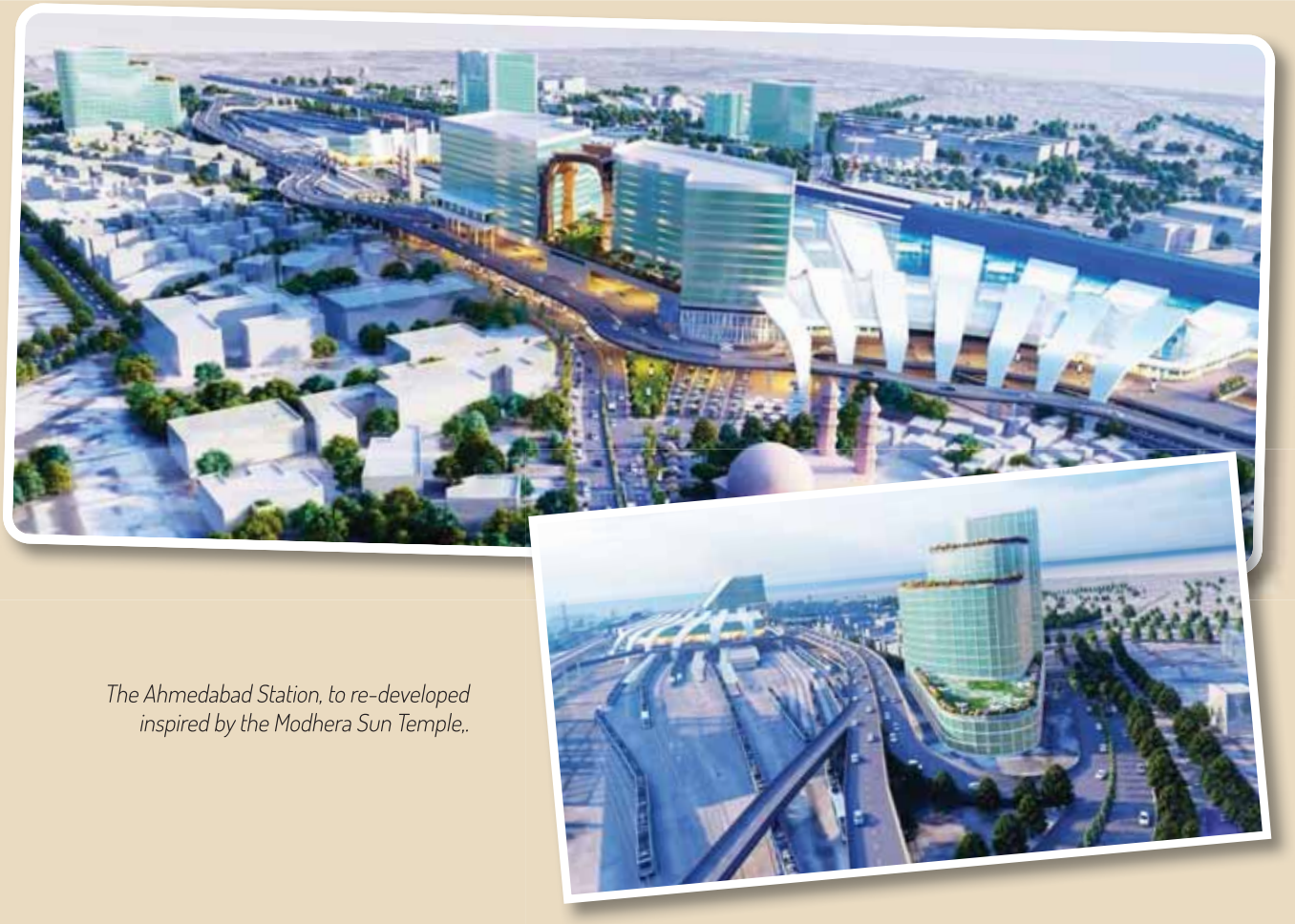
The proposed design of the to-be-redeveloped Thiruvananthapuram Railway Station



Proposed design of the to be redeveloped Jammu Tawi Railway station.



Proposal Design of the to be redeveloped Kanyakumari Railway Station



The Ahmedabad Station, to re-developed inspired by the Modhera Sun Temple,.



A glimpse of the proposed design of the to-be redeveloped Bengaluru Cantonment Railway Station.



Redeveloped Hosapete Railway Station whcich will provide convenient and modern facilities to passengers. It has been designed to in line with the Hampi monuments



*Major upgradation for **Katpadi Junction**. Located on the Chennai-Bengaluru corridor, Tamil Nadu with proximity to major landmarks like historic Vellore Fort & Sripuram Golden Temple*
*Estimated. Cost: **329 Cr**.*

NARI SHAKTI FOR NEW INDIA



Manufacturing Vande Bharat Powered by Nari Shakti For New India

INTERNATIONAL WOMEN'S DAY CELEBRATED ON INDIAN RAILWAYS





Smt. Surekha Yadav, the first woman loco pilot of Vande Bharat Express.



Smt. Darshana Jardosh, Minister of State for Railways seen with officers, staff and RPF personnel of All Women manned Gandhi Nagar Jaipur Railway Station



On International Women's Day, the Bengaluru-Mysuru Rajya Rani Express was run by an all-women crew.



Katihar division of NFR ran a DEMU special train from Katihar to Teznarayanpur fully operated by Railway Women.

Smt.Rosaline Arokia Mary, CTI (Chief Ticket Inspector) becomes the first woman on the ticket-checking staff of Indian Railways to collect fines of ₹1.03 crore from irregular/ non-ticketed travellers.





Smt. Darshana Jardosh, Minister of State for Railways received a memento. Also seen Ms. Anjali Goyal, Member Finance and Ms. Jaya Varma Sinha, Member (O&BD)



On the occasion of Interntional Women's Day, special programme was organised in Railway Board which included poem recitation, gazal, etc.

Railway Board Organised 'Walkathon' on The Occasion of International Women's Day

International Women's Day is celebrated globally on 8th March each year. Railway Board and Railway Sports Promotion Board organized a 'Walkathon' on 6th March, 2023 from Rail Bhawan to Boat club and back in New Delhi. 150 women employees from Indian Railways including eminent sportspersons, frontline women employees, RPF personnel and Railway Board officers participated in the Walkathon. Ms. Anjali Goyal, Member Finance and Ms. Jaya Verma Sinha, Member Operations & Business Development, Railway Board were also present during the walkathon.



Ms. Anjali Goyal Member Finance and Ms. Jaya Verma Sinha, Member (O&BD) at the 'Walkathon' organised near the Rail Bhavan premises,

Outstanding Railway Women Employees Felicitated by RWWCO

RWWCO annually honours the services of selected women employees of Group-C & Group-D for their outstanding services. The purpose was to boost the morale of those women, who show exemplary dedication, integrity and courage in discharge of their duties and who also work quietly in any other social field i.e. Hospital, School, Sports, Blood Donation, Family Welfare Programme, Scouts & Guides etc.



This year 34 outstanding railway women employees have been felicitated in a special function held at National Rail Museum Auditorium, Chanakyapuri, New Delhi on 17th March, 2023. Smt. Menu Lahoti, President/RWWCO as Chief Guest distributed merit certificates and cash awards to women awardees. A colourful cultural programme was also presented by artists from Central Railway, on this occasion.

Walkathon Organised on the Occasion of International Women's Day

On the occasion of International Women's Day 8th March, 2023 various programs were organized in the aegis of women empowerment on all the three divisions of WCR, Jabalpur, Bhopal and Kota. A walkathon was organized on 7th March, 2023 at WCR Headquarters under the aegis of West Central Railway Sports Association. Shri Sudhir Kumar Gupta, GM, WCR and Shri Shobhan Chaudhuri, AGM inaugurated the walkathon in which women railway employees working at the headquarters participated enthusiastically.



International Women's Day Celebrated on NER

International Women's Day-2023 was celebrated on NER on March 03, 2023 at Gorakhpur by NER HQ Women's Empowerment Committee. The program was inaugurated by Chief Guest Smt. Preeti Jha, Principal Financial Adviser. The first woman employee of NER, 94 year old Smt. N.P. Das was felicitated by Smt. Preeti Jha. Women railway employees who were promoted from Group-D to Group-C and artists who presented cultural programs were also felicitated.



