

Highlights for the period April 2018 to January 2019

January 2019

1. *Beginning of Automatic Control Charting on IR using RTIS*

- a) Since inception, the divisional control setup for the purpose of train movement control were dependent on the information relayed by the station master to the section controller and data was fed in the control chart by the section controller manually. A new beginning has been made in the new year when the train movement information is acquired and fed to the control charts using ISRO satellites based Real-time Train Information System (RTIS) automatically.
- b) The RTIS has been made operational from 8th January, 2019 for some Mail/Express trains on the Shri Mata Vaishno Devi Katra-Bandra Terminus, New Delhi-Patna, New Delhi-Amritsar & Delhi-Jammu routes and the control charts are automatically plotted for all stations across different divisions falling on the entire route of the train. The system has been implemented by CRIS in collaboration with ISRO.
- c) RTIS software (Loco device Software & firmware, Central Location Server (CLS) Software, Hub NMS software, LMCS – Loco device Monitoring & Configuration Management Software) have been developed and deployed in CRIS datacentre.
- d) RTIS device installed in the locomotive detects position and speed of the train using GAGAN geo positioning system. Based on this information and application logic, the device sends the train movement updates (Arrival / Departure / Run-through / Un-Scheduled stopages and mid section updates) to Central Location Server (CLS) in CRIS' datacentre using S-Band Mobile Satellite Service (MSS) of ISRO. After processing in the CLS, this information is relayed to Control Office Application (COA) system for automatic plotting of control charts without any manual intervention in the divisions. COA being already integrated with National Train enquiry System (NTES), accurate train running information accrued from this system is also available to the public.

2. *Human Resources Management System (HRMS)*

MoU for Development of HRMS application and Implementation on IR has been signed with Railway Board on 31/01/2019.

Work on creating the production environment for the Pilot location is under progress. Work on development of Leave module, as part of ESS, is under progress.

3. *Train Signal Register (TSR)*

Equipment for the Train Signal Register (TSR) application has been supplied at 650 locations, out of which 632 locations have been commissioned. TSR has been made live in 365 stations.

December 2018

1. *Hand Held Terminal (HHT) for TTE*

Hand Held Terminal Application for TTEs' aims at simplifying & expediting the existing on-train ticket-checking procedure through automation by provision of hand-held devices (tablets) to TTEs.

In December 2018, 550 tablets along with accessories have been deployed with the TTEs for charting and other ticket checking activities on all 51 pairs of Rajdhani and Shatabdi trains.

2. *Integrated Coaching Management System (ICMS):*

Board has changed the process of finalization of train detention causes. Accordingly, the ICMS software has been modified to enable ADRMs to finalize the train detention causes.

3. *E-Procurement System (IREPS):*

3.1. Software was provided to automatically import e-scrolls from the SBI portal, and insert the data into the IREPS database

3.2. New categories (ATM, Pay & Use Toilets, Outsourcing- Waiting rooms) were added in the Earning / Leasing module

4. *Mobile App for Operating Officers of IR – RAIL PARIDHI*

4.1. A new Android Mobile App has been designed and developed for Monitoring of CC Rakes at IR, Zonal and Divisional jurisdiction. This App provides a dashboard to view statistics of healthy, due and overdue rakes. Further, the app provides a view of CC Rakes Due/Overdue running in other Zones and Due/Overdue CC Rakes of Other Zones running in user Zone.

4.2. Details of individual Due/Overdue rake, including its current position, BPC Details and wagon details can also be viewed within the App. Position of Due/Overdue Rakes is also available on a GIS interface for better appreciation.

5. *Human Resources Management System (HRMS)*

User Interfaces (UIs) for entry of Employee Master have been implemented at the Pilot location (Secunderabad Division) during the visit of the CRIS team in the first week of December 2018.

6. *Train Signal Register (TSR)*

Equipment for the Train Signal Register (TSR) application has been supplied at 650 locations, out of which 626 locations have been commissioned. TSR has been made live in 321 stations.

