

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
LOK SABHA
UNSTARRED QUESTION NO. 4281
TO BE ANSWERED ON 18.03.2026**

SKILL DEVELOPMENT FOR RAILWAY EMPLOYEES

4281. SHRI ADHIKARI DEEPAK DEV:

Will the Minister of RAILWAYS be pleased to state:

- (a) whether the Government has taken any initiatives to upgrade rail infrastructure including signalling system in last two years and if so, the details thereof, year-wise; and**
- (b) whether the Government has taken any steps towards skill development of Railway employees in the last two years to avoid negligence on duty and if so, the details thereof?**

ANSWER

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

(SHRI ASHWINI VAISHNAW)

(a) & (b): Strengthening, upgradation, modernisation and improvement of Signalling infrastructure is a continuous and ongoing process over Indian Railways. Indian Railway is continuously modernizing current infrastructure of its signalling system as under:

- 1. Electrical/Electronic Interlocking Systems with centralized operation points and signals in place of old mechanical signalling have been provided at 6665 stations as on 28.02.2026, out of which Electronic Interlocking have been provided at 3870 stations.**
- 2. Interlocking of Level Crossing Gates (LC) has been provided at 10153 Level Crossing Gates upto 28.02.2026 for enhancing safety at LC Gate.**

- 3. Complete Track Circuiting of stations to enhance safety by verification of track occupancy by electrical means has been provided at 6,669 stations up to 28.02.2026.**
- 4. Axle counters for automatic clearance of Block Section, BPAC (Block Proving Axle Counter) are provided to ensure complete arrival of train without manual intervention before granting line clear to receive next train and to reduce human element. These systems have been provided on 6149 Block Sections up to 28.02.2026.**
- 5. Automatic Block Signalling (ABS) that enhances line capacity within existing track infrastructure has been provided at 6897 Route km upto 28.02.2026.**

Implementation of Kavach

- 6. 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).**
- 7. 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.**
- 8. The first field trials on the passenger trains were started in February 2016. Based on the experience gained and Independent Safety Assessment of the system by Independent Safety Assessor (ISA), three firms were approved in 2018-19, for supply of Kavach Ver 3.2.**
- 9. Kavach was adopted as National ATP system in July, 2020.**
- 10. Implementation of Kavach System involves following Key Activities:**
 - a. Installation of Station Kavach at each and every station, block section.**
 - b. Installation of RFID Tags throughout the track length.**
 - c. Installation of telecom Towers throughout the section.**

d. Laying of Optical Fibre Cable along the track.

e. Provision of Loco Kavach on each and every Locomotive running on Indian Railways.

11. Based on deployment of Kavach version 3.2 on 1465 RKm 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.

12. Kavach version 4.0 covers all the major features required for the diverse railway network. This is a significant milestone in safety for Indian Railways. Within a short period, IR has developed, tested and started deploying Automatic Train Protection System.

13. 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. With these improvements, Kavach Ver.4.0. is planned for large scale deployment over Indian Railways.

14. 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
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15. Further, track side Kavach implementation work has been taken up on 24,427 RKM covering all GQ,GD,HDN and identified sections of Indian Railways.

16. Progress of key items of Kavach on High density routes including Delhi- Mumbai & Delhi- Howrah corridors as on 14.03.2026 are 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 Station
iv	Installation of Track side equipment	6776 Rkm
v	Provision of Kavach in Loco	4211 nos

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

Track Infrastructure:

Strengthening, upgradation, modernisation and improvement of track infrastructure is a continuous and ongoing process over Indian Railways. The following measures are being taken by Indian Railways to upgrade infrastructure railway tracks:

- i. Modern track structure consisting of 60kg, 90 Ultimate Tensile Strength (UTS) rails, Wider and heavier Pre-stressed Concrete Sleepers (PSC) with elastic fastening, fan-shaped layout turnout on PSC sleepers and H-beam Sleepers on girder bridges are being used while carrying out primary track renewals.**

