

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAJYA SABHA
UNSTARRED QUESTION NO. 2525
ANSWERED ON 13.03.2026

WORKFORCE PRODUCTIVITY, HEALTHCARE VACANCIES, AND AI USE IN INDIAN RAILWAYS

2525 DR. AJEET MADHAVRAO GOPCHADE:

Will the Minister of RAILWAYS be pleased to state:

- (a) whether the Ministry has taken specific steps to ensure maximum work productivity from each Railway employee, including structured motivational initiatives and advanced technical training;
- (b) whether any transparent, technology driven system has been introduced to regularly assess, rationalise the workload of each Railway employee;
- (c) the action taken to fill vacancies of doctors and paramedical staff in Railway hospitals and dispensaries; and
- (d) whether the Ministry has formulated or implemented any comprehensive plan to deploy Artificial Intelligence (AI) in Railway functions such as safety, maintenance, human resource management, medical services and passenger interface, if so, the details thereof?

ANSWER

MINISTER OF RAILWAYS, INFORMATION & BROADCASTING AND
ELECTRONICS & INFORMATION TECHNOLOGY

(SHRI ASHWINI VAISHNAW)

(a) to (d): Indian Railways have taken several measures to enhance work productivity, motivation and professional competencies of railway employees through structured capacity building and advanced training. Capacity building and skill upgradation are continuous and institutionalised processes supported by a well-established training framework across Indian Railways.

Indian Railways have developed a comprehensive training ecosystem providing training interventions at various stages of the career to ensure skilling, re-skilling and up-skilling of employees. For this purpose, extensive training infrastructure has been created in the form of Centralised Training Institutes (CTIs), Multi-disciplinary Zonal Training Institutes (MDZTIs), Multi-disciplinary Divisional Training Institutes (MDDTIs) and specialised training centres, which conduct induction, refresher, promotional and technical training programmes at different stages of service.

Training modules are designed to strengthen employees' competencies and equip railway personnel with the skills required for modern, technology-intensive railway operations. These modules are also periodically updated to incorporate new technologies in railway operations and maintenance.

Specialised initiatives such as the Centre of Excellence on Kavach at IRISSET, courses on emerging technologies (including Data Science, AI applications, Big Data Analytics, Block chain, and Cloud Computing, etc.) in collaboration with C-DAC, and Mission Rail Karmayogi for behavioural and service-orientation training of frontline staff further contribute to improving productivity and efficiency. Employees are also encouraged to undertake online learning through digital platforms such as the iGOT Karmayogi portal for continuous up-skilling and re-skilling.

In addition, motivational and wellness initiatives, including yoga sessions, physical fitness activities and stress-management programmes during training and at workplaces, are promoted to enhance employee well-being and morale.

Recruitment

Recruitment done in Indian Railways during 2004-05 to 2013-14 vis-à-vis during 2014-15 to 2025-26 is given as under: -

Period	Recruitments
2004-2005 to 2013-2014	4.11 lakh
2014-2015 to 2024-2025	5.08 lakh
2025-26 till date	41,343

Occurrence and filling up of vacancies are continuous process on Indian Railways considering its size, spatial distribution and criticality of operation. Adequate and suitable manpower is provided to cater to the regular operations, changes in technology, mechanizations and innovative practices. The vacancies are filled up primarily by placement of indents by Railways with Recruitment agencies as per operational and technological requirements.

Presently, recruitment against 1,43,086 vacancies of non-gazetted personnel has been taken up on Indian Railways as per Annual Calendar 2024 and 2025.

During January to December 2024, ten Centralized Employment Notifications (CENs) for 92,116 vacancies were notified for filling up of posts of Assistant Loco Pilots (ALPs), Technicians, Sub-Inspectors, Constables in Railway Protection Force (RPF), Junior Engineers (JEs)/ Depot Material Superintendent (DMS)/ Chemical & Metallurgical Assistant (CMA), Paramedical Categories, Non-Technical Popular Categories (Graduate), Non-Technical Popular Categories (Under-Graduate), Ministerial & Isolated Categories and Level-1 categories such as Assistants, Track Maintainers and Pointsman.

