

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE**

**LOK SABHA
UNSTARRED QUESTION NO.3115**

TO BE ANSWERED ON WEDNESDAY, MARCH 14, 2018

UPGRADING THE CAPABILITY

3115. ADV. JOICE GEORGE:

Will the PRIME MINISTER be pleased to state:

- (a) whether India lags way behind the USA, China, Europe, Russia and Japan with respect to launch capability;**
- (b) if so, the details thereof;**
- (c) whether the current tested capability of 4-5 tonnes is way lesser than China and if so, the details thereof;**
- (d) whether the Government intends to take any initiatives to upgrade the launch capability and if so, the details thereof;**
- (e) whether the research, development and innovation centres in the country are well funded and staffed and if so, the details thereof; and**
- (f) whether Indian private players are working and collaborating with the Government and if so, the details thereof?**

ANSWER

**MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG &
PENSIONS AND IN THE PRIME MINISTER'S OFFICE**

(DR. JITENDRA SINGH):

- (a) India has the Launch Vehicle system with a capability to put 4 - ton class of satellites to GTO, whereby meeting all the**

national requirements. Even with such capabilities PSLV is able to offer spare capacity to commercial launches on a regular basis. While other countries have higher launch capabilities, ISRO is making its own plans to increase its launch vehicle capabilities, even upto 16 ton to GTO in the future.

- (b) Presently, India has three launch vehicles, namely, Polar Satellite Launch Vehicle (PSLV) with a launch capability of 1.75 Ton to 600 km sun synchronous polar orbit, Geosynchronous Satellite Launch Vehicle (GSLV) with a launch capability of 2.2 Ton to Geosynchronous Transfer Orbit (GTO) and Geosynchronous Satellite Launch Vehicle - Mark III with a launch capability of 4 Ton to Geosynchronous Transfer Orbit (GTO). The maximum launch capability to GTO of other space agencies are: - USA: 14 Ton, China: 13 Ton, Europe: 10.5 Ton, Russia: 6.25Ton, and Japan: 8 Ton. Recently, SpaceX, a private company in USA, has demonstrated the launch of a heavy lift launch vehicle, Falcon Heavy, which can carry 26.7 Ton to GTO.**
- (c) Yes, Madam. China has a maximum launch capability of 13 Ton to GTO.**
- (d) The Government has already undertaken the development of Semi-cryogenic engine and intends to initiate development activities for Semi-cryogenic stage and the clustering of Semi-cryogenic engines in order to upgrade the launch capability.**

- (e) ISRO being a research organisation, effectively deals with research, development and innovation as part of its activities. The funds and manpower allocated to DoS/ISRO is sufficient to carry out its current programs/projects. The total sanctioned manpower is 18095 and budget allocation for 2018-19 is ₹ 10,783 Cr.**
- (f) ISRO effectively utilises the industries in realising launch vehicle hardware and fabrication of other sub systems, currently. This has enabled to realise majority of manufacturing requirement of launch vehicles and satellites through Indian Industries. ISRO also envisages to have greater involvement of industries in the launch vehicle set up through joint venture initiatives in the future.**
