GOVERNMENT OF INDIA
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY
RAJYA SABHA
UNSTARRED QUESTION NO. 540
TO BE ANSWERED ON: 29.11.2024

SEMICONDUCTOR MANUFACTURING ECOSYSTEM IN THE COUNTRY

540#. DR. KALPANA SAINI:

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

(a) the specific steps taken by Government to enhance semiconductor manufacturing ecosystem in the country;
(b) the details of Government's ensuing target set for the country's semiconductor market value chain; and
(c) the efforts being made to achieve this target?

ANSWER

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

(a): 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**.** The following steps have been taken by Government to enhance semiconductor manufacturing ecosystem in the country:

I. Government has approved Semicon India programme with a total outlay of ₹ 76,000 crore for the development of semiconductor and display manufacturing ecosystem in the country for:

   i. Setting up of Semiconductor Fabs in India which provides for a fiscal support of 50% of the project cost on *pari-passu* basis for setting up of Complementary metal-oxide semiconductor (CMOS) based Semiconductor Fabs in India.
   ii. Setting up of Display Fabs in India which provides for a fiscal support of 50% of Project Cost on *pari-passu* basis for setting up of Display Fabs in India.
   iii. Setting up of Compound Semiconductors / Silicon Photonics / Sensors Fab / Discrete Semiconductors Fab and Semiconductor Assembly, Testing, Marking and Packaging (ATMP) / OSAT facilities in India which provides for 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. Providing incentives on design through 'Design Linked Incentive (DLI) Scheme' which provides "Product Design Linked Incentive" of up to 50% of the eligible expenditure subject to a ceiling of ₹15 Crore per application and also "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 also approved modernisation of Semi-Conductor Laboratory, Mohali to enhance efficiency and cycle time.

   Under Semicon India Programme, Government has already approved five (5) semiconductor projects with cumulative investment of around ₹1 lakh 52 thousand crore. Further,15 semiconductor design companies have also been approved under

the Design Linked Incentive Scheme to design chips for Indian products. Additionally, 41 semiconductor design companies have been approved for access of the tools required for designing the chips (called Electronic Design Automation (EDA) tools) which is being made available by National EDA Tool Grid setup at ChipIN Centre at C-DAC Bengaluru.

II. To create the skilled manpower for chip design, Government has launched the Chips to Startup ('C2S') programme to train 85 thousand specialized workforce at about 113 participating institutions in Very Large Scale Integration (VLSI) and Embedded System Design.

(b) and (c): India is well on its path to create a robust semiconductor ecosystem in the country. The semiconductor value chain is very complex and following are the key components in the semiconductor value chain: (a) Semiconductor Design, (b) Wafer Fabrication, (c) Semiconductor Packaging (d) Electronic Design Automation (EDA)&Intellectual Property (IP) Cores (e) Semiconductor Equipment & Tools, and (f) Raw Materials and gasses. As regards semiconductor design, India is already one of the most important players in the designing of semiconductor chips, contributing for almost 20% of design engineers (Industry reports) and further in other value chain such as fabrication & packaging, Government has approved One(1) proposal in Semiconductor fabrication and Four (4) proposals in Semiconductor packaging value chain. Government has taken significant steps as outlined in part (a), to make the country self-reliant in Semiconductor Manufacturing sector.

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