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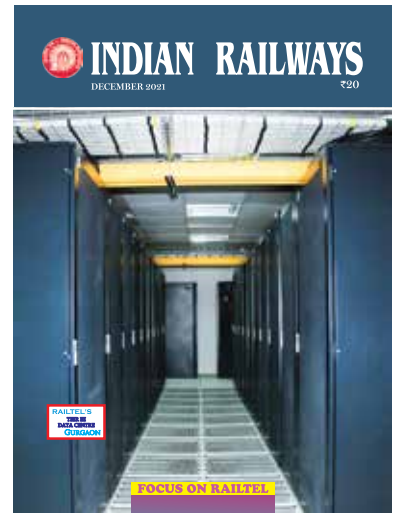


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# Editorial

**W**ith the introduction of wi-fi facilities at more than 6000 railway stations and dramatic expansion of services like e-office, CUG, Railnet, NGN for voice traffic and Railway Display network (RDN), RailTel has changed the face of the entire Indian Railways. The growth recorded by Railtel in recent times is simply phenomenal considering the current state of Telecom market. The focus of the current issue of the magazine is on this Miniratna PSU of Indian Railways.

Public Grievance office was inaugurated by Hon'ble Minister of State for Railways, Shri Raosaheb Dadarao Patil Danve at Churchgate, Mumbai on 17<sup>th</sup> November, 2021. At Baripada, Odisha, Heritage Railway Museum was inaugurated on the same day. Earlier in the month, CRB & CEO had flagged off the 10<sup>th</sup> ZDM3 loco manufactured by Parel Workshop on 8<sup>th</sup> November. The loco will be used in the Sub-Himalayan regions of Kangra valley and Kalka-Shimla Railway.

Apart from regular features like Central news, Zonal Railway news and Picture Gallery the issue also contains interesting and informative articles received from various authors. We hope our readers would like the issue. They may send their feed back/opinion to [feedbackindianrailways2021@gmail.com](mailto:feedbackindianrailways2021@gmail.com). ■



## Railway Minister Visited Jharsuguda and Held High Level Meeting with General Manager, SER & ECoR



*Minister for Railways inspecting Electronic Interlocking System at Jharsuguda along with Ms. Archana Joshi, General Manager, SER & ECoR*



*MR holding a high level review meeting with MPs and MLAs along with Ms. Archana Joshi, General Manager, SER & ECoR*

Shri Ashwini Vaishnaw, Hon'ble Minister for Railways, Communications and Electronics & Information Technology visited Jharsuguda of Chakradharpur Division, South Eastern Railway on 8<sup>th</sup> and 9<sup>th</sup> November, 2021. Railway Minister held a high level review meeting with Ms. Archana Joshi, General Manager, South Eastern Railway & East Coast Railway at Jharsuguda on 8<sup>th</sup> November, 2021. Shri Suresh Pujari, Hon'ble MP, Bargarh, Shri Navin Gangdev, Hon'ble MP, Sambalpur, Shri Nauri Nayak, Hon'ble MLA, Rangali, Smt. Kusum Tete, Hon'ble MLA, Sundargarh, Shri Shankar Oram, Hon'ble MLA, Birmitrapur, Shri Jainarayan Mishra, Hon'ble MLA, Sambalpur, Shri Ravi Nayak, Hon'ble Ex MLA, Kuchinda and Smt. Radharani Panda, Hon'ble Ex MLA, Brajarajnaragar were present in the meeting and interacted with Hon'ble Railway Minister. Principal Officers of

South Eastern Railway, East Coast Railway and South East Central Railway also attended the meeting.

Various issues pertaining to infrastructural development works of railways in Odisha, specially in Jharsuguda area were elaborately discussed in the meeting. During the discussion, Hon'ble Railway Minister also laid emphasis on safety issues and suggested several measures to improve the passenger amenities over SER's jurisdiction. Hon'ble Minister also laid stress on timely completion of all ongoing railway projects. On the 2<sup>nd</sup> day of his visit, Hon'ble Railway Minister inspected Jharsuguda Electronic Interlocking System along with Ms. Archana Joshi, General Manager, SER & ECoR and other senior officials. He also inspected Jharsuguda station and suggested several Passenger Amenity measures. ■

## Hon'ble Minister of State for Railways, Coal and Mines, Government of India inaugurates Railway Public Grievance Office at Churchgate

**Dedicates Home Platforms and Various Passenger Amenities on Mumbai Suburban section of Central & Western Railways**

Shri Raosaheb Dadarao Patil Danve, Hon'ble Minister of State for Railways, Coal & Mines 17<sup>th</sup> November, 2021 in a function held at Churchgate inaugurated Railway Public Grievance office at Churchgate. He also inaugurated Reconstructed Frere Road over Bridge, Integrated Surveillance System on Mumbai suburban section

of Western Railway, state of the art POD concept retiring room at Mumbai Central railway station.

Hon'ble Minister Shri Danveji also dedicated Home Platform at Ambernath and Kopar railway stations, Foot Over Bridges, Escalators, Lifts and Toilet Blocks on Mumbai suburban section of Central and Western Railways, Coach Restaurant



at CSMT and Executive Waiting Hall at CSMT and Mumbai Central railway stations.

While addressing on the occasion Hon'ble Minister of State for Railways, Coal and Mines said that Railways striving hard to work in accordance with the vision of Hon'ble Prime minister. Railways implementing various innovative ideas to improve the aesthetics and to provide better services to its valued customers. Station Development, Vande Bharat trains, Ramayan Circuit Train, Bullet Train and DFC (Dedicated Freight Corridor) are some of the projects Railways working on. Cleanliness and Safety are always the priority of Railways. Hon'ble Minister of State for Railways also congratulated the Railwaymen for their efforts in completing the projects within the target period.

Shri Ramdas Athavale, Hon'ble Ministers of

State for Social Justice and Empowerment, Government of India, Shri Kapil Patil, Hon'ble Minister of State for Panchayati Raj, Government of India, Shri Devendra Fadanvis, Hon'ble Leader of Opposition in Legislative Assembly, Maharashtra, Shri Pravin Darekar, Hon'ble Leader of Opposition in Legislative Council, Maharashtra, Shri Manoj Kotak, Hon'ble MP, Shri Ashish Shelar, Shri Rahul Narvekar, Shri Mangal Prabhat Lodha, Shri Atul Bhatkhalkar, Capt. Tamil Selvan, Hon'ble MLAs, Senior Officers from Central and Western Railway were present on the occasion.

Shri Anil Kumar Lahoti, General Manager Central Railway & Shri Alok Kansal, General Manager Western Railway greeted all the guests presenting a sapling. All Covid-19 protocols were observed during the function. ■

## Inauguration of Heritage Railway Museum at Baripada

Shri Bishweswar Tudu, Hon'ble Minister of State for Jal Shakti & Tribal Affairs, Govt. of India inaugurated the Heritage Railway Museum at Baripada on 17<sup>th</sup> November, 2021 in presence of Shri Prakash Soren, Hon'ble MLA. Shri P Mishra, Principal Financial Advisor, South Eastern Railway, Shri Manoranjan Pradhan, Divisional Railway Manager, Kharagpur and other officers were present on the occasion.

Kharagpur Division of South Eastern Railway has completed the development work of heritage Railway Museum project in Baripada with an estimated cost of approx. ₹1.4 Crore within an area of 6000 Sq.mts. Inside the boundary wall, construction includes two tracks for



*Shri Tudu, Hon'ble Minister for State of Jal Shakti & Tribal Affairs, Govt. of India inaugurating Heritage Railway Museum at Baripada in presence of Shri Prakash Soren, Hon'ble MLA*

placing engines and coaches inside covered shed, booking counter, toilet, water installation, garden area, shelter for visitors with seating arrangement. Lighting arrangements throughout the boundary wall and inside cover shed, have also been done.

The development of heritage railway museum and its opening for general public is a matter of pride for the people of Mayurbhanj district and proof of rich railway history of the region since 1904. The coming generations will be inspired and they

would learn a lot from this heritage Museum. There will be continuous improvement in this museum, with the addition of heritage items from all over the division. ■



## Shri Suneet Sharma, Chairman and CEO, Railway Board Inspects Chhatrapati Shivaji Maharaj Terminus, Mumbai



Chairman and CEO of Railway Board Shri Suneet Sharma visited Chhatrapati Shivaji Maharaj Terminus station on 8<sup>th</sup> November, 2021. Shri Anil Kumar Lahoti, General Manager, Central Railway accompanied him during the inspection. Shri Shalabh Goel, Divisional Railway Manager, Mumbai Division of Central Railway welcomed Shri Suneet Sharma presenting bouquet near Heritage gully near platform no. 18 at CSMT.

Shri Sharma first visited Heritage gully where artefacts are displayed including Sir Leslie Wilson the GIP Heritage Electric Loco, other steam and electric locos, coaches and cranes, printing machines etc. of GIP era. Shri Sharma also appreciated the Herbal Garden initiative towards creating environment friendly atmosphere for its passengers near Heritage Gully. The garden boasting a collection of 120 different species of herbal medicinal plants and shrubs.

Shri Sharma visited recently opened “Restaurant on Wheels” in the vicinity of heritage gully. The restaurant has been made using a discarded rail coach and set up under innovative ideas of catering policy. The restaurant is becoming

a popular place amongst passengers and public. Shri Sharma also inspected the Electric Vehicle charging point and green initiatives.

Shri Sharma inspected the CSMT station development plan displayed on platform No.18 was briefed by concerned officials. Shri Sharma also inspected the newly constructed and commissioned five storeyed Air-conditioned building of combined crew Running Room and Lobby which enables seamless coordination between various crew control offices.

Shri Sharma also visited the Digilocker, a Digital Smart Cloakroom recently opened under Non-fare Revenue Ideas Scheme for enhanced sense of safety and convenience to passengers about depositing their luggage. While inspecting Shri Sharma also gone through various eye catching directional and informative, state of the art signages displayed at main line and suburban line sections of CSMT for the convenience of passengers and also braille signages for visually impaired persons. Shri Sharma laid a wreath at Shahid Samrak at CSMT concourse area to pay tributes to the victims of 26x11 terror attack. Shri Sharma also inspected the heritage restoration work and visited star chambers the main glory of Heritage building. Shri Sharma also interacted with commuters of suburban trains at platform and on train to know about the running of services satisfactorily. Shri Anil Kumar Lahoti, General Manager, Shri Ashwani Saxena, Principal Chief Engineer, Shri Gopal Chandra, Principal Chief Electrical Engineer, Shri Mani Jit Singh, Principal Chief Commercial Manager, and other principal heads of the departments of Central Railway were also present during the visit of Chairman & CEO Railway Board at CSMT. All Covid19 mandated protocols were observed during the inspection of Chairman & CEO Railway Board. ■





## Chairman & CEO, Railway Board visits Central Railway Loco Workshop, Parel



*Inauguration of the 10<sup>th</sup> ZDM3 Loco manufactured by Parel Workshop for Kangra Valley and Kalka-Shimla Railways*

Shri Suneet Sharma, Chairman, Railway Board & Chief Executive Officer, Ministry of Railways visited the Central Railway Loco Workshop, Parel on 8<sup>th</sup> of November, 2021. The Chairman, Railway Board & CEO was given a traditional welcome at Parel Workshop with the customary Tilak, Aarti, Welcome song and tying of a Saapha (Turban).

Shri Suneet Sharma inaugurated the ZDM3 Loco which will be utilized on the sub-Himalayan region of Kangra Valley and Kalka-Shimla Railways. This Loco manufactured by Parel Workshop is the 10<sup>th</sup> locomotive out of 12 Locomotives under Rolling Stock Program by Central Railway. The Workshop has already manufactured and dispatched 9 such locos during 2019-20 and 2020-21. Central Railway Loco Workshop, Parel has set up a fine example of commitment towards 'Make in India' & 'Atmanirbhar Bharat', as all the items for the locos have been sourced indigenously.

The Chairman, Railway Board and CEO also inspected the Newly Modified High Speed Automobile Carrier (NMGH) coach. Recently Central Railway has developed a prototype NMGH coach with side entry and other improved features for loading of automobiles. The NMGH coach, developed by Parel Workshop, Central Railway with improved features like Wider opening, Strong chequered flooring, Natural pipe light, Pavement markers and retro reflective tape for guidance, Improved fall plate arrangement for smooth entry and Improved end door design with barrel lock for ease of locking is the first of its kind on Indian Railways.

A presentation of memories of Shri Suneet Sharma during his tenure at Parel Workshop was made. Speaking on the occasion Shri Anil Kumar Lahoti, General Manager said "During his tenure as Chief Workshop Manager, Parel, he played an important role in the modernization of Parel Workshop and now as Chairman, Railway Board, is a guiding force in its continuous modernisation. Shri Anil Kumar Lahoti reaffirmed that Central Railway will put in its best efforts to keep up the momentum."

Shri Sharma interacted with the staff and officers of Parel Workshop and expressed his satisfaction towards the work done by Parel Workshop. Walking down memory lane, Shri Sharma re-lived the old times he had spent at the Workshop. He said that the biggest strength of Parel Workshop has been its ability to adapt itself to the changing times. From manufacturing Steam Locomotives to Diesel Locos to the present, the Workshop has always re-invented itself and has moved on with the times. He also said that Parel Workshop is one of the oldest and largest Workshops on Indian Railways.

Shri Ashwani Saxena, Principal Chief Engineer, Shri A K Gupta, Principal Chief Mechanical Engineer, Shri Gopal Chandra, Principal Chief Electrical Engineer, Smt Ruby Ahluwalia, Principal Financial Advisor, Central Railway, Shri Vivek Acharya, Chief Workshop Manager, Parel Workshop and other Senior Officers of Central Railway were also present. All covid-19 protocols were followed during the visit. ■



*Chairman, Railway Board inspects NMGH coach manufactured by Parel Workshop*



## Chennai-Mysore-Chennai Shatabdi Express Becomes the first Integrated Management Systems certified train of Southern Railway, first Shatabdi of Indian Railways and second mail/express train on Indian Railways

### Special features

- On board house keeping facility (5-Stage cleaning)
- Energy conservation through LED lights and electrical fittings
- Braille signage seat indication number
- Pre-loaded Wi-fi Infotainment System
- Automatic sliding door closer for passenger coupe in Executive coach
- Reflective coach indication and toilet Toilet Occupancy Indication
- Aesthetic vinyl wrapping for coach interiors
- Automatic air fresheners for passenger coupes and toilets
- Comfortable seats with high quality upholstery
- All the coaches are provided with fire extinguishers with fire suppression system fitted in power cars
- Unified information sticker in all coaches with emergency contact numbers for the benefit of passengers.

- Chennai – Mysore – Chennai Shatabdi Express train was introduced on 11<sup>th</sup> May, 1994.
- The service is the first ISO 9001:2001 certified train in Southern Railway (obtained in 19<sup>th</sup> June 2007)
- The train was inducted with state-of-the-art LHB coaches on 1<sup>st</sup> July 2009
- Running on HOG thereby reducing pollution and prevention of resource depletion (Diesel)
- Maintaining 100% passenger amenities in working condition, 100% HOG and 100 % Bio digester toilet operations and 100% functional sub-pantry equipment
- Quality air conditioning, lighting and other electrical amenities.

Shri John Thomas, General Manager, Southern Railway inspected the train service and felicitated the team of Officers and Staff of Basin Bridge Depot whose concerted efforts bagged the IMS Certification for the premier train. General Manager presented the IMS Certification to Coach Depot Officer/Basin Bridge. He mentioned that the service is equipped with state-of-the-art facilities ensuring safe and comfortable travel for passengers. ■

Chennai-Mysore-Chennai Shatabdi Express becomes the first Integrated Management Systems (IMS) certified train of Southern Railway, first Shatabdi of Indian Railways and second mail/express train on Indian Railways. A feather in the cap of Southern Railway, Chennai-Mysore-Chennai Shatabdi Express has received Integrated Management Systems Certification. Train No. 12007/12008, Dr MGR Chennai Central-Mysore Jn-Dr MGR Chennai Central Shatabdi Express service is the first ever train service of Southern Railway to bag IMS Certification with ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certifications. The primary maintenance of the train is handled by Basin Bridge Coaching Depot of Chennai Division. This certification has been granted by the certification agency after comprehensive audit and duly verifying adherence by Railways to all laid down norms. The pair of Shatabdi service between Chennai-Mysore-Chennai was run as Train No.12007/12008 in the pre-COVID times and presently run as Special service with Train No.06081/06082 (except Wednesdays).

Significant milestones achieved by Chennai-Mysore-Chennai Shatabdi Express :

## Brahmaputra Mail Becomes the First Passenger Carrying Train on Electric Traction up to Kamakhya station of Guwahati in N.F. Railway

- **With the completion of Railway Electrification works and commissioning of the section up to Kamakhya, trains will come directly up to Kamakhya without change of traction**

Marking an important step towards green transportation, the first passenger train to run entirely on electric traction arrived at Kamakhya station today. The train No. 05956 Delhi – Kamakhya (Brahmaputra) Mail Special leaving



from national capital city reached Kamakhya station of Guwahati today at 13-30 hours covering more than 2000 Kms on electric traction. Similarly, in return direction, the train No. 05955 Kamakhya – Delhi (Brahmaputra) Mail Special left for Delhi from Kamakhya station at 14-30 hours today through electric traction. The train became the first Mail/Express train to run on electric traction up to Kamakhya station of Guwahati after successful operation of a parcel train on electric traction just a day before. Thus, the N. F. Railway begins a new era. Earlier on 21<sup>st</sup> October, 2021, the Northeast Frontier Railway ran its first parcel train on electric traction up to Kamakhya station and achieved a historical moment for N. F. Railway and North-eastern region. After successful of completion of Railway Electrification works up to Kamakhya station and authorization granted by CRS/N. F. Circle after inspection from 7<sup>th</sup> to 9<sup>th</sup> October, the section from New Coochbehar to Kamakhya was opened for operation of Electric Traction. With this, total 760 Route KM/1701

Track KM has been electrified on N. F. Railway.

Up till now, the trains with electric locomotives were coming from Katihar and Malda up to New Coochbehar, where electric loco was being detached from train and diesel locomotive was being attached for its onward journey. Now with the completion of Railway Electrification works and commissioning of the section up to Kamakhya, these trains will come directly up to Kamakhya without change of traction. As such, there will be direct connectivity from New Delhi to Kamakhya on Electric Traction without change of locomotive enroute.

At this point, it is worthwhile to note the numerous inherent benefits of electric traction i.e. higher speed potential enabling faster trains, saving of time and energy, increase energy efficiency with higher power to weight ratio, regenerative braking, higher hauling capacity with high horse power locomotives, improve reliability and line capacity, pollution free mode of transportation, cost effective due to lesser maintenance and operating cost etc. ■

## Railways Taking Steps to Normalize Passenger Services in phased manner

As part of Railways' efforts to normalize passenger services and revert back in a phased manner to the pre-covid levels of service, the Railways Passenger Reservation System ( PRS) will be shut down for 6:00 hours during the lean business hours of the night for next 7 days. This is to enable upgradation of system data and updating of new train numbers etc. Since huge amount of past (old train numbers) and current passenger booking data are to be updated in all Mail/ Express trains, this is being planned in a series of carefully calibrated steps and implemented during night hours in order to minimize impact on ticketing services.

The activity will be performed starting from the intervening night of 14 and 15-Nov to the night of 20 and 21-Nov starting at 23:30 hrs and ending at 05:30 hrs.

During these 6 hours (from 23:30 to 05:30 hrs) period, no PRS Services (ticket Reservation, current

- ➔ Railways Passenger Reservation System ( PRS) to be shut down during lean business hours of night for next 7 days
- ➔ This will enable upgradation of system data and updatation of new train numbers

booking, cancellation, enquiry services etc) will be available. During the period railway personnel will ensure the advance charting for the trains to start during the affected timings. Except for the PRS services, all other enquiry services including 139 services will continue uninterrupted.

Ministry of Railways has requested it's customers to support the Ministry in the effort to normalize and upgrade the passenger services. ■

**Readers** are requested to send their

SUGGESTIONS / FEEDBACK to [feedbackindianrailways2021@gmail.com](mailto:feedbackindianrailways2021@gmail.com)



## Big Boost to Rail Electrification in North East

- ➔ Authorization for introduction of AC electric traction to & from Guwahati railway station is received from CRS
- ➔ Total HDN (High Density Network) routes (649 RKM) falling in Northeast Frontier Railway have been commissioned with Electric Traction
- ➔ Prestigious trains like Rajdhani Express, Tejas Rajdhani Express etc from Northeast to run on electric traction from Guwahati to the National capital

In a historical achievement, CRS authorization has been received for introduction of AC electric traction to & from Guwahati railway station. Guwahati is the biggest and busiest railway station of Northeast being located in the capital of Assam. So the biggest city of Northeast is now literally connected with all metros and other big cities through 25KV AC traction.

Northeast Frontier Railway (NFR) has successfully completed Electrification work of total 649 RKM / 1294 TKM from Katihar to Guwahati. This way Total HDN (High Density Network) routes (649 RKM) falling in NFR have been commissioned with Electric Traction.

This great feat will now connect New Delhi to Guwahati on seamless Electric Traction. This is yet another effort by NFR for capital connectivity by Green Transportation.

It may be mentioned here that, Northeast Frontier Railway has already started running trains with electric traction from the Kamakhya station with the arrival and departure of the Brahmaputra Mail with AC traction since 22<sup>nd</sup> October last.



Some of the benefits that will be reaped due to Electrification of the sections are:-

- There will be net saving on foreign exchange spent on HSD Oil to the tune of ₹300 Cr per annum.
- The consumption of HSD Oil will also be reduced by 3400 KL per month which will reduce dependence on imported petroleum.
- Due to seamless train operation, traction change which is inevitable at New Jalpaiguri and New Coochbehar, will now be done away with. This will enhance mobility of the trains.
- Due to enhanced mobility, total running time between Katihar to Guwahati will be reduced by 2 Hrs (approx) due to higher speed of the trains. As a result, about 10% more no. of trains can be run in the section.
- With Electrification heavier goods trains can be run with higher speed.
- Because of the enhanced line capacity, 10% new passenger trains can be introduced and this will help in introduction of more Rajdhani exp for capital connectivity projects.
- Electrification will reduce dependence on imported petroleum.
- With electrification, Head on Generation (HOG) technology can be used instead of End on Generation (EOG) system with two power cars employing two DG sets on either end on all Linke Hofmann Busch (LHB) coach fitted trains.
- The power generator cars which consume about 100 ltr diesel per hour can be saved apart from noise, fume emission during run.
- Greenhouse gas emission for electric traction will fall which will lead to reduced carbon footprint.

With the completion of the electrification of the Guwahati station, other prestigious trains like Rajdhani Express, Tejas Rajdhani Express etc from Northeast can now be switched over to run on electric traction from Guwahati to the National capital and other cities like Mumbai, Chennai, Kolkata etc directly without change of traction enroute.

This Electrification work will save our foreign exchange reserves spent on HSD Oil, and will provide greener transportation & reduced carbon footprints.

In addition to above, passenger trains with higher speed & heavier goods trains can be run. ■



## Indian Railways Develops Art Gallery with Souvenir shop at Kevadiya Railway station under PPP initiative

- ➔ Art Gallery to showcase different Art & Craft forms of Gujarat and India
- ➔ Now, tourists visiting "Statue of Unity" can experience the rich cultural history of Gujarat at Kevadiya station itself

Adding one more tourist attraction near 'Statue of Unity', Vadodara Division, Western Railway has awarded first of its kind contract in Indian Railways for development of Art Gallery with Souvenir shop at Kevadiya Railway station under PPP initiative.

