

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**LOK SABHA
UNSTARRED QUESTION NO. 2989
TO BE ANSWERED ON 16.12.2015**

BIPOLAR TRANSISTORS TECHNOLOGY

2989. SHRI B. SENGUTTUVAN:

Will the Minister of RAILWAYS be pleased to state:

- (a) whether the Railways is in the process of indigenously producing the Insulated Gate Bipolar Transistors (IGBT) technology trains;**
- (b) if so, the details thereof;**
- (c) the number of such trains or engines to be manufactured indigenously and how many are to be purchased off the shelf from Japan as well as the cost thereof; and**
- (d) the distinctive advantage for the consumers of using the Japanese IGBT engines or trains in terms of journey time and costs?**

ANSWER

MINISTER OF STATE IN THE MINISTRY OF RAILWAYS

(SHRI MANOJ SINHA)

- (a) Yes, Madam.**
- (b) & (c) Two prototype Electrical Multiple Unit (EMU) rakes and one prototype air conditioned EMU rake with indigenously developed Insulated Gate Bipolar Transistors (IGBT) based three phase technology are under manufacturing for Mumbai suburban area at Integral Coach Factory (ICF), Chennai. Indian Railways has also planned to manufacture two prototype rakes for Kolkata Metro with indigenously developed IGBT based three phase technology. Further, Ministry of Railways has decided to enter into a procurement cum maintenance contract with a selected bidder for 15 Train Sets, comprising about 315 Rail Cars, having IGBT technology, under 'Make in India' objective of the Government. Out of 315 Rail Cars, 275 cars are to be manufactured indigenously. Bidders have been shortlisted**

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after finalization of Request for Qualification (RFQ) for receipt of financial bids. Japanese Companies are among the shortlisted applicants.

- (d) Trains with three phase IGBT technology would be energy efficient, having higher acceleration/deceleration and also reduce journey time.**
