

GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS

**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 2179**  
**ANSWERED ON 09.08.2024**

**KAVACH INSTALLATION**

2179. SHRI. MANOJ KUMAR JHA:

Will the Minister of RAILWAYS be pleased to state:

- (a) whether Government is aware that out of the 2000 km of network that was to be brought under KAVACH by the year 2022-23, only 1465 km has been deployed with KAVACH till now, if so, the reason therefor;
- (b) whether the unutilised budget allocation of Financial Year 2023-24 for KAVACH was used for the benefit of other schemes/projects, if so, the reasons therefor; and
- (c) the measures taken by Government to fast track the installation of KAVACH, and whether there is a timeline by when 34,000 km of network would be brought under it?

**ANSWER**

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

(SHRI ASHWINI VAISHNAW)

(a) to (c):

1. Kavach is an indigenously developed Automatic Train Protection (ATP) system. Kavach is a highly technology intensive system, which requires safety certification of highest order.
2. Kavach aids the loco pilot in train running within specified speed limits by automatic application of brakes in case Loco Pilot fails to do so and also helps the train to run safely during inclement weather.
3. Implementation of Kavach involves execution of many activities, such as:
  - a. Installation of Station Kavach at each and every station.
  - 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.
4. The implementation of Kavach started after 2014. Before 2014, the progress of Kavach on Indian Railways was nil.
5. Kavach has so far been deployed on 1465 Route km and 144 locomotives on South Central Railway.
6. Presently, the progress of main items related to Kavach on Delhi– Mumbai & Delhi– Howrah corridors (approximately 3000 Route km) is as under:
  - a. Laying of Optical Fibre Cable: 4275 Km
  - b. Installation of Telecom Towers: 364 Nos.
  - c. Provision of equipment at Stations: 285 Nos.
  - d. Provision of equipment in Loco: 319 Locos
  - e. Installation of Track side equipments: 1384 RKm.
7. Indian Railways has also prepared Detailed Project Report (DPR) and Detailed Estimate on another 6000 RKm.
8. On 16.07.2024, Kavach 4.0 specification has been approved by RDSO. This version 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.
9. To increase capacity and scale up implementation, trials and approval of more OEMs are at different stages.
10. The funds utilized on Kavach works so far is ₹1216.77 Crores. The allocation of funds during the year 2024-25 is ₹1112.57 Crores. Funds for kavach have not been diverted.

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