SCR Organized Seminar and Walkathon To Celebrate International Women's Day

A seminar on 'Women's Health and Wellbeing' at Rail Nilayam, Secunderabad on 03rd March, 2023 as part of International Women's Day celebrations. Shri P. Uday Kumar Reddy, AGM/SCR, Smt. P. Srilatha, Vice-President, SCRWWO and Shri. Rajiv Kishore, Principal Chief Personnel Officer, SCR were the Chief Guests on the occasion. A 3K Run/Walkathon at Railway Sports



Complex Ground, Secunderabad was organised on 7th March, 2023 to bring awareness on the concept of 'embrace equity' as part of International Women's Day



Celebrations. Shri Arun Kumar Jain, GM/SCR was Chief Guest and flagged off the run/walkathon in the presence of senior Railway officials, staff and participants. Shri Jain led the rally to create awareness on the importance of equality of women in the society. The rally aimed to reaffirm the commitment of SCR to promote gender equality and woman's rights at workplaces and educational institutions etc run by Railways.

GM dedicated 'Nirbhaya' Software to Women Employees of SER

International Women's Day was celebrated by South Eastern Railway with great enthusiasm. Ms. Archana Joshi, GM/SER was the Chief Guest at the programme and PHoDs and women employees of different departments were present on the occasion. 53 women employees of SER were felicitated for outstanding contribution in their respective jobs, in the function. Ms Joshi dedicated 'NIRBHAYA' – a Sexual Harassment Complaint Management System software to the women employees of South Eastern Railway. Any woman employee would be able to register her complaint through NIRBHAYA, which is linked to SER website . Protecting the privacy of the employee, the



complaint will directly reach the Chairman of the Internal Complaints Committee of the concerned unit. GM appreciated the performance of 8,500 women employees serving all over SER. She also praised the awardees for their dedication, sincerity and hard work. The GM mentioned about the International Women's Day 2023 Theme – 'DigitALL: Innovation and Technology for Gender Equality' and explained the significance of the campaign 'Embrace Equity'. She also stated about the different initiatives taken by SER for the benefit of its women employees.

Women Employees Felicitated on the Occasion of International Women's Day

As a part of celebrations for International Women's Day on 7th March, 2023, North Central Railway Women's Welfare Organisation felicitated the lady staff contributing in Horticulture and housekeeping work through private agency in NCR headquarter Office and Railgaon Colony, Subedarganj. On this occasion, a total of 34 lady staff working in horticulture and a total of 20 women and men engaged in housekeeping work through private agency in Railgaon Colony, Subedarganj, were given useful gifts by the President NCRWWO Dr. Mrs. Ruby Rani Singh.



RailTel Celebrated International Women's Day



As a part of the celebration, an interactive session on skincare and nutrition for healthy living was held by reputed experts Dr. Sumit Gupta, associate consultant in dermatology, and Ms. Mukta Vashisht, consultant dietician both from Sir Ganga Ram Hospital, for the female employees of RailTel. Speaking on the occasion, Shri Sanjai Kumar, chairman and managing director, said, "It's the day dedicated to celebrating women's achievements in various fields. It is necessary to recognize the contribution of women in building society and the nation. The women's workforce at RailTel has been at the forefront of all activities of the company and has excelled in achieving desired goals. I wish them all success."

International Women's Day 2023 Celebrated in CLW

International Women's Day 2023 was celebrated on 8th March, 2023 at Chittaranjan Locomotive Works (CLW). Shri Satish Kumar Kashyup, GM/CLW inaugurated the programme as Chief Guest. Principal Head of Deptts. & Sr. Officers, women employees, supervisors & staff were also present on the occasion. Speaking on the occasion, Shri Kashyup admired the efforts of Personnel department for organising this International Women's Day 2023. Later, a Cultural programme was also arranged which enthralled the gathering. Later, on this occasion, Shri Kashyup falicitated women employees & praised their contributions in the workplaces.



WR Celebrated International Women's Day

Western Railway celebrated International Women's Day 2023 with great fervor and zeal. The campaign theme of this year's International Women's Day 'Embrace Equity' seeks to get the world talking about why 'equal opportunities are no longer enough'. Smt. Kshama Misra – President of Western Railway Women's Welfare Organization presented the Swayam Siddha Awards to 24 outstanding women employees for their contribution in their workplace and the society



and thus marching towards women empowerment. This was followed by the release of a booklet "Swayam Siddha" by Shri Ashok Kumar Misra – General Manager of Western Railway.

RDSO Celebrated 'International Women's Day'



On the occasion of "International Women's Day", a special programme was organised in RDSO on 6th March, 2023. Various cultural programs including handicrafts exhibition, lectures on stress management, debates and antakshari were presented and 23 women employees of RDSO were awarded including 13 women employees who were also honored for their excellent work. On this occasion, Chief Guest, Shri Sanjiv Bhutani, Director General, RDSO, highlighted the outstanding contribution of women in various aspects of life.

International Women's Day Celebrated at Rail Wheel Factory



International Women's Day was celebrated on 8th March, 2023 at RWF institute. Smt. Uma Agrawal, President RWF Women's Welfare Organisation was Chief Guest of the Function. Speaking on the occasion, she said that giving priority to women is not an option but a necessity to build a strong Nation. Shri. A. K. Agarwal, GM, presided over the function. He ensured that rights of women employees at RWF are fully protected. Dr. Krithikaa Sekar, Radiation Oncologist, HCG Cancer Hospitals, the Guest Speaker gave a presentation on women related cancer of all types.

'Trans Tea Stall' opened at Guwahati Railway Station for and by Transgenders

On10th March, 2023 Shri Anshul Gupta General Manager of Northeast Frontier Railway inaugurated the ''TRANS TEA STALL'' at platform number 1 of Guwahati railway station in presence of Swati Bidhan Baruah , Associate Vice Chairman of the Transgender Welfare Board of Assam.

The stall has been open to empower Transgenders, which will be fully managed by the Transgender community. This initiative by N. F. Railway is a first of its kind over the Indian Railways. It has been done with active collaboration of All Assam Transgender Association.



This is a first ever such initiative not only in Indian Railways but in any government organisation in the country. Northeast Frontier Railway plans to operate more such Trans Tea Stalls at other Railway stations in the region.

Electronic Interlocking Commissioned at Baad Station the 3rd Largest Yard of Agra Division



North Central Railway achieved yet another milestone and commissioned new Electronic Interlocking in connection with Baad passenger yard remodelling and Farah-Baad 3rd line work, on 8th March, 2023. Baad yard is third biggest yard in Agra division. Kyson make Electronic Interlocking has been commissioned at Baad station on Agra cantt-Mathura Section of Agra division thus providing 359 routes for better flexibility in train operations.

This complex work included 47 Point Machines-47 (36 new and 11 existing), 28 Signals and 41 shut signals. Complete yard track circuiting has also been provided in redundancy with DC track Circuit & MSDAC. 04 Nos. Integrated Power Supply system has been provided for reliable power supply for signalling equipments. In order to strengthen safety preparedness and enhance monitoring, 04 number Electronics make Data loggers (BAD central, A cabin, B cabin, C cabin) have been provided. These data loggers will be monitored online from control office. 03 Nos. Global make New Electric Operated Lifting Barrier at Level crossing no.-522, 523,524 have also been provided in place of existing overaged barrier . Earth Leakage Detectors, Fuse alarm system, fire alarm system to have been provided at Baad.

East-West Metro Opting For More Solar Power-Solar Power Plants Save More than ₹62 Lakhs Annually



East-West Metro (Green Line) is a very important transport system of Kolkata. Presently services are running in between Salt Lake Sector V and Sealdah over a stretch of 8.885 Km. The overall operations and maintenance activities of this Corridor are controlled from the Central Park Depot, Salt Lake. Rooftop Solar Power Plants have already been installed over 16000 sq. metre area of the workshop and 3173 sq. metre area area of ETU of Central Park Depot.

These plants generate 1.24 MWP electricity and save ₹48 lakhs (approx) per annum.

Apart from this, 0.28 MWp rooftop solar power plants have been installed on the rooftops of two East-West Metro stations i.e. Salt Lake Sector V and Central Park. These environment-friendly solar power plants are scattered over 3566.34 sq. metre area. As a result, Metro Railway has been able to save ₹14.50 lakhs (approx) per annum.