First stage/Single stage Computer Based Tests (CBTs) for 92,116 posts have been completed. Details are as under: -

Exam	Candidates	Cities	Languages
1 st Stage CBT for the post of ALP (18,799 vacancies)	18,40,347	156	15
CBT for the post of Technician (14,298 vacancies)	26,99,892	139	15
1 st Stage CBT for the post of JE/DMS/CMA (7,951 vacancies)	11,01,266	146	15
CBT for the post of RPF-SI (452 vacancies)	15,35,635	143	15
CBT for the post of RPF-Constable (4,208 vacancies)	45,30,288	147	15
CBT for Paramedical Categories (1,376 vacancies)	7,08,321	143	15
1 st Stage CBT for Non-Technical Popular Categories (Graduate) (8,113 vacancies)	58,41,774	141	15
1 st Stage CBT for Non-Technical Popular Categories (Under Graduate) (3,445 vacancies)	63,27,473	157	15
CBT for Ministerial & Isolated categories (1,036 vacancies)	4,46,013	139	15
CBT for level-1 post (32438 vacancies)	1,08,28,261	152	15
Total Candidates	3,58,59,270		

2nd stage CBTs for the posts of ALP, JE/DMS/CMA and Non-Technical Popular Categories (Graduate & Under-Graduate) have also been completed. Details are as under:

Exam	Candidates	Cities	Languages
2 nd Stage CBT for the post of ALP (18,799 vacancies)	2,66,363	112	15
2 nd Stage CBT for the post of JE/DMS/CMA (7,951 vacancies)	1,17,339	118	15
2 nd Stage CBT for Non-Technical Popular Categories (Graduate) (8,113 vacancies)	1,21,931	129	15
2 nd Stage CBT for Non-Technical Popular Categories (Under-Graduate) (3,445 vacancies)	51,978	79	15
Total Candidates	5,57,611		

Computer Based Aptitude Test (CBAT) for the post of ALP and Non-Technical Popular Categories (Graduate) and Computer based Skill Test for the post of Non-Technical Popular Categories (Graduate and Under Graduate) and Ministerial & Isolated Categories have also been completed. Details are as under: -

Exam	Candidates	Cities	Languages
CBAT for the post of ALP	1,32,044	84	2
Translation Test for Ministerial and Isolated Categories	1,233	8	2
CBAT for the post of Non-Technical Popular Categories (Graduate)	13,616	38	2
Computer Based Typing Skill Test (CBTST) for the post of Non-Technical Popular Categories (Graduate-level)	30,341	58	2
Computer Based Typing Skill Test (CBTST) for the post of Non-Technical Popular Categories (Under-Graduate-level)	13,145	44	2
Total Candidates	1,90,379		

Panels for more than 41,000 candidates for various posts including the posts of Technicians, Junior Engineers, Paramedical Categories, Sub-Inspectors & Constable (RPF) and Assistant Loco Pilots have been finalised. Majority of them are in safety categories.

In addition, as per Annual Calendar for the year 2025, nine Centralized Employment Notifications (CENs) for 50,970 vacancies have also been issued. Details are as under: -

CEN No.	Post Name	No. of Vacancies notified	Month of Notification
01/2025	Assistant Loco Pilots	9,970	March 2025
02/2025	Technician	6,238	June 2025
03/2025	Paramedical categories	434	July 2025
04/2025	Section Controller	368	August 2025
05/2025	Junior Engineer/ Depot Material Superintendent	2,585	October 2025
06/2025	Non-Technical Popular Categories (Graduate)	5,810	October 2025
07/2025	Non-Technical Popular Categories (Under-Graduate)	3,058	October 2025
08/2025	Isolated Categories	312	December 2025

09/2025	level-1	22,195	December 2025
---------	---------	--------	---------------

First stage/Single stage Computer Based Tests (CBTs) for 2,953 posts have been completed. Details are as under: -

Exam	Candidates	Cities	Languages
CBT for the post of Section Controller (368 vacancies)	4,33,748	131	15
1st Stage CBT for the post of JE/DMS (2585 vacancies)	5,74,351	133	15
Total Candidates	10,08,099		

The RRB examinations are quite technical in nature entailing large scale mobilization of men and resources and training of manpower. Railway overcame all these challenges and successfully conducted the recruitment in a transparent manner following all laid down guidelines. No instance of paper leakage or similar malpractice has occurred during the entire process.

