

**GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS**

**LOK SABHA  
UNSTARRED QUESTION NO.2771  
TO BE ANSWERED ON 10.07.2019**

**ADVANCED SIGNALLING SYSTEM**

**2771. SHRI JAYADEV GALLA:**

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

- (a) whether Indian Railways' signalling system can be compared with other signalling systems in advanced countries;**
- (b) if so, the extent to which 'Indian Railways' signalling system can be made better than the European Train Controlling System;**
- (c) whether it is true that a pilot project has been started to test the above system;**
- (d) if so, the details thereof;**
- (e) the details of how ETCS Level-2 is different from Level-1; and**
- (f) the expenditure involved to implement ETCS Level-2 in the entire rail network of the country and the manner in which Railways is going to pool the resources for the same?**

**ANSWER**

**MINISTER OF RAILWAYS AND COMMERCE & INDUSTRY  
(SHRI PIYUSH GOYAL)**

- (a) Yes, Sir.**
- (b) Majority of the Indian Railway network is provided with Signalling**

**systems suitable for speed up to 110 KMPH except for few sections suitable for 130 KMPH and Hajrat Nizamuddin – Agra section suitable for speed up to 160 KMPH. In advanced countries, majority of networks are provided with Signalling Systems for speed up to 250 KMPH to 300 KMPH.**

**With the increasing demand for raising of speed of trains, along with more trains on existing network and to enhance Safety, additional Modern Signalling systems are required on Indian Railways.**

**To match with the above requirements, additional signalling system are proposed to be provided as under,**

- (i) Automatic Train Protection (ATP) Systems.**
- (ii) Mobile Train Radio Communication (MTRC) Systems.**
- (iii) Remote Diagnostic & Predictive Maintenance systems.**
- (iv) Centralised Traffic Control (CTC)/Train Management Systems (TMS).**

**(c) Yes, Sir.**

**(d) Pilot projects on four Sections of lengths between 145 RKMs to 170 RKMs each, totalling 640 RKMs on Golden Quadrilateral and Diagonal routes have been taken up for trials of Modern Train Control System, as under:**

- |                                       |          |                 |
|---------------------------------------|----------|-----------------|
| <b>(i) Nagpur – Badnera</b>           | <b>-</b> | <b>175 KMs.</b> |
| <b>(ii) Renigunta - Yerraguntalla</b> | <b>-</b> | <b>165 KMs.</b> |
| <b>(iii) Vijainagram - Palasa</b>     | <b>-</b> | <b>145 KMs.</b> |
| <b>(iv) Bina - Jhansi</b>             | <b>-</b> | <b>155 KMs.</b> |

**Contd...3/-**

- (e) In ETCS level-1 system, the updation of Movement Authority (permitted distance to travel by train) in the Loco is intermittent i.e. when the Loco negotiates a Signal, the Movement Authority is updated as per aspect of the Signal. In case of ETCS level-2 system, the updation of Movement Authority is continuous, as movement authority to Loco is transmitted through a Radio System. In case of ETCS Level-1, physical Signals are an essentially requirement. Whereas in case of ETCS level-2 system, physical signals are not essential.
- (f) The expenditure involved to implement a system equivalent or comparable to ETCS level-2 and other associated systems in the entire rail network of the country shall be ₹ 77,912 Cr. The Ministry is working on suitable mechanism for pooling resources for implementation of this system on entire rail network.

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