This project which has been executed through Public Private Partnership Mode is equipped with all standard protection and safety checks. Metro Railway has provided the rooftop areas whereas the solar power developer has done complete designing, procurement, installation, testing and commissioning work. This solar power generation system of Metro Railway is being monitored through cloud-based monitoring system.

CLW Administrative Building Received 'IGBC Green Existing Buildings Gold Rating'

CLW Administrative Building West Block received the prestigious 'IGBC (Indian Green Building Council) Green Existing Buildings Gold Rating' by CII (Confederation of Indian Industries). IGBC has launched IGBC'S Green Existing Buildings O&M (Operation & Maintenance) Ratings system to encourage green concepts and techniques. Green concepts and techniques help to address national priorities like handling consumer waste, water efficiency, reduction in use of fossil fuels, energy efficiency and conserving natural resources. The 'Administrative Building West Block, was evaluated according to this system and the Recertification Rating is in consonance with various environmental categories as defined by IGBC'S Green Existing Buildings which include – Site & Facility Management, Water Efficiency, Energy Efficiency,



Health & Comfort and Innovation in design. Shri S. K. Kashyup, GM congratulated the entire 'Team CLW' for this feat.

Rail Coach Factory Organised 'Flower Festival 2023'

Flower Festival 2023 was organized at RCF/Kapurthala from 27th February to 5th March 2023. In this event, the beauty and better maintenance of the gardens of the quarters involved in the Garden / Lawn competition was inspected by Mrs. Surabhi Agrawal, President of RCF /WWO and her team. In this competition , 41 Quarters of various types were inspected out of which 6 quarters were awarded first prize, 6 quarters were awarded second prize and 5



quarters were awarded third prize. The winners of the competition were felicitated by Shri. Ashesh Agrawal, GM/RCF.

All India Inter Rail Drama Competition Organized in WCR

A three-days Inter Rail Drama Competition was organized and concluded on 4th March, 2023 in West Central Railway. On this occasion, prizes were distributed to the winning teams by the General Manager. A total of 20 teams from various Zonal Railways/PUs participated in the competition. In this competition, the first prize was given to the play 'Shasti' of ER, the second prize to the play 'Sakhi Suhag Ram Mohe Dinha' of WCRand the third prize to the



play 'Sutputra' of Banaras Locomotive Works. The Best Direction Award was given to Mr. Sanjay Garg, Director, WCR and Best Actor Award was also given to Mr. Rizwan Ali, WCR.

WR Sportspersons Earn Laurels with Outstanding Performances

Amardeep Baratake won the National Amateur Chess Championship at Sangrur, Punjab. . WR's Water Polo Team won the All India Inter Club Water Polo Championship, 2023 conducted by Swimming Federation of India at Gachibowli Stadium Swimming Pool, Hyderabad. WR's Kho – Kho Team bagged Silver Medal in the All India Railway Kho – Kho Championship 2022 – 23 organized at Solapur by CR Sports Association. The Men's Basketball



team secured Third Position in the All India Railway Basketball (Men) Championship 2022 – 23 organized at Kolkatta by ER Sports Association.WR is proud of its sportspersons.

Metroman Becomes 81st Grandmaster of India



Shri Sayantan Das, a Metroman has become the 81st Grandmaster of India. Sayantan Das, a staff of Personnel Department of Metro Railway has become the 11th Grandmaster of West Bengal by winning Cannes Open 2023 in France. By winning this tournament, he crossed 2500 elo point barrier which is mandatory along with 3 norms to get the Grandmaster title. He already had 4 norms prior to this tournament. 12 Grandmasters participated in this tournament which was organized at Cannes from 20th to 26th February. Russian Grandmaster Alexander Motylev with 2624 elo point was the top rated player participated in this tournament. Sayantan defeated him in the last round.

Shri Arun Arora, GM/Metro Railway has congratulated Shri Sayantan for this marvelous achievement.

2nd Edition of JSL-NFR Northeast Half Marathon Completed Successfully

On 26th February, 2023, the 2nd edition of the JSL – NFR Northeast Half Marathon series was completed successfully in the iconic Darjeeling Himalayan Railway (DHR) . The marathon race was flagged off in the gracious presence of MP from Darjeeling Shri Raju Bista; General Manager of N. F. Railway, Shri Anshul Gupta and Director of Jindal Stainless, Shri Tarun Khulbe. Jamling Norgay (son of the legendary Tenzing Norgay); Mira Rai, winner of National Geographic Adventurer of the Year; Uday Kumar, para-athlete Gaurav Jajodia, CEO of Jai Balaji Group and many others dignitaries were also present.



ICF Wins 68th All India Railway Tennis Championship

In the Final match, ICF team beat SCR and won the Championship of 68th All India Railway Tennis Championship on 20th March, 2023 at Railway Sports Complex, Secunderabad. South Central Railway secured the 2nd place. Shri Arun Kumar Jain, General Manager was the Chief Guest on the occasion and distributed trophies and certificates to the winning team members. A Total of 65 matches were held in six different categories.



Outstanding Performance by NER Sportpersons



NER's wrestling player Ashu made the country proud by winning the Bronze medal in 67 kg weight category Greeco Roman Style in the First World Ranking Series 2022-23 held in Croatia's capital Zagreb. Outstanding performance of NER's player continued in National and International championships. In all India Railway Marathon Championship held in New Delhi on February 26, 2023, Ranjit Patel, an athlete of NER, performed brilliantly and won the Gold Medal. On this achievement, Shri Chandra Vir Raman, General Manager, NER congratulated Ranjit Patel and encouraged him.

BLW's Shri Hemant Yadav won Gold in The Individual Event of The 66th All India Railway Golf Competition

The 66th All India Railway Golf Competition was held on 15th March, 2023 under the aegis of Sports Association at Banaras Locomotive Works. Shri Hemant Yadav of BLW won gold in the individual event with 137 points. Shri Vinay Kumar Yadav of Chittaranjan Locomotive Works got silver medal with 139 marks and Shri Sachin Chauhan of South Central Railway got bronze medal with 141 marks. In the team event, South Central Railway stood first. Chittaranjan Locomotive Works stood second and Rail Coach Factory, Kapurthala stood third.



68th All India Inter Railway Tennis Championship Concluded

The South Central Railway Sports Association successfully organized the 68th All India Inter Railway Tennis Championship from 17th to 20th March, 2023 and the concluding ceremony of the event was held on 21st March, 2023. In the Men's veteran singles championship Shri Ramkumar of SER beat Shri Anwar Ali of ER. In the Men's Veteran Doubles Championship, Shri Rajendar Prasad & Shri Srinivas of SCR beat Shri Muneer Pasha and Shri Isaac of SCR. In the Men's Singles Championship, Shri Nitin Kumar Sinha of ICF beat Shri Siddarth of SCR. In the Men's Doubles Championship, Shri Prithvi Shekar and Shri Nitin Kumar Sinha of ICF beat Shri PC Vignesh and Shri Siddarth of SCR.







Powerful lifting - Congratulations to Indian Railways Weightlifting Women's Team for becoming winners and Men's Team for becoming runners-up at the 72nd Senior National (Men's and Women's) Weightlifting Championship 2022–23 held in Nagercoil, Tamil Nadu.

Triumphant start to 2023 for Railway's Powerlifters A stellar start to the year saw the IR Men and Women powerlifting teams take home the National Championships in all three divisions, as well as the newly established Player of the Year title. Both teams won 14 medals.





Indian Railway player Mithun Manjunath won Gold in Men Singles and Hema Nagendra Babu and Kanika Kanwal won Gold in Mixed Doubles in 84th Sr. National Badminton Championship held at Pune from 24th to 28th February] 2023. Feats achieved by Railway players after 40 and 24 years respectively.

