

GOVERNMENT OF INDIA  
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY  
**LOK SABHA**  
**UNSTARRED QUESTION No. 2375**  
TO BE ANSWERED ON: 21.12.2022

**GLOBAL SHORTAGE OF CHIP AND SEMI-CONDUCTOR**

**2375. SHRI SUBRAT PATHAK:**  
**SHRI SHRIRANG APPA BARNE:**  
**SHRI MANOJ TIWARI:**  
**SHRI LAVU SRI KRISHNA DEVARAYALU:**  
**SHRI DHAIRYASHEEL SAMBHAJIRAO MANE:**  
**SHRI SANJAY SADASHIVRAO MANDLIK:**  
**SHRI PRATAPRAO JADHAV:**  
**SHRI BIDYUT BARAN MAHATO:**  
**SHRI SUDHEER GUPTA:**

Will the Minister of ELECTRONICS AND INFORMATION TECHNOLOGY be pleased to state:

- (a) whether the Government has conducted any analysis or prepared a report on the global chip and semi-conductor shortage and its impact, if so, the details thereof;
- (b) the details of the companies that have such cutting edge technology along with the countries of their origin;
- (c) whether the Government has invited such foreign companies to start production of Micro chips and semi-conductor in the country;
- (d) if so, the details thereof along with the outcome thereto; and
- (e) the steps taken/being taken by the Government to ensure adequate availability of chips/semi-conductor in the country?

**ANSWER**

MINISTER OF STATE FOR ELECTRONICS AND INFORMATION TECHNOLOGY  
(SHRI RAJEEV CHANDRASEKHAR)

(a): The chip shortage has impacted many industries worldwide with auto and consumer electronics industries among the most affected sectors. The disruptions in semiconductor supply chain first emerged after the Covid-19 pandemic, due to lockdowns and restrictions globally. The supply side problem has since transformed in to a demand side problem. Post covid, there has been significant acceleration in digitization of economies and enterprises globally. Despite increase in chip production globally, this demand increase has outpaced the supply growth. Government conducted multiple discussions on this topic with OEMs, ODMs, Tier 1 companies as well as distributors to mitigate the problem since most of the world depend on global semiconductor supply chain, dominated by few companies. It is expected that the supply chain will address the demand of digital products and services.

(b): Semiconductor ecosystem is highly technology intensive, complex and is driven by cutting edge innovation that also require significant capital investment and R&D investment and is characterized by rapid changes in technology. Globally, few companies such as Taiwan Semiconductor Manufacturing Company Limited, Taiwan; Intel Corporation, USA; Samsung, South Korea have cutting edge technology for semiconductor wafer manufacturing and few companies such as Qualcomm, AMD, USA, Nvidia, Broadcom lead the design space in semiconductors.

(c) and (d): Government is very focused on its important objective of building the overall semiconductor ecosystem and ensure that, it in-turn catalyses India's rapidly expanding electronics manufacturing and innovation ecosystem. Government has approved the Semicon

India programme with a total outlay of INR 76,000 crore for the development of semiconductor and display manufacturing ecosystem in the country. The programme has further been modified in view of the aggressive incentives offered by countries already having established semiconductor ecosystem and limited number of companies owning the advanced node / cutting edge technologies. Following four schemes have been introduced under the aforesaid programme:

- i. **‘Modified Scheme for setting up of Semiconductor Fabs in India’** for attracting large investments for setting up semiconductor wafer fabrication facilities in the country to strengthen the electronics manufacturing ecosystem and help establish a trusted value chain. The Scheme extends a fiscal support of 50% of the project cost on *pari-passu* basis for setting up of Silicon CMOS based Semiconductor Fab in India.
- ii. **‘Modified Scheme for setting up of Display Fabs in India’** for attracting large investments for manufacturing TFT LCD or AMOLED based display panels in the country to strengthen the electronics manufacturing ecosystem. Scheme extends fiscal support of 50% of Project Cost on *pari-passu* basis for setting up of Display Fabs in India.
- iii. **‘Modified Scheme for setting up of Compound Semiconductors / Silicon Photonics / Sensors Fab / Discrete Semiconductors Fab and Semiconductor Assembly, Testing, Marking and Packaging (ATMP) / OSAT facilities in India’** shall extend a fiscal support of 50% of the Capital Expenditure on *Pari-passu* basis for setting up of Compound Semiconductors / Silicon Photonics (SiPh) / Sensors (including MEMS) Fab/ Discrete Semiconductor Fab and Semiconductor ATMP / OSAT facilities in India.
- iv. **‘Semicon India Future Design: Design Linked Incentive (DLI) Scheme’** offers financial incentives, design infrastructure support across various stages of development and deployment of semiconductor design for Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores and semiconductor linked design. The scheme provides “Product Design Linked Incentive” of up to 50% of the eligible expenditure subject to a ceiling of ₹15 Crore per application and “Deployment Linked Incentive” of 6% to 4% of net sales turnover over 5 years subject to a ceiling of ₹30 Crore per application.

Government has reached out to foreign semiconductor companies and invited them to set up semiconductor and display manufacturing facilities in the country. As a result, India Semiconductor Mission, a Nodal Agency setup for implementation of the programme has received proposals under all schemes which are currently under consideration.

(e): The chip shortage has exposed vulnerabilities in the semiconductor supply chain and highlighted the need for increased domestic manufacturing capacity. Semicon India programme is expected to surely play a role in India’s semiconductor chips and display requirements in the medium and long term. The programme has broader objectives of ensuring a globally competitive value chain that is based in India but supplies electronics products, semiconductors and technology services and solutions to the world.

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