November 2018

1. A full day workshop cum training programme was organized on 27.11.2018 for Sr.DCMs of all divisions of Indian Railways, and their subordinate officials. During the workshop the general concepts related to e-tendering viz. PKI Infrastructure, digital encryption, digital signing etc., and the functionalities and nuances of the newly developed E-Tendering application for Commercial Earning Contracts were explained to the participants by CRIS

officials. Their feedback and suggestions for further improvement in the application were also obtained. The workshop was attended by over 200 officials of various divisions, and senior officers of Railway Board, Northern Railway and CRIS. Chairman Railway Board, Member Traffic, and Additional Member (Commercial) addressed the gathering and heard the suggestions of Sr.DCMs on various aspects of their working.

2. A Dashboard was provided to Hon'ble MR to monitor all aspects of Railway working on an online basis. The Dashboard provides a bird's eye view of freight and passenger earnings, freight loading and unloading, punctuality, progress of major projects, grievances, online train position, station details, etc. The Dashboard was made live on 30/11/2018.
3. Inter-zone mobile ticketing was started on 01/11/2018. This enables mobile tickets to be issued across Zonal boundaries. During the month, a total of 30.7 lakh Mobile tickets were issued earning revenue of Rs. 16.01 crore.
4. The LOA for the Enterprise Service Bus (ESB) was issued on 30/11/2018. Installation and commissioning of the software, which will enable integration of all Railway applications housed in CRIS, will commence shortly.
5. In HMIS project, HERO (Healthcare for the Entire Railway Organization) application has been field deployed. Tilak Bridge is the first health unit to deploy the application and Sarojini Nagar, Sardar Patel Marg, Kishanganj and Sarai Rohilla will follow. A six-character unique ID for the medical card has been approved by Board.
6. Equipment for the Train Signal Register (TSR) application has been supplied at 650 locations, out of which 616 locations have been commissioned. TSR has been made live in 299 stations.

October 2018

1. MR reviewed the progress of CRIS projects on 17/10/2018 in Railway Board. He emphasised the importance of prioritising work to meet project deadlines, sharing of data among different applications and Railway departments, sharing of infrastructure, using technology to weed out malpractices in ticketing, and encouraging UTS on mobile phones. He also desired that CRIS' processes should be simplified to speed up project execution.
2. On 31.10.2018, as part of the Vigilance Awareness Week 2018 function organised by Central Vigilance Commission, Hon'ble President of India, Shri Ram Nath Kovind, presented the "Vigilance Excellence Award" in the "Outstanding Grade" to Ministry of Railways for the initiative undertaken for development of Freight Operations Information Systems (FOIS) which has led to greater transparency and ease of doing business.
3. Indian Railways Shramik Kalyan Portal was launched on 17/10/2018. It will bring in transparency in payments to contract labour. A brief summary of the contracts, number of labour deployed against each contract, and total payment is visible on the portal.
4. ODC crossing approval monitoring system was launched, which, in the first phase, has made the process of ODC crossing over level crossings online, thereby reducing the time required for the approval process.
5. All Zonal Railways have been covered under UTS on mobile Application on 29.10.2018.

6. More than 15,000 supply tenders (including 425 Tender Committee Cases) have been decided through online Tender Decision System during Oct 2018. Also, a system of auto-assignment of supply tenders to respective officers for online tender decision has been implemented on IREPS for all units of Indian Railways, ensuring the monitoring of each and every supply tender opened.
7. Tender for Phase-I implementation of Real-Time Train Information System (RTIS) has been finalised. LOA has been issued on 01/10/2018 and PO has been issued on 10/10/2018. Implementation of Phase-I of RTIS project is in progress and is being closely monitored.
8. All earnings and expenditure applications maintained by CRIS were made compliant for deduction of TDS in GST invoices w.e.f. 01/10/2018, as per Railway Board direction.
9. In IPAS, PAN has been made mandatory in case of New Employees and in case of new employee entry, provision has been made for 3-layer verification at Executive side and 2 level verification at Accounts side.
10. RPF Security Helpline has been upgraded by developing and deploying Customer Relationship Management (CRM) software in the production environment at CRIS datacentre using the shared infrastructure of RSMS application and Railnet connectivity. The Proof of Concept (POC) has been successfully completed at the 5 Pilot locations of Delhi, Bhopal, Jaipur, Pune and Allahabad and All India Roll Out for all the remaining divisions is in progress. The ACD (Automatic Call Distribution System) has been integrated with the CRM software and data is being received in the Production servers from 52 Divisions
11. Equipment for the Train Signal Register (TSR) application has been supplied at 650 locations, out of which 611 locations have been commissioned. TSR has been made live in 287 stations.
12. The TDMS (Traction Distribution Management System) pilot has been implemented in test bed for all Divisions of Northern Railway, and demonstrated to NR and Board.