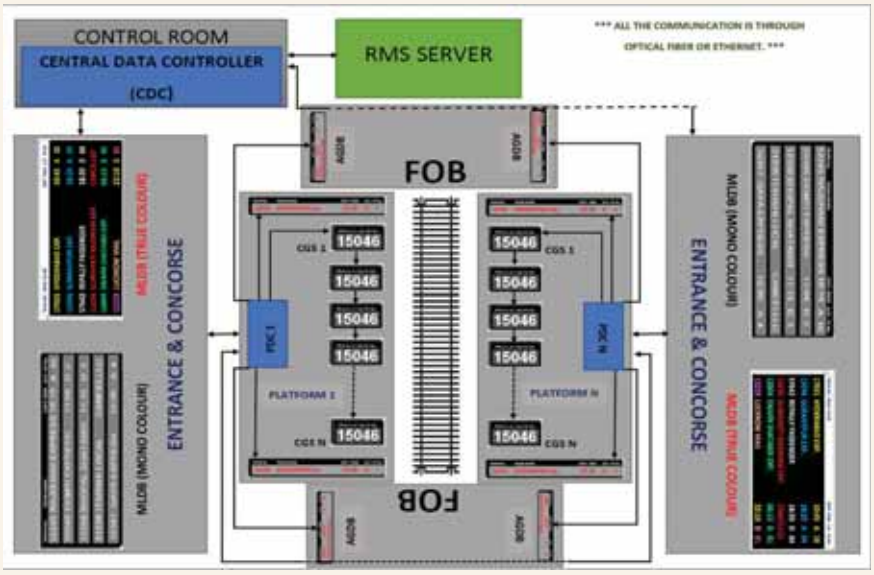
India dominates Asian cross-country championship Indian women's team, Ms. Sonika, Ms. Chhavi Yadav and Ms. Munni Dev, from Railway family, clinched the championship title at Asian Cross Country Championship held in Nepal. Ms. Sonika secured a bronze medal in the individual category.



IP Based Integrated Passenger Information System on Indian Railways

Shri Santosh Kumar Agrawal
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Abstract: The purpose of the 'Integrated Passenger Information System is to provide arrival/ departure information of trains and any other video/image/alert information to passengers'. In addition, the system may also be used simultaneously for commercial advertisement and video information by the Indian Railways.

In the upgraded system, the standard IP technology is used for communication between different modules. Remote Monitoring System (RMS) is used to monitor the data being streamed and health status of the equipments using the secured login on Railnet. Software is made independent of hardware to achieve inter-operability of systems of different vendors. Input and output connectors for copper and optical interface also defined so that devices from different vendors can be used as a plug-n-play device. Dimensions of various types of display boards are defined to maintain uniform looks across display boards from different vendors.

The system consists of networked Indoor & Outdoor Video Display Boards, Train Indication Displays, Coach Guidance Displays and PC Based Announcement System. In the multi-colour display board, the various fields that are used to show the 'Train number, Train name, Arrival or Departure status, Time and Platform Number' can be displayed in different colours for the passengers to easily read and differentiate. Trains having certain special status can be displayed in different colours. Status Like cancelled, diverted, platform changed etc., can be displayed in special colours to quickly capture the attention of the passengers.

Introduction: IP based IPIS is an automated system which provides the latest information on the nature and state of the train to the passengers.

It provides information about train arrival/departure, PC-based announcement, true color commercial advertising and various video/ image /alert information.

It includes a Central Data Controller (CDC) and various display types, placed at different station locations with networking functionality.

To communicate with different devices an IP-based central ring network is formed.

All Operations are carried out by local operators through the software.

Web-based Remote Monitoring System (RMS) is used to monitor the system remotely from any location within the same network.

Applications: IP Based Integrated Passenger Information Systems are installed at Railway Stations to provide arrival/ departure information of trains on different types of LED display boards along with PC based announcement and any other video/image/alert information to the passengers.

The System consists of a central data controller fully loaded with software based Announcement

system and LED Display boards of different sizes.

The multiline display boards are placed at the main entrance/ concourse of the railway stations to display multiple trains at a time.

Platform display boards are installed at platforms to display train information of particular platform.

At-a-glance display boards with coach composition are provided at entry of platform/foot over bridge to indicate the details of train arriving/ departing on that platform along with coach composition of the train.

Coach Guidance Display Board (CGDB) are provided on the platforms for displaying coach position of the train.

Advantages:

Continuous live announcement and display assists in safe and stable movement of passengers.

True color and TV Display contribute to the benefit of selling the spaces for commercial use to raise extra income in the public interest.

Anyone who enters the station knows how important it is to hang up for an information display.

The IPIS system increases overall customer loyalty and decreases confusion in all spaces - whether it is at the waiting area, lounge, ticket counter, parking or platform.

To show the "Train number, Train name, Arrival or Departure status, Time and Platform Number" can be displayed in different colours for the passengers to easily read and differentiate.

Trains having certain special status can be displayed in different colours. Status Like cancelled, diverted, platform changed etc., can be displayed in special colours to quickly capture the attention of the passengers.

Being full colour and full matrix display, the system can be used to display specially designed messages and display content (text, graphics & video clippings) based on the occasions with live video.

Key Features of IP based IPIS System:

Complete IP Based system on one network, connected to Railnet/ LAN to achieve remote monitoring from Divisional HQ/Zonal HQ/ or any other Remote locations.

Introduction of Remote Monitoring Server (RMS)- A useful feature for monitoring and reporting incorporated with remote monitor and to diagnose and report on each display device with current displayed data, down time etc. from remote location. Provision for connecting RMS to the Railnet is also incorporated for future integration of all IP based IPIS on PAN-India basis.

System level vendor inter-operability achieved by defining protocol and using IEEE standard Ethernet connectivity across all types of devices. Software independent from hardware to achieve inter-operability and reduce vendor lock-in.

Input and output connectors for copper and Optical interface also defined so that devices from different vendors can be used as a plug-n-play device.

Dimensions of various types of display boards are strictly defined to maintain uniform looks across display boards from different vendors.

True color and Mono color Display boards as per station requirement in single specification by merging of two items namely IPIS (RDSO/SPN/TC/61) and TRUE COLOUR VIDEO-CUM-TRAIN INFORMATION DISPLAY SYSTEM (RDSO/ SPN/TC/67).

Reduced Pixel pitch of Indoor and Outdoor Video display units without considerable compromise in overall display size thus enabling better visibility of media for higher commercial utilization.

Optical Fiber Cable based data communication of display boards enabling remote operations from local stations. Data communication on OFC to avoid interference by 25KV electric traction and achieve high bandwidth.

Industrial grade Monitors used for TV/Plasma display to ensure clarity in visibility and longer lifetime of the system as comparable with display boards.

Use of 3-in-1 SMD LEDs in lieu of Leaded R+G+B LEDs for better performance, availability, low heat dissipation and cost & weight reduction.

All display units are constructed using the same display module. It makes Installation & transportation simple & maintenance easy.

The application software is windows-based, more secure and easy to use.

Data integrity is retained even when various users access the software, in both the servers as well as in RMS.

The RMS is built web-based such that the IPIS can be monitored from any of the normal PCs remotely linked in the same

network.

Various customised reports can be generated for future reference.

The Display board's intensity can be adjusted in automatic mode or manual mode.

The Software is designed in such a way that the User Interface (UI) is very simple.

For any newly added train, announcement files recorded externally are attached via user interface automatically.

All the features are offered on the homepage just to make it user-friendly.

Standard TCP/IP and UDP Protocol is used for Data transfer.

Data transfer and announcement by single-click button.

Provision of updating data from NTES (National Train Enquiry System) and COIS (Coaching Operations Information System).

Easy addition, deletion and modification of train, coach and other details.

Standard PC based train, coach, slogan and special announcement.

Manual special message recording and playback facility.

UNICODE norm for accessing data in all languages.

Regional display language and announcing language are supported.

Laced with Overall system communication health status indication.

Number of lines of MLDB, IVD and OVD are easily configurable.

On OVDs (Outdoor Video Displays) & IVDs (Indoor Video Displays) the information for specific train status can be customized in different colors.

System Description:

The IP Based Integrated Passenger Information System (IPIS) consist of Central Data Controller (CDC) loaded with software for announcement & display, Remote monitoring Software (RMS), PDC (Platform Data Controller), LED display (TV) and display boards of different sizes like Single Line, Multiline, At a glance, True colour Indoor and outdoor video display and Coach Guidance.

Central Data Controller (CDC):

Standard cabinet to house two CPUs (PCs) connected through Central Data Switch (CDS) for data synchronization, one 17" (minimum) Colour monitor to be connected through a Keyboard-Video-Mouse (KVM) switch, speaker and microphone for live announcement.

The CDC provides complete control and data entry.

The CDC works in redundant mode with another system for changeover at failures.

Continuous data synchronization between two PCs through LAN link.

