

GOVERNMENT OF INDIA
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION NO.1387
TO BE ANSWERED ON: 31.07.2024

MANUFACTURING OF SEMICONDUCTOR CHIPS

1387. DR. MOHAMMAD JAWED:

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

- (a) whether the Government is aware of the quantity of semiconductor chips manufactured, imported to and exported from India since 2014;
- (b) if so, the year-wise details thereof along with the steps taken to encourage domestic manufacturing of semiconductor in the country including Palakkad;
- (c) the details of Production Linked Incentive (PLI) and other budgetary support for the semiconductor manufacturing sector;
- (d) whether the Government is aware of the expected shortage of professionals in the semiconductor industry; and
- (e) if so, the actions taken by the Government to overcome this shortage of professionals?

ANSWER

MINISTER OF STATE FOR ELECTRONICS AND INFORMATION TECHNOLOGY
(SHRI JITIN PRASADA)

(a) to (c): As per industry estimates, the size of Indian semiconductor market was about \$ 38 Bn in year 2023 and is expected to reach \$ 109 Bn by 2030.

Steps taken by Government to encourage domestic manufacturing of semiconductors in the country are as follows:

- (i) Government has approved 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 aims to provide financial support to companies investing in semiconductors, display manufacturing and design ecosystem.

Following four schemes have been introduced under the aforesaid programme:

- a) **‘Modified Scheme for setting up of Semiconductor Fabs in India’** extends a fiscal support of 50% of the project cost on *pari-passu* basis for setting up of Silicon CMOS based Semiconductor Fabs in India.
- b) **‘Modified Scheme for setting up of Display Fabs in India’** extends fiscal support of 50% of Project Cost on *pari-passu* basis for setting up of Display Fabs in India.
- c) **‘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’** extends 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.
- d) **‘Design Linked Incentive (DLI) Scheme’**: In addition to the design infrastructure support, 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.

- e) Government has also approved modernisation of Semi-Conductor Laboratory, Mohali as a brownfield Fab.

Further, Government has been implementing following programs focused on development of electronics manufacturing and components ecosystem:

- (i) The Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) was notified on 01.04.2020 and was open to receive applications upto 31.03.2024. The scheme provides a financial incentive of 25% on capital expenditure for electronic components, e-waste recycling, mechanics, micro/nano-electronic components, solar photovoltaic (SPV) polysilicon, SPV wafers and solar cells, specialized sub-assemblies and capital goods for manufacture of aforesaid goods. As of, 30.06.2024, incremental investment of Rs. 8,803.14 crores had been made under the SPECS scheme. This has led to production of Rs. 18,083.55 crores till 30th June,2024
- (ii) Production Linked Incentive (PLI) Scheme for Large Scale Electronics: To boost domestic manufacturing and attract investment in mobile phones value chain including electronic components and semiconductor packaging, Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing was notified on 01.04.2020. The scheme extends an incentive of 3% to 6% on incremental sales (over base year) of goods manufactured in India and covered under target segments viz. Mobile Phones and Specified Electronic Components, to eligible companies, for a period of 5 years. Till 30th June, 2024, incremental investment of Rs 8,390 Crores had been made under the PLI scheme. This has led to production of Rs 5,14,960 Crores till 30th June, 2024.

(d) and (e):The Government recognizes the importance of semiconductor technology for the country's digital transformation and self-reliance in the sector. To foster talent development, several initiatives have been launched in India:

- (i) To develop a roadmap for "India as a Semiconductor Talent Nation", a committee was constituted in August 2022 with the representatives from semiconductor industry, academia and Government.
- (ii) All India Council for Technical Education (AICTE) has launched the following model curriculum for UG, Diploma, Minor Degree in Semiconductor domain on 18.02.2023 as a step towards creation of Talent pool in Semiconductor domain:
- i. B. Tech in Electronics Engineering (VLSI Design and Technology)
 - ii. Diploma in IC manufacturing
 - iii. Minor Degree in Electronics Engineering (VLSI Design and Technology)
- (iii) Under the Chips to Startup (C2S) Programme being implemented at 113 academic institutions/ R&D organizations/ Start-ups/ MSMEs, 85,000 number of high-quality and qualified engineers are being trained in several areas. These include Very large-scale integration (VLSI) and Embedded System Design as well as development of 175 ASICs (Application Specific Integrated Circuits), working prototypes of 20 System on Chips (SoC), 30 FPGA based designs and 30 IP Cores over a period of 5 years.