- ii. The Thick Web Switches and Weldable CMS Crossings are being used in turnout renewal works.**
- iii. Supply of 260m long rail panels have been increased to avoid welding of joints, thereby improving safety and riding quality**
- iv. Thick Web Switch Expansion Joints are being used in place of earlier Conventional/Improved SEJs.**
- v. Adoption of better welding technology for rails i.e. Flash Butt Welding.**
- vi. Adoption of mechanized system for track maintenance using high output plain tampers and points & crossing tampers for improved maintainability & reliability of track.**
- vii. Deployment of state-of-the-art modern machines including Rail Grinding Machines to further improve asset reliability.**
- viii. Mechanisation of track laying activities through use of track machines like PQRS, TRT, T-28 etc.**
- ix. Interlocking of Level Crossing (LC) Gates for enhancing safety at LC gates.**
- x. Use of advanced Phased Array technology of testing of rail and welds.**
- xi. Deployment of Integrated Track Monitoring Systems (ITMS) and Oscillation Monitoring System (OMS) for comprehensive health assessment to ascertain optimal maintenance requirements.**
- xii. Adoption of portable Track Measuring Trolley for continuous recording of track parameters in yards.**
- xiii. Using web enabled Track Management System (TMS) for integration and data analytics of the track inspection records received through various sources to enable precise maintenance inputs.**

Amrit Bharat Station Scheme:

Ministry of Railways has launched Amrit Bharat Station Scheme for redevelopment of stations with a long-term approach.

The scheme involves preparation of master plans and their implementation in phases to improve the stations. The master planning includes:

- **Improvement of access to station and circulating areas**
- **Integration of station with both sides of city**
- **Improvement of station building**
- **Improvement of waiting halls, toilets, sitting arrangement, water booths**
- **Provision of wider foot over bridge/air concourse commensurate with passenger traffic**
- **Provision of lift/escalators/ramp**
- **Improvement /Provision of platform surface and cover over platforms**
- **Provision of kiosks for local products through schemes like ‘One Station One Product’**
- **Parking areas, Multimodal integration**
- **Amenities for Divyangjans**
- **Better passenger information systems**
- **Provision of executive lounges, nominated spaces for business meetings, landscaping, etc. keeping in view the necessity at each station.**

The scheme also envisages sustainable and environment friendly solutions, provision of ballastless tracks etc. as per necessity,

phasing and feasibility and creation of city centre at the station in the long term.

So far, 1,338 stations have been identified for development under the Amrit Bharat Station Scheme.

Completed stations:

Development works at railway stations under Amrit Bharat Station Scheme have been taken up at a good pace. Till now, works have been completed at 180 stations. Names of stations completed so far are as following:

Alnavar, Amb Andaura, Ambikapur, Amgaon, Anandpur Sahib, Anara, Angamali For Kaladi, Ayodhya Dham, Badami, Bagalkot, Baijnath Paprola, Balrampur, Bantawala, Barabhum, Baramati, Bareilly City, Baripada, Barmer, Barpali, Begumpet, Beohari, Bhanupratappur, Bhilai, Bhind, Bijnor, Bimalgarh, Bommidi, Bundi, Chanda Fort, Chalakudi, Changanassery, Chennai Park, Chhindwara, Chidambaram, Chinchpokli, Chinna Salem, Chirayinkeezh, Cuttack, Dakor, Derol, Deshnoke, Devlali, Dharwad, Dhule, Dongargarh, Fatehabad, Fatehpur, Fatehpur Shekhawati, Ferok, Gadag, Gangapur City, Godda, Godhra Jn., Gogameri, Gokak Road, Gola Gokarnath, Gomti Nagar, Govardhan, Govind Garh, Govindpuri, Govindpur Road, Hafizpeta, Haibargaon, Haldia, Hapa, Harpalpur, Hathras City, Hodal, Idgah Agra Jn., Izzatnagar, Jaisalmer, Jam Jodhpur, Jam Wanthali, Joychandi Pahar, Junnor Deo, Kakinada Town, Kalyani Ghoshpara, Kamakhyaguri, Kanalus Jn., Karaikkudi Jn., Karamsad, Karimnagar, Katni South, Kedgaon, Khairthal, Khambhaliya, Khalilabad, Koppal, Kosamba Jn., Kulitturai, Kuttipuram, Lasalgaon, Limbdi, Lohardaga,