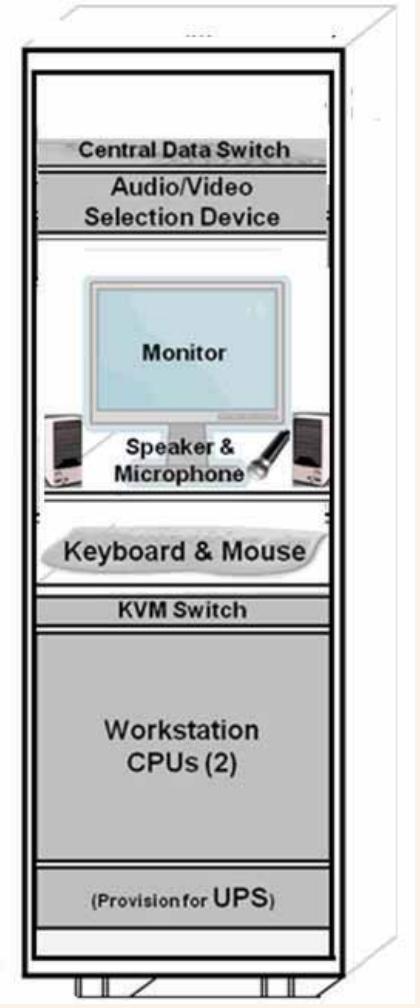
Provided with voice recording and voice playback facility for PC announcement.

Equipped with hardware and software for taking data from various Train Information systems like NTES, COIS etc.

Communicates with each system placed in the station.

Selection mechanism for the announcement & display train information, language of announcement & display i.e., Regional, Hindi, English or all three.

Video and image display on IVD & OVD for commercial advertisement, entertainment programs and other information.



Platform Data Controller (PDC):

The Design of the PDC is based on a minimum 32-bit microcontroller.

Layer-2 switch compatibility features for routing packets.

Communication is either via optical fiber or ethernet.

The PDC Routes the data from the CDC to downstream display devices.

It checks the integrity of packets and drops corrupted packets from transmission.

It checks the link with each system and passes the status to the CDC.

The PDC health status is indicated locally on LED and also communicated to CDC.

The Self-Diagnostic routines are provided to the operator to know the faulty ports.

Multiline Display Board (Mono colour) to display train Information in mono colour i.e. Train number, Name, time of arrival/departure and platform number. It will show information of up trains/ down trains or both as decided by the purchaser. The multiline display boards will be placed at the main entrance/ concourse of the station.

Multiline Display Board (Multi colour) to display train information in multi-colour, commercials, entertainment programs and other information to passengers. There are two types of multicolour multiline display board: (i) Outdoor Video Display (OVD) (ii) Indoor Video Display (IVD).



Displays multi-color train detail and promotional Railway videos or commercial ads.

Classified as up/down/arrival/ departure/All.

Modular construction to create a large cohesive display with higher resolution.

LED modules are interchangeable and can be used anywhere.

Each module consists of LEDs and drivers.

Gaskets/connectors to avoid water and Air filters to avoid dust entry into the cabinet.

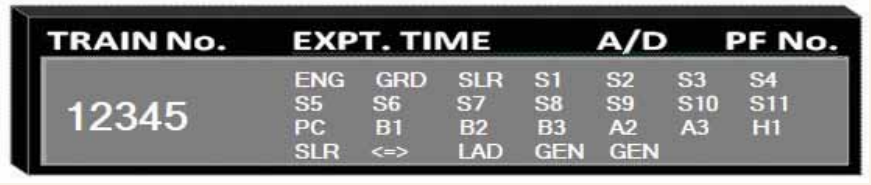
Supports a wide range of video/ image formats.

Different colour for different status.

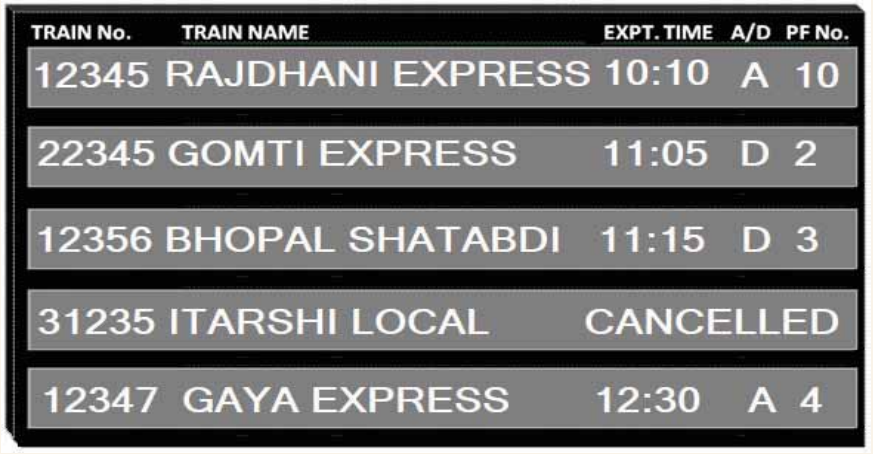


Can be mounted on poles or fixed on walls at concourse/waiting hall/entry.

Information displayed can be in English, Hindi and regional as well on time slot basis.



Scrolling, flashing message line provided.



Platform Display Board to display the information of the train scheduled for arrival/departure from that platform i.e. Train number, Name, time of arrival/ departure in mono colour. The Platform display boards will be placed at suitable places on platforms/ foot-over bridges

At-A-Glance Display Board ;

It displays information of the train arriving/departing from that platform with coach composition.

Train information is given on two lines LED matrix of each 16 x 192.

Displays coach composition information in a four-line LED matrix of each 8 x 192.

Train information & coach composition information are shown alternatively.

Can be single or double faced.

Can be configured for 1 or ALL platforms.



Coach Guidance Display Board to indicate position of coach No. scheduled for arrival/ departure from that platform for guidance of passengers in mono colour.



Display Monitor/ LED TV (Industrial grade capable of working 24x7) to display train information being displayed on a Multiline Display Board. Display monitor shall be provided in the enquiry offices, waiting rooms or at any suitable Indoor application only.

The TV display is for indoor application only like control room, waiting hall, enquiry etc.

Monitor displays are also configured on the network over LAN.

It can display train data, media and coach data as well.

Provision to play media with or without audio.

The TV display shows information in all three languages (Hindi, English and Regional).

The RMS Server shall be provided at each station for remote monitoring. CDC shall be connected to RMS & RMS can be connected to Railnet/ any other compatible network for remote monitoring. Following information can be monitored in RMS;

Train monitoring provides information regarding train and coach data.

Informs about last data send.

Tells about CDC status.

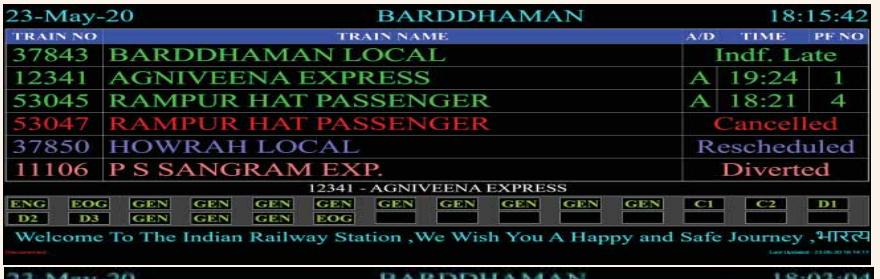
Number of devices configured and connected.

NTES/COIS status.

Network Monitoring provides detailed information on devices.

Device Monitoring provides the link status of the devices.

The device, name, IP address and the link status is provided. Red means Disconnected, green means connected.





Conclusion

The IPIS has been a very useful passenger amenity for safe & timely movement of passengers over the station area. Introduction of IP based IPIS has further improved the system with respect to Standard protocols used for communication, uniform display boards, Inter-operability of systems of various suppliers, Centrally Monitoring of various data (Input/Output), Various reports generation centrally as well as locally. The system opens doors for future integration of the systems over Indian Railways on PAN India Basis.

Hydrogen
Ride to a Net Zero Future

Shri Ishoo Ratna Srivastav
Dy CME Planning and EnHM

Deep decarbonization strategies seem to be gravitating towards the lightest molecule, hydrogen. Hydrogen promises to be the crucial storage or the energy carrier solution to the uncertainties present in the renewables jigsaw. So, while the battery based solutions face challenges in terms of developing optimal chemistries, availability and extraction footprint of battery critical materials, recycling concerns and constraints related to charging times and range anxiety; hydrogen based technologies are built upon well established chemistry and release innocuous water as a process outcome. Speaking of some of its characteristics ; it's a colourless, odourless gas which is not toxic but does suffocate. It carries almost 2.5 times more energy per kilogram as compared to petrol or diesel, however since its density is very low, it requires much bigger and sturdy storage. It burns with an almost invisible flame in daylight and being almost 14 times lighter than air, it moves upwards quickly .

