

**GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS**

**LOK SABHA  
UNSTARRED QUESTION NO. 747  
TO BE ANSWERED ON 07.02.2024**

**AUTOMATIC TRAIN PROTECTION SYSTEM**

**747. SHRIMATI RAKSHA NIKHIL KHADSE:  
SHRI MANOJ KOTAK:**

**Will the Minister of RAILWAYS be pleased to state:**

- (a) whether the Government has proposed to install India's Indigenous Automatic Train Protection System on all train routes;**
- (b) if so, whether KAVACH has been installed in all zones of Railways including Central Railway Zone;**
- (c) if not, the details of trains that have been installed with KAVACH especially in Central Railway Zone; and**
- (d) the time frame fixed for the installation in the remaining trains?**

**ANSWER**

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

**(SHRI ASHWINI VAISHNAW)**

**(a) to (d):**

- 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 help the train safely run during inclement weather.**

- 3. The first field trials on the passenger trains were started in February 2016. Based on the experience so gained and Independent Safety Assessment of the system by a 3rd party (Independent Safety Assessor: ISA) three firms were approved in 2018-19, for supply of Kavach.**
- 4. Subsequently Kavach was adopted as a National ATP system in July 2020.**
- 5. Kavach has so far been deployed on 1465 Route km and 139 locomotives (including Electric Multiple Unit rakes) on South Central Railway. Presently Kavach tenders have been awarded for Delhi – Mumbai & Delhi – Howrah corridors (approximately 3000 Route km). The progress of main items related to Kavach is as under:**
  - (i) Laying of Optical Fibre Cable : 3040 Km**
  - (ii) Installation of Telecom Towers : 269 Nos.**
  - (iii) Provision of equipment at Stations : 186 Nos.**
  - (iv) Provision of equipment in Loco : 170 Locos**
  - (v) Installation of Track side equipments : 827 Route Km.**
- 6. Implementation of Kavach involves installation of Station Kavach at each and every station, installation of RFID tags throughout the track length and provision of Loco Kavach on each and every Locomotive running on Indian Railway, a communication backbone, requiring installation of Towers throughout the section, laying of optical Fiber throughout the section.**