

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**LOK SABHA
STARRED QUESTION NO. 249
TO BE ANSWERED ON 03.08.2022**

KAVACH TECHNOLOGY IN RAILWAYS

***249. SHRI KIRTI VARDHAN SINGH:**

Will the Minister of RAILWAYS be pleased to state:

- (a) whether the Railways is aiming for zero train accidents by developing an indigenous safety device and if so, the details thereof;**
- (b) the time by which Kavach is likely to be installed in all the trains;**
- (c) the details of other benefits of this safety device; and**
- (d) whether the Railways is planning to export Kavach technology to other countries so as to earn foreign revenue and if so, the details thereof?**

ANSWER

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

(SHRI ASHWINI VAISHNAW)

(a) to (d) : A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF STARRED QUESTION NO.249 BY SHRI KIRTI VARDHAN SINGH TO BE ANSWERED IN LOK SABHA ON 03.08.2022 REGARDING KAVACH TECHNOLOGY IN RAILWAYS

(a) Yes, Sir. In order to prevent accidents, due to human error resulting in “Signal Passing At Danger” and “Over speeding”, Indian Railway has developed indigenous ATP System (Automatic Train Protection System), “Kavach” in association with three Indian firms. This is achieved by automatic application of brakes whenever the train speed exceeds safety limits. “Kavach” also helps in train running during inclement weather such as dense fog when visibility of the signals is hampered.

(b) In July 2020, an in principle decision was taken to adopt ‘Kavach’ as the National Automatic Train Protection System of Indian Railway.

Works of Kavach for more than 35000 RKm (Route Kilometer) on High Density Network (HDN) / Highly Utilized Network (HUN) routes have been included in Works Programme of 2020-21 & 2021-22.

Keeping in view, the complexities involved in implementation, which require all Rolling Stock, way side stations and track to be equipped with Kavach, it has been decided to implement Kavach in a phased manner.

At present Kavach has been deployed on 1445 RKm of South Central Railway, on Bidar - Parli Vaijnath -Parbhani and Manmad – Parbhani – Nanded – Secunderabad – Gadwal – Dhone - Guntakal sections.

Indian Railways has also taken up deployment of Kavach on approximately 3000 RKm of Delhi – Mumbai & Delhi – Howrah corridors for which Tenders have been invited and are under evaluation.

Further, Indian Railways has taken up preparatory works including survey, Detailed Project Report (DPR) and preparation of detailed estimate on another 6000 RKm.

Roll out of Kavach shall be progressively taken up to cover entire network of Indian Railways.

(c) The benefits of “Kavach” system are

- 1. Kavach is an aid to Loco Pilot to prevent consequences arising out of “Signal Passing At Danger” and overspeeding by automatic application of brakes.**
- 2. Kavach controls speed of the train by automatic application of brakes in case Loco Pilot fails to do so on approach of turnouts, temporary speed restriction (TSR) and permanent speed restriction (PSR).**
- 3. The line side Signal Aspects are repeated in cab which is useful for higher speeds & foggy weather.**
- 4. Automatic whistling at LC gate.**

(d) Yes, Sir. India is one of the few countries world over who have developed their own train protection technology.

Kavach has been certified for highest level of Safety Integrity Level-SIL4 by Independent Safety Assessor. With this, Kavach has potential for adoption by other countries. It is envisaged that in future Kavach will be exported to other Countries.