

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**LOK SABHA
UNSTARRED QUESTION NO. 4630
TO BE ANSWERED ON 29.03.2023**

KAVACH SYSTEM UNDER ATMANIRBHAR BHARAT

**† 4630. SHRIMATI BHAVANA PUNDALIKRAO GAWALI:
SHRI KRUPAL BALAJI TUMANE:**

Will the Minister of RAILWAYS be pleased to state:

- (a) whether the Railways has recently started 'kavach' system under the Atmanirbhar Bharat;**
- (b) if so, the details thereof along with its aims and objectives thereof;**
- (c) the salient features of the said 'kavach' System;**
- (d) whether any testing has been done by the Government on the functionality of the 'kavach' system;**
- (e) if so, the details and its outcome thereof;**
- (f) the details of total railway network/ route brought under 'kavach' system in the country including Maharashtra and Ramtek Nagpur Parliament constituency;**
- (g) the details of total expenditure incurred by the Government on developing the said system; and**
- (h) the time by which it is likely to be established?**

ANSWER

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

(SHRI ASHWINI VAISHNAW)

(a) to (c) Yes, Sir. Indian Railway has developed its own indigenous Automatic Train Protection (ATP) System called Kavach in association with three Indian firms. In the spirit of vision AtamNirbhar Bharat, Kavach has been adopted as National Automatic Train Protection

system. Kavach aids the Loco driver in train running within specified speed limits. Kavach initiates automatic application of brakes in case of over speeding by loco driver.

The salient features of the said Kavach system are as under-

- Kavach controls speed of the train by automatic application of brakes in case Loco Pilot fails to apply the brakes.
- Repeats line-side signal in cab which is very useful for higher speeds and foggy weather.
- Auto whistling at LC gates.
- Collision avoidance by direct loco to loco communication.
- Supports feature of SOS in case of any mishap to control train in vicinity.

(d) to (f) Yes, Sir. Indian Railway has conducted trials of 'Kavach' on Absolute Block section of Lingamapalli – Vikarabad - Wadi, Vikarabad -Bidar (250 KM) section of South Central Railway. After successful completion of trials, three vendors were approved for developmental orders on Indian Railways.

Till now 1455 Rkm (Route Kilometre) of network route in South Central Railway has been brought under Kavach, out of which 576 Rkm comes under Maharashtra State i.e. Manmad (Excluding) -Dhamabad & Udgir-Parbhani section. Kavach System in Ramtek Nagpur Parliamentary Constituency has not been covered so far.

(g) and (h) Total expenditure incurred on development work of Kavach is ₹ 22 Crores.

Till now 1455 Rkm of IR network has been brought under Kavach.

At present work for implementations of Kavach is ongoing in Delhi- Mumbai including Vadodara – Ahmedabad and Delhi – Howrah including Kanpur – Lucknow sections covering nearly 3000 Rkm.

The establishment of Kavach depends on various factors like trials on combination of various rolling stocks, varying track conditions, migration to LTE (Long Term Evolution) from existing UHF frequency range working, Evaluation by Independent Safety Assessor (ISA), therefore, it is not feasible to ascertain fix definite timeline.