Hydrogen Endeavour- The History : Hydrogen is almost 90% of all atoms in the universe . In the 17th century Robert Boyle reported the appearance of gas bubbles as an outcome of acid and iron interaction, however it is possible that mankind had a sense of its flammable properties much earlier than that. Henry Cavendish recognised it distinctly and it was christened after its water producing properties (hydro-gen) by Lavoisier. In the 1800s production of hydrogen was demonstrated by splitting water using electricity known as electrolysis. By the mid 20th century liquid hydrogen had established its credentials as a rocket fuel and fuel cell based systems were adopted to power electrical systems in spacecrafts. Hydrogen's journey in passenger aviation was rather short lived with the Hindenburg catastrophe in 1937.



The Hydrogen Scheme: The hydrogen scheme envisaged towards de-carbonization is broadly focused upon its extraction selection of technology for energy processing and logistics.

Production: Hydrogen is not abundant in its free state. Conventionally it is produced through reforming natural gas under controlled conditions. Electrolysis of water is another method, however it is more energy consuming, but yield is purer. The decarbonization imperative demands that either the hydrogen is entirely produced through renewable energy sources or the process emissions should be captured and stored securely, popularly called as CCS .Also based upon these adopted production processes; the produced hydrogen is termed as either green or blue. Currently, a large part of the world's hydrogen goes into ammonia production for the fertiliser industry. It is also used in the petroleum refining process to remove sulphur. Hydrogen is

obtained as a by-product in the chlor-alkali industry linked to detergent or soap production.

Energy Processing: Hydrogen can act as an energy storage medium which means that during the spell of abundance of solar/ wind resources or if there is a time of lean demand, the excess energy can be used to produce hydrogen, which when needed can be exploited for energy. Hydrogen can be utilised as a combustion fuel in engines or it can produce electricity through a fuel cell. In transport, hydrogen is said to have more promise than battery based solutions for heavy haul applications, also fuel cell based systems run at higher efficiencies as compared to combustion engines. Broadly speaking, the choice of technology remains to be application specific. Another example of hydrogen based fuel cell application is Japan's fuel cell based residential heating solutions program .

Logistics: Being small and light, hydrogen is prone to leakage. It requires compression or liquification and specially designed tanks for storage. For distribution purposes, city gas networks can be re-engineered to accommodate hydrogen. Options like salt caverns for large scale hydrogen storage and its conversion to ammonia, which is relatively easy to liquify for carrying purposes, also exist.

The Challenges: Also , just like other emerging technologies there are some concerns with hydrogen as well. The explosive nature of the gas is one such impediment. In addition to it, some suggest that the hydrogen leakages may in fact enhance the longevity of greenhouse gases in the atmosphere which otherwise decay after a period of time and thus resulting in increased warming. These are some of the apprehensions which would require to be addressed through technology and regulatory ecosystem.

In this context, India's green hydrogen mission obtains a lot of significance. It focuses upon building a research and innovation ecosystem and apart from laying down a roadmap for increased hydrogen usage in domestic industry, it also sets its eye on exports and making India a hub for electrolyser manufacturing. As an extraordinary initiative towards technology demonstration, hydrogen powered trains are also planned. A hydrogen powered ride to a net zero future indeed promises to be exciting

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Samosa

Dr. Uppuluri Krishna Murty



A Refreshing and nutritious Snack, at any time of the day

The 'Samosa', historians specializing in culinary sciences and arts seem to say, has a Central Asian origin. The earliest mention of the 'Samosa' was by an Abbasid-era poet praising the snack by one of its myriad other names, 'Sanbusaj'.

It does not mean we can conclusively say that "Samosa" the great visited India or invaded India through the Khyber Pass and it never existed in India before that. There are a variety of stuffed fried sweet and hot varieties of much savoured and fancied preparations of slightly different shapes and sizes in India from times immemorial, which probably is a robust pointer to the fact that the 'Samosa' as is known today must have existed in one shape or other in India also.

Recipes are found in different 10th–13th-century Arab cookery books about the Samosa.

The Central Asian samsa was introduced to the Indian subcontinent in the 13th or 14th century by chefs from the Middle East and Central Asia who cooked in the royal kitchens for the royals of the Delhi Sultanate.

Amir Khusro (1253–1325), a scholar and the royal poet of the Delhi Sultanate, wrote that the princes and nobles enjoyed the "samosa prepared from meat, ghee, onion, and so on".

Ibn Battuta, a 14th-century traveler and explorer, describes a meal at the court of Muhammad bin Tughluq, where the samushak or sambusak, a small pie stuffed with minced meat, almonds, pistachios, walnuts and spices, was served before the third course, of pulao.

Nimatnama-i-Nasiruddin-Shahi, a medieval Indian cookbook started for Ghiyath Shah, the ruler of the Malwa Sultanate in central India, mentions the art of making Samosa.

The Ain-i-Akbari, a 16th-century Mughal document, mentions the recipe for qottab, which it says, 'the people of Hindustan call Sanbúsah'.

I am not able to quote from any other sources as I have no access to any such information.

Present Day India

The samosa is prepared with Maida and stuffed with a filling, often a mixture of diced and cooked or mashed boiled potato, onions, green peas, lentils, ginger, spices and green chili. A samosa can be vegetarian or non-vegetarian, depending on the filling. The entire pastry is deep-fried in vegetable oil or rarely in ghee to a golden brown colour. It is served hot, often with a fresh green chutney, such as one made out of mint, coriander, or tamarind. It can also be prepared in a sweet form. Samosas are often served in chaat, along with the traditional accompaniments of either a chickpea or a white pea preparation, served with yogurt, tamarind paste and green chutney,

garnished with chopped onions, coriander, and chaat masala. In North Indian settings Tea often accompanies the samosa.

In the city of Hyderabad, a host to different Indian and International cultures and traditions, a smaller version of samosa with a thicker pastry crust and mince-meat filling, referred to as 'lukhmi', is consumed, as is another variation with an onion filling.

In the Southern States samosas are slightly different, when compared to the Northern parts of the country where this snack landed first, being folded differently. The filling also differs, typically featuring mashed potatoes with spices, fried onions, peas, carrots, cabbage, curry leaves, and green chilis, and is mostly eaten without chutney.

My introduction to the legendary 'Samosa' is probably too long and boring.

Now I shall get in to my rendezvous with the samosa!

I joined an Engineering College in late 1970s to complete my B. Tech Degree after my Plus Two. It was a kind of a prestigious achievement in itself in late 1970s for someone from a village who had a striking resemblance to a small frog from a well and who only studied albeit unwillingly in Telugu medium throughout, as there were very few Engineering Colleges then in our state – to be exact only eight were there with one of them being a private Engineering College that admitted students based on liberal donations. To be precise, the number of Engineering Colleges had grown by 50 times over the 45 years in India. In those days, students as well as parents wanted to join a Government College whether it was for doing a course in Engineering or Medicine or Agricultural Sciences or Veterinary Subjects. Joining a private college was the last resort even for the ultra-rich; this was because of branding enjoyed by prominent Government Colleges and the stigma attached with 'purchasing' education vis-s-vis getting a seat at a college on 'merit'.

In the last five decades' things have taken a 180 degrees turn. Now private colleges outnumber the Government Colleges in all spheres of education and at all levels; whether it is at nursery level or even at the PhD level. Many of them have really interesting names. There is a Lovely College, a Magnificent University, a Ridiculous Convent, a Strip-Tease Autonomous Deemed Research Centre, a Sports University named after a Sharp Shooter from the Underworld offering courses in Physical Education, a Bare All Dental College; there appears to be a universal scarcity of names fit for educational Institutions, and so on. Times have changed. Change is inevitable.

To be brief, at the Engineering College Hostel where I then only 17, was all by myself for the first time in my life, I had to manage myself within my shoe-string budget that was cobbled together with great difficulty with half by the inflow coming State scholarships and half by sponsorship from my father, a retired soldier with meagre resources. The cap on monthly expenses was Rupees 200/-. The rather lengthy list of bills included Room Rent, Room Keeping Expenses, Laundry, Film Tickets, Dhobi Charges, College Mess Bill, Entertainment, Saloon Visits, Sport, and everything else. The room rent was only ₹6 / - per month.