September 2018

1. A Seminar on Leveraging IT for Mobility was held on 06.09.2018 at India Habitat Centre, New Delhi. The occasion was graced by Hon'ble MR, Member Traffic, Railway Board, Director Generals from Personnel, Stores and S&T, senior officers from Railway Board, Railways, CRIS and the private sector. Experts from leading organizations spoke about technologies for mobility focused on passenger business, freight and cargo business, network optimisation, and asset management. The Seminar proved to be very informative for the audience and has paved the way for new strategies in mobility. During the Seminar, Hon'ble MR launched the Aapoorti App of IREPS.
2. Equipment for the Train Signal Register (TSR) application has been supplied at 650 locations, out of which 602 locations have been commissioned. TSR has been made live in 275 stations.

- 3 On 26.09.2018, the Satsang application became the first production application in CRIS to be deployed on the public cloud. As a result, the application can be accessed on mobile devices from anywhere on the Internet. Despite the application being data, graphic, and compute intensive, its performance has improved significantly, because the cloud is very scalable even when usage fluctuates. The system has been configured so that virtual servers are switched off when the number of users reduces, thereby optimizing the cost.
- 4 The UTS Mobile App for paperless tickets was launched for the entire NWR, WR and ECR. The number of UTS mobile app users has been continuously increasing. It has increased from 1,27,970 in March 2018 to 4,57,100 in September 2018.
- 5 All earning and expenditure applications maintained by CRIS were made compliant for deduction of TDS in GST invoices, w.e.f. 01.10.2018, as per the directives of Railway Board.

August 2018

- 1 The work of Coaching Crew Links Management System (CCLMS), an operations research based decision support system, was awarded on 24/08/2018. The objective of this system is to assist all divisions and zones of Indian Railways in making efficient coaching crew links so as to optimize crew productivity and utilization, while following all business rules regarding rest, HOER, continuous duty, minimizing spare running hours, and improving quality of life of the crew. This will be one of the first analytics-based systems on Indian Railways.
- 2 For the first time, Purchase Orders were generated from the IREPS/iMMS system based on online tender decision.
- 3 Equipment for Train Signal Register (TSR) application has been supplied at 650 locations, out of which 564 locations have been commissioned. TSR has been made live in 262 stations.
- 4 A Coaching Census was held across IR in August 2018. The Integrated Coaching Management System (ICMS) software was enhanced to capture the Census data from divisional users, reconcile the data at the Zonal level, and prepare relevant reports.
- 5 Mobile paperless UTS tickets were made available for Jhansi and Agra divisions of NCR.

July 2018

- 1 A Seminar on “Mobile Apps – a Progressive Paradigm” was held in the Stein Auditorium, India Habitat Centre, on 2nd July, 2018. Eminent speakers and experts in the field addressed the gathering, which consisted of senior officers from Railway Board and Zonal Railways, and senior members of industry and academia, apart from CRIS officers and engineers. The audience participated enthusiastically in the proceedings, as evidenced by the intense question-answer sessions held during the discussions. The Seminar was widely appreciated.

- 2 Equipment for Train Signal Register (TSR) application has been supplied at 650 locations, out of which 542 locations have been commissioned. TSR has been made live in 211 stations.
- 3 A new feature to view Pending Indents and Fulfilled Indents across Indian Railways has been added to the SFOORTI Mobile App.
- 4 The UTS on Mobile Android App has been made more user-friendly, by improving the login screen and replacing use of station codes with station names. In addition, NTES Live Station API has been integrated with it.
- 5 The UTS on Mobile app has been made operational throughout SER, SECR, and SCR. Passengers can buy paperless UTS tickets on all stations of these Railways.
- 6 Version 6.2 of the Crew Management System (CMS) was released with 75 new functionalities on 31.07.2018.
- 7 In IREPS, a new feature entailing automation of double verification of online payments has been enabled.
- 8 Medical departments of NR, WR & SCR have been taken on iMMIS for procurement activities of medicines.