Drawing on the benefits of PPP model, the Art Gallery will showcase different Art & Craft forms of Gujarat and India and will be developed and operated by private party with earnings to Railways of 24.7 lacs and potential revenue of 2.83cr. This concept will not only enrich the experience of people



visiting Kevadiya, but on social front, this unique concept will also provide employment to the local tribal people of Narmada district by giving them an opportunity to promote their tribal art. ■

### THE MAXIM; LEAVES

A leaf as you see, do you see it the way I do?  
 Do you see what you want to see or do you wish to feel what you want to see?  
 What do you know about our green friend?  
 That it follows diffusion to keep us alive.  
 But aren't those living too? Smarter than they might know,  
 clever might they become as they grow.  
 A curious here would believe it's something unique,  
 as unique as our existence,  
 telling us that we are doing nothing but ignoring their real  
 reason of presence.  
 A curious would say that "they're not what they show", and  
 "Far away from the objectivity of reality, they've kept us in the  
 darkness taking Sunlight themselves".  
 How? You ask  
 Curious shall say a conspiracy is their task.  
 "Think about it once as I say, what if plants control our consciousness"  
 Don't they exchange a gas through stomata then why not deceive our reality through their own thoughts.  
 This might sound intimate to some and terrifying to some  
 but why not when oxygen leaves the leaf, so does a part our friends thought.  
 Seems like we aren't the only one with several detached thoughts.  
 Thoughts which turn our reality different to oppress us,  
 provoking us for our own each step that man calls fate and destiny,  
 Where as we don't have free will, as we are bound by so many stories told by them.  
 That we won't be ever to scrutinize the labyrinth of this mutiny,  
 I suppose they show us the flowers, where as the leaf is the one behind it all.  
 Now as I was the curious and spoke against them, I was the one  
 As far as I believe, the leaves will cut out my oxygen supply by tomorrow's sun.  
 Today, I have done the human deed, blamed it upon the community of leaves; so cut them as they deserve.  
 Despite the fact you know they give us life  
 I believe in you too human to believe this falsified story  
 and now I trust you to do the human deed; strife. ■



Shri Pranav Sabharwal



Hon'ble Prime Minister alongwith Minister of Railways on 15<sup>th</sup> November inaugurated the redeveloped Rani Kamalapati Railway Station and launched other rail projects



Dronacharya Award, 2021 was conferred on Ms. Pritam Siwach in recognition of her outstanding achievements in Coaching. She has trained many outstanding hockey players who have won medals in national and international competitions



Glimpses of Indian Railways Pavilion (Hall No. 11) at India International Trade Fair, 2021, Pragati Maidan, New Delhi



Ms. Monika was conferred Arjuna Award 2021 in recognition of her outstanding achievements in Hockey. Silver Medal in Asian Games 2018 and Gold Medal in Asia Cup 2017



Shri Suneet Sharma, Chairman & CEO, Railway Board inspected "Restaurant on Wheels" at Mumbai CSMT station. In this restaurant, passengers can experience of dining in a rail-themed setting



Indian Railways Cricketer Ms. Mithali Raj was conferred Major Dhyanchand Khel Ratna award



## PICTURE GALLERY



*Ms. Vandana Katariya was conferred Arjuna Award 2021 in recognition of her outstanding achievements in Athletics. Silver Medal in Asian Games 2018 and Gold Medal in Asia Cup 2017*



*Major Dhyan Chand Khel Ratna Award, 2021 was conferred on Shri Ravi Kumar in recognition of his outstanding achievements in Wrestling.*

- Silver Medal at Tokyo Olympics, 2020
- Gold Medal at Asian Championship, 2020
- Bronze Medal at World Championship, 2019



*Congratulations to Ms Sudha Singh for Padma Shri Award. Ms. Sudha Singh is an international athlete from Railways in the 3000-meter steeplechase event and 42 km marathon*



*Congratulations to Smt. P. Anitha for Padma Shri Award. Smt. P. Anitha, a Railway Sportsperson, has represented the Indian National basketball women team for 18 years*



*Shri Nilakanta Sharma was conferred the Arjuna Award 2021 for his outstanding achievements in Hockey. He won Bronze Medal in Tokyo Olympics 2020*



*Shri Kapil, Railways' Archery player from CLW has won Silver medal in Recurve team & Bronze Medal in Recurve Mix team during the 22<sup>nd</sup> Asian Archery Championship held at Dhaka, Bangladesh*



Short Stories/ Poems/Drawings/Quizzes (MCQ or One-Word Answer type)

## ARE INVITED FROM CHILDREN

Entries may be sent to

[editorindianrailways@gmail.com](mailto:editorindianrailways@gmail.com)

(Please attach a copy of proof of your date of birth also)



**Akshita Singh**

D.O.B.

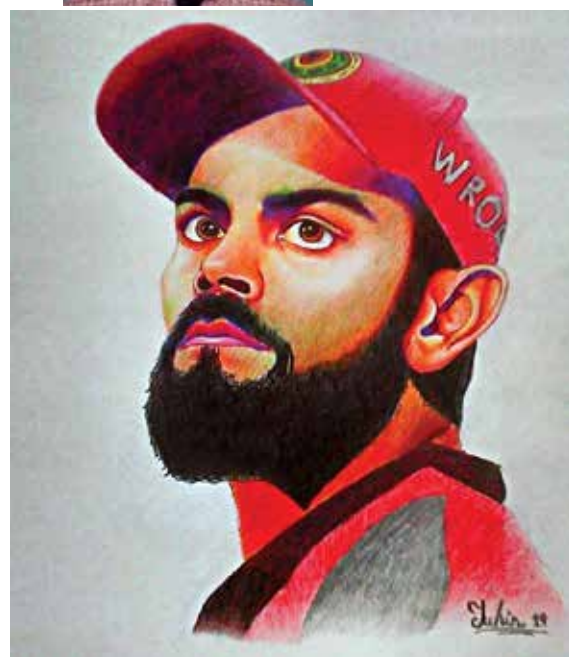
09.03.2012



**Tuhin Kumar Chakraborty**

D.O.B.

9.03.2004



## CHILDREN'S QUIZ 3

1. Longest railway platform in the world?
2. Smallest railway station name in India
3. Full form of CRIS
4. On the railway ticket against PNR some numbers are written. What does PNR indicate?
5. When was the first electric train started in India and between which stations?

Children may send their replies to [childquizes@gmail.com](mailto:childquizes@gmail.com) along with a scanned copy of the proof of their date of birth.

### Correct ANSWER of Quiz No. 2

1. Konkan Railway
2. Vivek Express: Dibrugarh to Kanyakumari
3. George Bradshaw
4. John Mathai
5. Pir Panjal Railway Tunnel (Qazigund and Banihal)

Till 28<sup>th</sup> November

**CORRECT ANSWERS WERE RECEIVED FROM**

Sukirthan M, Dhyanyashree M.,  
Keshav Anand A.R., Ryan Roy



**Meghna Anand**

D.O.B. : 09.08.2012, Class 4 B, Oak Grove school (Railway), Jharipani Mussoorie, Dehradun, Uttarakhand



**Aditi Vinod**

D.O.B.  
21 May, 2013

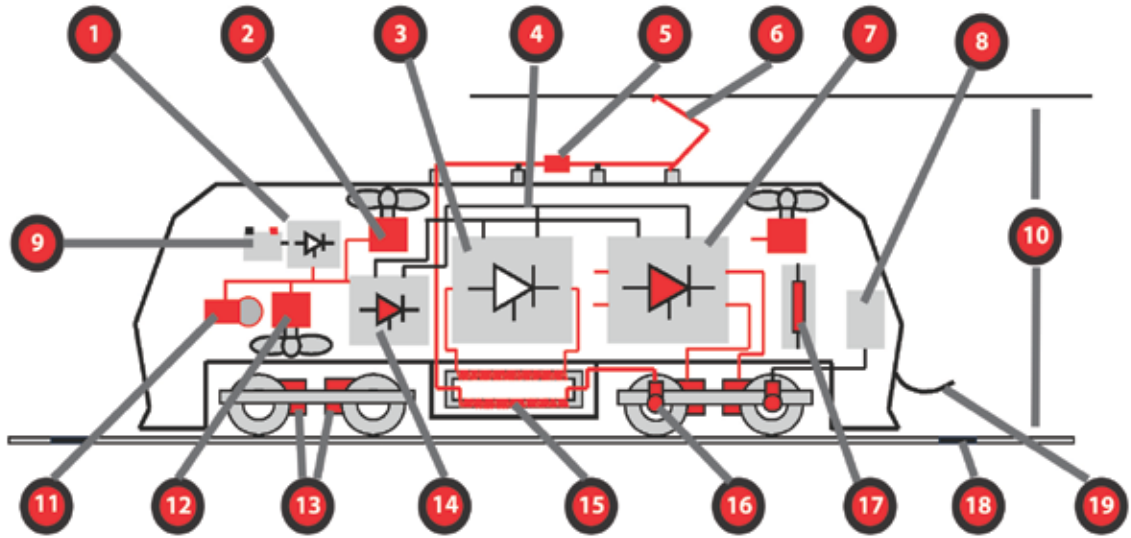


**Ira Nakra**

D.O.B.  
26 December, 2015



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3 Main Rectifier	7 Main Inverter	11 Compressor	15 Traction Transformer	19 Inter Car Cables
4 DC Link	8 Signalling Equipment	12 Motor Blowers	16 Axel Brush	

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- Cable Fault Location
- General Electrical Testing



## Arjuna Award for Central Railway's Olympic Hockey Players Ms. Monika Malik & Ms. Vandana Katariya

Central Railway's Olympic Hockey Players Ms. Monika Malik & Ms. Vandana Katariya will receive the prestigious Arjuna Award for their excellent performance during the recently held Olympic Games at Tokyo, Japan.

Ms. Monika Malik, worked as Head TC, Mumbai Division of Central Railway presently promoted as Officer on Special Duty, was part of Indian Women's Hockey Team that played fabulously in Tokyo Olympic 2020 to secure a place in the Semi-Finals. Ms. Monika made her second consecutive Olympic appearance after Rio Olympics 2016. She has made India & Central Railway proud through her sincerity and hard work that has brought laurels in the recent Olympics.

Ms. Vandana Katariya, worked as Head TC, Mumbai Division of Central Railway presently promoted as Officer on Special Duty, was part of Indian Women's Hockey Team has the distinction of the only women who scored Hat-Trick in field Hockey at any Olympic Games. Ms. Vandana an astute player, very speedy scored hat-trick against South Africa. Her contribution as an agile player



was instrumental in taking India to the Semi-Finals. Four Women Hockey Players from Central Railway namely Ms. Sushila Chanu, Ms. Vandana Katariya, Ms. Monika Malik and Ms. Rajini Etimarpu represented India at Tokyo Olympics 2020. All these four Hockey Players previously working as Head Ticket Checkers have been promoted to Gazetted Officers by Central Railway

recognizing their remarkable contribution in taking Indian Women Hockey Team to the semi-final for the first time in Olympic Games. Shri Anil Kumar Lahoti, General Manager, Central Railway said "Central Railway always encourages their sportspersons to set high standard & supporting them in every step of the way, the performance of all four Women Hockey Players at Tokyo Olympics to take India to Semi-Final elucidates that."

According to Ministry of Youth Affairs & Sports release, Ms. Monica Malik & Ms. Vandana Katariya will receive the prestigious Arjuna Award at the hands of President of India at a function to be organized at the Darbar Hall of Rashtrapati Bhavan on 13<sup>th</sup> November, 2021 at 4.30 pm. ■

## Central Railway Celebrates Matheran Rail Utsav

Central Railway is celebrating the Matheran Rail Utsav – a 2 day Cultural Festival in association with Matheran Municipal Council on 13<sup>th</sup> and 14<sup>th</sup> of November, 2021.

This Utsav which is the first of its kind will be a display of Matheran Light Railway's ancient history, portraying the green initiatives of Central Railway and evolution of Matheran into an eco-sensitive zone. It will also project Matheran Light Railway (MLR) as a cultural landscape as also being recommended for UNESCO Greece Melina Mercouri International Prize-2021 for Safeguard and Management of Cultural Landscapes.

- ➔ CR takes another positive step towards conservation of environment and protecting the ecology of Matheran



Shri B K Dadabhoj, Additional General Manager, Central Railway was the Chief Guest at the inaugural function held at Matheran Station on 13<sup>th</sup> Nov., 2021, the first day of the 2 day festival. Shri A K Gupta, Principal Chief Mechanical



Engineer, Shri Shalabh Goel, Divisional Railway Manager, Mumbai Division and other Senior Officers of Central Railway were also present.

Shri Dadabhoy released balloons with the Festival Citation and also inaugurated a Stall. He also gave away awards to winners of Photography and Drawing competition. The Additional General Manager, The Principal Chief Mechanical Engineer, The Divisional Railway Manager, Mumbai Division and other Senior Officers also planted saplings as a part of tree plantation drive organised at the event. The event featured presentations and talks on various Green initiatives by Central Railway, various initiatives taken for conservation of Matheran by Matheran Municipal Council, Initiatives in protecting the landscape and environment by Saguna Farms and Waste to Energy Management by M/s Polycrack.

Adivasi Folk Dance by Hasechi Patti Group and a cultural programme by artistes of Divisional Cultural Academy, Mumbai Division were also presented at the Festival.

Central Railway has taken various steps towards conservation of Environment. In the last four years Central Railway has taken up plantation

of more than 18 lakh saplings of various kinds of trees on Railway land. An herbal garden with 120 saplings of rare spices and herbs has been set up at Chhatrapati Shivaji Maharaj Terminus, Mumbai. 15 nurseries have already been set up and developed on Central Railway. 87 Eco-smart stations, Automatic Coach Washing plant at Wadi Bunder, Mumbai, Rain Water Harvesting Units at 133 stations, IGBC Green certification of 5 buildings etc are some of the other initiatives & achievements towards greener environment in past few years by Central Railway. The Matheran Utsav is yet another positive step by Central Railway towards conserving the environment and protecting the ecology of Matheran. Central Railway with its shuttle services for passengers between Aman Lodge and Matheran has been instrumental in popularizing this place not only as a major tourist destination but also as a place which takes one close to Nature. Railways are playing an important role in providing a safe and comfortable travel to its passengers coming to this tourist destination, thereby providing livelihood to the locals thus contributing in improving the economy of Matheran. ■

## North Central Railway Wrestlers Won Two Silver Medals in Senior National Wrestling Championship

Wrestler Ravi and Vikas of North Central Railway has made North Central Railway proud by winning silver medals in Greco-Roman 97 kg weight & 60 kg weight categories respectively in ongoing Senior National wrestling competition being organized in Gonda, Uttar Pradesh. Both Mr. Ravi and Mr. Vikas are working in Commerce Department in Agra Division of North Central Railway. The President of North Central Railway Sports Association, Shri Sharad Mehta congratulated Shri Ravi and Shri Vikas on this achievement.

General Secretary of North Central Railway Sports Association, Mr. Nitin Garg also congratulated the entire team including Mr. Ravi and Mr. Vikas and wished them all the best for the upcoming competitions and expressed hope that in future also Mr. Ravi and Mr. Vikas and all Other players will continue to achieve similar achievements for North Central Railway and for the nation. Wrestling coach of North Central Railway, Sandeep Dahiya also expressed



happiness over the achievement of his players. He also encouraged Aryan Pawar, who stood fourth in the 130 kg weight category.

It is to be known that along with these medals, both these players have also qualified for the Commonwealth Championship to be held in South Africa from 3 to 5<sup>th</sup> December, 2021 and will represent the nation there. ■



## NCR Registers 21% Growth in Originating Freight Loading in first seven months of the current financial year

Sustaining the momentum in the growth of Originating loading, at the end of October, NCR registers 20.94% growth in its originating freight loading in the period April to October as compared to the corresponding period of the previous year. Monetizing the figures in revenue terms, a growth of 15.41% has been registered in the same period.

NCR loaded a total of 10.49 million tonnes during the period April to October this year against a loading of 8.678 million tonnes during corresponding period of last year. Revenue earned out of this outward loading during this period comes out to be ₹1064.97 crores.

In the month of October 2021, 1.67 million tonnes of freight was loaded, which is best ever loading figure for any month in current financial year Total revenue earned by NCR in the month of October 2021 itself is 173.2 crores (approx).

During the weekly safety and punctuality meeting, chaired by General Manager Shri Pramod Kumar, above details were shared by the Principal Chief Operations Manager (PCOM) Shri Biplav Kumar. Shri Biplav Kumar lauded the efforts of Business Development Units of headquarter and the divisions for their proactive roles in attracting new traffic for NCR. Sharing the information, the PCOM informed that among the major commodities which showed an upward trend were cement, food grains and Petroleum oil lubricants. Container traffic too showed a 17.9% growth in loading as 1.58 million tonnes of cargo was loaded during April to October this year as compared to 1.34 million tonnes of container traffic last year.

In its pursuit to attract more and more loading, following marketing strategy has already been adopted by NCR

- Business Development Unit (BDU) has been set up both at NCR HQ and in all the three divisions viz. Prayagraj, Jhansi and Agra for increasing rail share in traditional commodities and for effective interaction with existing and new potential freight customers to sort various issues regarding difficulties faced by customers and thereby taking corrective actions to facilitate customers to enhance freight loading.
- Continuous meetings with new potentials customers are being organized regularly to cope up with constraints and various issues regarding loading and unloading. Virtual meetings were also organized regularly especially the customers having potential like additional food grain, flyash, sand, Automobile, Container & ballast etc. BDU has initiated for up gradation of



terminals which has attracted loading.

- Freight Business Development Portal (FBDP): This has been designed and developed with customer first philosophy and help in familiarizing the new freight customers.
- Awareness generation regarding concessional schemes for freight customers is being carried out to explore new markets. **An important success in this direction is loading of 98 rakes in 2020-21 under Station to Station scheme yielding a revenue of 39.86 crore. In current financial year, 35 rakes have been loaded under STS scheme which have provided originating earnings of 14.54 crores to NCR so far.**

Principal Chief Commercial Manager Shri M.N. Ojha informed that **record loading of 156 rakes of POL have been done from BAD refinery this October.** This surpasses the previous best of 153 rakes loaded in the month of March 2020

Speaking on the achievement, General Manager Shri Pramod Kumar congratulated the BDUs and all the officers and their team members. GM however expressed his concern over dip in container loading from Panki, Kanpur and Malanpur and urged that all necessary steps should be taken to step up the loading further. “Achievements are laudable, but we have to work harder to surpass the target set by the Railway Board for the financial year”, said the GM. “All Divisions must identify the potential locations from where new traffic can be captured and should work hard in that direction”, added Shri Pramod Kumar while interacting with the DRMs of Prayagraj, Jhansi and Agra who joined the meeting virtually.

All the Principal Heads of departments were present in the meeting and senior officers from the three divisions joined through video link. ■



## General Manager, SCR Conducts Inspection of Vijayawada - Eluru - Rajahmundry - Samalkot - Kakinada Port Section

Shri Gajanan Mallya, General Manager, South Central Railway undertook annual inspection between Vijayawada – Eluru – Rajahmundry – Samalkot – Kakinada Port section of Vijayawada Division on 16<sup>th</sup> November, 2021. He was accompanied by Shri Shivendra Mohan, Divisional Railway Manager, Vijayawada Division and other

senior officials (from both the Headquarters and Division) throughout the inspection. Shri Mallya commenced the inspection at Vijayawada and examined the level crossing gate in Vijayawada – Nuzvid section. He conducted a detailed inspection of Nuzvid Railway station and reviewed the availability of various passenger amenities and inspected a minor bridge and level crossing gate in Nuzvid – Vatlur section. Following which, he inspected the passenger amenities and facilities at Vatlur Railway station. He also interacted with the gang-men deployed in the section. Later he proceeded onto Eluru Railway station, wherein, he reviewed the passenger amenities and launched several in-house web applications developed by the Division as a part of e-initiatives to ease the workload of the employees.

The General Manager inspected major bridge in Eluru – Denduluru section and carried out a speed test in Pulla – Chebrol – Badampudi – Tadepalligudem section. Further, he conducted a



General Manager inspecting Nuzvid Railway station

safety inspection of several minor and major bridges including the important Godavari bridge in Navabpalem – Kovvur – Godavari – Rajahmundry section. Later, he inspected Rajahmundry Railway station. He also inspected the crew booking lobby, traction sub-station, railway quarters. Later he inaugurated the women’s RPF barrack and launched 10Kwp Solar Plant at

Sarpavaram station through Virtual conference from Rajahmundry. The General Manager inspected the facilities at Railway quarters and interacted with the family members of the employees. He also inspected the goods shed at Dwarapudi and reviewed the loading facilities available. He carried out a speed test in Anaparti – Samalkot section. Later, Shri Gajanan Mallya proceeded onto Kakinada Port Railway station. He inspected the entire station premises including running room and circulating area. He reviewed the passenger amenities available at the station and discussed on further improvement plans with the officials. The General Manager inspected the Carriage and Wagon depot at Kakinada Port and laid the foundation stone for construction of new pit line. He visited the Buddha garden at Kakinada Port. During the course of inspection several public representatives also met the General Manager and discussed on Rail developmental plans pertaining to their region. ■



General Manager along with DRM interacting with track maintainers



General Manager inspecting Godavari bridge



## Advanced Life Support Ambulance Inaugurated by GM/SER at Central Hospital, Garden Reach

Ms. Archana Joshi, General Manager, South Eastern Railway inaugurated two fully equipped Advanced Life Support Ambulance vans at SER Central Hospital, Garden Reach on 07<sup>th</sup> October, 2021 in presence of Shri Atulya Sinha, Additional General Manager, Dr. Mihir Chowdhury, Principal Chief Medical Director, Dr Ashwani Kumar Malhotra, Medical Director, S. E. Railway, other senior doctors and railway officers. Shri Amitabha Banerjee, Chairman cum Managing Director of Indian Railway Finance Corporation and Shri Ajay Swami, GM/Finance, Indian Railway Finance Corporation were also present on the occasion. These advanced ambulance vans equipped with several life support devices begin a new era in the state-of-the-art patient transport system in SER. The ambulance vans have hydraulic stretcher, folding wheel chairs, transport ventilators, multipara monitors, automatic syringe pumps, defibrillators, high flow oxygen delivery system and other life support machines in it.

This Life Support Ambulance vans have been



*General Manager, South Eastern Railway inaugurating two fully equipped Advanced Life Support Ambulance Vans*

procured at a cost of ₹36 lakhs each. The project has been financed by Indian Railway Finance Corporation as a part of Corporate Social Responsibility (CSR). This kind of ambulance vans have been inducted to the fleet of ambulances for the first time in South Eastern Railway. They will be immensely beneficial at the time of emergency for the patients suffering from critical diseases. ■

## Metro Railway Bids Farewell to Its Non-AC Rakes

The Non-AC rakes of Kolkata Metro have become a thing of the past. Metro Railway has given a befitting farewell to its fleet of Non-AC rakes on 24<sup>th</sup> October, 2021, on its 37<sup>th</sup> Foundation Day programme held at Mahanayak Uttam Kumar station. Shri Manoj Joshi, General Manager, Metro Railway shared his experience of the last two years as the head of the organization. Expressing his satisfaction, Shri Joshi said that with the hard work and dedication of staff and officers, Metro Railway successfully provided smooth services during these challenging years following all Covid Protocols. Declaring that Metro will now provide only AC services, he said even during the Covid times all the on-going Metro projects in the city continued unabated and significant progress has been achieved. He expressed his hope that Sealdah Metro station will be opened within a few months and East-West Metro from Salt Lake Sector V to Howrah Maidan will be operational within a year's time. The first phase of the three other Metro projects i.e. Noapara to Bimanbandar, Kavi Subhas to Salt Lake Sector V and Joka to Majherhat will be complete within the next 2 years. In this programme Shri Gautam Sengupta, Shri P K Dasgupta and Shri Santanu Banerjee, commuters of the first Metro in India shared their experiences



of that ride. Shri Sanjay Sil, Shri Tapan Nath, first Metro Motormen also shared their experiences. Shri Bimalendu Roy, the then Station Master, Maidan, Shri A K Satpati, the then Station Master Esplanade, Shri Anup Kundu, ex. CEE/ RS, Shri Ranjan Prasad, nephew of Deshbandhu Chittaranjan Das narrated the untold stories behind the maiden run. Later, Shri Manoj Joshi inaugurated an exhibition on Past, Present and Future of Metro Railway inside a Non-AC Metro rake. In this exhibition the glorious past of the country's first Metro, present scenario and its future projects were depicted with the help of colourful and rare posters. In the evening General Manager ceremonially sent off this rake to Noapara Carshed. General Manager, other officers and media persons also enjoyed the last Non-AC ride of Kolkata Metro. ■



### Two Lifts at Mahanayak Uttam Kumar Station Dedicated to the Service of the Nation

Two lifts at Mahanayak Uttam Kumar station were dedicated to the service of the nation on 2<sup>nd</sup> October, 2021 on the occasion of Gandhi Jayanti. Shri Sanjay Sil and Shri Tapan Nath the proud Motormen who drove India's first Metro train on 24<sup>th</sup> October 1984 dedicated these two lifts to the service of the nation in presence of Shri Manoj Joshi, General Manager, Metro Railway and other senior officials.



Shri Joshi expressed his hope that these lifts would help specially Senior Citizens and specially abled passengers to cross the two platforms of the station of Mahanayak Uttam Kumar station easily. Each of these lifts can carry 10 persons at a time.

Later, at Mahatma Gandhi Road Metro Station, Shri Manoj Joshi and other senior officers of Metro

Railway offered Shramdaan in order to mark the occasion of Gandhi Jayanti. General Manager garlanded a portrait of Mahatma Gandhi to pay his respect to the "Father of the Nation". Other officers also paid floral tributes to Mahatma Gandhi.

Shri Prithiraj Sen, famous historian threw light on the works and thoughts of Gandhiji by reading out from his writings. A Mime show on 'Unity is Strength' was also presented in this programme by Mime Artist Shri Dipak Mustafi.

Free masks were also distributed among passengers at Mahatma Gandhi Road Metro station. Regular announcements were also made at all Metro stations requesting passengers to use eco-friendly cloth bags instead of single-use plastic. ■

### Metro Carries more than 12.6 lakhs Passengers from Sasthi to Dashami

Metro Railway carried 12,68,583 passengers from Sasthi (11<sup>th</sup> October, 2021) to Dashami (15<sup>th</sup> October, 2021).

During these five days of Durga Puja, maximum daily footfall were recorded on Sasthi. On that day 3,77,761 passengers travelled in the Metro. On Maha Saptami (i.e on 12<sup>th</sup> October, 2021) 2,89,051 passengers travelled in the Metro. On that day 12 extra services (06 UP & 06 DN) were run apart from the scheduled 204 services to manage the Puja rush.