The Vegetarian Mess of the College used to provide Morning Tea / Coffee, Breakfast and a cup of Tea / Coffee, Lunch, evening Tea / Coffee plus a snack, and finally Dinner. If one wishes to opt out of either Lunch or Dinner one has to advise the mess in charge cook reasonably in advance.

There used to be a popular joint named 'Subbaih's Tea Stall' nearer to our Hostel. This Tea Stall had come up under the shade and protection of a giant peepal tree [Ficus Religiosa]. I may be wrong in getting the Stall Owner's name but nevertheless the stall was there with one Subbaih was either the cook or manager or the service boy or one with all these three roles rolled in to one as was the case in most of the roadside stalls then as well as now. It is about 50 meters away from the Hostel entry gate towards the Highway abutting which the Hostel and the College Campus itself; located in a plot of 141 of acres' land were built decades back when Kakinada was still called Cocanada.

That Tea Stall was a place for students to hang out in the evenings. The gatherings used to peak in the evenings after college Hours and may be in the weekends throughout the day. Some fortunate or unfortunate students used to bunk classes and spend time there as and when they like. These stalls thrive because of such customers and not because of people like me. During the long monsoons this shop used to do extra business as there was great demand for hot cups of Tea or Coffee. If I am correct, some students used to get room service at a special premium price and I was not privy to the prevalent rates.

The best in class students of the college and the students groups leaders and for that matter all sorts of students used to gather there to gulp innumerable cups of Hot Coffee or Tea and, of course, 'Samosas' of a special aroma; the only thing I knew about them for I never tasted them.

The samosas were rather bulky and cooking oil use to ooze out of them. The skin used to be particularly thin with a lot of vegetables stuffed inside. One may wonder how I got a close-up look of that wonderful samosa without visiting the Stall. I used to go to the next shop to hire cycles for trips to the film theaters. At such times I used to get a chance to examine the samosa which I dreamt of eating some day.

When I had joined the college a piece 'Samosa', on an average a hefty one which by calorie count used to nearly equal half of the lunch or dinner I take, was priced at, if my memory is correct, Paise 15 or may be Paise 25. By the time I left the College it was sold at either Paise 50 or may be one Rupee. Not an abnormal price rise if one takes in to account the 4-year time period that bridged the two points in time about four and a half decades back.

Immediately after joining the College I realized that I was a free citizen with some pocket money of my own but I had with very little understanding of responsibility. I was free from the rigid parental monitoring to which I was accustomed but was always looking for an escape route.

I used to frequent film theatres in the evenings; often going for the late night shows or popularly called second shows. I used to prefer older Telugu Films from 1950s, which one can now call archaic or antiquated films. But soon it had dawned up on me that each film ticket available at ₹10 or so and the rent I had to pay to hire a cycle to go to the film and come back safely and quickly; about ₹2 / - were making a big hole in my modest budget. I joined the college on July 27 or so. And by mid-October of that year; I mean after a lapse of three long months and about 25 films, I took a harsh decision that I would see my next film after graduation only. I had to enforce a number of economizing measures on myself, a la they do in large PSUs once in a while only to be breached, to achieve a balance between expenses and cash on hand.

Such was my agony that I had to resort to all kind of cost-cutting exercises because of my profligacy. Believe me, my next film was 'Tooth and Claw' which I had seen on the day I vacated the Hostel after graduation in early 1983; a break of about 46 months. I am proud to add that I could stick to my difficult decision and thereby gained a lot. I saved money and time because of this harsh measure and could develop other latent faculties and pursue other passions such as sport though I missed a lot information, entertainment, company of the friends' circle, gossip, and whatever else that one gets by seeing contemporary films along with a group of friends.

Though by no stretch of imagination I can claim that I am a writer of any repute I had learnt the art of writing pieces for Vernacular and English newspapers and other publications while at the Engineering College itself as I had plenty of free time. Besides I developed enough English Language skills to clearly understand what the faculty was teaching in English Medium.

This skill had helped me in many ways. I was able to independently fill up many complex application forms that one needs to fill at every stage of life to avail oneself of any service. In case of some published pieces of mine the pay checks were quite attractive. The last but not the least of the benefits was the boost to my self-confidence that the printed 'By Line' above my name had given me; it really propelled me forward with the necessary escape velocity in life.

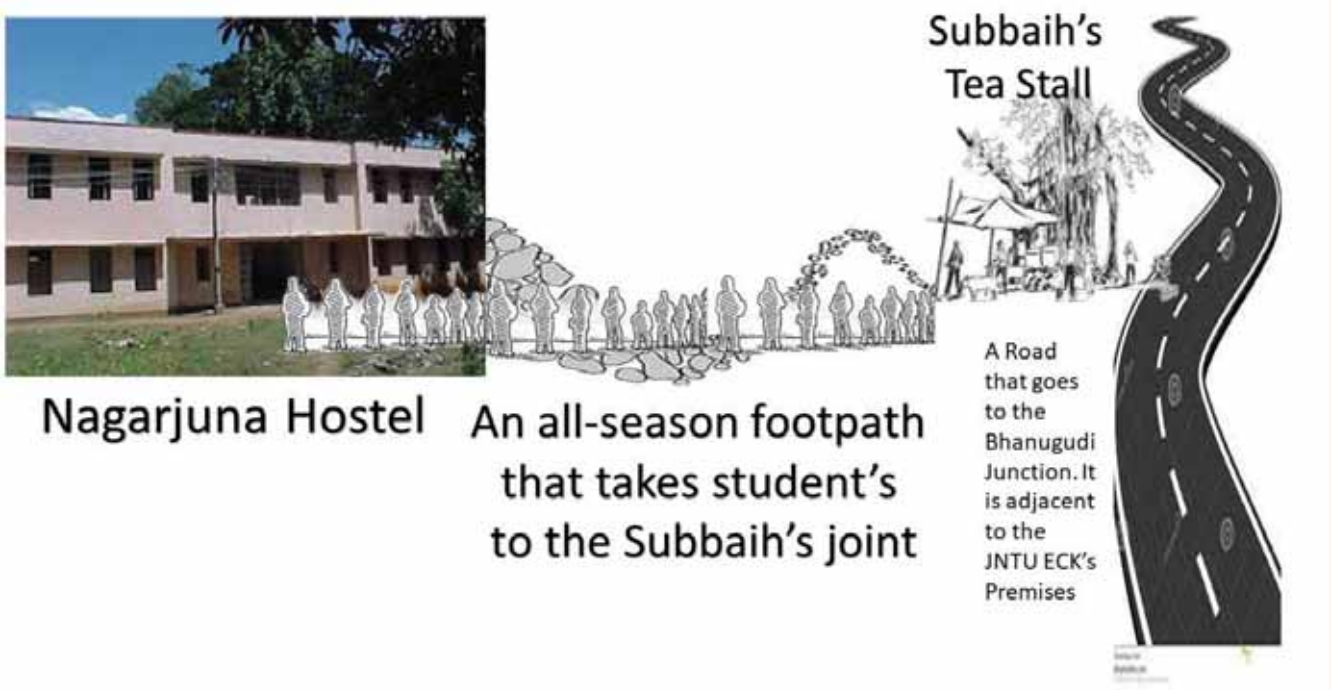
Now I shall come back to the 'Samosa' the hero of our story.

Soon after joining the college and getting a room at the Nagarjuna Hostel; the other hostel available at that time being the Nalanda Hostel, was being allotted to Seniors in their 4th or 5th year of the B. Tech. course apart from the twenty plus M.Tech. students and a handful of PhD Scholars, I had learnt that 'Subbaih's Tea Stall' is the place to go for unwinding after a hectic day at the college.

It is not that I had put in to practice what I had learnt by the word of mouth. I was hesitant to visit that place because my first weakness, films, had turned me bankrupt.

Films apart, the reasons for such hesitation on my part were a little too many.

