

GOVERNMENT OF INDIA
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO. 4409
TO BE ANSWERED ON: 30.03.2022

SEMICONDUCTOR SHORTAGE

4409. SHRI SANGAM LAL GUPTA:	SHRI JAGDAMBIKA PAL:
SHRI BRIJBHUSHAN SHARAN SINGH:	SHRI RAJBAHADUR SINGH:
SHRI PRATAP CHANDRA SARANGI:	SHRI P.P. CHAUDHARY:
SHRI MAHENDRA SINGH SOLANKY:	SHRI RAJENDRA AGRAWAL:
SHRI KESINENI SRINIVAS:	

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

- (a) whether the Government has undertaken any surveys or studies to evaluate the impact of semiconductor chip shortage in the country and its consequences on the Indian industry if so, the details thereof and if not, the reasons therefor;
- (b) whether the Government is taking any short-term measures to offset the shortage of semiconductor chips for the Indian industry and if so, the details thereof;
- (c) whether the Government has negotiated and concluded deals with international chip fabricators to help Indian manufacturers and if so, the details thereof; and
- (d) the details of the current semiconductor chip fabrication capacity and value of the output in our country along with the measures being taken to augment the same?

ANSWER

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

(a): The semiconductor chip shortage has impacted many industries worldwide with auto and electronics industries among the most affected sectors. The shortage first emerged after the Covid-19 pandemic, due to lockdowns and restrictions. The supply side problem has transformed into a demand side problem as economies started recovering which increased the consumption of electronic products across various segments. Some key reasons behind the global chip shortage are supply chain disruptions, geographic concentration of electronic manufacturing, rise in demand for digital and electronic products and digital adoption across the world.

Semiconductors are essential to virtually all sectors of the economy- including aerospace, automobiles, communications, clean energy, information technology and medical devices. Demand for these critical components has outstripped supply, creating a global chip shortage and resulting in lost growth and jobs

in the economy. The 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.

Government has conducted multiple discussions on chip shortage with global OEMs, ODMs, Tier 1 companies as well as distributors to mitigate the problem of chip shortage.

(b): 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. Further, the vision of Atmanirbhar Bharat in electronics & semiconductors was given further momentum by the Union Cabinet, chaired by the Hon'ble Prime Minister, approving the Semicon India programme with a total outlay of INR 76,000 crore for the development of semiconductor and display manufacturing ecosystem in our country. The programme aims to provide financial support to companies investing in semiconductors, display manufacturing and design ecosystem. This will serve to pave the way for India's growing presence in the global electronics value chains.

Following four schemes have been introduced under the aforesaid programme:

- i. **Scheme for setting up of Semiconductor Fabs in India** provides fiscal support to eligible applicants for setting up of Semiconductor Fabs which is aimed at attracting large investments for setting up semiconductor wafer fabrication facilities in the country. Following fiscal support has been approved under the scheme:
 - 28nm or Lower - Up to 50% of the Project Cost
 - Above 28 nm to 45nm - Up to 40% of the Project Cost
 - Above 45 nm to 65nm - Up to 30% of the Project Cost
- ii. **Scheme for setting up of Display Fabs in India** provides fiscal support to eligible applicants for setting up of Display Fabs which is aimed at attracting large investments for setting up TFT LCD / AMOLED based display fabrication facilities in the country. The Scheme provides fiscal support of up to 50% of Project Cost subject to a ceiling of INR 12,000 crore per Fab.
- iii. **Scheme for setting up of Compound Semiconductors / Silicon Photonics / Sensors Fab and Semiconductor Assembly, Testing, Marking and Packaging (ATMP) / OSAT facilities in India:** The Scheme provides a fiscal support of 30% of the Capital Expenditure to the eligible applicants for setting up of Compound Semiconductors / Silicon Photonics (SiPh) / Sensors (including MEMS) Fab and Semiconductor ATMP / OSAT facilities in India.
- iv. **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.

In addition to the above schemes, Government has also approved modernisation of Semi-Conductor Laboratory, Mohali as a brownfield Fab.

(c): Government of India is continuously encouraging investments by Global Semiconductor companies for setting up of Semiconductor Fab units in India directly or through joint venture with Indian manufacturers. Setting up of Semiconductor unit requires huge investments and necessitates suitable infrastructure like availability of uninterrupted Power and Clean Water. Global companies are evaluating the possibility to set up facilities in India.

Under Semicon India Programme, Government has received 3 applications for setting up of Semiconductor Fab units in the country. The applications are under examination by India Semiconductor Mission (ISM).

(d): Semiconductor FABs are highly capital intensive and resource intensive, and are at the cutting edge of manufacturing with rapidly changing technology cycles. Further, the semiconductor fabrication capability for leading / cutting edge technology nodes is available with only few companies globally.

Semiconductor wafer fabrication facilities are available in India in limited capacities for strategic applications at Semi-Conductor Laboratory (SCL) Mohali, Gallium Arsenide Enabling Technology Centre (GAETEC), Hyderabad and Society for Integrated Circuit Technology and Applied Research (SITAR), Bengaluru. Government has also approved modernisation of Semi-Conductor Laboratory, Mohali as a brownfield Fab.