On Maha Astami (i.e on 13<sup>th</sup> October, 2021) Metro recorded 2,45,013 footfall. On that day too 12 extra services (06 UP & 06 DN) were run apart from 204 scheduled services to manage the puja rush. On Maha Nabami (i.e on 14<sup>th</sup> October, 2021) Metro recorded 2,39,480 footfall. On Maha Nabami, total 216 services (204 Scheduled + 12 Extra services) were run. In order to provide better services and ensure passenger safety, Metro Railway strengthened its security arrangements by opening RPF Assistance Booths at Dakshineswar, Dum Dum, Sovabazar-Sutanuti, Central, Jatin Das Park, Kalighat, Rabindra Sarobar and Gitanjali Metro stations. Five Quick Response Teams (QRT) and Disaster Management Teams were also deployed at different stations to tackle any emergency situation. Lady RPF teams were deployed in running trains and stations to ensure safety and security of ladies and children. Random



Train Escorting was conducted to prevent any unwanted incident. Anti - Sabotage Checks were conducted with the help of sniffer dogs and security gadgets. Regular announcements were made requesting passengers to follow all Covid Protocols with the help of loud hailer and Public Address System of all stations. Station staff also worked tirelessly to provide best services to Metro users. It was also planned to run extra services as per situation to manage the rush. Medical booths were kept open at Dum Dum, Sovabazar-Sutanuti & Kalighat stations to help the passengers. Adequate number of staff were deployed at all Metro stations to provide proper guidance to the commuters. Metro commuters have expressed their satisfaction with the top class services provided by Metro Railway during the Sharodotsav. Meticulous planning and flawless arrangements by the Metro Authority helped to provide smooth, hassle-free, safe & secured Metro services. ■



## General Manager Inspects Underground Sealdah Metro Station

Shri Manoj Joshi, General Manager, Metro Railway inspected

underground Sealdah Metro station along with Shri Manas Sarkar, MD, KMRCL, Principal Head of Departments of Metro Railway and other senior officials of KMRCL in order to review the progress of the on-going works on 02<sup>nd</sup> November, 2021. Station commissioning works and installation of various equipment related to signalling, CCTV monitoring, Air-conditioning system, Air Handling Units, Power-Supply, Platform Screen Doors, Tracks, passenger interchange points with Eastern Railway etc were inspected by Shri Joshi. General Manager held a detailed discussion with Shri Manas Sarkar,



MD, KMRCL, at the site. He expressed his satisfaction after inspecting the progress of the on-going works. Commissioning of Sealdah Metro station to extend East-West Metro services up to Sealdah from Phoolbagan is being planned and works

are progressing accordingly. After completion of all the works, Commissioner of Railway Safety will be requested to conduct his inspection for giving the final authorisation for starting commercial services up to Sealdah. This extension of East-West Corridor up to Sealdah is going to benefit suburban passengers coming to Sealdah and going towards New Town. ■

## General Manager Inspects Noapara-Bimanbandar Metro Stretch



Shri Manoj Joshi, General Manager along with senior officials of Metro Railway conducted a thorough inspection of Noapara-Bimanbandar Metro stretch to assess the progress of Noapara-Barasat via Bimanbandar Metro project.

Shri Joshi held a high-level meeting with senior Metro officials at Noapara project site. Progress of Engineering, Electrical and Signal and Telecommunications works of this project was reviewed in the meeting.

He inspected Jessore Road, Bimanbandar Metro stations, viaduct and Bimanbandar underground construction site and yard. Principal

Heads of Departments of Metro Railway accompanied General Manager during this inspection. Shri Joshi expressed his satisfaction seeing the progress of works of this project and instructed concerned officials to maintain the good pace of work. ■

## GM Inspects New Garia-Airport Metro Project

Shri Manoj Joshi, General Manager, on 17<sup>th</sup> November, 2021 inspected the stretch between Kavi Subhas to Salt Lake Sector V stations of the upcoming New Garia (Kavi Subhas)-Airport Metro project along with other senior officers of Metro Railway and Shri Amit Roy, ED/ RVNL. Shri Joshi inspected the construction site of Kavi Subhas Metro station and the rake reversal arrangements at this station. He also visited the passenger interchanging points between old and new Kavi Subhas Metro stations as well as New Garia station of Eastern Railway. He took stock of the progress of the construction of double discharge platforms and the carshed near Kavi Subhas Metro station. Later, he also inspected the construction works of



Satyajit Ray, J.N. Nandi, Hemanta Mukherjee, Kavi Sukanta, Beliaghata and Salt Lake Sector V stations. He also discussed the action plan for completion of the work at critical locations where discontinuities of via-duct are to be bridged.

Shri Joshi reviewed the crossover and the passenger interchanging arrangements at Salt Lake Sector V station with East-West Metro. He instructed concerned officials to complete all project works within the stipulated time. ■

## Rail Coach Factory, Kapurthala to Get 21<sup>st</sup> Greentech Environment Award 2021

RCF has been awarded 21<sup>st</sup> Annual Greentech Environment Award 2021” as WINNER for outstanding achievements in "Environment Protection" category in Engg. Sector by Greentech Foundation, New Delhi for outstanding achievements in environment management.

RCF is making all endeavors for maintaining green environment through clean and environment friendly technologies, mass tree plantation, rain water harvesting, energy conservation, use of solar energy and zero effluent discharge. Bio-toilets are also being provided in railway coaches to keep railway track and stations clean.

Awards Nomination Evaluation Meeting was held virtually in which the Jury Members have recommended Rail Coach Factory Kapurthala as WINNER for outstanding achievements in "Environment Protection" category. The Jury was impressed with dynamic initiatives and achievements of RCF.

‘21<sup>st</sup> Greentech Environment Award 2021’ shall be presented during the exclusive awards presentation and celebration being organized as a very high-profile networking and glittering ceremonial event at Mahabalipuram on the evening of 26<sup>th</sup> November, 2021.

It is to be noted that Greentech Environment Award 2021 is presented in recognition of responsible, innovative practices and initiatives towards achieving sustainable goals that minimize carbon footprint, improves environmental protection and creates long-lasting changes for benefit of environment we work and live in. ■

### POEM

#### Perhaps We Don't Know

Perhaps we don't know  
Match-sticks have caused  
More destructions than bombs,  
Knives have ended more lives  
Than swords,  
Thoughts have generated more crimes  
Than the criminals have ever committed.

Perhaps we don't know  
More things have been said in  
Silence than in words,  
More ills have been cured by love  
Than medicines  
More good have been done to the world  
By people who were neither powerful  
Nor privileged and  
Whose names we never find  
In history books or news papers.

Perhaps we don't know  
A small sincere effort  
May deliver immense good  
To someone, someday. ■

Shri Hemanta Mohanty  
Dy. COM (Infra), S.E.Railway





# The Magic of One Little Letter to the Railways

Major (Retd) V Raghavan, VSM

Join the army and see India was a slogan once upon a time and it is true. But in the 21<sup>st</sup> century where the world has become a global village, it sounds hollow. But no other service can showcase India like the armed forces do because they become the world themselves and insulating you as much as possible from the outside environment even if it is hostile. With air travel becoming easy and affordable, even transfers to these remote locations have become less arduous. This was not so in the days gone by, I am going to talk about now. Travel then was mostly by trains and the service officers made a picnic out of it, travelling with all the comforts. Here is an experience I will never forget and the greatness of Indian Railways comes out trumps at the end.

We were posted in the border town in Punjab, Ferozepore. Located on the Pakistan, Punjab and Rajasthan border, river Sutlej is the partition line. It had its hey days during the Raj, forming a triangle with Amritsar and Lahore. It is one of the large cantonments in India with full division of troops located in one place and along quite a few units of peacetime troops that belonged to the Area under Western command. It is also a railway divisional Hq. The famous Punjab mail between Bombay and Ferozepore, is the pride of that division. I am told it has completed a centenary of it's run a decade back. It connected to Lahore in the good old days.

My first posting as a young eye specialist was to Ferozepore, 159 General Hospital, address with a mysterious suffix of "c/o 56 APO. I was a Captain, fairly proud, possibly with a chip on my shoulder because I was decorated with a VSM already and a post graduate. I got married while I was there and our first daughter was also born there. So Ferozepore holds a special place in my heart. I was posted there from 1979 to 1983. Much against my wishes, I was posted to Military hospital Madras (now Chennai). Would sound strange to a few, a Tamilian not wanting to be posted to Madras. That's the spirit army infuses into you. Anyhow, orders are orders, and we had to move in the hot month of May 1983. In Ferozepore, I was a lone eye specialist in the town and was equally popular amongst the army men and civilians. I was quite

friendly and popular amongst all the commanders. When the posting orders came, there was a flood of help from everyone. Major Kalra, a gunner who played golf with me assured me of total railway support, because his wife was the Chief Medical Officer with the railways. Encouraged, I decided to move my entire luggage by train. For the uninitiated, army officers do not move light, invariably the luggage will fill up a truck. All the boxes including the refrigerator were in wooden crates made of imported pinewood which were the casing for the medium artillery guns when imported. And to boot was my Jawa motorcycle. The logistics involved travelling by Punjab mail to Delhi and then hop onto Tamilnadu express to Madras. Transfer in New Delhi, I was not just dependent on my father-in-law who in any case was landing with his burly three sons but also had liaison with no 1 railway porter of New Delhi station. It was after all his granddaughter travelling with her parents. He assured me all was under control. But I was not the one to take chances. Giani Zail Singh was the President of India and his Aide-de-Camp (ADC) was my friend Flt Lt Ashok. I knew him from his NDA days and both his brothers were from AFMC and my close friends. Ashok asked me to forget about any misgivings at New Delhi station. Rashtrapathi Bhawan logistics wing would take care of it. During one of my trips to Delhi before my departure, I made sure of my first class berths through the MCO (Movement Control Officer). Since I was carrying a lot of luggage, I decided to travel first class (non air conditioned), even though it was peak summer. Air conditioning did not mean much in those days. We all lived without it.

Just a few days before we were to leave, my friend Major Rajsekhar came over. He was from Madras too. I told him about all my travel arrangements. But he mentioned that Tamilnadu express was meant for precious goods transportation, being a premier train and it might be prudent to book room in the luggage van, (in cubic feet). I really did not bother about his advice, since I thought I was hand in glove with the supreme commander of the armed forces. May be next morning my wife Navneeth reminded me about

it. Reluctantly, I suppose, I wrote an inland letter to the Station Superintendent New Delhi station requesting for some 10 or 20 cubic feet of space in TN express luggage van. I also mentioned in the same letter I should be provided a block of ice with container the next morning at Jhansi. The latter was for some relief from the summer heat.

On the appointed day, I think it was 10<sup>th</sup> of May, we were given a ceremonial send off from Ferozepore railway station with a large number of friends and troops from the hospital. Our coupe was decorated with flowers. Every thing was tickety boo as they say in the army. Punjab mail rode out to shouts of Jai by troops. Travelling in the train were one Havildar from 2<sup>nd</sup> Guards (1 Grenadiers) battalion, sent on leave to facilitate our travel all the way to Madras (CHENNAI) and my own sahayak from the AMC till Delhi to facilitate transfer of luggage. I felt like Chief of army staff. That was for one night. And I realised the old adage “Man proposes, God disposes” soon after.

In those days Punjab mail reached Old Delhi station at day break and after a long halt, proceeded to New Delhi where it stops for 20 minutes. Navneeth and Priyanka, my wife and one year old daughter, were to go home in Delhi and reach New Delhi station in time to board TN express at 5 pm which they did. I was to oversee the luggage transfer at New Delhi and I stayed back in the train. In a short while, the Havildar and my sahayak came panting to say that all my luggage have been downloaded ( it had a different meaning in those pre computer era) at Old Delhi station. I jumped out of the train to see what was happening. I realised this is Old Delhi and my writ does not run here. I had booked my luggage to Madras and not to New Delhi. That meant all luggage going through Old Delhi would be loaded to Jammu Tawi express that was going to Madras. With that boom went all my meticulous planning. But I was not the one to give up . My poor father in law with his No 1 porter from New Delhi landed up in Old Delhi station. Leaving the headache of transfer of luggage to New Delhi to them, I continued in the train to reach New Delhi to tie up Tamilnadu express problem. It was 10 am and I had not had any breakfast. Imagine 32 year old Captain who thought he was cat’s whiskers and realises that he had been shown his place. And he is hungry too. To boot, more problems from unforeseen direction pile up on him. I feel bad for myself after so many years.

New Delhi station: Since the luggage had not arrived as yet, I went to check on reservation for TN express. Lo and behold, it was missing, my name was not there. I ran to the MCO office. The

clerk told me that one first class bogey (that’s what we called them, before coach became fashionable) has been cut and consequently MCO quota had been cut by two. Hence poor Major Raghavan and family who were the last two on the MCO list were deleted. MCO did not deem it necessary that I should be informed and even if they had wanted it must have been an impossible task and there was no communication or method to contact a man on the move. On my part why would I ever think to check since I had confirmed reservations. Hungry Major Raghavan was not the one to give up and wanted to contact the higher echelons of the army, of whom he had a few connections, actually two. I rang up Major Gen BC Nanda who had just a few months before had moved to Delhi army HQ. I could not use MCO phone and used a pay phone in the station. He was out on a visit to Vietnam, his office told me. Next salvo was to Lt Gen Somanna, vice chief of army. He commanded 4 Guards (1 Rajput) of which I was RMO ten years later. But he was the corps commander of X corps in Jalandhar when I was in Ferozepore and knew me well. He was excellent. He told me to wait for ten minutes and then call Vikas Puri of Army HQ MCO who would direct New Delhi MCO to do the needful. Col Puri was also a Guards officer. He was promptly on line soon but wanted to me to bring the officer in charge to the pay phone to talk to him since, to my utter dismay the MCO phone was out of order. To remind readers, this was 1983 and mobile era was a millennium away. But the Captain in MCO/New Delhi could not care less and if anybody had to contact him, it was to be on his phone. I was desperate. It looked I was stuck in Delhi for some time with fear of AWOL (absent without leave) running in my mind. Like the saying goes “ If God shuts the door, he may open a window ”, a window opened. The MCO clerk seeing my plight, told me not to worry because the MCO, in their wisdom had given me two berths till Jhansi. Fat lot it helped me! Instead of Delhi where I, at least had the comfort of a home, though my in laws’, in Jhansi I would be out in the boondocks in the hot summer with a wife and toddler. Of course there is MH JHANSI where a group of us going to Army Medical Corps Centre, Lucknow for our basic medical officers course when we were commissioned in 1973 enjoyed ourselves with a jam session in the middle of the day at Nursing officers mess when we had a 12 hour break journey to catch a train. Anyway I decided to board the train to fight my way and in any case my luggage was to go by that train which I thought might not happen if I do not board the train.

After the losing MCO saga, I entered platform no 1 and my heart trembled. My luggage, 32 pieces



including a motor cycle where strewn all over the platform. The no 1 porter of New Delhi who was my FIL's trump card brought all the luggage by the Delhi local from Old Delhi, took his ransom and wanted more to shift it from platform no 1 to 12 from where TN express started. He wanted 600 rupees more for that. In 1983, my take home pay was just about double that. I still had not eaten anything that morning. I picked up that Porter by his neck and lifted him. I could, I stand more than 6 feet tall with enough beef. I let go a few expletives. I was at my wits end. In about just 12 hours everything was topsy turvy and I felt an impotent and with rage.

Then the bell rang. I remembered my inland letter ( I don't think inland letter exists now) to the Station Superintendent, written at the behest of my wife. I ran to his office which was on the first floor and barged into his office. He must have been offended but was polite. I queried about my letter and wanted an answer. That must have got his goat but still kept his cool before dismissing me to go and check with appropriate section.

Then I quickly paced to the parcel section in the far end of platform no 1. With my agitated state, hungry and unkempt look, I got immediate attention. I opened my mouth, Lo and behold, he had my inland letter in his hand. He actually had it in his hand and was poring over it. There was the seal of approval by the station Superintendent on it. Can one imagine this coincidence? Then I poured out my woes to him. He responded politely to say "Sir, why don't you trust the Railways to transport your luggage instead of going all over?" He requested whether I could move the luggage to the parcel office for further action. I heaved a sigh of relief. Then I proceeded to have my lunch and waited for my wife and daughter to join me in TN express.

Only the battle was won, the war was still on. Next was the important reservation to Madras (CHENNAI). If you remember we had reservations only till Jhansi. The reservation marked on my railway warrant (Free travel on transfer is on a

military railway warrant issued by the army and not a ticket) was by the MCO which showed the booked details but not the details after it was curbed or cut to Jhansi. I pleaded my case rather theatrically about the injustice done to a serving officer with a wife and toddler in the height of summer. It was obviously effective because fellow passengers including those wanting reservation joined the chorus plea and coaxed the TTE to consider my plight favourably. He took a benevolent view and granted reservation for the full journey.

By this time readers too must be singing the praise of railways for their attention to detail and their dedication to duty. I was overwhelmed and till this day I talk about this incidence whenever there is criticism about railways of government departments. Last word on this subject is still not over. The "ic(e)ing on the cake is not over. Raghavan family was well settled and chugged along effortlessly through the night. The morning Sun was up and scorching from 10 am. It was 12<sup>th</sup> of May, Agni nakshatram, hottest days of the year, were in full display. I think it was Bhopal or Itarsi. The train stops there just for 15 minutes. There was commotion outside and I thought I heard the name of Major Raghavan. My wife thought I was being narcissistic. I stepped out and it was me. The commotion was because of the reservation confusion and my name was not there. What was it for? It was for delivering the 20 kg ice brick with container which cost a princely sum of ₹ 14.00. Priyanka, my daughter was the happiest. The temperature in the compartment was nearly salubrious and she had ice to play with. All of us were happy except Lord Varuna. He also wanted to take part to see this happiness ruined. Rains came down heavily for the next two hours. The coupe became so humid we requested the train attendant to move the ice out.

The whole point is, it just one inland letter from a remote corner of the country to provide travel comfort to a couple travelling 2000 kms away to another corner, which did the trick. I salute the railways. The government works if you bother. ■

**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.

# Monsoon Magic

Shri P. Sanjeev

It was one of those monsoon trips that I had undertaken to Kerala in the last week of June away from the heat and the humidity of Delhi four summers ago.

June end and it was raining heavily around Kerala and it is one of the best times to explore Kerala- not only Kerala, the whole of India. India is breathtaking during the monsoons and while my two-day trip by rail from Delhi to Palakkad in Kerala was nothing short of magical, this trip is not about the two-day travel to Kerala but a small trip between Palakkad and Shoranur in Kerala.

The trip which was originally destined to be till Nilambur was not to be, as rains gathered steam and it was not a practical journey to undertake at that point of time so said my parents.

On the day of the trip, after having a quick breakfast I left for the station. The road was wet with overnight rains and it was one of those gloomy days where it could pour anytime but thankfully there were no rains till I reached the station. I took a ticket and wandered around the platform. The hot vadas at the platform canteen and the wet climate enticed me to have a bite although I was reasonably full having breakfast barely an hour ago. However, having a bite at the station has its own charm. I quickly brought myself a plate of vadas before the passenger train towards Kannur made its way. The station was reasonably busy but lesser trains at this time meant lesser crowds.

I got a window seat, the train was largely empty, probably because of rains. After a 10 min halt the starter turned green and the signal around the curve after the station also showed green. After a loud honk the train started. Meanwhile I took another cup of coffee while the train started and the vendor was walking along the train to get his money from the sale of this coffee.

The train slowly gathered pace after we left Palakkad Junction. It had also started to drizzle. The Kerala countryside was washed with rain and it had come to life after a relatively long summer. On the side opposite to where I was sitting, I could see black clouds moving and the mighty Western Ghats in the background. It looked ominous and the signal from the rain gods was that the rains will continue. By the time we reached Parli, the next station after Palakkad, the rains had become heavier and I saw a lot of people with umbrellas waiting at the station for the train to arrive. It was a small station, but it really looked beautiful.

Some more people boarded the train. It was a

little more occupied although there were still empty seats. The train started on its journey after halting for a minute. People who boarded settled along nicely as it was routine for them. Some people opened newspapers to read, some were calling on their mobiles, some students who had boarded decided to enjoy the rains standing at the door. Couple of ladies were just having a normal chit chat about families, about life in general. As we kept moving I could see the Bharathapuzha running parallel to our train. The water was muddy indicating that there were heavy rains all around. I was enjoying the atmosphere with half of the window open along with the coffee. As the train gathered steam every 5-7 kms it would stop to pick passengers on the stations en-route.

The river started playing hide and seek with the train. The beauty of the Kerala countryside was a sight to behold, small temples, the wet roads between the fields, the small streams filled with water, people with umbrellas walking along the paddy fields, the line of the vehicles at the railway gate, the small tea and toddy shops all seem to have gone quiet. The canvas of green seemed to bring a certain serenity to the life of the people. Soon Mankara, Lakkidi and Pallapuram were left behind.

After about 30 minutes from Parli, we reached Ottapalam the most important town en-route till Shoranur, the train stopped for a couple of minutes and then it moved on towards Shoranur. The erstwhile Valluvanad state is one of the most beautiful places in Kerala with a lot of movies being shot in and around Ottapalam & Shoranur and the rains seemed to have made it more beautiful. I thought of visiting the famous Varikkasseri Mana, one of the most sought after destinations in Malayalam cinema which was close to Ottapalam but then kept it for another day.

Another 15-20 minutes and Shoranur arrived, the train slowed down considerably and I was greeted by more rain. The train entered Platform 2 of a wet station and I could see my friend standing near a tea stall waiting for me.

He tried to encourage me for a trip to Nilambur, the beautiful small town on the banks of the Chaliyar river with dense forests of teak- from where he had come to meet after a long time. I kept that for some other time. That route from Shoranur to Nilambur on rail still remains on my bucket list. I hope to complete that soon and I also wish that it will be a monsoon trip. ■



# THE LIFE LINE

Shri K.C. Jayaraj

Senior Engineer (IT), IT Centre, WR HQ, Churchgate, Mumbai

As usual, woke up at the break of the dawn, but I was feeling very lethargic, not feeling like getting out of bed. In fact, this is a dilemma that has befallen any ordinary person living on the outskirts of the metropolis of Mumbai.

Anyhow got up slowly and saw a light coming from the kitchen area. My wife has already got up and started the regular activities. She wakes up at 4.30 in the morning every day. No matter how late she sleeps, how tired she is, there is no change to her routine. If she hadn't woken up, this house wouldn't have woken up.

My two children and I would leave home before 7am. By six o'clock we are all out of the shower and breakfast is ready for everyone. Lunch for all three of us will then be arranged in separate containers and kept on the table.

If ever feel sick, we can take leave from going to school, college or office. But that is not the situation with a housewife ... a job without even a day off. If someone asks, the answer is the same – not working, not employed. But a housewife is the only person in the universe who works the most, regardless of time or place, without expecting any reward. I got out of the house at the usual time, greeted the poor man guarding our housing society gate and started walking down the road. Many Auto-rickshaws passed by me and some of them offered to carry me as if they are doing it free of cost. Though it was for saving few bucks, I tried to convince myself that walking in the morning is good for health.

It is a very interesting scene in the morning that everybody moving towards one point with different pace, different style, different aim but with only one thing in mind, who will catch it first. I am talking about the life line of this city – the suburban trains. Time and again people have written good and bad about it. It carries millions of people daily from places to places.

As I approached the station, heard a loud announcement, "The train supposed to reach at platform number 2, going towards Churchgate at 7.16 is running late, sorry for the inconvenience caused to passengers."

As it is, boarding a train during the morning rush hours is a war-like task. Then if the train

comes late, it becomes a real war field.

A single leap, remembering all the gods who are familiar with, knocking down those around and pushing those in front. Surprisingly, here I am in the car. Ho! What a relief. It's not a matter of a day or two, it's an exercise until you retire from work and stay home permanently. It can be said that it is a kind of sports fair where there is no distinction between male, female, young, old, student, teacher, worker or employer. Once you manage to get inside then look around, to see if there are any acquaintances. Anyway the regulars are sitting at different places. But how do you get there? That's the next issue !

You can get a true picture of the Mumbai life inside a local train. People from different places, with different cultures, faiths, beliefs, ideologies all together, spending a major part of their time commuting in the local trains. It is a very difficult task to board a train in peak hours, but once inside, you have so many things to pass time. Some gentlemen make use of this time for reading news papers, some get immersed in silent prayers and chanting of mantras. One can see people enjoying novels, teachers checking answer papers, students completing their home works, the tech savvy working (or pretending as) on laptops. Just have a peep in the 'Ladies only' compartment and you can see vegetable cutting, sweater knitting, magazine reading, putting mehenti on hand and a lot more.

With the advent of smart phones, the number of newspaper readers is dwindling day by day. Now a days many are busy watching movies on their mobile phones. Trains are now like multi-screen theatres with hundreds of movies running on different screens simultaneously.

There are so many small groups of daily commuters in every train. Many of them are very good entertainers. They make the otherwise monotonous travel, very interesting and enjoyable with their wits and tricks. Many a times I wonder why some people put so much of exertion on their vocal cords while travelling in the train. There are some characters who have taken pledge to speak nothing other than abusive and vulgar words when in group. I get very much annoyed by such people. Their each sentence starts with, ends with and full of bad words only. Why they drag mothers and

sisters into their conversations, I fail to understand.

I had seen groups who talk each other so loudly as if they are the only passengers in the train. How bad it is to disturb others with your loud noise when they least expect it from you. There are some self proclaimed smart guys (?) who think they are mobile encyclopaedias. There is no subject left, about which they do not have an authentic and final opinion. You just name it they can make a long speech on it. I really feel pity for such so called 'heroes' who try to make their presence conspicuous by cheap talks and silly gestures. What they deserve is nothing but sheer negligence. Yet another group, which is full of party animals. They keep looking for reasons to have a snacks party in the train. Birthdays, wedding anniversaries, new job, promotion, Diwali, X-mas, New Year and what not. Every occasion is a celebration day.

Bhajan teams are a very common scene in Mumbai suburban trains. Do you really think that so much of shouting is required to invoke God's blessings? As per my belief the Almighty is omnipresent and he can hear even the drop of a pin. How can a person who is least bothered about the one standing next to him, please the god with such scaring noise. One can see people fighting on slight provocations, doing business on mobiles, enjoying music and all sorts of things in the train. Then there is the group, no matter how empty the car is, they just hang out at the door and travel. The inconvenience they cause to those who get in and out of the car is insignificant to them. One has all the rights to stretch his hand, but remember, only up to where the other one's nose starts.