My parents never encouraged me eat outside the home. Firstly, the family's modest budget was a problem and secondly, hygiene. I had realized, as I had mentioned earlier, that I had some discretion as a hosteller plus there was peer pressure to join the friends as they frequented the Tea Stall. But I was resisting the temptation to the best



of my ability. I was extremely happy with the food served in the Vegetarian Mess by one Raman, the chief cook, and his team. I was not sure which of the four items; Breakfast, Lunch, Evening Snack, or Dinner, I had to knock off to accommodate the 'Samosa'! That was the dilemma I was facing. Often I had thought of visiting the Stall but my abundant caution used to prevail and I used to opt for the option of delayed gratification. Time passed by quickly. It is not about the cost of one samosa. It is about forming a habit or preventing the formation of a habit.

To cut a long story short, I never visited the Tea Stall during my four-years and a half stay at the college though the lure of the samosa was almost insurmountable. As for films I had seen one on the day I had vacated the hostel and that too after I was assured of my provisional B. Tech. certificate. But somehow I could not fit in a visit to the Tea Stall.

I visited the Engineering College after my graduation a few times. The occasions were batch mates' reunions or Golden Jubilee Celebrations of the College's foundation day and such other special days. There were many significant changes. The College itself had become a university. Today it has more than 150 affiliated colleges. Funding has come from the alumnae as well as the Government. The entire college has witnessed huge investments and development on many fronts. Several new Hostel Blocks had come up. Nalanda Hostel was one such Block which was commissioned way back as were about to take leave of the College. Particularly the number of girls pursuing Engineering has seen a steep rise. There must be some exclusive Hostel Blocks for women now. During the late 1970s out of an annual intake of about 250 students there were about 15 to 20 girls in a batch. Today the break up must be 50% boys and 50% girls.

I noticed during one of my trips that there was a Tea Stall at the same place. The Management Team of the Tea Stall has obviously changed over the years as I could make out from the persona present there. A Boundary wall had come up on the edge of the expansive College property. This restricted the free and direct access the students of the Nagarjuna Hostel Block and the then newly added Narendra Hostel Block had back in my days to the Stall. Now an exit Gate has come up a little away from the place where the Stall stood. I do not know whether this had affected the business. Towards the end of our stay in the college campus one Official 'Students' Canteen' had also come up near the post office although the stuff sold there was not to the liking of many students with the main complaint being that and there was too much 'Official' about this canteen!

My tryst with the samosa with that special aroma ended on that sad note. I never tasted one though I remain even to this day an ardent admirer of that snack from that road-side Tea Stall.

Did You Know



THE 'X' FACTOR

The letter 'X' denotes that it is the train's last coach. Railway officials get a confirmation that the train has passed in its entirety without any coaches being left behind.



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A "CHESS BOARD"

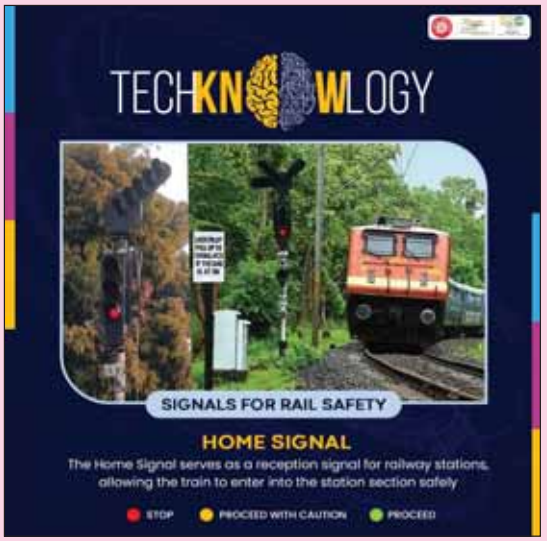
The Charbagh Railway Station in Lucknow appears like a chessboard from an aerial view. The station's domes and pillars give the impression of chess pieces, making it a unique architectural wonder that attracts many visitors.

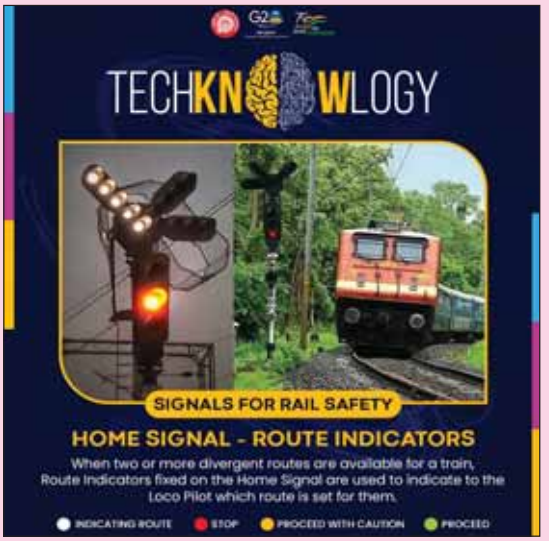


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Technology





Test Your Knowledge

1 World's longest platform is in which railway station?

(a)	(b)	(c)	(d)
New Delhi	Jaipur	Hubbali	Tinsukia

2 Moving towards zero carbon emission target, Indian Railways has recently planned to run trains based on which fuel?

(a)	(b)	(c)	(d)
Nitorgen	Hydrogen	Argan	Methane

3 Who is the first woman loco pilot of Vande Bharat Express

(a)	(b)	(c)	(d)
Ms. Surekha Yadav	Ms. Rachita	Ms. Vanshika	Ms. Sanya Parveen

4 In the Indian Railway Management Service examination, how many marks are allotted for the Personality Test?

(a)	(b)	(c)	(d)
100	125	150	75

5 In which state, Indian Railways has completed the work of electrification of all broad gauge junctions?

(a)	(b)	(c)	(d)
Madhya Pradesh	Rajasthan	Kerala	Uttar Pradesh

6 For the empowerment of transgender, 'Trans Tea Stall' has been opened on which railway station of Indian Railways?

(a)	(b)	(c)	(d)
Moradabad	New Delhi	Pune	Guwahati

7 Two sportspersons of which Zonal Railway have recently been honored with the Laxman/ Rani Laxmibai Award?

(a)	(b)	(c)	(d)
Eastern Railway	North Eastern Railway	Northern Railway	Western Railway

8 Pet dog is allowed to be booked in which class of coach in the train?

(a)	(b)	(c)	(d)
First AC & First class	Second class	(a) & (b)	Any coach

9 Hot axle box detector can capture speed data up to how much kmph?

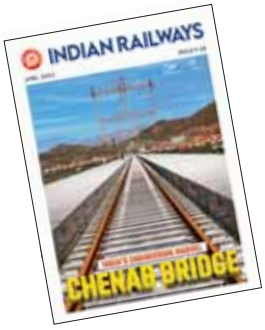
(a)	(b)	(c)	(d)
90	130	160	190

10 How many districts of how many states have been connected by Vande Bharat Express so far?

(a)	(b)	(c)	(d)
55 Districts of 10 States	79 Districts of 12 States	93 Districts of 15 States	108 Districts of 17 States

Right Answers

1- (c)	2- (b)	3- (a)	4- (a)	5- (d)
6- (b)	7- (d)	8- (a)	9- (d)	10- (d)



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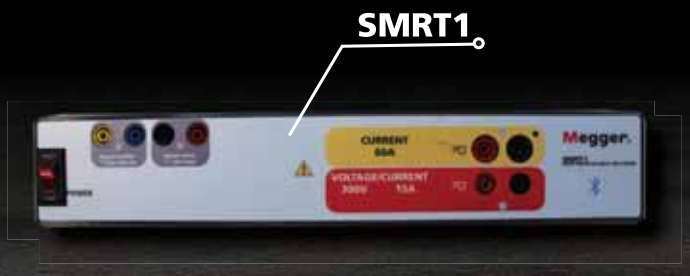
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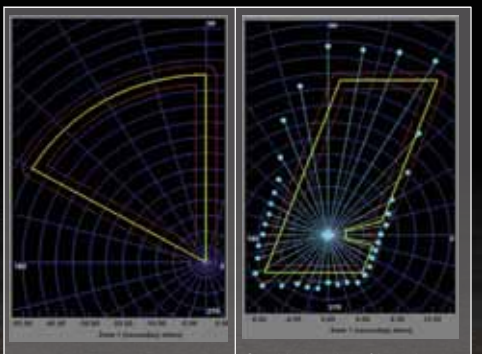
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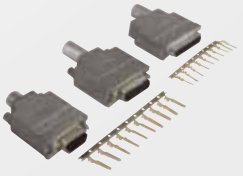
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