

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS

RAJYA SABHA
UNSTARRED QUESTION NO. 1078
ANSWERED ON 28.07.2023

REBRANDING OF TCAS ON KAVACH

1078. SHRI MALLIKARJUN KHARGE:

Will the Minister of RAILWAYS be pleased to state:

- (a) whether it is a fact that the Train Collision Avoidance System (TCAS) was first successfully tested in 2012;
- (b) whether it is also a fact that the TCAS was later rebranded as Kavach;
- (c) details of total kilometres of routes covered under the Kavach system in the last five years, year-wise; and
- (d) by when Government plans to cover all routes especially high-density routes under the Kavach system?

ANSWER

MINISTER OF RAILWAYS, COMMUNICATIONS AND
ELECTRONICS & INFORMATION TECHNOLOGY

(SHRI ASHWINI VAISHNAW)

- (a) In 2012, a Proof of concept of Train Collision Avoidance System was done, in which the basic concept and functionalities were demonstrated. The project was further taken forward as a developmental work, along with three Indian vendors. The work involved hardware / software development to highest level of safety integrity, extensive field trials of product for multi-vendor inter-operability with varied Locomotives and Rolling Stocks available on Indian Railway followed by certification by Independent Safety Assessor. The Train Collision Avoidance System (TCAS) of the three Indian vendors was finally approved by Research Design and Standards Organisation (RDSO) in 2018-19.

(b) Train Collision Avoidance System was adopted as National Automatic Train Protection System in July, 2020 and subsequently it was renamed as Kavach, for which notification was issued in September 2021.

(c) & (d)

1. Kavach is 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. Kavach has so far been deployed on 1465 Route km(Rkm) and 121 locomotives (including Electric Multiple Unit rakes) on South Central Railway.
Year wise details of deployment are-
2018-19 – 250 Rkm
2019-20 – 15 Rkm
2020-21 – 321 Rkm
2021-22 – 859 Rkm
2022-23 – 20 Rkm
5. Further, Kavach tenders have been awarded for Delhi – Mumbai & Delhi – Howrah High Density Network corridors (approximately 3000 Route km) and work is in progress on these routes.
6. Indian Railways is preparing Detailed Project Report (DPR) and detailed estimate for another 6000 Rkm.