Local trains are really the Lifeline of Mumbai. It helps thousands to earn their daily bread inside its compartments. I am talking about the vendors who sell their wares in the train. Now a days you get almost anything and everything in the train. Chinese toys to cutleries, electronic items, pirated CDs to modern cloths, news papers and magazines, vegetables and fish - the list is endless. A train compartment without vendors is like a Bollywood movie sans item songs, one can't just imagine it. If anybody thinks humanity is dead, you are wrong. At least once, you travel in a Virar – Churchgate train at the peak hour. All who were fortunate enough to grab a seat at the starting station invariably get up at the mid way to make place for the less fortunate ones – that's Mumbai meri Jaan. In the past, people playing cards in groups were a



common scene in trains, but it is very rare now a days, may be because of the strict efforts of the authority.

Occasionally the Ticket Inspectors also appear in the compartments. Some people find it annoying to see them, and pass very sarcastic or ridiculous remarks about them. Many do not realize that they are coming to protect the rights of the real passengers who buy tickets at their own expense. Shouldn't we be a little more polite to those who do their own work like all of us?

Each train is run with the efforts of hundreds of employees. Everyone plays an important role, be it the gangman who works for the safety of the rail tracks in the sun and rain, the motor man who drives the train which carries thousands of people, and the signal man who controls the movement of vehicles without accidents. In addition, the tireless efforts of the station staff, controlling staff, commercial staff, railway security personnel, engineers, mechanics, doctors, ticket reservation staff and many more to name. There are many brains working day and night to make smooth functioning of the railways. Although we travel regularly, do we ever remember them or at least show some gesture of gratitude for the efforts they put in to make our travel safe and fast.

The place of local trains in the lives of people living in and around Mumbai is beyond words. This may be the reason why the Local trains are described as the life line of Mumbai. Thinking all these things, I did not know the time had passed so fast and the train was running past several stations. The start was late, but we reached the destination, Churchgate station, on time.

Train just pulled in to the station. Four trains reached the station in a span of few minutes. People started pouring out from each train. Everyone is moving in the same direction at the same speed. I too joined the crowd, became one drop in that human sea. ■



# DESERT SAFARI

Shri Gaurav Nakra

Writer

**The desert is so huge, and the horizon so distant, that they make a person feel small, and as if he should remain silent – PAULO COELHO**

By the time the readers will be having this article in their hand, it will be the best time to plan a trip on the captioned, either something more domestic like Thar or Kutch or Dubai for someone who wants to have international flavour, but the overall experience will be directionally same – standing in the middle of sand dunes and feeling what Paulo Coelho said above.

Continuing with my theme of safaris – I bring to you a very different experience and something which one can experience only few places in India. I went to the western front of India in a state known for its vibrancy and also at the same time known for the arid land-Jaisalmer, Rajasthan

In the past few years with advent of technology, all of us may have been able to see a few videos on the YouTube or some other sources on desert safari, but, experiencing the same is a different thing all together.

I took a connecting train from Jodhpur to reach Jaisalmer early morning. After reaching there my initial feel was there will be sand/dunes everywhere, but, to my surprise it's a typical city of Rajasthan-vibrant with colourfully draped women and men in colourful pugrees. On enquiring, I was told that Thar desert, where the sand dunes are, lies at a distance of 50 km from the main city.

After settling down I spent the day exploring the city and some of the prominent monuments and trying to soak in the atmosphere of the place.

The main city has its own vibrance one can enjoy- I started with the Jaisalmer fort- one of the living forts of India - One-quarter of the city's population resides inside the fort along with plenty of hotels and hostels, as I entered it felt like going back in time. It is worth mentioning the bhang is legal in Jaisalmer! There is a bhang shop outside the fort which I noticed on my way back, one can visit if you dare, I didn't

Later I wandered through the streets and come

across beautiful temples, havelis, uniquely painted homes. In the streets and alleyways, I found goats, dogs, bed sheets, bright saris, kurtas and scarfs and churiwalas, jewellery all being displayed to lure the customers. It is like a scene out of Alladin Movie. You can also find street vendors selling masala chai, lemonade, samosas and other Rajasthani namkeens.



Overall culture and feel of the place looked quite similar to most of the cities of Rajasthan, but one thing that makes it different is its colour-everything is made of sand/sandstone so it's also called the Golden City and to get the best view again Fort is the best place to get some great shots.

I enjoyed my meals at the rooftop restaurants which gave me the panoramic view of the entire city and fort.

Fast Forward...Next day as per plan post breakfast left for the first trip to the desert safari of India, I got my small bag for overnight stay, camera and mobile all charged to capture the beauty of golden sand, the camels, the folk theme of the place.

It took almost 1 hour to reach the first stop a small village close to the desert, where the guide did show a few typical desert homes. I got a chance to

*Jaisalmer Fort*





visit one of the homes- with few goats tied outside in the courtyard, built with mud and dung, with clean interiors and minimal stuff which help to withstand harsh temperatures and to ensure they stay cool and withstand the heat.

Later the hostess, an old Rajasthani lady- who had her face covered in ghunghat and had colored bangles almost till her shoulders- treated us with a bajre ki roti which she prepared right in front of us on the wood burnt chulah and served us with the garlic/tomato chutney, the taste was different with the aroma of the wood very distinct in the food flavour. The Roti's were big sized, so i will call them rotas and not roti.

After bidding good bye to our hostess I then moved on to the final destination – the main Sam desert area and it took only 10 mins to reach though the last patch was like a semi off-roading experience where we felt sand hitting us straight in the face in our open jeep

Post parking the vehicle in parking place just outside the main desert area, I got down and then walked a few steps and it was awe inspiring view, everywhere there was sand dunes, walking further I found myself in the middle of a desert with sun shining brightly and the sand shimmering like gold, this looked so picturesque

As I walked along, it was not so easy to walk in the sand and also, I could feel hot sand now entering in my feet/shoes. I then tried my hands to pick up the golden sand, which was very hot and just kept slipping from hand, as its said sand slipping out of hand like time.



In some distance I saw a few camels walking in a line pattern and leaving their footprints behind. Ship of the Desert as the camels are often called, walking in their own unique style with both legs of side moving forward at one time.

Few interesting facts of this desert ship-In that they have dromedary camel- one hump camels. One of the camel's most notable physical traits is its hump or humps. While the dromedary camel has one hump, the Bactrian camel has two humps- found in Gobi desert.

A camel can survive for over a week without water, they store fat in their humps, which can be used for energy when food and water are scarce. The hump changes size depending on the amount of food that the animal eats. Another noticeable feature that allow them to survive in the desert is double rows of extra-long eyelashes to help keep sand out of the eyes and they are also able to close their nostrils to keep out sand. Camels are herbivores, eating grass, grains, wheat and oats. Like cows, camels are ruminants, meaning they regurgitate the food back up from their stomach to chew it again.

A new born camel is born without humps, but small peaks hide with a tassel of curly hair, indicating where the humps will grow. The new born is able to walk within half an hour after it is born. Camels are social animals that live in groups, called herds. Camels communicate with each other with many sounds, such as moans and loud bellows.

Lot said about the Desert ship, now it was time to have a safari/ride on the same. I took a long 1 hour safari through the desert and I must tell you,





how so ever fascinating it may look, it's not easy and it's a lil' scary specially when it lifts itself and sits back and its pains inner thighs of the rider like anything, but none the less it was enjoyable.

Sitting on the Camel in the middle of a desert, with sun looming large and sand dunes all around this completes the entire desert experience...not to mention we did not expect/face any desert storms. Which are scary.

Post the safari I went for a late afternoon siesta and was back in the middle of action to enjoy the evening time, which was quite happening. With a complete new look of the same place thronged by people all around, small groups with folk dancers dancing to the tunes of the Rajasthani folk music and then everyone around enjoying a ride either on the camel or cart being pulled by camel, vendors selling masala tea on the go and also some selling pakoras with chutney.

As the sun started to set the atmosphere started to get more sombre as people started to settle down in their places to have a beautiful view of the sunset. Sand started to cool down and it was easy to now sit and take some pics.



Next 15-20 mins I just keep watching and capturing each passing moment -with the sun setting, the hues of the sky and entire atmosphere kept changing from yellow to orange to dark orange to red till the time I could see the final rays with the sun setting and it suddenly felt the dusk time was here.

Post the sunset people started to move towards either the parking area or someone like myself towards my tent/camp area. Nicely built tents- I had used them in afternoon too- and in the middle was the place for bonfire and folk program. I took some rest and also checked the shots captured during the entire day.



Around 7-7:30 the evening programme started with some folk songs and dance which was very immersing and Sufiyan style followed by a nicely laid Rajasthani Dinner, gatte ki sabzi, bajra roti, kadi, wadi, ker sangria, Dal etc..

Post dinner things started to slow down as some people started to retreat in their tents and some just kept chatting and singing around the bonfire. I decided to take a walk in the dunes once again some distance away this time illuminated under full moon which looked so beautiful. I just sat there on the with the same sand now looking like Silver under the moonlight and cooled down and in some far away distance in some other camp I could hear the sound of the famous Lamhe song, there was lone camel sitting in some distance, just like me enjoying the serenity of the atmosphere and then I just closed my eyes for next some time and tried to absorb the everything through my mind and soul...it was one of the most beautiful experience.



Mornings was different and beautiful-very cool and relaxed, after a quick breakfast/tea some people went for another round of safari , but, I had different plans to now explore some more parts of the city and bid good bye to the desert with my mind and heart filled with an experience which was very different and unique.

What we may have seen on our TV sets through movies ranging from Reshma aur Shera to Rudaali to Lamhe to Border everything virtually may be good to see but the real thing is to be in midst of it all and experience it through ones senses and take back and experience of lifetime which is different, unforgettable and unique.

There are usually 3 types of travel- Hills, Beach and Desert, each has its uniqueness and keep on exploring all of them till the find the one which takes you closest to your own self. ■

**Best time to visit** is Oct-Nov-Feb-Mar  
**Direct Train links** from all major cities now on BG line  
**Places to Stay:** Pick any heritage haveli and ensure they do have folk programme in the evening

# New Initiatives for Accelerated Infrastructure Development & Maintenance

Indian Railways is one of the torchbearer in the development of the country and act as Engine of Economic Growth. Indian Railways have key role in economical passenger movement, financially viable mode of freight transportation.

Over the last two decades, traffic on Indian railway tracks has increased at much faster rate as compare to track length added in the system. Increase in traffic as well as increase in speed of both passenger and goods trains has thrown a challenge to track maintainers to maintain track in safe conditions all the time. This demands faster execution of projects, adoption of modern monitoring and maintenance track technologies. Indian railways have taken a number of initiatives to accelerate infrastructure creation, modernise track monitoring, inspection and maintenance

## Policy Initiatives

- a. Indian Railways have thoroughly revised and rationalised the various provisions of 'General Conditions of Contract' with a view to expedite finalisation of tenders and execution of works. Some of the major changes are as follows:
  - i) Relaxation in the minimum eligibility criteria
  - ii) The % deduction from running bills towards Security Deposit has been reduced from 10% to 6% and the Liquidated Damages have been made telescopic in nature i.e., more delay-more liquidated damages.
  - iii) Work credentials of public listed companies allowed
  - iv) Subletting of works provisions elaborated
  - v) Incentive for early completion of work introduced
  - vi) Compliance with Construction and Demolition Waste Management Rule 2016
- b. In order to improve ease of doing business with Indian Railways, now, in Indian Railways, 100% tendering is on e-application IREPS. Provision has also been made in e-application IREPS to record 'Performance Appraisal Report of Contractors' for each work. This would enable Railways in creating data bank of good contractors.
- c. Drawing being a major source of delay in execution of works, to expedite and have accountability at various stages while processing drawings for approval, procedure

for approval of engineering drawings has been issued over Indian Railways. E-Drawing Approval System (e-DAS), an online Drawing Approval System, has been developed and launched over IR to bring in efficiency.

- d. For better Contract Management in Indian Railways E-application IRWCMS (IR Works Contracts Management System) has been developed and launched in all 68 Divisions. IRWCMS application covers all the activities associated with contract management like Submission of Performance Guarantee, Preparation & Signing of Contract Agreement, Billing and Payment, Non-Schedule Items preparation and sanction, Extension of Date of Completion, Release of Performance Guarantee and Security Deposit and Correspondence between Railways and Contractor.
- e. Indian Railways has also developed e-Modules IR- RBCS (Rail Bhoomi Crossing Seva). E-application covers the complete process for consideration of way leave proposals starting from submission of application by a party to the final approval or rejection of the proposal. The e-application also has facility for online payments.
- f. A number of modifications have also been done on e-application IRPSM (Indian Railways Projects Sanctions & Management) for better project monitoring.

## Infrastructure Maintenance

In the recent past, there has been material change in the way track is maintained. Various types of track machines for maintenance, monitoring have been procured and a few are under procurement to achieve the complete mechanization of track maintenance by year 2024. Significant improvements have been made in welding techniques. A few of major developments in maintenance of track are as under:

- a. **Rail Renewal:** For safe and smooth flow of traffic, reliability of assets is of paramount importance. Rail renewal works are accordingly taken up by Railways to avoid failure during service. Quantum jump in progress of rail renewal works has been achieved during last 3 years. Average rail renewal which used to be around 3000 track km per year earlier has increased to almost 5000 track km per year during the last 3 years. Highest ever progress of rail renewal for 5510 track km has been achieved during 2020-21.



- b. **Raising of sectional speed/loop line speed:** In order to improve throughput on existing railway network, the work of raising of sectional speed has been taken up in mission mode. On Golden Quadrilateral and diagonal routes, sectional speed has been raised to 130 kmph over 4162 route km during 2020-21. On overall basis, sectional speed has been raised to different speed potentials for 12496 route km during 2020-21, against 5617 route km during 2019-20. During the last three years, sectional speed has been raised over 23330 route km. Loop line speed has been raised to 30 km/hr over 10660 route km.
- c. **Relaxation of Permanent Speed Restriction:** 1102 No. of permanent speed restrictions have also been either removed or relaxed.
- d. **Rail Grinding Machine (RGM):** Rail grinding is a must rail maintenance practice over world Railways for enhancing the life of the rails. The grinding reduces the rail fractures, improves the wear profile of rail head, removes the fatigued material having micro cracks and other surface defects on the rail head. Grinding can also remove the defect of corrugations on rail table. Indian Railways started rail grinding with 2 nos. 72-stone RGMs in the year 2011-12 with deployment of machines one each in NCR and SCR. Now, 10 number 96-stone high productivity rail grinding machines are also under introduction over IR network.
- e. **Switch Rail Grinding Machine (SRGM):** Besides the grinding of plain track, the grinding of Turnouts is also very important activity for enhancing the life of assets and reducing the failures. Presently, grinding of mainline rails are done and turnout, LC gates, sharp curves with check rails etc. are left without grinding. IR is now procuring such grinding machines for use on switches, crossings, track in tunnels, track on bridges having guard rails without removing the guard rails, track on platform lines, diamond crossings with or without derailment guard to cover Indian Railways network.

- f. **Reducing Welds:** Alumino-Thermit (AT) welds are the weak links in track. Indian Railways is reducing population of AT welds gradually by using more and long rail panels as shown below. Presently only long rails are being supplied to field in open line as well as in construction.

Year	60kg rail supply to IR		
	Supply (in MT)	Long rails (in MT)	% of Long Rails
2009-10	3.73	0.87	23%
2010-11	3.81	0.81	21%
2011-12	3.49	0.84	24%
2012-13	4.48	0.95	21%
2013-14	5.07	1.25	25%
2014-15	4.32	1.21	28%
2015-16	5.47	1.15	21%
2016-17	5.16	1.29	25%
2017-18	7.24	2.90	40%
2018-19	8.69	4.42	51%
2019-20	11.65	6.33	54%
2020-21	10.21	7.25	71%



- g. **Improved Thermit Welding:** Significant improvements have been made in the welding techniques of thermit welding carried out in open line to reduce dependence on human judgment as under:
  - i. The use of Compressed air heating, three piece moulds, single shot crucible and automatic Tapping thimbles have been made mandatory for welding on Broad Gauge track. Benefits are as under:
    - Single shot crucible** - This helps in preventing entrance of impurities into weld chemistry due to re-use of crucible done in past and improves quality;
    - Auto thimble technology-** Helps in removing subjectivity of human welder to decide when to pour the molten material and thus improving quality;
    - Three piece mould** - This avoids formation of shin at the bottom of weld and thus avoiding stress concentration points improving the quality of weld.



**Compressed air petrol heating** - This system is effective and easy to carry to the site.

- ii. In addition to above, managerial input are also being regularly given by on-line monitoring of welder wise performance, regular training and no overdue certification of welders.
- iii. Defective welds percentage in last 5 years over IR is as under:

Financial Year	2016-17	2017-18	2018-19	2019-20	2020-21
AT Weld done (lakh)	3.46	3.92	4.29	4.25	4.23
AT Welds Defective %age	16	14	10	5	3.3



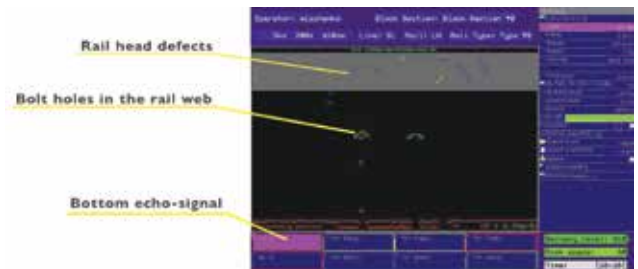
**Compressed Air – Petrol Heating System**



- h. **USFD Testing of Rails:** Considering that a large number of rail/weld fractures result in derailments and some flaws go undetected in USFD testing, improvement in USFD testing technique is regularly in progress. At present USFD testing is being done manually, which is a slow and time-consuming process and largely depends upon human judgment.

Vehicular USFD testing of 30,400 Track km length on Delhi-Mughalsarai and Delhi-Ratlam section, on trial, by vehicle borne ultrasonic testing, has been introduced by awarding a service contract to be used in four Railways namely NR, WCR, WR, NCR. After successful trials, the activity shall be either outsourced or suitable vehicular USFD system will be procured. Procurement of 18 nos. Self Propelled Ultrasonic Rail Testing (SPURT) Car has been sanctioned in Rolling Stock Programme 2017-18 & 201819.

- i. **USFD Testing with B-Scan technology:** USFD testing with B-Scan technology has been adopted and the same has been started on 'A' routes in both, departmental USFD as well as out-sourcing. B-Scan capability enables indication of location of rail defects, Data Recording capability, Location tagging-Km/m, chainage, GPS latitude & longitude and time stamping of recording with satellite synchronizations.



- j. **Weldable CMS Crossings (WCMSC):** Weld-able CMS Crossing (WCMSC) developed in Europe in 1980s is considered superior to conventional CMS Crossing due to elimination of fish plated joints by flash butt welded joint. Use of WCMSC was also found to be yielding better riding characteristic, reduction in maintenance inputs and also reduction in fractures. Weld-able CMS crossing eliminates the fish-plated joints and hence facilitates continuation of long welded rail (LWR) through turnout and there will



not be need of use of SEJs except at special locations like approach of Important/Major bridges, sharp curves etc. Field trial has been approved for 2 firms and supply of WCMSC is likely to be started from August 2021 from the existing contract of 4007 WCMSCs.

- k. **Thick web switches (TWS):** Policy decision has been taken to use only Thick Web Switches on all important routes of IR network. This enhances mobility due to higher permitted speed for loop lines, improves safety due to better geometry & strength and also improves maintainability. Total 5784 TWS have already been laid on Indian Railways.



- l. **Elimination of Manned Level Crossings (MLCs):** To increase average speed of trains, Railway Board has decided to expedite elimination of manned level crossings in a phased manner. Overall, 2310 no. of manned level crossings have been eliminated during 2014-19, 1273 no. during 2019-20 and 961 no. during 2020-21 as compared to total 199 no. during 2009 to 2014.
- m. **Bridge Rehabilitation:** Railway has large number of old bridges. Indian Railways is expediting repair or rehabilitation of such old bridges. During the year 2020-21, total 1114 No. of bridges have been rehabilitated.

**Signal System over Indian Railways**

- i. Signalling systems play a very important role in ensuring safety and mobility in train operations. Signalling systems started with rudimentary mechanical signalling systems in the late 19th century. Today we have more than 2269 Electronic Interlocking and more than 3987 Electric/ Electro mechanical signalling which are supporting train operations across the country. Presently there are around 229 mechanical signalling left on IR. We intend to eliminate all our mechanical signalling systems in next 2 years.
- ii. IR has decided to equip its High-Density Network (HDN) and Highly Utilised Network (HUN) with Modern Train Protection System, which includes KAVACH (Train Collision Avoidance System), Automatic Block Signalling (ABS) and Centralized Traffic Control (CTC). Works of KAVACH (TCAS) for

37300 Route Kms and ABS) on 16,000 Route Kms on HDN &HUN has been approved. Work of KAVACH (TCAS) for 37,300 Route Kms covering entire HDN & HUN with other important routes, ABS on nearly 16000 Route Kms covering entire HDN and Freight dense HUN Routes and works of CTC for about 14660 Route Km including entire HDN Routes has been approved.

**Railway Electrification**

The Railway Electrification scenario of India in 2014 had been moving at a normal pace. However, today seven years later, it is remarkable to consider the positive changes that have taken place on this subject. A lot of emphasis has been given to Railway Electrification in recent years with a view to reduce the Nation’s dependence on imported petroleum-based energy and to enhance the country’s energy security, with a vision of providing eco-friendly, faster and energy-efficient mode of transportation. Major highlights of achievements in this regard are as below:

- i. Highest ever electrification of sections covering 6,015 Route KM in a single year during 2020-21 despite COVID pandemic, surpassing the previous highest of 5,276 Route KM achieved in 2018-19.
- ii. The Broad Gauge network of Indian Railways is 63,949 Route KM and with 740 km of Konkan Railway, total network is of 64,689 RKM. Out of which 45,881 Route KM i.e. 71% have been electrified by 31.03.2021.
- iii. 24,080 Route KM (37% of present Broad Gauge routes) have been electrified during 2014-21 against electrification of 4,337 Route KM (7% of present Broad Gauge routes) during 2007-14.
- iv. Out of total 45,881 RKM electrified so far, 34% has been electrified in last three years only
- v. Indian Railways is all set to electrify its entire Broad Gauge network by 2023-24. This has been made possible due to change in thinking over the years and there has been a change in the way we work. This would not only result in a better fuel energy usage resulting in increased throughput, reduced fuel expenditure but also savings in precious foreign exchange. Planning to complete electrification of balance Broad Gauge railway routes is shown in the table below:

Year	Target (Route KM)
2021-22	6,000
2022-23	6,500
2023-24	6,308
<b>Total</b>	<b>18,808</b>



# *Jannat-e-Benazir* My Kashmir Yatra

Alka Panchal  
*ALIO/NAIR*

The beautiful valleys, mountains covered with snow, smelling saffron, dancing rivers and springs...my heart bounced with joy when I landed in Kashmir for the first time, my dream destination!!! I was sceptical about my trip to Kashmir that I could ever be able to make it

It happened in a flash and we started our journey this July 5<sup>th</sup>...I had only read and heard about the Kashmir, its beauty, the people and Kashmiriyat.

When I landed in Kashmir, it was much more than I had ever thought of its picturesque scenery. We spent first day at famous Dal Lake in the heart

of the Srinagar city. The lake is surrounded by mountains making it so beautiful that can't be expressed in words. The colourful Shikaras, clean water, the house boats and the ghats adds to its beauty. We had long ride in shikara and spent about 5 hours in dal lake, roamed in the deepest areas where there are small villages within the lake.

It was July and days were longer with sunlight up to 7.30 in the evening. There was a floating market in Dal Lake, people were selling tea, coffee, boiled corn, wooden articles, shawls etc. We saw house boat where famous Hindi film "Mission Kashmir" was shoot. At the dawn, house boats lit with lights and suddenly the scene changed making it a real icon of the Kashmir.





Pahalgam. Its landscape looks picture-perfect with a green carpet interrupted by a river flowing through it and the snow-clad mountains in the background. It is covered by a thick forest of deodar and pine trees making it picturesque.

The valley also serves as a base camp for trekkers and is a good place to start a further exploration of the mountains. Betaab Valley gained famous after the Sunny Deol and Amrita Singh starrer film, Betaab, which was shot here in 1983.

The next day we headed to the famous Gulmarg, about 100 km from Srinagar. Gulmarg is known for skiing destination. The sixth famous skiing place in the world. During the winter, it is said that its beauty is like paradise. It has two level Gondola ride (rope way) and reaches to the highest of the mountains. A few tribal like habitats are seen from the Gondola.



On the fourth and fifth day we explored the local markets of Srinagar and mingled with the local people. While talking to People of Kashmir, I felt they are pure at heart. They treat tourists like their “*Mehmaan*” and boast about their Hospitality. Always eager to help the tourists.

On the third day we travelled to most famous Betab Valley at Pahalgam, about 100 km from Srinagar. On the way are famous places Pulvama and Anant Nag. There are a number of apple orchards and Walnut trees on the way near



They give away their contact details without any fear and even asking the identity. They boast of *Kashmiriyat*. The most famous things to buy in Kashmir are Saffron, Carpets, Shawls and Walnut wood articles. The famous markets are Jahangir Chowk, the Limbert lane and Koker bazar (all these places near famous Lal Chowk).

We left for home on the sixth day with everlasting memories of Kashmir in our mind..... with a vow to visit again.. ■

# Newspapers as I Knew Them...

Dr. Uppuluri Krishna Murty

CVO, HPCL, Retired

*Knowledge is the ultimate Power.  
The Pen is mightier than the sword!*

Newspapers used to be a fountain heads of such Power because they were one of the main sources of knowledge in our younger days. They were cheap, easily accessible, and most of the government libraries used to subscribe to a variety of newspapers which can be read free of cost.