Further, as system improvement, the Ministry of Railways has introduced a system of publishing the annual calendar from 2024 for recruitment to various categories of Group 'C' posts. The introduction of the annual calendar is benefitting the aspirants in the following manner:

- More opportunities for candidates;
- Opportunities to those becoming eligible every year;
- Certainty of exams;
- Faster Recruitment process, Training and Appointments

Recruitments in IRHS (Indian Railway Health Service) are made through Union Public Service Commission (UPSC) for the Ministry as a whole. Further, as compared to recruitment of 2277 number of doctors during 2004-2013, 5140 number of doctors have been recruited during 2014-2025. In addition, an indent for 620 doctors was placed on UPSC for the year 2025 and 2026. To cater to the shortage in joining of selected doctors, there is a provision of engaging of CMPs (Contract Medical Practitioners) against clear vacancies till regular selected candidates recommended by UPSC join. This is only a stopgap arrangement of very temporary nature. Each term of engagement is not more than one year and each term is treated as a fresh contract. As on 31.12.2025, total 569 numbers of CMPs were working on Zonal Railways/PUs.

Adoption of Modern Technologies

Technological improvements in Indian Railways (IR) are a continuous process. Artificial Intelligence/Machine Learning (AI/ML) based applications are a developing area. Some major technologies deployed/piloted over IR are as follows:

1. **Machine Vision Inspection System (MVIS):** MVIS is an Artificial Intelligence (AI)/ Machine Learning (ML) based system which generates alert on detecting any hanging, loose or missing components of moving trains.

Three (03) MVIS have been installed in Northeast Frontier Railway, two (02) in Dedicated Freight Corridor Corporation of India Limited (DFCCIL) and one (01) in South East Central Railway on pilot basis for freight stock. Further, a MoU has been signed between IR and DFCCIL to induct four (04) MVIS over IR network for freight stock.

Also, Research Designs and Standards Organisation (RDSO) has taken up development of MVIS for rolling stock in collaboration with industry through an Expression of Interest (EoI).

2. **Wheel Impact Load Detector (WILD):** WILD is a way-side inspection system that measures the impact of wheel on track to identify the defective wheel in Rolling Stock. 24 such systems are installed over IR.
3. **Online Monitoring of Rolling Stock (OMRS):** OMRS is a way-side inspection system which monitors the health of bearing & wheel of Rolling Stock. 25 such systems are installed over IR out of which one (01) OMRS is installed at Sirpur Kaghaznagar /Secundrabad Division in South Central Railway.
4. **Integrated Track Monitoring Systems (ITMS):** ITMS are deployed for comprehensive inspection and monitoring of Railway tracks. The ITMS utilizes machine learning and image processing to monitor and detect defects in railway track components such as rails, sleepers, and fastenings. The data from ITMS is analysed for urgent and planned maintenance of track. Presently three (03) ITMS are deployed for track recording and monitoring of IR track. It helps in better track maintenance planning, enhanced safety, improved reliability of track assets and operational efficiency.
5. **Intrusion Detection System (IDS):** Artificial Intelligence (AI) enabled Intrusion Detection System (IDS) using Distributed Acoustic System (DAS) is implemented in 141 RKms section of Northeast Frontier Railway for detecting presence of elephants on Railway tracks. The

system is designed to generate alerts for loco pilots, station masters and Control Room about the movement of elephants in proximity of railway tracks, for taking preventive action timely.