June 2018

- 1 The CRIS Day Seminar on the topic of *Mobile Apps – A Progressive Paradigm* was held on 02/07/2018. Experts in mobility and mobile applications spoke about the policy and strategy for mobility as well as specific mobile solutions in various fields. The utility of mobile apps in Government and Railways was emphasised by the speakers. Senior officers from Board and Railways graced the occasion with their presence. The seminar was greatly appreciated.
- 2 The Rail Rajbhasha Mobile App was launched on 06.06.2018 by Member/ Staff Railway Board, Member/Rolling Stock, Railway Board, Member/ Engineering Railway Board and Director General/Personnel in a function organised by Rajbhasha Directorate of Railway Board. This app is the first of its kind in entire Government of India. It provides comprehensive information to users about Rajbhasha policy, bilingual designations and phrases, glossary of Hindi terms, sample letters and notes, etc. The app drew widespread appreciation.
- 3 In this year's Works Program, the concept of Umbrella Works had been introduced. As per Board's direction, CRIS has developed a new functionality for Umbrella Works Processing in the IRPSM software. The development work was completed well in time for the Works Program 2018-19. This new application is being utilized in all the Zonal Railways. In addition to the sanction process, several reporting features have also been added to the software.

- 4 Equipment for Train Signal Register (TSR) has been supplied on 650 stations and by June 2018 the system has been installed at 501 stations. At 161 stations, TSR has been made functional online in June 2018.
- 5 An MIS report has been developed and published to display 'Block Maintenance' information, which is being captured in COA and propagated to ICMS automatically through application integration.
- 6 A 'Pareto chart' showing the causes for detention in train movement has been developed in the ICMS application module and has also been integrated with the MR portal.

May 2018

- 1 A Single Page Application (SPA) / New User Interface (UI) of NGeT was released on production servers on 29/05/2018. This interface provides a new feature of waitlist prediction. It also provides intuitive access to features such as Vikalp, request for additional SMS, etc. This interface was provided as a beta version to interested users and it has been well-received by the public.
- 2 The Committee on Artificial Intelligence met in CRIS on 08/05/2018, 16/05/2018, and 25/05/2018. Intense discussions were held during the meetings. The Committee's report is under preparation.
- 3 Printing in Gujarati and Malayalam in UTS tickets was launched.
- 4 Equipments for Train Signal Register (TSR) have been supplied on 650 stations and by May 2018 the system has been installed at 325 stations. At 88 stations, TSR has been made functional online in May 2018.

April 2018

- 1 Rail-Sugam, a mobile app for IR's freight customers, has been developed and is ready for launch. It has been designed to bring enhanced ease of doing business for individuals and corporates. It provides enhanced GIS views, dashboards, and data views on multiple aspects of freight including track and trace of consignment, PFT / CRT Locations over IR, loading / unloading terminals, terminal-wise pending / fulfilled indents, freight rates, route information, and freight calculator.
- 2 Printing of unreserved tickets in Tamil, Malayalam and Marathi languages was started.
- 3 Mobile Ticketing for unreserved tickets was released for entire Southern Railways, and LKO Division of Northern Railway.
- 4 Crew Management System (CMS) Version 6.0.1 was released on 26.04.2018 with 64 new functionalities.

- 5 With effect from 27th April 2018, a two-stage Reverse Auction module for procurement of goods and services in all Railway Units has been started on IREPS / CRIS site.
- 6 Equipments for Train Signal Register(TSR) have been supplied on 620 stations and by April 2018 the system has been installed at 323 stations. At 50 stations, TSR has been made functional online in April 2018.
- 7 Electronic Transmission of Railway Receipt (eT-RR) was implemented at Kiratpur Goods shed and Bharatgarh stations of Ambala Division in April 2018.