Newspapers apart, there were periodicals, including year books, such as Malayala Monaroma and others for reference. They have huge compilation of various facts and figures related to a variety of fields. Competition Success Review was just taking off.

But for learning written English or the mother tongue; of course the journalistic language as different from orthodox bookish language, newspapers were the best guides. The Knowledge of current affairs that one gains in the process of reading newspapers is another benefit.

While I cannot speak English like a convent-bred sophisticated man, I learnt English pronunciation from All India Radio news readers and sports, particularly cricket, commentators.

Just to add, there were no mobiles [...as I know 'Mobiles' followed 'Pagers' in around 1996 or 1997], no TV [TVs came in to Districts in 1982 with the Asian Games held at New Delhi] and no portable computers [I remember seeing one desktop for the first time at IIT Madras during my M. Tech. Days in 1984 and we learnt abstract Fortran 4 and may be Fortran 77 apart from dBase III], no laptops, no iPads, and no other gadgets of that ilk.

I have no claims to superior knowledge or any edge in terms of wisdom over others.

However, I am sure of one thing.

I gained significantly by reading the two or three vernacular dailies that Shri Nalla Satyanarayana Murthy Garu, our PET, opposite whose big ancestral house we were staying then, used to get daily in his house and was kind enough to spare them for an hour or two daily with a smiling face for my benefit. I express my gratitude for that help that I received in the formative years.

It is not that I read newspapers merely to prepare for competitive examination. Reading newspapers has become a deeply ingrained habit for me.

There was another spell in my life where I enjoyed free access to newspapers. If I do not mention it here it would be a travesty of justice on my part. It happened in 1988. I was a probationer in Railways and I was hospitalized with back pain for 24 days. I was totally bedridden. The then CPRO of SC Railway Shri Sunder Ram, IRTS, used to daily send me a bunch of newspapers apart from breakfast, lunch and dinner!

Those papers used to keep me engaged the whole day. As I look back I express my gratitude for that.

The modern newspaper is of European origin.

Of course, it is least surprising that in each and every Country there would be die hard politically and ideologically sponsored theoreticians who would say that the newspaper, as we know or see or understand or visualize today, has originated in their own country or in a particular part of their mother land, if not their Village or Mandal, or Taluka [The Taluka is Dead, I guess, long live the Tahasildar] or District, from which they hail.

The oldest direct handwritten news sheets that circulated widely were filled with information on wars and politics. The first printed newspapers were published from as long back as 1609. Typically, they were heavily censored in those days as it happens locally even now though not so explicitly.

Because of the constraints in printing and logistics the earliest newspapers were frequently handwritten periodicals.

The term newspaper became common in the 17<sup>th</sup> century.

The earliest newspapers were focusing on politics. But news worthy of consumption on trade, stocks, sports, gossip were also finding their space. Some space was always given to fiction in newspapers while there could be conclusive views that most of the news is fabricated to suit some power centers or other and hence it is fiction in its entirety.

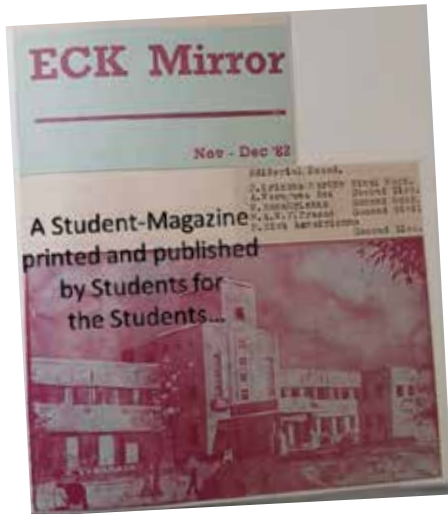
News published in newspapers was and is even today highly selective and often propagandistic. Readers were and are eager to consume news on sensationalism, such as accounts of murders, rapes, robberies, stories of swindles, white collar crimes, speeches and utterances of people in power, information on what is given free of cost and by whom and at which office and things like that.

This type of material appears in a headline once and then disappears forever. There would be no follow up. This kind of news do not pose a threat to the state, because it did not present any direct criticism of the state.

Newspapers used to come in various sizes and mostly they were black and white stuff. Low cost distributed colour printing is of very recent origin.

Technology has helped the print media in a large measure. Standing on the broad shoulders of continuously evolving technology the circulation, reach and spread of newspapers have leapfrogged.

Finally, advancements in Technology are taking the newspapers to the grave yards. They are almost



redundant today. There are so many other sources of knowledge with instant news that are more effective than static newspapers and cheaper; the ubiquitous TV, the iPads, the mobiles, the Alexa type of intelligent or smart assistants invading automated homes, and what not.

The newspapers typically included short articles, stories, columnists, weekly columns, stringers, correspondents, pieces on ephemeral topics, some illustrations, cartoons, and service articles (classifieds). They were often written by multiple authors, although the authors' identities were often obscured. The letters to the editor columns have helped the nascent authors to sharpen their skills.

Newspapers soon began to contain some advertisements.

But the autonomy of the Editor and the Editors Character as a learned person were always placed on a high pedestal. The Editor was a decently paid professional with strong moorings and he stood apart from the owners or so it appeared.

In January 1780 the first newspaper in India was published from Kolkata, in India.

Supply of print-worthy news itself has emerged as a profession and industry and rightly so.

Newspapers are mainly in the private sector. While the money they generate through subscriptions in minuscule, their main source of revenue continues to be advertisements.

For the survival of Newspapers, the patronage of those in power or the mighty business empires seems to be essential.

Investigative Journalism gained ground in 1970s in India. Newspapers have gained a reputation that they can pulldown corrupt governments and erect new parties in their place. May be there is a grain of truth in it.

I have written this rambling piece for two reasons.

Before I go to work I always read a newspaper over a hot cup of coffee early in the morning even today. I curse the day the newspaper boys take a break. These days, I am finding that a typical newspaper will have 5 or 6 full page advertisements sponsored by e-commerce companies that throw goods away at discounted rates at the cost of their owners. On what business model these companies work I do not know. In a newspaper advertisements are the headlines these days. There are no other worthy headlines.

During the festival seasons the number of pages dedicated to advertisements increase sharply.

In addition, there are leaflets and pamphlets inserted in newspapers on all kinds of topics; "... houses for sale...", "Book a flat today at 30 % discount rates..." and so on. Many builders take advance and vanish...

Interestingly there will be Advertorials inserted as per DAVP Rules...at the cost of the Tax Payer ...and who else...

The photos of only one or two persons always appear on the first page as though the public does not know who they are, what they are, and as if these selected individuals alone are running the society...

I carry the newspaper along with me...as I head for work and the commute is really long ...a good 45 minutes' duration...an uninterrupted spell of time to read a couple of good newspapers before the staff driver drops me at work. The routine continues...

For a stringer or a reporter working for small newspapers life is tough. For them often their office is the shade provided by trees on the roadside, literally and figuratively. They cannot rest for long either; for if they lag behind others. The competition for "Breaking News" is cut throat then as well as now. They have to rush with the convoys and grab news. They have to be pushers. Newspaper correspondents often lure people offices to leak news. Such sources of news are called sources or cultivated contacts or even moles. At the field level the people are not well paid. A reporter's job is for the young, dashing, and the bold. At the top, may be, people are well paid. The climb is steep.

Once up on a time newspapers were in the forefront of the media business. Now other channels are taking over.

Courses in journalism are catching up with the field becoming glamorous and the visibility for media professionals increasing. But the tilt is toward the electronic media. Periodicals brought out on glossy papers and in colour print have found their own niche market segments.

As for newspapers and their future I do not know...

### Tail Piece

During my engineering college days, not to sound boastful or arrogant, we a group of five of us, like minded students, started a periodical titled "ECK Mirror". It was sold for 2 Rupees a copy. It was a monthly, if I recall correctly. It ran for a few months before it was shutdown...

But the love for print media continued...

I was the Editor.

Here I recommend a book from 1960s for those interested in vernacular journalism and its growth in India. Narla Venkateswara Rao Garu [V. R. Narla] was the editor of Andhra Prabha, a Telugu Daily, of Indian Express Group for years. On the occasion of his Shashthyabhdapurti an anthology of essays was brought out, aptly titled "Studies in the History of Telugu journalism" It had articles on various facets of journalism, its evolution, the history of early practitioners of the art, covering in great detail Children's Journalism, Literary Criticism women in Journalism field, History of Printing and many other associated subjects by experts.

It makes an interesting reading. ■

# UNITING INDIA THROUGH THE TASTE BUDS

State of the month :

## KARNATAKA

### BISSE BELLE BHATH

Sudha Rao

#### INGREDIENTS - (For Bhath Powder)

CORRIANDER SEEDS	(Dhania seeds whole) –2 cups
RED CHILLIES whole	1 cup (approx.- to be adjusted according to taste)
ARHAR DAL	2 teaspoon
UDAD DAL	2 teaspoon
CLOVES (LAUNG)	About 3 or 4 pieces
SMALL CARDAMOM	2 pieces (skinned)
CINNAMON	1/2 inch
DRY COCONUT grated	1/4 <sup>th</sup> cup
<b>OTHER INGREDIENTS</b>	
JAGGERY	A small lemon sized piece (grated)
TAMARIND (IMLI)	A medium lemon size soaked for about 1/2 hr. and then take out the pulp.
ARHAR DAL	1/2 cup (soak for about 1 hr.)
RICE	3/4 cup (soak for about 1/2 hr.)
TURMERIC POWDER	1/2 teaspoon
SALT	to taste

Vegetables like Beans (about 10 – cut into small pieces), 1 medium sized potato (diced into small cubes), Pumpkin or Sitaphal (diced into small pieces – 100 gms), Green peas – 1/2 cup, White Pumpkin or Petha (diced into small pieces -100 gms), Raw Banana – 1 small sized, peeled and diced into small cubes, carrot – 2 (diced into medium sized cubes). Variety of Vegetables can be added or removed depending upon availability.

#### FOR TADKA (SEASONING)

COOKING OIL OR DESI GHEE	3 teaspoons
MUSTARD SEED	2 teaspoons
UDAD DAL	2 teaspoons
CHANA DAL	2 teaspoon
GROUNDNUTS (MOONGPHALI)	about 3 teaspoons
HING POWDER	(Asafoetida powder – a pinch)
<b>SOME CURRY LEAVES</b>	



#### METHOD

For the Bhath powder: Dry roast all ingredients except the grated coconut. Make a powder of these roasted ingredients along with the grated coconut.

In a heavy bottom utensil, add the soaked dal and rice together, along with the cut vegetables and turmeric powder. Add sufficient water, cover the utensil and let it boil till all of it is almost cooked. Stir occasionally so that the contents do not stick to the bottom of the utensil. Then add Tamarind pulp, Bhath powder (as per taste) and Salt (as per taste) and jaggery. On a low flame, let it simmer and stir continuously. Add water if necessary. Cook till the contents are cooked properly and forms a semi liquid consistency. Once cooked, garnish the dish with grated fresh coconut (if available) and Tadka as mentioned below.

#### FOR THE TADKA

In a Kadahi pour oil. After it gets hot reduce the flame of the gas and then add mustard seeds and let it pop. Then add Udad dal, Chana dal, 1 or 2 whole red chillies broken into pieces, Pinch of Hing powder, Ground nuts and curry leaves. Stir the contents till the dals become golden brown. Pour the contents over the already cooked rice/ Dal mixture.

Enjoy this wholesome meal with mixed vegetable Raita and Pappad. ■



# WORD MAZE

Shri K.C. Jayaraj

*Sr. Engineer - IT, Western Railway*

Names of many popular Express trains run by Indian Railways are hidden in the below block. Try to find the correct names of the trains from it. You can read from left to right and top to downward. No corner to corner or reverse movements such as right to left or bottom to upward movements allowed.

K	C	T	A	P	O	V	A	N	A	G
J	H	A	R	M	A	N	G	A	L	A
M	E	R	U	A	H	I	M	S	A	R
A	T	A	S	H	A	T	A	B	D	I
R	A	J	Y	A	R	A	N	I	Y	B
U	K	D	U	R	O	N	T	O	U	R
S	A	H	Y	A	D	R	I	R	V	A
A	S	A	M	J	O	T	H	A	A	T
G	R	N	O	A	S	H	R	A	M	H
A	A	I	N	T	E	R	C	I	T	Y
R	M	I	L	L	E	N	N	I	U	M

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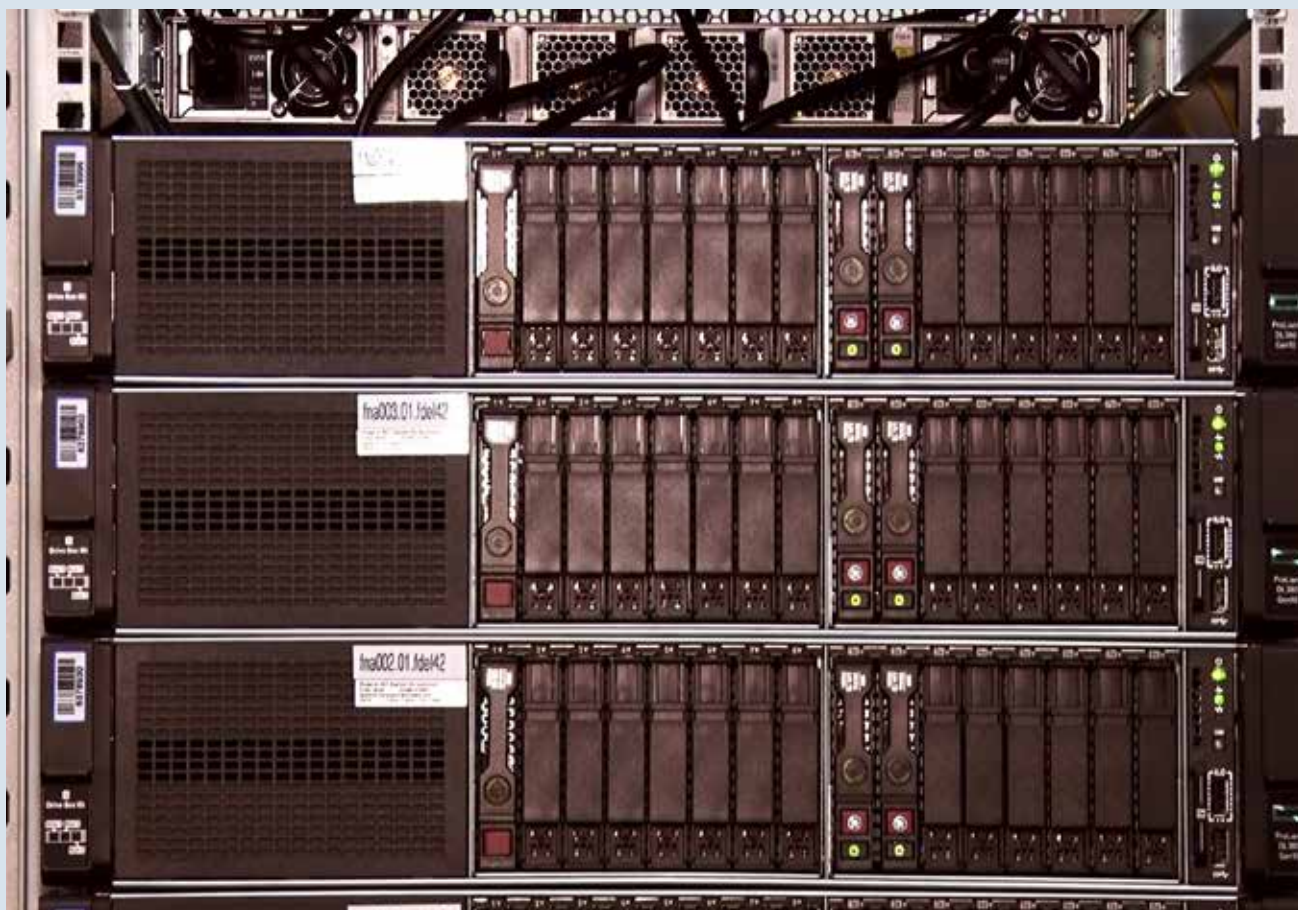


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# A Digital Dawn over IR through IoT / AI

Shri Puneet Chawla

*CMD, RailTel*

Businesses have been looking for ways to improve upon processes with the use of new technology since ages, and this has immensely contributed to progress and wealth creation. In this new world order of innovation in the workplace, if you're not willing to embrace new technology, you will not be unable to compete, grow and evolve. All through its history of 150 years, Indian Railways has shown a penchant for adoption of robust and latest technology in all its facets of working., Indian Railways is again on a path of reinvigorating itself with a slew of digitalisation initiatives to bring in efficiency, transparency and reducing carbon footprint with slew of measures. The initiative being implemented by RailTel like e-office for which in all 3 Phases has been completed, Electronic Interlocking which has been completed at 4 stations and work is in progress at 8 more stations of Northern Railway, high speed public Wi-Fi at 6070+ stations has been completed with the Wi-Fi now available at 15 stations of Kashmir Valley, CCTV based Surveillance System has been implemented at 290+ stations by RailTel, Hospital Management Information System has also been implemented at 695 Hospitals /Health Units of Indian Railways. Other initiatives by Railway such as Real Time Train Information System (RTIS) for automatic chart preparation and passenger train information, 'RailMadad' an integrated complaints platform, modernizing its signaling system by implementing Modern Train Control system with Long Term Evolution (LTE) based Mobile Train Radio Communication (MTRC) System, Human Resource Management System etc are going to bring in efficiency, enhanced safety and passenger's comfort.

The future of work requires changing tedious, time and revenue consuming, manual jobs, into strategically automated tasks and systems. The Services related to supply chain management and operations, strategy, and customer services is becoming increasingly dependent on AI technologies in order to stay competitive in the marketplace. This is true for Education, Health care, telecom, transportation, consumer retail, financial services, industrial, energy companies, and beyond.

Most organizations agree that AI will enable them to maximize their competitive advantage.

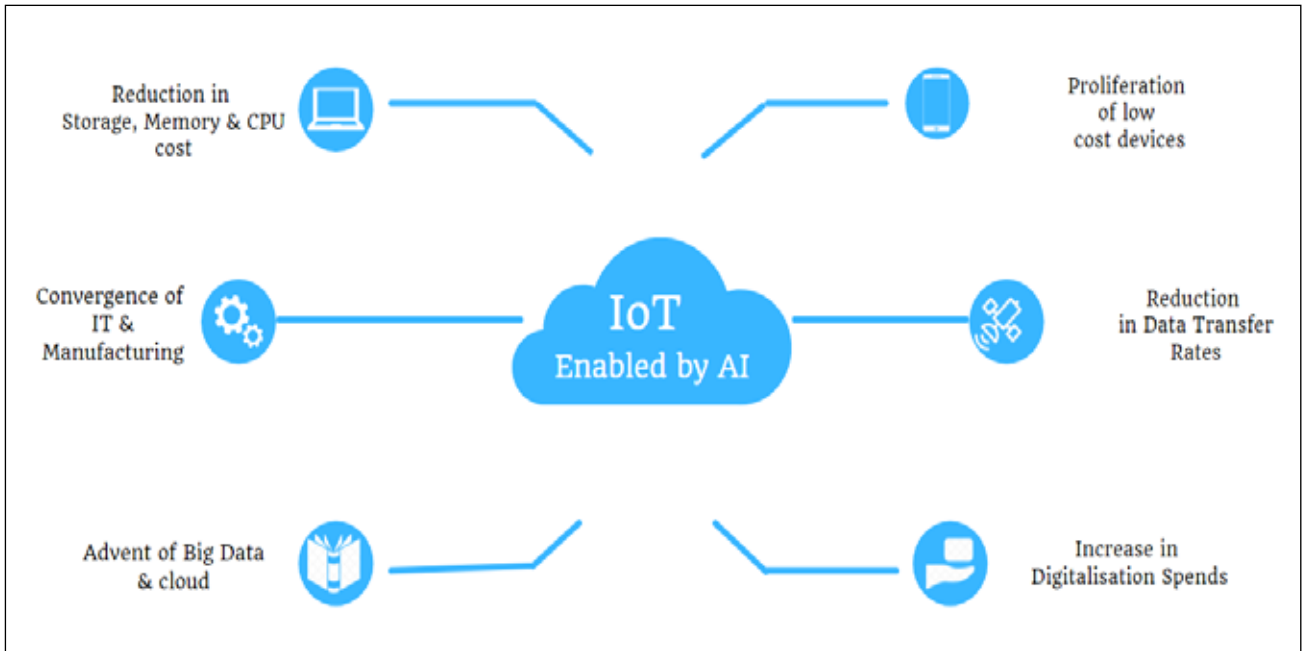
However, very few of these organizations have successfully implemented such technologies. Some of the adopted measures are still in the pilot stages, and have not been fully adopted for regular operations. Hence, we can safely say that there is huge scope in businesses whether large, medium or small for roping in existing and emerging technologies to their benefit.

The adoption strategy is just as crucial to the process as the technology itself, because it requires a complete makeover of how processes are managed. A bad deployment strategy is as likely to result in failure as adoption of an unsuitable technology can result into huge losses. The implementation blueprint should take into account the fabric of project management as well as the structure of accountability within the organization.

At its core, AI is machine learning, and the intelligent use of data and information. The future of work is impacted by innovations that can be made from such information duly identifying patterns in data trends and carrying out predictive analytics, responding to real-time conditions and building up knowledge base of decisions is something that humans cannot do so quickly.

Any device, connected to the Internet, and capable of sending and receiving data, is part of IoT. Sensors deliver data, but data can only become valuable if it means something important, and is actionable. IoT and AI go hand in hand for determining how to use data in useful ways. IoT can inform AI, and AI brings context and creativity to create informed action. With the help of IoT, "smart machines" simulate intelligent behavior to make informed decisions through Predictive analytics – "What will happen?", Prescriptive analytics – "What should we do?" and Adaptive/continuous analytics – "What are the appropriate actions or decisions? How should the system adapt to the latest changes?"

Most AI algorithms need huge amounts of computing data and computing power, relying on powerful servers and central data storage. To be sure that data is processing at an efficient rate, edge computing becomes necessary. Because of the nature of Big Data, many would assume that data obtained on edge devices should be directed back to the central data processing center or a Cloud repository; however, that isn't realistic. Instead,



*IoT Enabled by AI*

with edge computing, IoT devices are transferring data to local devices to store and process, and only a portion of that data is sent to the central data repository, or corporate data center.

Manufacturing can utilize connected sensors to monitor and manage the health of manufacturing equipment, which, over time can help identify root causes of defects, its utilisation pattern and improve production, quality and the value of depreciating assets over time.

Health care equipment actively monitors data about how well the human body is working by intelligent monitoring of various parameters. Therefore, there are vast opportunities to improve upon the way we monitor health, catch the signs of disease early on, or help to avoid it altogether.

Security and logistics for edge computing depend on a variety of variables, like what kind of data the edge devices are collecting, and how useful would that data be to hacker, without context or meaning. It is arguable that security for an organization is improved by implementing edge devices, because the less data being shared over a network, the better. If the main Cloud environment is compromised, data from edge devices (or at least some of it) won't be stored or processed there, thereby keeping that data away from harm.

However, it can also be argued that the edge computing devices themselves can be breached without access to the main data processing center, which, depending on the kind of data being collected, is also a great risk. Security from all

access points will continue to be paramount as organizations temper the way they manage their data.

It is doubtful that the Cloud and/or huge data processing centers will go anywhere, and more likely that the Cloud and the Edge will work symbiotically. While the Edge will allow certain functions that require speed and quick processing to redistribute data processing that is latency-sensitive, data centers and the Cloud will still function for mass storage and data processing.

IoT devices generate zillion bytes of data. Cloud computing with its different models and implementation platforms help organizations to manage and analyze the data, enhancing the overall efficiency and working of IoT system. IoT solutions require connection between devices, people and processes. Cloud computing plays a very important role in this collaboration and creates high visibility. Organizations can create applications and software through cloud service, which can connect devices and enable device registration, on-boarding, remote device updates and diagnosis in the least possible time with reduction in the operational and support costs.

Successful implementation of AI & IOT based solutions in the context of India, have the following prerequisite of infrastructure requirements.

A robust high speed OFC based transport network.

- MeitY empanelled cloud
- Edge data centre



- Security Operation Centre
- Skilled Human Resource
- Network of Partners
- High Speed communication network

RailTel already has a robust high speed, high capacity OFC network covering 60000+ Rkm, city wide access network of 18000 KM, 2 UPTIME certified Tier-III Data Centres at Gurugram & Secunderabad with MeitY empanelled RailCloud, edge data centres at 5 Metros viz HYB, SBC, MAS, Mumbai & Chennai, State of the Art Security Operation Centre to take care of all cyber security threats, inhouse availability of skilled and technically qualified manpower and network of 240 digital service partner/business associates who can deliver niche solutions for all technical problems. On the back of such infrastructure and skill set RailTel is in a position to deliver on the AI/IOT based requirements of the Railways. Indian Railway is in the process of setting up a High Speed communication network on LTE technology.

Indian Railways has a large inventory of stationary and moving assets for which Railways follow periodic maintenance philosophy. On some of these assets sensors are now provided to monitor critical parameters. The data from these sensors through the use of RailTel's OFC network is to be brought to RailTel's cloud where comprehensive analysis of data can be made using data analytics. Feedback on the assets likely to fail can be sent to the concerned maintenance team, thereby shifting to predictive maintenance philosophy /condition-based monitoring for improving asset maintenance and reliability. Similarly efforts are on to automate activities like train examination, rolling in /out examination through use of machine vision, wheel profile measuring equipment, hot box detectors, acoustic bearing monitors to monitor the condition of moving assets, analyse the data at local servers to identify patterns and insights that would be impossible for a humans to accomplish for optimizing the operations quickly and efficiently by knowing what needs attention. This will minimize subjectivity, reduce down time, improve operations and reduce high manpower cost and at the same time enhance safety.