6. **Drone based monitoring of Overhead Equipment:** Drone based monitoring with thermal imaging of Overhead Equipment (OHE) has been taken up in Raipur division on pilot basis. Further, IR in association with IIT Madras, has taken up development of a Drone based aerial inspection of Overhead Equipment (OHE) which will also analyse the captured data using AI/ML.
7. **TRI-Netra:** RDSO has taken up development of TRI-Netra (Terrain Imaging for Locomotive Drivers - Infra-Red, Enhanced Optical & Ranging Device Assisted) for assisting the Loco pilots during foggy, rainy and inclement weather. This system comprises of optical camera, infra-red camera and ranging devices (e.g. Radar/Lidar) & AI to create a real-time, enhanced vision system for assisting Loco pilots.
8. **Rail Madad and Passenger Reservation System:** For improving operational efficiency, AI/ML models have been implemented in the areas of passenger services (Rail Madad and Passenger Reservation System), freight operations (prediction of estimated time of arrival of freight trains), and prediction of unloading/loading time.
9. **Kavach:**
 - i) Kavach is an indigenously developed Automatic Train Protection (ATP) system. Kavach is a highly technology intensive system, which requires safety certification of highest order (SIL-4).
 - ii) Kavach aids the Loco Pilot in running of trains within specified speed limits by automatic application of brakes in case Loco Pilot fails to do so and also helps the trains to run safely during inclement weather.
 - iii) Based on deployment of Kavach version 3.2 on 1465 Route Km on South Central Railway and experience gained, further improvements were made. Finally, Kavach specification version 4.0 was approved by RDSO on 16.07.2024.
 - iv) Major improvement in Version 4.0 includes increased location accuracy, improved information of signal aspects in bigger yards, Station to Station Kavach interface on OFC and Direct Interface to existing Electronic Interlocking System.
 - v) After extensive and elaborate trials, Kavach Version 4.0 has been successfully commissioned on 1452 Route Kilometres, covering the high-density Delhi- Mumbai and Delhi-Howrah routes as below:

SN	Section	Progress (Route Km)
(1)	Delhi-Mumbai route:	
i	Junction cabin – Palwal – Mathura –Nagda section	667
ii	Vadodara - Ahmedabad section	96
iii	Vadodara - Virar section	336
(2)	Delhi – Howrah route:	
i	Gaya Sarmatanr section	93
ii	Chota Ambana - Bardhaman – Howrah section	260

- vi) Further, track side Kavach implementation work has been taken up on 24,427 Route Kilometres covering all GQ, GD, HDN and identified sections of Indian Railways. Progress of key items of Kavach as on 28.02.26 is as under:

SN	Item	Progress
i	Laying of Optical Fibre Cable	8570 Km
ii	Installation of Telecom Towers	1100 nos.
iii	Station Data Centre	767 stations
iv	Installation of Track side equipment	6776 Rkm
v	Provision of Kavach in Loco	4154 nos.

- vii) In addition, work for installation of Kavach in 8979 Locomotives and 1200 EMU/MEMU has been taken up.

10. A Memorandum of Understanding has been signed between IR and Delhi Metro Rail Corporation to induct 4 numbers of Automatic Wheel Profile Measurement System (AWPMS). The AWPMS allows for automatic non-contact measurement of train wheel profile ensuring real-time measurement of wheel geometry and wear. The locations identified for installation of these 4 systems are as follows:

- a. Lokmanya Tilak Terminus Coaching Depot over Mumbai Division of Central Railway
- b. Anand Vihar Terminal Coaching Depot over Delhi Division of Northern Railway
- c. Near Tughlakabad Wagon Depot over Delhi Division of Northern Railway
- d. Near Pandit Deen Dayal Upadhyay Wagon Depot over Pandit Deen Dayal Upadhyay Division of East Central Railway

11. Centre for Railway Information Systems has signed a Memorandum of Understanding with Digital India Bhashini Division for auto language translation for handling of user complaints in any of the 13 scheduled languages.
12. Centre for Railway Information Systems has signed a Memorandum of Understanding with Indian Institute of Technology Delhi for enhancing efficiencies in the area of train operations.
13. Centre for Railway Information Systems has signed a Memorandum of Understanding with Indian Institute of Technology Mumbai for adoption of generative AI in transportation and related sectors.
14. Pilot initiatives involving AI-driven predictive maintenance of signaling are being undertaken over the Indian Railways.

Rail Tech Policy: Further, to support the development of cost-effective, implementable and scalable solutions, including those based on AI and data-driven technologies, a new policy called the Rail Tech Policy has been adopted on 26.02.2026 by IR and a portal (<https://railtech.indianrailways.gov.in>) has been launched to facilitate participation of innovators and startups.

The above proposed Policy will facilitate early adoption of new technologies in Indian Railways.