Lonand Jn., Mahe, Mahuva, Mailani, Mandal Garh, MandawarMahwa Road, Madhupur, Mambalam, Manaparai, Mandi Dabwali, Mangalagiri, Mannargudi, Matunga, M.C.S. Chhatarpur, Mithapur, Morappur, Morbi, Muktsar, Munirabad, Muri Jn., Murtizapur Jn., Nainpur Jn., Nandura, Narmadapuram (Hoshangabad), Netaji Subhash Chandra Bose Itwari Junction, Nidadavolu Jn., Nilambur Road, Okha, Orchha, Palitana, Panagarh, Panki Dham, Parel, Parlakhemundi, Pirpainti, Piska, Pokhrayan, Pollachi Jn., Polur, Porbandar, Rajgarh, Rajmahal, Rajula Jn., Ramagundam, Ramghat Halt, Rayanpadu, Saharanpur Jn., Sahibzada Ajit Singh Mohali, Sahebgunj, Samakhiyali, Samalpatti, Sanchi, Sankarpur, Savda, Seoni, Shahad, Shajapur, Sholavandan, Shoranur Jn., Shridham, Siddharth Nagar, Sihor Jn., Siuri, Sri Bala Brahmeswara Jogulamba, Srirangam, Srivilliputtur, St.Thomas Mount, Sullurpeta, Suraimanpur, Swaminarayan Chappia, Talcher, Tamluk, Thawe, Thiruvarur Jn., Tiruvannamalai, Tripunithura, Tuni, Ujhani, Urkura, Utran, Vadakara, Vadala Road, Vidisha,Vriddhachalam Jn., Wadakancheri, Warangal.

The activities for development at other stations have also been taken up at good pace and progress of some of the above stations is as given below:

- **Tirupati station: The structural framework of new second entry station building on South side, 2 nos. air concourses and sewage treatment plant have been completed. The finishing works of new second entry station building on South side and air concourses, structural work of station building on North side, platform shelter, lift, escalator etc. have been taken up.**

- **Nellore station:** The structural framework, brickwork and plastering of station building on both East and West sides have been completed. The finishing works of station building on both East and West side and air concourse, extension work of subway, parking, water tanks and sewage treatment plant have been taken up.

- **Bangalore Cantonment station:** The works of diversion road on South side, training centre, hostel on North side, electric substation building have been completed. The works of South side station building, North side station building, circulating area and Foot Over Bridge have been taken up.

- **Kota Junction station:** The structural works of front departure hall, front arrival hall and rear side station building have been completed. The finishing works of front departure hall, rear side station building, air concourse, through roof, circulating area have been taken up.

- **Bhubaneshwar station:** The structural work of new station building at East and West side and air concourse have been completed. The structural work of elevated driveway at East and West side station, extension of Foot Over Bridge and platform shelter have been taken up. The finishing works of new station building at East and West side, works of MEP (Mechanical, Electrical and Plumbing), HVAC (Heating, Ventilation and Air Conditioning) and escalators have been taken up.

Further, development / redevelopment / upgradation / modernisation of stations on Indian Railways is a continuous and ongoing process and works in this regard are undertaken as per requirement, subject

to inter-se priority and availability of funds. Development / redevelopment / upgradation / modernisation of a station is carried out based on category of station/condition/traffic handled etc.

Development / Upgradation of railway stations is complex in nature involving safety of passengers & trains and requires various statutory clearances such as fire clearance, heritage, tree cutting, airport clearance etc. The progress also gets affected due to brownfield related challenges such as shifting of utilities (involving water/sewage lines, optical fibre cables, gas pipe lines, power/signal cables, etc.), infringements, operation of trains without hindering passenger movement, speed restrictions due to works carried out in close proximity of tracks and high voltage power lines, etc. and these factors affect the completion time.

Further, development / upgradation / modernization of stations including Amrit Bharat Station Scheme is generally funded under Plan Head-53 'Customer Amenities'. The details of allocation and expenditure under Plan Head-53 are maintained Zonal Railway-wise and not work-wise or station-wise or state-wise. The fund allocation of ₹ 12,120 crore has been made for the financial year 2025-26 under Plan Head-53 and expenditure (up to February, 2026) of ₹ 11,892 crore has been incurred so far.

Training / Skill Development:

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.