RailTel has already implemented industry 4.0 solutions on Proof of Concept basis in manufacturing and maintenance set-ups. At Rail Wheel Factory the existing CNC Machine was connected to i-Lens

IoT Edge device using existing Ethernet port. The IoT device was programmed to fetch the data from PLC. The Machine parameters were configured to view necessary trends and reporting structure. The Alerts based on received data was configured and provided to the factory team.

RailTel also did a pilot e-Train Signal Register implementation where automatic, accurate updating of Train movement data in real time from Data Loggers was done. The train movement data is directly captured by the Control Office Application thereby providing accurate and reliable train information. This also reduces stress on Station Master. At a workshop, Energy Management solution was implemented where the data from Energy Meters was collected through an IOT based system to carry out online monitoring of Energy consumption through a dashboard and provide trend analysis and demand forecasting.

RailTel, has deployed IoT Based Condition Monitoring and Predictive Maintenance system for Signalling assets as POC at Malkajgiri Railway station of South Central Railway. The field sensors have been provided for various signalling gears like Signal, Point Machine, Track Circuit, Internal and External power supply and battery system. Data from the IoT devices are transmitted wirelessly to Local Workstation kept where edge computing is done along with Data Logger output. The first level fault information/remote diagnostics are done in the edge computing system. The edge system is further connected to RailTel Cloud through RailTel's backbone for Data Analytics and reporting.

RailTel further implemented an Artificial intelligence (AI) and web-based Attendance system in 46367 schools in 33 districts of Assam for 48 lacs users including students, teachers and non-teaching staff. The learning from this implementation can be applied to execute similar projects for workshops and offices of IR to bring about transparency and effectiveness in management of attendance.

RailTel is also implementing Hospital Management Information System which is capable of providing predictive analysis and dynamic stock requirement of various medicines based on consumption pattern. The software, based upon the various diseases being reported by the various patients, can carry out predictive analysis and indicate if there is a possibility of an epidemic outbreak or a spurt of some disease in a particular

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area. The system has provision for connecting the various medical devices available in the particular hospital and capturing the output of the devices automatically without human intervention.

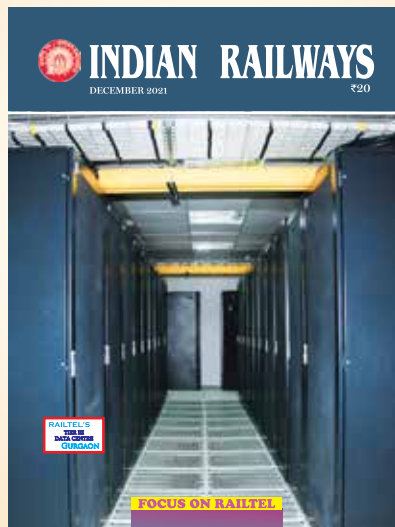
IR has also installed Water Level Measuring Instrument using Pulse RADAR on important bridges to monitor water level at bridges and send alert in case of danger and predefined levels being breached. Similarly Continuous Rail Temperature (CRT) monitor is used by Indian Railways to measure/monitor rail temperature and are installed at some pilot locations on Indian Railways. RailTel is implementing a software solution for obtaining data inputs from these IOT devices and transport the data generated through its OFC network to RailCloud and populate it on the Track Management System and Bridge Management System Applications. The system is being designed to take inputs from upto 50,000 IoT field devices. The server can simultaneously receive data from all the locations and Data analytics will be performed. The alerts and daily reports will be generated to provide meaningful insight for actionable output to reduce failures.

An Indian Railway Civil Engineering Telemetry application platform is also being developed to access this data. IR has recorded/ is recording drone footage of all of its track. These are stored in local servers. A program for viewing of these feedbacks through Telemetry application Platform is to be developed for users over Zonal Railways, Divisions and Sub-Division/Section.

IR has presently installed/is installing CCTV cameras at various project sites. A software is being developed, to access the real time live feed of these cameras through Telemetry application Platform so that a user who is provided with the access password for a particular site, can access the real time live feed of these cameras.

There is immense potential and benefits that can be achieved through use of IoT/ AI and connected system and we are slowly beginning to realize the benefits of these small yet momentous steps that we are taking to create a new and better way of delivering products and services. RailTel is very keen to be a part of this journey and will be contributing in a big way in the digital transformation of the lifeline of the country. ■

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# Green Edge Data Center Deployment

Shri K. Manohar Raja  
Executive Director, RailTel

Edge computing is the delivery of computing solutions (applications and services) at the logical extremes of the network edge, closer to the end-user. For example, vast amounts of IoT or machine-to-machine data can be processed by edge computing and only the most relevant and valuable information is sent to a centralized data center, thus saving the scarce network resources.

Edge computing provides services in a context of reduced network costs, application latency and thereby provides better customer experience.

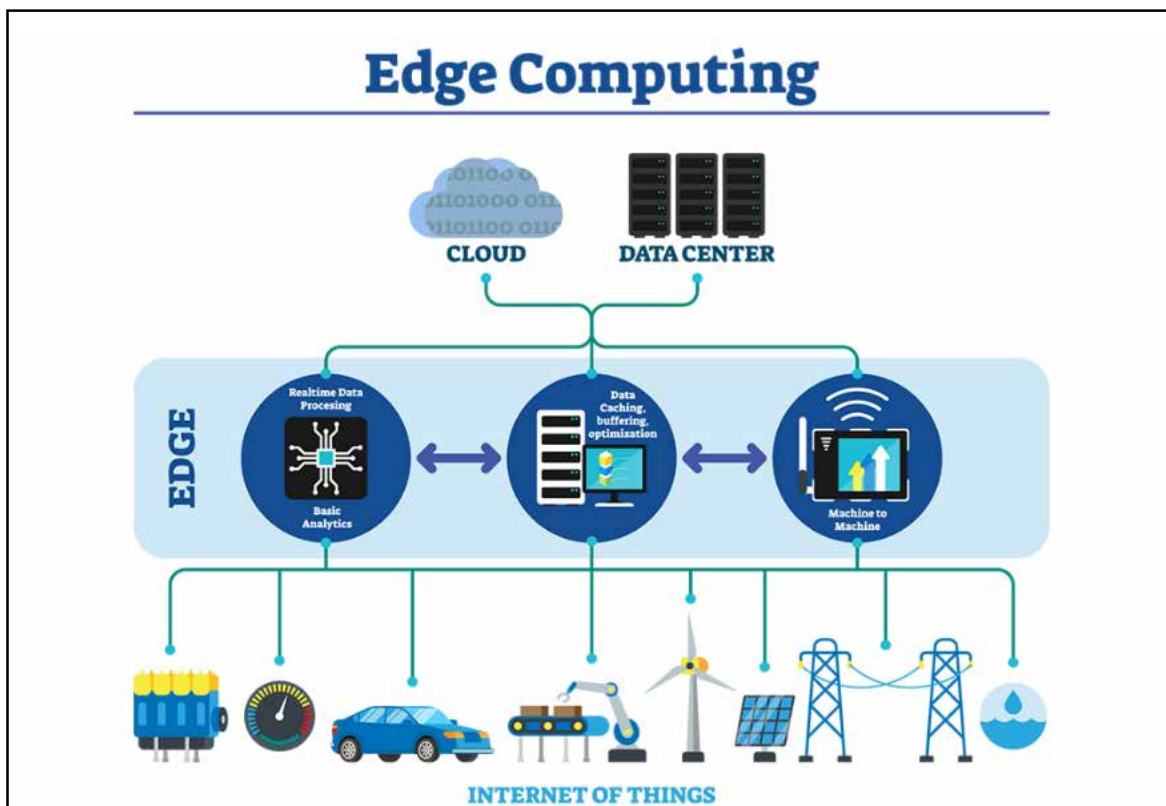
Centralized data centres or hyper scale cloud provider models deliver large-scale resources and gain advantage via economies of scale. Parties share capacity, critical infrastructure, applications, cloud services, staff and peering in one location.

This model will be enhanced by adding EDCs to support application requirements that cannot be supported over long network links from centralized DCs. This will overcome barriers such as communication latency and long-distance transmissions costs and will make it possible to support IoT and many of the next generation latency sensitive applications. It is important to

keep in mind that EDCs relocate the geographic extent of the network and computing infrastructure; it is complementary to the current computing design and network infrastructure. The edge and the core form a holistic infrastructure where the needs and requirements of applications including latency, performance, security and cost determine the location of the resources supporting them.

## The Importance of Latency

Today, many modern network functionalities, such as content streaming and interactive entertainment, are already constricted by latency, more than the bandwidth. Next generation applications, such as connected cars, AR/VR and drone technology require even higher constraints on application latency. High-reliability, low-latency networks rely on the ability of the network to deliver consistent low latency and high capacity. Many applications, such as Industrial Internet of Things (IIoT) based on Industry 4.0 standard, Rolling stock predictive and preventive maintenance, autonomous cars, medical technology,



drones and various public safety systems, rely on guaranteed response times.

Data transmission latency increases as the network distances increase. Long-distance transmissions inherently have too much latency to support many of the emerging applications.

## Edge Data Center Considerations

Critical infrastructure services play a foundational role in the development and delivery of any data center. EDCs are required to support a wide variety of distributed services with appropriate availability and investment costs, thus requiring new design and operating procedures.

### a) Location

Traditional data center sites are selected in large part based on geographical considerations, including power availability and cost, customer demand, real-estate price, and physical and security risk factors. However, for the edge data center, location will also be dictated by the latency requirements of the service it supports and access to network resources.

Edge Data Center Location Examples include:

- A cabinet located on a street corner or near other utility equipment
- Re-utilization of existing macro cell site shelters
- Placement of new shelters / cabinets at macro-cell sites
- Co-location within Central Offices
- In buildings / Smart Buildings
- In factories/PUs to support Industrial IoT
- Behind or co-located with gas stations, drugstores and other businesses

As a result, EDC site selection will need to be adapted to include locations with less than ideal climate profiles, population density (urban), and macro operational risk factors, including proximity to flood zones, fault lines, and airports. EDC location criteria must also satisfy security and availability requirements through new and innovative network and facility designs.

### b) Operational Risk Factors and Considerations

Availability and Mean time to repair (MTTR) are critical factors in EDCs. Given that EDC sites are remote and unmanned, strategies to minimize service outages and excessive operating expense are important design criteria.

### c) Environmental Operating Considerations

Traditional data center operators tightly control the data center operating environment, whereas an EDC might be small, unmanned, and located in the desert among oil pipes – obviously challenged

to provide the significantly controlled, monitored and restricted operating environment of the traditional data center. Modern connectivity, storage, and compute hardware are routinely able to operate in adverse conditions. Relaxing the operating environment restrictions greatly reduces the requirement for mechanical cooling, lowering power requirements for cooling.

## Smart Row Solution

RailTel has deployed Smart Row Solution for Green Edge Data Centers at, Bengaluru, Chennai, Mumbai, Kolkatta and Secunderabad. The smart row solution has two racks at each end provided with Precision AC units and does not require room air conditioners. The server racks have extended plenum in the front and the rear which acts as cold & hot aisle respectively to optimise the cooling and significantly reduce energy consumption thus making it a Green Edge DC. The system is provided with fire suppression system, smoke and flame detection, CCTV camera and IoT for centralised management. In case of prolonged power failure and at a certain temperature the doors of the rack open up automatically to allow ambient cooling. Thus provides sufficient time for the maintenance teams to reach the site.

The system uses intelligent power management for IT load. All the green edge DC are managed centrally by RailTel from Secunderabad. The Edge Datacentres are connected on High Speed secure MPLS network to the Central Data Center and managed centrally. The Smart Solutions is a pre-engineered, *Make in India*, factory fabricated solution deployed with IoT that combines the best IT infrastructure systems/sub-systems under one roof.

- Dedicated Server Racks.
- Built-in cooling systems with redundancy in operation.
- UPS systems that ensure 100% uptime.
- Highly advanced Monitoring & control systems.
- Effective Power Management & distribution.
- Cable Management.
- Access Control to the entire system.
- Fire Suppression systems.

The Smart Row infrastructure utilizes data center best practices and technologies to achieve a unique set of benefits.

- Maximizes the return temperature at the Cooling units to improve capacity and efficiency.
- Matches cooling capacity with IT load.
- Utilizes cooling design that reduce energy consumption.
- Uses power management systems that optimize availability and efficiency.



*Green Edge Data Center at Rail Nilayam,  
S.C.Railway, Secunderabad.*

- Features a design that enhances flexibility using scalable architectures that minimize footprint.
- Utilizes real-time infrastructure optimization to provision resources faster, increase efficiency and reduce stranded capacity.
- Leverages the availability of in-market data center design expertise and technical assistance.

### **Benefits of Smart Row infrastructure solution**

- Reduce annual energy costs upto 27% through high-efficiency power, dedicated cooling and management technologies and containment.
- Significantly reduces the cost of room upgrades or modifications. Saves upto 28% on room upgrades compared to upgrading a room as a conventional data center.
- Integrated fire suppression – saves 66% over room-based systems by avoiding room upgrades.
- Lower preventive maintenance costs than a traditional data center in some cases by as much as 33%
- Reduces cooling power usage through contained airflow, digital scroll compressor technology and controls. Instead of cooling an entire room as in conventional designs, the Smart Row infrastructure cools only the rack space.
- Reduces time and cost of implementation.
- Optimize space efficiency through an integrated system.
- Increase physical security and equipment protection with lockable cabinets and access alerts.
- Increases IT control and productivity by offering integrated data center infrastructure

management technologies that make moves/adds/changes easier and support remote monitoring and management.

- Optimizes use of space. The Smart-Row DCR unit has a minimum footprint of only 39 square feet and can fit in a room as small as 10ft. X 19ft. (w x d) (3 Rack Primary Configuration).
- Centralized Monitoring Software allows centralized, real-time monitoring for any Simple Network Management Protocol (SNMP) device that supports a network interface such as access, door open close, fire suppression system cooling UPS systems etc, Triggers event actions such as email alerts or notifications, Allows more runtime to most critical systems by sending shutdown commands to user-defined non-critical systems. Advanced graphics and user-friendly navigation enhance usability.

### **Application area in Indian Railways**


The edge data centres are currently being utilized to keep the 3<sup>rd</sup> copy of the data of e-office. The Green Edge Datacentres based on the smart row solution can be deployed for future use at :

- RPF Thana locations for aggregation of VSS systems from a cluster of stations for surveillance.
- Shop floor for IIoT application for Industry 4.0 manufacturing to improve productivity for Make in India.
- At Way-side stations a Green Edge DC in a single rack solution can be deployed for TCAS, LTE-R, MTRC systems.
- Junction/ Divisional HQ stations for IP Telephony, CCTV, Passenger Information & Display system, IoT for Condition based & Predictive maintenance of Signalling and Train Control systems and Divisional Control Centres.
- Sub-stations for SCADA application and many more.

### **Conclusion**

Developments in the IT industries may surpass the perception of many industries in this new digitized generation. The ever demanding, data-addicted, customers requiring faster connectivity speeds have the IT industry in awe and wondering how to satisfy them..

With increase in the level of automation in all areas, the need for low latency in data transmission will increase, leading to shifting the compute power near the user and requirements of EDCs. The Edge does not stand alone but is connected forming an interoperable fabric extending from device to core to cloud. The future will have optimal mix of both Centralised and Edge data centres. ■



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# RailTel's CSR Initiatives

Shri Mukesh Gautam

Asst. GM/CSR/RailTel

CSR is becoming increasingly prominent in the Indian corporate scenario because organizations have realized that besides growing their businesses it is also vital to build trustworthy and sustainable relationships with the community at large. Another reason fuelling this rapid adoption of CSR is the state of the Indian society. Though India is one of the fastest growing economies, socio-economic problems like poverty, illiteracy, lack of healthcare etc. are still ubiquitous and the government has limited resources to tackle these challenges. This scenario has opened up several areas for businesses and corporates to contribute towards social development.

CSR in India has gone beyond merely charity and donations, and is approached in a more organized fashion. It has become an integral part of the corporate strategy. Companies have CSR teams that devise specific policies, strategies and goals for their CSR programs and set aside budgets to support them which is indeed a good sign towards development of the society.

RailTel is also fulfilling its responsibility toward the community for building trustworthy and sustainable relationship through its CSR initiatives. RailTel offers its services all across the country and so are its CSR initiatives. Some of the CSR initiatives of RailTel are:

- 1 RailTel's Akansha Super-30 at Dehradun, Uttarakhand:** The programme offers free boarding, housing, and coaching by expert faculty for IIT JEE/NIT and other premier engineering exams to 30 students who are talented but come from economically disadvantaged backgrounds. So far in 6 years, 162 students have made to various IIT's and State Engineering Colleges. In current year (2020-21) results have been very good and 28 out of 30 students have cleared JEE exam. This is a life changing program for these talented students coming from poor families.



- 2 Menstrual Health Management:** This project on Menstrual Health Management is being pursued in 180 Government Upper Primary Schools of 8 Aspirational Districts of Uttar Pradesh. The project aims to solve the problems related to menstrual hygiene by educating the educators & adolescent girls and by providing them sanitary pads through vending machine with facility for disposal through incinerators free of cost. The program is very successful in educating adolescent girls from backward districts by sensitizing them about Social Taboos and Religious Beliefs present in the society and diseases caused due to improper and unhealthy hygiene practices.



- 3 Skill Developments Centre:** RailTel is imparting vocational skills to Woman and Girls through its woman only Skill development center at Jahangirpuri, New Delhi. Girls and Women from local community are being imparted skills like cutting/tailoring, embroidery, bridal make-up course, nail art, Mehndi, manicure, pedicure and computer soft skills. The skilled girls and women get jobs in shopping malls, private offices and some start their own beauty parlour or



cloth sewing/stitching center at commercial space or their own homes which helps them in creating their livelihood.

**4 Mini Science Centres (MSC's):** RailTel has setup Mini Science Centers in 5 govt schools in Chandauli, Uttar Pradesh and in 5 govt schools in Motihari, Bihar, which enhances the experience of learning through interactive science and mathematics models. These models help teachers in explaining the concepts of science and mathematics to students and helps students in grasping the concepts in an easy manner. This increases the interest in studies and also bonding between students and teachers. The response from school authorities have been very encouraging.



**5 Digital Learning Centre (DLC):** RailTel is educating and imparting digital skills like MS-Word/Excel/Powerpoint, Internet, Email, Adhaar/Ration card registration

and online shopping to students and youth from local community through its Digital Learning centres at Delhi, Varanasi-UP, Satna-MP, Mewat – Haryana, Bokaro – Jharkhand. The DLC's are located in remote locations and are envisaged as instrument to bring social & economic empowerment of the youth and women, educational upliftment of those belonging to the under privileged sections of society. The activities at DLC help youth in getting jobs and even start their own business entities like cybercafé, online ticket counters and help people on govt schemes.

**6 PM Cares Fund:** In order to deal with any emergency like the COVID 19 pandemic, the Government of India established the Prime Minister's Citizen Assistance and Emergency Relief Fund (PM CARES Fund). RailTel as its CSR initiative has contributed an amount of ₹3.30 Crores, out of the CSR budget of FY 2020-21, to the PM CARES Fund to support the Govt. of India in its crusade against COVID-19 pandemic.

**7** There are other numerous projects where RailTel has made an impact toward the society like donating Minibus in Kakinada, Ambulance in Rajasthan and Delhi, providing IT infrastructure and internet connectivity in various govt school across the country.

RailTel is fulfilling its obligations toward society through its sincere efforts and giving back what's due towards society. RailTel is committed to strengthen its relationship with community through our responsible management approach to the benefit of all of our stakeholders. ■

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# E-Office : An Environmental Re-gensis

Shri Haritima Jaipuria

GM/ITP/RailTel

A transformation is underway on the Indian Railways. Or should we say a transformational environment is re-invigorating the Indian Railways brand? Digital pervasiveness and penetration are the drivers of this change and e-Office is by far the most transformational of these initiatives. The e-Office is one of the Mission Mode Project under the National e-Governance Plan, Department of Information Technology of India. The project aims to improve productivity, quality, resource management and increase transparency by replacing the old manual process with an electronic file system.

RailTel, a Mini Ratna (Category-I) Central Public Sector Undertaking under the Ministry of Railways, was entrusted with implementation of the NIC e-office suite for Indian Railways in phased manner. NIC e-Office is a cloud enabled software developed by National Informatics center (NIC) that is being deployed/hosted from RailTel Tier III UPTIME USA certified data centers at Secunderabad and Gurgaon. e-Office suite replaces the old manual filing system with digital files. It provides an efficient, effective and reliable way to handle office documents and files. It reinforces transparency and accountability and enhances productivity. The e-Office project achieves the objective of going green along with **going paperless**. It also enables remote working facilities using secure VPN connectivity. With above advantages, Indian Railways is making an active effort to bring about radical change in the work culture for providing better services to public.

With continuous increase in number of users

coming on board of eOffice platform, Indian Railways is in a fast track of adapting paperless office culture. This will not only save operational cost and reduce the carbon foot print but will also strengthen the Indian Railways brand by adding a contemporary dimension to it.

The project kicked –off in March 2019 with Indian Railways signing the MoU with RailTel for the implementation of Phase-1 of the NIC e-Office suite with a mandate to complete the work by March 2020. Initially, 50,000 users of 54 establishments including Zonal Railway alongwith one division each (entire SCR), PUs, RDSO, NAIR and CTIs were to be covered in Phase-1.

The first unit in Phase-I in which e-Office is made operational was Guntur division in South Central Railway on 24<sup>th</sup> Mar, 2019. Balance units were commissioned by October 2019 well before the target. Later other 7 units including Metro Rail Kolkata and Core Allahabad have also been covered in Phase-1. Second phase started in the month of January 2020 when Indian Railways signed the MOU with RailTel for eOffice Phase-2 for approx. 39000 users of 46 divisions with the target date of 30-06-2020. Despite nationwide lockdown due to COVID19 outbreak, RailTel continued the pace of implementation of eOffice at various units of Indian Railways and completed the project much before the due date on 02<sup>nd</sup> May, 2020.

This is possibly the fastest rollout of e-office anywhere in the country. With completion of Phase-1 and Phase-2, total 107 establishments with 1,20,840 users on e-office platform which includes all zonal Railways, divisional Headquarters, PUs, CTIs, RDSO, Metro Kolkata, Core Allahabad etc were on boarded on this system. RailTel also signed the MOU with Indian Railways for eOffice Phase-3 in November 2020 for approx. 30,000 users of all the workshops and balance units of Indian Railways. Phase 3 comprising of 109 locations has been completed in June'21. After completion of eOffice Phase-3 Project, the entire Indian Railways is now on eOffice Platform.

The implementation of e-office has been done in a phased manner and unit wise. A number of RailTel teams were deployed throughout units of Indian Railways to carry out the implementation work simultaneously. Basic User Data (BUD) and Employee User Data (EMD) of users were collected



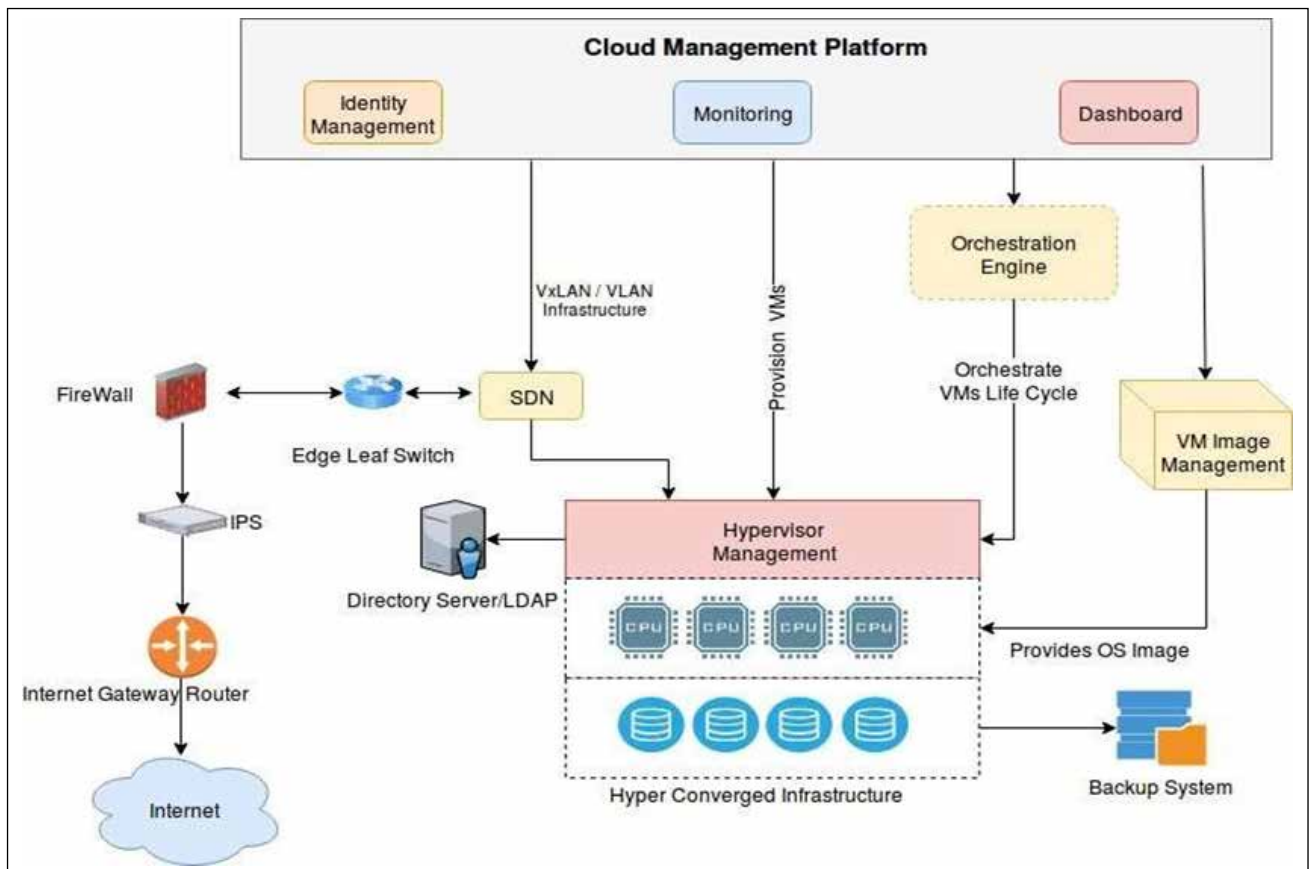
RailTel Tier-III DC-DR(Secunderabad & Gurugram)

for creating digital signatures, user IDs and e-Office access. Once e-office user IDs are created Railway officials were provided with rigorous training by RailTel team to handle e-office platform efficiently and condition them to give up the habit of using manual file system. A help desk was also created and RailTel official had been deployed to support the Railway officials to trouble shoot even after completion of deployment work. E-Office solution for Indian Railways was implemented considering the organizational structure and workflow. As part of the implementation, e-Office instances are configured to supports all the units of one Zonal railway.

RailTel has created e-Office cloud infrastructure from scratch which is in-line with NIC cloud environment. The solution was implemented on complete cloud environment on Software Defined Data Centre architecture with automation, Hyper converged infrastructure (HCI) nodes, Leaf and Spine DC network interconnect were installed for best performance and customer experiences. Implementation of automation tools at server level ensured repetitive tasks were automated which resulted in performing operational activities in real quick time and manual errors eliminated. Proper backup policies are enforced to maintain the data

redundancy as the application deals with critical and sensitive data of Indian Railways.

DR site is implemented to ensure that application is available to users in case of any disaster at Data centre locations. Both the data centres are located in different seismic zones. Disaster Recovery is achieved using Site Recovery Manager (SRM) across the two data centres. Site Recovery Manager (SRM) is the industry-leading disaster recovery (DR) management solution, designed to minimize downtime in case of a disaster. It provides policy-based management, automated orchestration, and non-disruptive testing of centralized recovery plans. With Site Recovery manager(SRM) feature enabled at both Secunderabad and Gurugram data centres, replication is implemented effectively using very high reliable MPLS network between them for data replication. As both Data Centres are configured in Active-Active mode, Fail Over/Fail Back from Primary Data Centre (Secunderabad) to Disaster Recovery Centre (Gurugram) can be accomplished in less than 15 minutes. Users can access Application without making any changes at Client side such as IP Address, URL, Browser Close, System Restart in case of switchover/failover between DC & DR.



Logical Architecture of Cloud Infra deployed at RailTel Data Centre



The most difficult part in the implementation of e-Office any organization, is to condition the users to give up the habit of using manual file system and adapt the new system of paperless working. The key to have a successful change management is managing people, policies and processes. The biggest challenge is to change mindsets and the inertia to give up old practices and was achieved through rigorous training and handholding throughout the process.

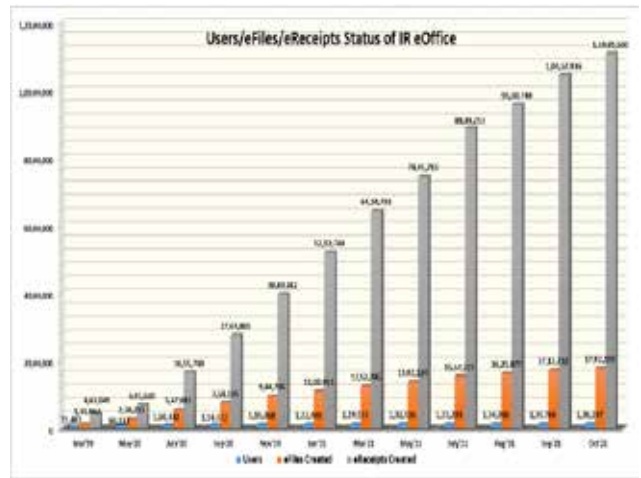
RailTel has adopted innovative steps like providing user trainings over video conferences, creating WhatsApp groups for each unit including end users from Railways and technical staff from RailTel. This has ensured that user issues were attended and were resolved immediately. With WhatsApp groups, all the RailTel SPOCs/ trainers were available to discuss/ highlight the issues observed and share the knowledge. This has helped trainers to act proactively. Simultaneously training videos/manuals were prepared for user reference and shared among all the users. Rigorous trainings are given to local admins and end users on e-Office application usage by RailTel appointed trainers. In addition, Helpdesk is made available for Railway e-Office users for immediate application support.

Local admins for all the departments of the headquarters were nominated and given privileges to configure the user accounts as per their departmental structure and manage the users. Roles to view/download the files, for approving/ closure of the files are given to users as per the requirement only. This ensured that application meets user requirements at micro level. By creating NIC equivalent e-Office Cloud infrastructure at RailTel's own Data Centre, RailTel has emerged as an ICT service provider from a purely telecom service provider. This will help to support and host many applications of Indian Railways in future by adding compute resource, storage and other hardware in the existing cloud.

Also, existing Pan-India optic fibre backbone network of RailTel has helped in extending the connectivity to the end user. RailTel being the single point of contact for all the components of the solution has made implementation easier and service support faster.

During Covid pandemic and lockdown, there has been an exponential increase in the usage of e-Office in IR has been seen.

In March'20, no. of Users in e-Office was 71,483, e-files were 1,31,062, e-Receipts were 4,63,049 and same has risen to 1,36,237 (users), 17,82,159 (e-Files), 1,10,85,560 (e-Receipts) up to Oct '21. In percentage, growth in e-File Creation is 1269% and e-Receipt creation is 2331%. It reflects a huge

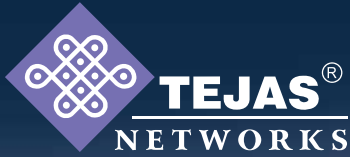


migration from old traditional physical file management to e-Office platform which continues to grow.

During COVID pandemic, Railway employees have been able to work from home without any hassles through secure VPN connectivity to Cloud. After enabling inter instance file transfer, Railway units are able to send their e-Files to other units including Railway board which saves lots of time. When the entire nation was grappling with the crisis due to Covid -19 pandemic and the lockdown, e-office came as a savior to keep the files moving



and that too in an efficient & transparent manner. This has also helped in reduction of spread of the disease. After implementation of e-Office over Indian Railways, there is a huge cost saving on expenditure on physical files and papers incurred by each railway units. Transparency & Accountability has been the one of the best advantages brought by e-Office to Indian Railways. e-Office Application has enabled Railway users to work anytime and from anywhere which increased the efficiency and faster movement of files. ■



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# Hospital Management Information System on Indian Railways

Shri Navaid Talib

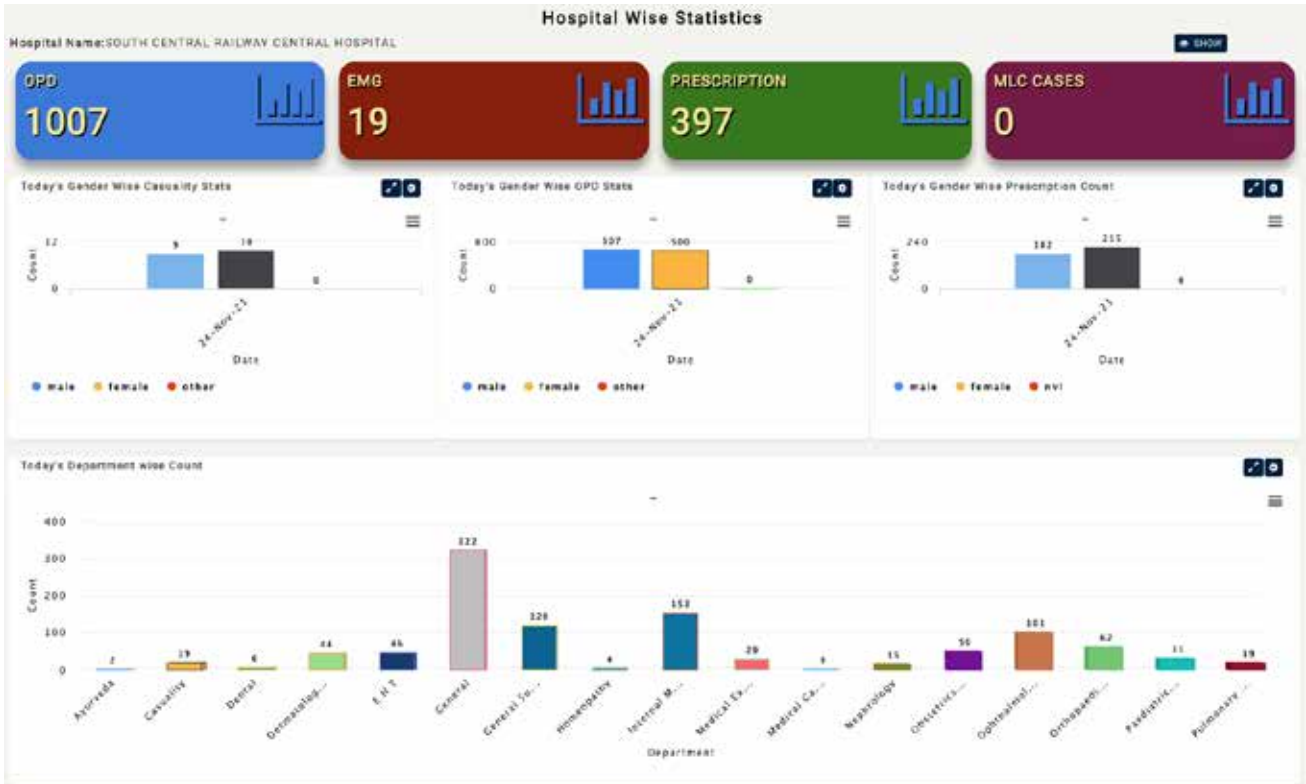
GM/Mechanical, RailTel

Indian Railways, with the objective of ensuring hospital management in a transparent and effective way, entrusted RailTel with implementation of Hospital Management Information System (HMIS) in Oct.'2020. The HMIS is an integrated clinical information system with the basic objective of improved hospital administration and patient healthcare.

Initially, the core modules of Registration, OPD, Lab & Pharmacy modules were launched on pilot basis in Northern and South Central Railway hospitals. Now it has been extended to all 695 hospitals. There are about 25 modules of HMIS which will be implemented covering each and every aspect of Hospital working. As of now around 15 modules including Registration, Queue

Management, OPD, IPD, Teleconsultation, Lab Information System, Pharmacy, Casualty, Sick-Fit, Referrals and Electronic Medical Record have been implemented. The implemented software will take care of hospital specific features like available specialties, cross consultation, interface with medicine disbursal and laboratories, IPD and other related activity centers. The open-source software has been deployed over the cloud. This platform is linked to the unique medical ID of employees, for which around 42 lacs UMID cards have been issued by Indian Railways to Regular employees, pensioners and family members. Snapshot of the usage for decision makers is also available with details of breakup of OPD, emergency, prescription issued, gender wise breakup etc.





### Objectives of HMIS:

HMIS is going to address the fundamental needs of all concerned stakeholders:

- Patient Satisfaction is the bottom-line of this whole project helping them to have ease of access to healthcare in hassle-free environment
- It will help Doctors in faster delivery of service with Clinical Knowledge support
- Administrators will be able to take better decision with the systematic and intelligent data that is going to be generated in HMIS
- All the Medical Equipment, Medical processes

and various IT systems are going to be seamlessly integrated.

- Other Objectives include:
  - Effective management of health facilities & their resources
  - Monitoring collective/ individual performance of hospitals across the administrative channel
  - Impart quality health care services to beneficiaries
  - Improve the patient turn-around time
  - Generate and maintain EMR (electronic medical records) of all patients

## Fundamental Objectives of HMIS

**Patient**

**Patient Satisfaction**

Easy Access  
Remote Access  
EMR  
Referrals  
Auto-Identity

**Doctor**

**Clinical Knowledge**

Faster Delivery of  
Services  
Accurate Decisions  
with Systemic  
Knowledge

**Administrator**

**Decision making**

Planning  
Resource  
Management  
Predictive Analytics

**Inventory**

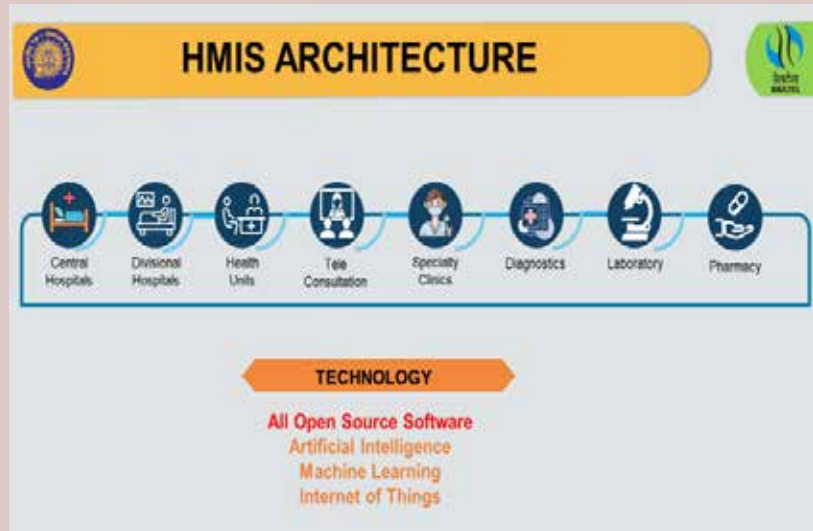
**Automation & Integration**

Data Integration  
Effective  
Maintenance  
Stores Management



**HMIS Architecture:**

- HMIS solution is very broad-based in architecture facilitating multi-hospital setup under single instance with integration of all Hospitals and Health Units in Indian Railways and the associated units such as Labs, Pharmacy units, etc. under one umbrella.
- HMIS makes use of best technology practices with adoption of latest and emerging technologies including AI & ML.

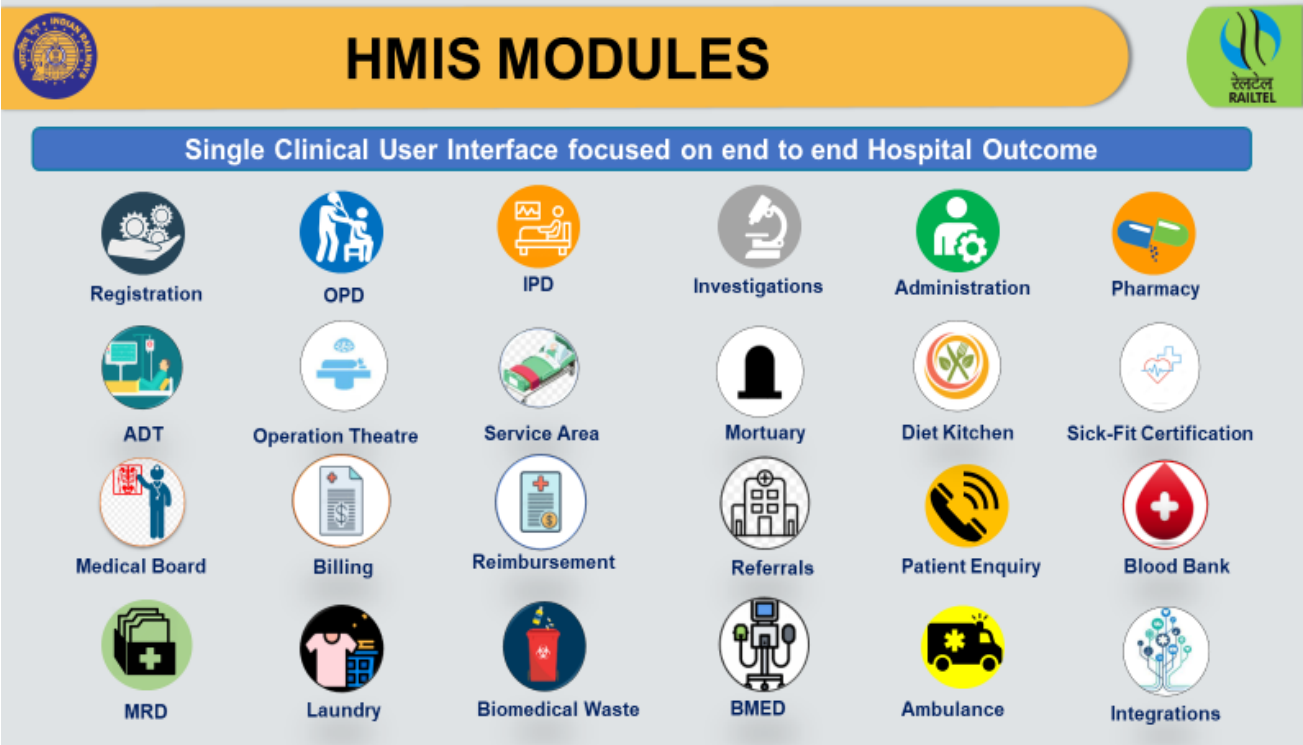


**Functional Scope of HMIS:**

HMIS solution is going to cover the entire gamut of Hospital Administration with around 25 modules that are relevant to Railway Hospitals. These include Clinical, Administrative, Patient Services & Ancillary Modules viz OPD, IPD, Labs, Pharmacy, Referrals, Medical Examinations, Sick-Fit Certifications, Reimbursement of Medical Claims etc.

Though not a part of original plan, Teleconsultation process both for the patients and Doctors through Mobile App and Web process has also been developed in view of emergent situation due to Covid pandemic. This has been integrated fully with HMIS and is in use by onboarded hospitals since May'2021.

HMIS Patient Mobile App has been launched for ensuring easy information access to patients related to their OPD Registrations, Doctor Prescriptions, Lab Reports, Self-Registration etc.

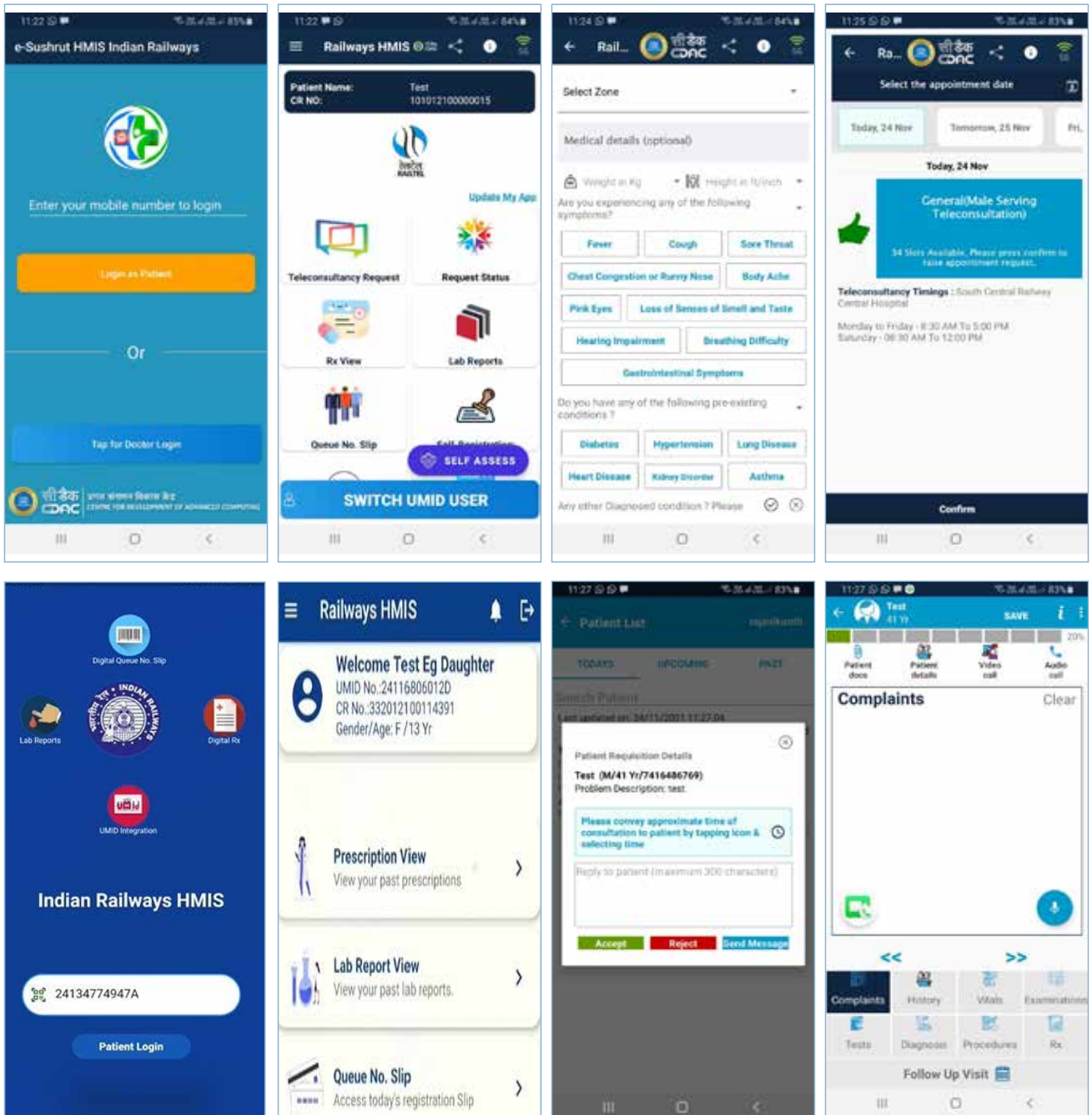


## HMIS Mobile Apps:

**Mobile Application for Patients** allows the medical beneficiary to directly View and Download the OPD Registration Slips, OPD Doctor Prescriptions and Lab Reports. With this the patients have been empowered to get easy access to all their Health Record anytime they need them. App will also notify the patient about availability of their test reports for download and medicines for collection. Through 'Self-Registration' process, patient can directly register for OPD by scanning the speciality specific QR code pasted outside the Doctor's room, without having to wait in queue at Registration counter. Registered patients can also

check their queue number in the mobile app and the current status can be checked in the Queue Management display systems available in the hospital.

**Teleconsultation App** has been launched for easy virtual consultations with the Doctor. Teleconsultation App can help both Patients and Doctors for remote consultation during pandemic. The App has the feature to book slot for consultation at desired hospital, speciality and date. After consultation, the Prescription can be downloaded directly from the App. This is completely integrated with HMIS for the processes linked to Pharmacy, Lab etc.





**Covid Dashboard for Indian Railways** has been developed for facilitating the family members of Covid Patient to know their Health Condition from the Dashboard with the restricted access through Access code. Doctors or the Dashboard users can update the patient status from time to time. The dashboard also provides useful reports to Doctors and Administrators about the Admitted cases, Discharged cases, Active Cases, Critical cases, etc.

### Advanced modules

With the integration of Laboratory Information System, and with complete integration of lab equipment, the samples will be automatically read by the system and reports can also be generated automatically. With this, the users can get access to lab reports in less time which can be directly downloadable from the mobile app instead of coming to hospitals to collect reports specifically. Pharmacists can see online the medicines prescribed by the Doctors and issue medicines to patients accordingly. Non-available drugs can even be processed online for local purchase. IPD module has been implemented through which patients can not only be admitted and discharged but also the

complete clinical processes of Drugs, Procedures etc can be administered including generation of online Discharge summary. Processes related to Referrals management and Sick-fit certification have also been enabled in the system for seamless administrative management. Railway HMIS solution has also achieved significant milestone by fully complying with Ayushman Bharat Digital Mission which makes Indian Railways future ready for reaping the true benefits of digital revolution in health domain.

### Benefits of HMIS

With full adoption of HMIS across IR, the administrative landscape of health is going to undergo tremendous transformation reaping the true benefits of digitisation. The decisions will be based on the predictive data analytics to be in preparedness in advance for various health hazards. RailTel has played key role as a catalyser in the digital transformation of Indian Railways by implementing key initiatives like eOffice, Electronic Interlocking and Video Surveillance System etc. Implementation of HMIS is another important step in this direction which will have a positive impact on the lives of more than 75 lakh Railwaymen, pensioners and their families. ■

## 'WHO AM I' QUIZ?

### QUESTION FOR THIS MONTH

**QUIZ  
NO. 9**

A train service of Southern Railway became the first ever Integrated Management Systems certified train with different ISO certifications. Name the train service alongwith the page number where the news matter appears in the Magazine.

(You will be able to answer only if you read the whole magazine thoroughly and carefully. The answer lies hidden somewhere in its pages. Find out and mail your answer to: [whoamiquizes@gmail.com](mailto:whoamiquizes@gmail.com))

**CORRECT ANSWER** will be given in the next issue of the magazine.

### CORRECT ANSWER TO QUIZ NO 8

The Golden Rock Railway Workshop (GOC), Ponmalai, Trichy Division, Southern Railway  
*mentioned in page 49*

**Till 28<sup>th</sup> November, 2021**  
*Correct Answers were given by*

1. Subramanian Nagarajan, 2. M. Bharathi
3. M. Dhanyashree 4. Sukirthan. M 5. Murugan. N
6. B.W. Bidwaikar 7. Integral Ravi 8. K. R. C. Sekaran
9. S. Balakothandapani 10. Susil Mangesh
11. Mohammed Yusuf Sayed, 12. Kalyana Sundaram
13. Gaurav Nakra, 14. Paruvu Daniyelu Raju
15. Sreevasan Anudarsh 16. Sahil Sood
17. Mani Kandan, 18. Sneha R. Manmadhan
19. Sanjeev Tiwari, 20. Debasish Roy 21. Krintan Ghosh,
22. Pukalendi Mahalingam 23. Sagar Mahendru
24. Krishna Kumar Goswami 25. K. Harish,
26. Anil Saxena 27. Mohammad Mukhtar Alam
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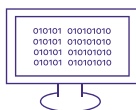
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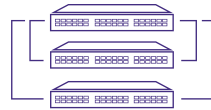


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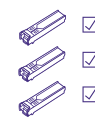
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# PM-WANI – Overview

Shri Manoj Tandon

GM/Mktg/RailTel

## RailTel and Public Wi-Fi

RailTel has created one of largest integrated Public Wi-Fi networks in the world serving more than 1.2 mn users/day (pre-covid). RailTel's WiFi network is now spread across 6070+ Rly Stations and is still growing. The entire WiFi network and services are monitored & managed centrally. The whole IT backend management systems namely AAA (Authentication, Authorisation and Accounting), Captive Portal, Pre-paid Billing, IPDR logs, API integration with billing aggregators namely PayTM & Bill-desk, Wi-Fi controllers are managed by RailTel. Captive Portal is web portal using which users perform authentication through SMS via OTP.

After such vast proliferation of Wi-Fi users and usage, it was time to monetise the investment in Capex and recurring expenditure on Opex, to maintain and manage it. Hence RailTel has launched Pre-Paid Wi-Fi, in Mar'2021 to offer differentiated service quality to Station Wi-Fi users who are willing to pay for High Speed WiFi, at very competitive price.

## PM-WANI

Proliferation of broadband across the length and breadth of the country is an essential ingredient of Digital India for enabling masses with e-initiatives of GOI and to extend benefits of various digital services. Access to broadband internet to masses in India is still limited due to non-ubiquitous coverage of LTE. While delivery of broadband is possible through different media and technologies, under the WANI framework, it is envisaged that last mile broadband connectivity, where the consumer accesses broadband internet services, will be through public Wi-Fi network.

Wi-Fi hotspots hold an important place in last mile connectivity for delivery of broadband access to users. Additionally, Wi-Fi complements LTE for in-building solution like commercial buildings, hospitals, airports etc. where LTE penetration is low. Wi-Fi also allows offloading data services from LTE to ease congestion and improve users experience at much lower cost. Wi-Fi, the world over is adopted to complement LTE based broadband access, India has closed to 50k WiFi hotspots compared to more than 10mn in USA.

PM-WANI is ambitious program to connect all

silos Wi-Fi networks for ease of use and proliferate broadband usage for masses. To connect the unconnected/poorly connected citizens, it is envisaged to leverage public Wi-Fi networks for delivery of broadband services, by facilitating rolling out WANI infrastructure with the broadband services being provided under distributed architecture and unbundling of Wi-Fi infrastructure to improve performance by different players under the WANI eco system.

The Union Cabinet headed by Prime Minister approved the proposal of Department of Telecom to proliferate Broadband through Public Wi-Fi networks under the framework of the PM Wi-Fi Access Network Interface (PM-WANI). It is contemplated that the proliferation of public Wi-Fi networks throughout the country and ease of accessibility will greatly increase internet access at cheaper prices. Increased Wi-Fi access will help to increase digital economy and would also provide employment opportunities in rural/sub urban areas.

The vision is to establish an Open Architecture based WiFi Access Network (WANI) & ensure easy to use internet and proliferate Wi-Fi based broadband internet to masses, by small shopkeepers to become PDOs (Public Data Offices) as last mile access service providers and take services from PDOAs (PDO aggregators) for Internet & backend services (Internet Service Providers or Wi-Fi service providers). This would facilitate simplified, consistent and cost-effective user experience across WiFi hotspots from various service providers requiring seamless & untied access, unbundled authentication, easier & diverse payment channels and mobility across Public Data Offices (PDOs) within Wi-Fi service providers (PDOAs).

The users will access Wi-Fi from WANI compliant Mobile App wherein they can see nearby WANI hotspots, select hotspot, do KYC process and purchase Pre-paid Wi-Fi products. Users need not repeat KYC, every time he/she moves from hotspot of one service provider to another service provided. Repeat KYC will be required at a frequency set by App provider. The aspiration is to have full mobility scenario, wherein once coupon (for paid WiFi) is purchased, the balance amount can be leveraged in other networks too for availing Wi-Fi.

The various players in the WANI ecosystem are:

**Public Data Offices (PDO)** – Companies/merchants, having PAN numbers and wish to provide WANI compliant Wi-Fi hot-spot.

**Public Data Offices Aggregators (PDOA)/Wi-Fi Serviced Providers** – PDO aggregators who will extend Internet and other backend Wi-Fi IT infra (AAA, Captive Portal, Charging, Billing etc) – typically Wi-Fi service providers.

**App provider** – The KYC to be done from WANI compliant Mobile App only, for profile creation, KYC, payments, discovering WANI compliant hotspots and connect to it.

**Central Registry** – containing information about PDOs/PDOAs and App providers, currently maintained by CDOT.

very difficult & cumbersome to operate.

Out of 6070+ IR stations, majority of them are in semi urban and rural areas. All stations will have PM-WANI based access, once RailTel launches PM-WANI based Wi-Fi access and usage. To proliferate Wi-Fi network further, RailTel will leverage existing business relationship with last mile access providers (Called Access Network Providers - ANPs) for extending high speed Internet services of RailTel to customers, leveraging their last mile OFC, being already present on RailTel network. ANPs have potential to become PDOs to take Wi-Fi to rural areas for extending Internet to rural masses, this would also proliferate entrepreneurship in semi urban & rural areas.

RailTel will launch its own Mobile App to take App service provider role for end to end service provider.

There are many Wi-Fi islands (e.g. Hospital Wi-Fi, Hotel Wi-Fi, Campus Wi-Fi, Smart City Wi-Fi etc.) which may not have wherewithal or may not have technical expertise to open up their Wi-Fi network by converting it to WANI compliant backend IT infra. RailTel has scalable IT infra & WANI applications to provide PDOA as a service and becoming PDOA of PDOAs. RailTel is also exploring to onboard advertisement houses for monetizing, more than 1 Cr

unique footfall per month.



## RailTel's role in PM-WANI

WANI is an exciting opportunity to proliferate and cascade Internet consumption what PCOs did by enabling Long Distance Calling in low tele-density regime. RailTel believes that the PM-WANI framework will evolve over a period of time and benefits will multiply once all WiFi networks can be virtually consolidated to enable seamless roaming across all PDOAs' networks, the way National Roaming works for Mobile Networks.

RailTel being the most widespread integrated WiFi network of country supporting the largest footfall of Wi-Fi users, is taking an anchor role in entire PM-WANI eco-system, by continuous engagement with regulatory bodies and industry players, to enhance evolving framework. Roaming is optional in current version of PM-WANI and need NxN agreements and integrations; which is

## Status

RailTel is already registered as PDOA & Mobile App service provider and has obtained provisional certificates from CDOT. The Payment channel integration is already completed with payment aggregators – Billdesk & Paytm. RailTel has made all 6070+ Wi-Fi stations WANI compliant and has developed "RailTel Wi-Fi" Mobile App (hosted on Play-store) to access WiFi network seamlessly. Mobile App for iPhone is also developed and is under testing.

One of the key features of PMWANI is to facilitate ease of use and seamless roaming for Wi-Fi users. Interop Testing to check seamless roaming from one PDOA network to other PDOA, has been done with CDOT. Once all testing & processes are completed PM-WANI based Wi-Fi access will be launched. ■



# Railtel's Security Operation Centre

Anjana Chaudhary

Advisor/ Security/RailTel

**D**igitalization has created a positive impact by enhancing connectivity, financial inclusion, access to trade & public services and technology for the masses but it has also created a new virtual frontier that we need to secure. Cyberspace is acknowledged as the fifth domain of human activity, the others being land, sea, air and outer space. As the internet has grown exponentially in its reach and scope, our dependency on cyberspace for social, economic, governance, and security purposes has also grown exponentially. Unfettered access to information through a globally inter-connected internet empowers individuals and governments, but at the same time poses new challenges to the privacy of individuals and to the capabilities of governments and administrators of cyberspace, tasked with preventing its misuse.

Cyber security risk is increasing day by day, driven by global connectivity and usage of cloud services to store sensitive data and personal information. Every day there are millions of attacks visible on global network. Rise in sophisticated cyber crimes means increased risk to an organization from a cyber-attack or data breach.

Fundamentally, our society is more technologically reliant than ever before and there is no sign it slowing down ever. Data leaks that could result in identity theft are now publicly posted on social media accounts. Sensitive information like social security numbers, credit card information and bank account details are now stored in cloud storage services like Dropbox or Google Drive.

The fact is whether it's an individual or a small business or a large multinational, all rely on computer systems every day. Pairing this with the rise in cloud services, smart-phones and the Internet of Things (IoT) and we have a huge cybersecurity threats that didn't exist a few decades ago.

Gone are the days of normal firewalls and antivirus software being sole security measures for any organization to rely on. Business leaders need to extend information security part to a dedicated security team or opt for a Security Operation Centre (SOC) as a Service for proactive monitoring of attack events, incidents and their response.

A lack of focus on cyber security can damage any business in range of ways including but not limited to:

**Economic costs:** Theft of intellectual property,

corporate information, disruption in trading and the cost of repairing damaged systems.

**Reputational costs:** Loss of consumer trust, loss of current and future customers to competitors and poor media coverage.

**Regulatory costs:** GDPR (General Data Protection Regulatory) and other data breach laws mean that an organization could suffer from regulatory fines or sanctions as a result of cyber crimes.

RailTel is one of the strategic IT companies looking after the critical aspects of Railways communication. At the same time, it is vital to ensure that Critical Information Infrastructures (CIIs) are resilient from cyber-attacks which pose no less challenge to us and our IT and security infrastructure.

RailTel has provided internet access up to the last mile through our various initiatives. Thus, it becomes imperative that the security aspects of the same is also kept in mind.

## Railtel's Security Operation Centre

RailTel was an early bird in terms of deployment of MPLS network and a frontrunner PSU in terms of offering cloud services to government and beyond. Now it has added another feather to its cap by launching SOC services.

Looking at the current online security landscape, everybody is prone to cyber-attack. Now it is not a matter of if, but when. RailTel has already invested in Data Centre and associated technologies. Recently the focus has been widened for providing end to end cyber security solutions.

In this regard, RailTel has come up with a world class SOC at Gurgaon office. The SOC would not only enhance our capabilities by securing existing infrastructure but in addition it would provide us with an opportunity to offer our skills to others as well.

Railtel SOC is designed to provide onsite and offsite cyber security incident prevention and security event monitoring services round the clock by skilled resources.

RailTel's Security Operations Centre as a Service (SOCaaS) proactively addresses the increasing threat to Data Security with detection and response capabilities using multiple State of the Art cyber security solutions. The complete integrated security information and event management solution portfolio is the base of RailTel's SOC technology stack.

Railtel SOC provides complete security for *East-West traffic* and *North-South traffic*. In a networking context, *East-West traffic* is the transfer of data packets from server to server within a data center and *North-South traffic* describes client-to-server traffic that moves between the data center and a location outside of the data center network.

### Security solutions scope by RailTel's SOC

- ◆ Advance malware protection under **Endpoint Security** with continuous file and network behavior analysis. This solution is for workload security as well as Endpoint security.
- ◆ Endpoint detection and response for **Endpoint Security**, which provides host level telemetry for near real-time forensic investigation of logs.
- ◆ **DDOS mitigation** services mitigates the contaminated traffic and passes a clean and legitimate traffic for resource utilization.
- ◆ Gateway level security services which provide advance firewall, IPS and IDS solutions. It also includes secure VPN services for customer remote access.
- ◆ Network behavior and traffic analysis used to investigate, alert and obtain additional context about suspicious activity.
- ◆ **Workload / Server Security** include a zero-trust model to enforce whitelisted communication across on-premises data centres and public clouds with application micro-segmentation.
- ◆ Packet capture for forensics under **Log analysis and monitoring** provides a detailed analysis of captured traffic by advance tools.
- ◆ State of the art Sandbox solutions for malware analysis. Robust search, correlation, and reporting capabilities provide detailed information on current and historical malware artifacts, indicators, and samples.
- ◆ Vulnerability assessment tools under **Application Audit** services.
- ◆ **Web application security** management and web attack advance firewalls. Open Web Application Security Project compliance score on run.

- ◆ Under **Application Audit** and compliance monitoring Web Application vulnerability assessment services is provided on the go.
- ◆ **Antispam solution** services for cleaner email inbox.
- ◆ Auto ticketing tool.

All the multiple security solutions generate alarms and events which are continuously monitored and frequently optimized to minimize the false positives. With advance SIEM solutions this monitoring is possible from a single dashboard with next generation event correlation approach to mitigate the incident from fastest possible security tool. SIEM plays central role in monitoring the alarms and forecast the events.

Our aim is to protect our data centre, servers, services, network and customer's infrastructure from any type of cyber-attack by using state of the art technologies and innovative solutions which will also provide us with an opportunity to present another unique offering to our customers.



**Railtel Corporation of India Ltd.**  
(A Miniratna Category - I Enterprise)

## SOC as a Service

**Basic Services**

- Intelligent Web-WI Pre-filtering
- Gateway Security Services
- Mobile Services (Advanced Firewall Detection)
- \*PoC of Blocking can be done on our premise
- Intrusion Protection (IPS) / Intrusion Detection (IDS)
- OS Hardening
- Basic OS Hardening Pre-Deployment of Customer Application
- Basic Antivirus
- Features: Enterprise Standard Antivirus Software, Antivirus Software OEM signatures updated as availability there, Real Time Incident Prevention.

**SIEM Solution**

All the logs and events from security devices, applications and network equipments can be monitored, analyzed and correlated on a central platform.

To integrate the devices / Application, the following procedures will be followed:

1. Approximation of EPS
2. Provisioning custom Plugins for integrating devices (will be chargeable on per device basis)
3. Connector Deployment
4. Loggers (in case of storage of logs charge will be calculated) retention size and duration details

**DDoS**

1. DDoS attacks of capacity up to 30 Gbps
2. The DDoS mitigation service shall use agent traffic sensors to differentiate between legitimate and malicious traffic. Statistical anomaly detection, packet detection and signature based shall not get affected during attack mitigation. The solution shall automatically learn and adapt to changes in customer's traffic profile and identify unique attack scenarios.
3. The DDoS mitigation service shall support BGP withdrawal to redirect traffic during a DDoS attack to absorbing centers to filter out malicious traffic and allow only clean traffic towards customer.

**Web Application Firewall**

1. WebApp / Web Application security
- Can be deployed on per page basis
2. Custom Signatures against web attacks (as suggested by client with developer based)
3. Application level DDoS for web servers
4. Customized Dashboard
5. Weekly Reports on policy violation / Illegitimate traffic

**Gateway Security Services**

NGFW Services (Advanced Firewall Services)

\*PoC of Blocking can be done on our premise

Intrusion Protection (IPS) / Intrusion Detection (IDS)

Dedicated proactive monitoring of events

Weekly Reports

Observation on segmented network and Ports utilization

**Server Security Application Visibility**

1. OS Scanning (Basic with WI Deployment)
2. OS Patching with reference to application and services
3. Patching Attack surface (in reference to kernel Application File Integrity)
4. Services and Network flow misconfigurations (as customer policy)
5. Service / Process Visibility
6. Vulnerable Service packages (CVE)
7. Server / Active OS based Patching

**Managed Antivirus Solution**

1. Enterprise Standard Antivirus Software
2. Antivirus Software OEM signatures updated on availability basis
3. Real Time Incident Prevention
4. Customized Weekly Reports
5. Monitoring Dashboard
6. Device File Correlation / Behavior Analysis
7. Vulnerable Client Applications (in case CVE/CVEID)

**Application Audit**

1. Application Audit with audit tool (As manually / Allowed)
2. Audit for vulnerability
3. Patch and Priorities

RailTel's offering for SOC as a Services:

1. DDOS Mitigation
2. Web Application Security
3. Gateway Security
4. Log Analysis and Monitoring
5. Application audit and compliance monitoring
6. Monitoring and Incident Response as a service.
7. Endpoint Security.
8. Workload/Server security
9. Anti-Spam solution. ■

# Video Surveillance System

Shri Ujwal Shukla

DGM/Project

Railway stations cater to hundreds of thousands of families including women & children passengers on daily basis wanting to travel from one place to another. Ensuring their safety at station on 24 x 7 mode de facto is an uphill task. Human eye and traditional surveillance methods have their limitations in present day environment of heightened threat perception, porous boundaries of railway stations. Hence, use of sophisticated and state-of-the-art surveillance technology becomes inevitable in ensuring women & children passenger safety & security at isolated places at railway stations/platforms. Therefore, taking lead, Indian Railways has embarked on setting a high-tech surveillance system at Railway stations for providing safe, secure and pleasant experience to railway passengers especially women & children. RailTel has been assigned with the monumental task of providing a video surveillance system for Indian Railways. RailTel has already completed implementation at 278 Railway Stations.

## VSS Architecture and Salient Feature : CCTV at Stations

For implementation of CCTV at stations, RPF/GRP Thana/Post cluster based architecture is being followed. Video streams of cameras of stations are aggregated to a nearest suitable locations such as RPF/GRP Thana/Posts for video management (viewing and monitoring) and video recording. The cameras are being provided to cover platforms, foot over bridge, entry points of stations, waiting halls, ticket booking halls & concourse.



*Railway Platform under Surveillance*

Broad salient feature of system are as under:

- i. Remote operation and monitoring of stations from RPF/GRP Thana/Post, Div. HQ (control rooms) and Command and Control Center through RailTel/Railways TCP/IP network.
- ii. Dashboard facility to Senior officials, Railway Boards etc. for real time viewing of CCTV footage of the stations.



*Centralized Security Control Room*

- iii. Recording of video feeds from cameras for 30 days for playback, post event analysis and for investigation purpose. System will also have provision for longer retention of video data flagged/marked by the RPF/Appropriate authority for investigation or any other purpose.
- iv. **Video Analytics** : For proactive monitoring, system shall also have following video analytic functionalities:
  - i. Camera Tampering
  - ii. Loitering Detection
  - iii. Human & Vehicle Detection
  - iv. Search of Humans based on Attribute
  - v. Colour Search
  - vi. Fallen Person
  - vii. Combination Search (Human/Vehicle & Colour)
  - viii. Intrusion Detection
    - a. **Intrusion Detection** : Intrusion detection shall be used for generating alarm under following scenarios:
      - i. People crossing the tracks at platform ends
      - ii. People entering railways operating areas

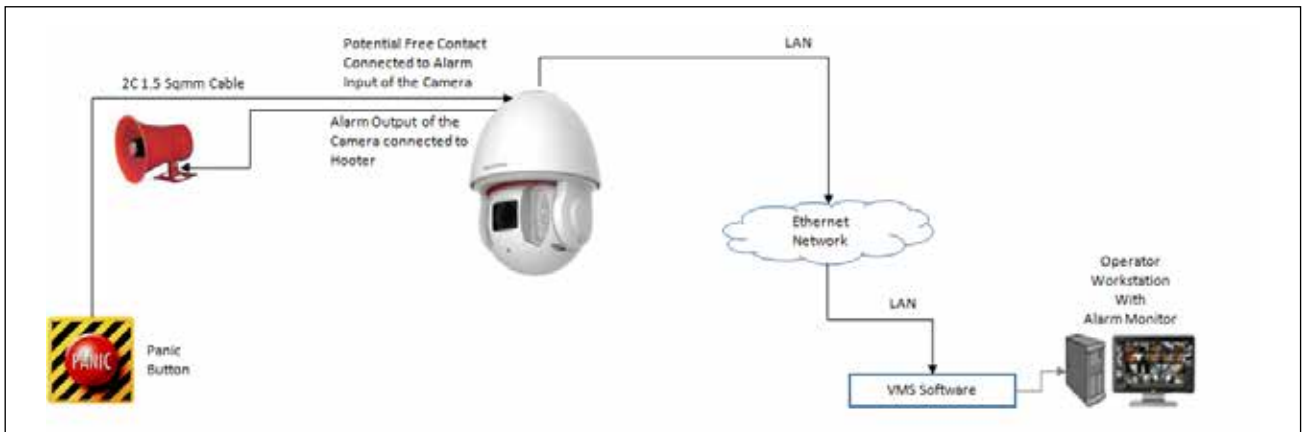
- iii. Object placed on the tracks through Cameras placed at platform ends
- iv. It shall also generate directional alarms in defined areas like parking places, elevators etc.
- b. Camera Tampering :** The system shall be able to detect sabotage or tampering to the cameras. It shall be able to detect camera blurring, camera binding and change of orientation of fixed cameras.
- ix. **Facial Recognition System (FRS) :** A *facial recognition* system is a technology capable of identifying or verifying a person from a digital image or a video frame from a video source. FRS shall also be deployed on stations for identification of target individuals.
- x. The Panic Switches shall be installed at each Platform integrated with VMS software to give real time alerts to RPF. Once the Panic Switch is activated by any person in distress, an alarm shall appear on the VMS (video management software) along with the pop-up of the associated camera on the operator workstation. In case, associated camera is a PTZ type, the camera shall move and zoom on to the Panic Switch to see the person in distress.

simultaneously viewed at command center. It shall have the capability to manage hundreds to thousands of cameras and connected devices for centralized or highly distributed video surveillance architectures. It shall also provide facility to capture critical information such as location, name, status, time of the incident and be modifiable in real time by multiple authors with role associated permissions (read, write).

The system shall provide integrated dashboard with an easy to navigate user interface for managing profiles, groups, message templates, communications, tracking receipts and compliance. It shall provide tools to assemble personalized dashboard views of information pertinent to incidents, emergencies & operations of command center. It shall also provide dashboard filtering capabilities that enable end-users to dynamically filter the data in their dashboard based upon criteria, such as region, dates, etc. and capability to drill down to the details.

The operator at the command center shall have following access to the video feeds:

- Viewing rights to all the live camera feeds
- Viewing rights to the stored feeds,
- Access to Alerts/Exceptions/Triggers raised
- Personalized Dashboard
- Accessibility to analytics on the recorded footages



Enterprise Management System for proactive monitoring of all IT assets shall be deployed at RailTel Gurugram and Secunderabad datacenter location.

### Command and Control Center

Central Command control center has also been provisioned in the proposed VSS work. At central command center, centralized Video Management System solution shall allow an operator to view live/recorded video from any camera installed on stations and coaches. Not all cameras can be

- Provide search of recorded video. Advanced search should be possible based on various filters like alarm, event, area, camera etc.

VSS project will enhance security for passengers especially women & children at Railway stations which are major hubs of transportation, this will include waiting halls, reservation counters, parking areas, main entrance/ exit, platforms, foot over bridges, booking offices etc. Moreover, features like Video Analytics & Facial Recognition System will enhance the overall security of Railway Stations. ■



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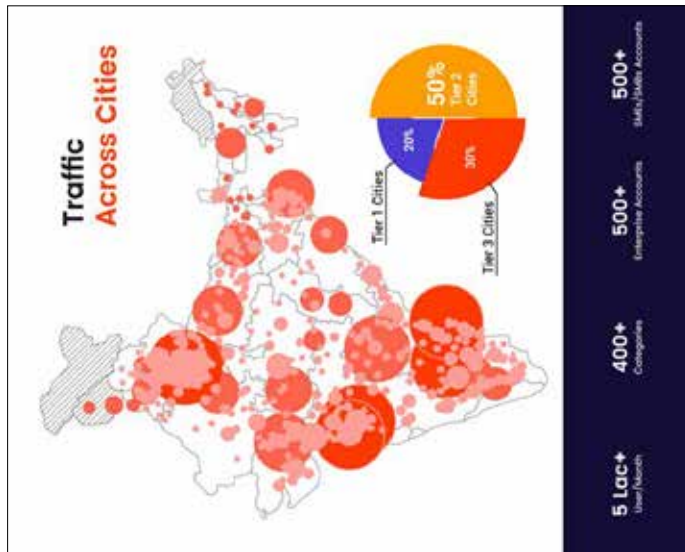
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A recent example of this was when SIS, Infotech and VMware jointly assisted the e-PDS Portal of India with VMware vCloud Suite. By providing this enterprise-grade cloud infrastructure and management solution, SIS, Infotech and VMware helped millions of BPL families locate the closest PDS shop in their area. This project started with UTs and has now expanded to cover the entire nation owing to its ease of rollout feature, compute on demand and ease of scalability.

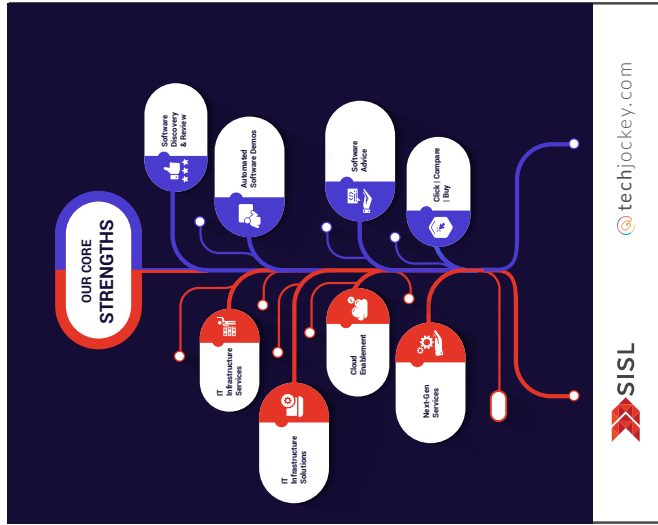
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