GOVERNMENT OF INDIA
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION NO. 1468
TO BE ANSWERED ON: 04.12.2024

SEMICONDUCTOR R&D

1468. SHRI DURAI VAIKO:

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

(a) the details of the size of country's semiconductor chip design workforce as a percentage of the global workforce;
(b) the details of chip design facilities present in country as a percentage of global facilities;
(c) the details of the absolute figure and percentage of the funds spent on 'semiconductor R&D' out of the total money spent on semiconductor industry development under various schemes since 2014, year-wise;
(d) the details of the percentage of funds planned to be spent on 'semiconductor R&D' under every proposed semiconductor-related scheme awaiting implementation respectively; and
(e) the steps taken by the Government to prevent the shortage of professionals in the semiconductor industry and the funds spent/planned to be spent on this subject under various schemes respectively since 2014, scheme and year-wise?

ANSWER

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

(a): India has emerged as a global leader in semiconductor design workforce, witnessing remarkable growth. Most of the leading international companies have established R&D (Research and Development) and innovation centres in India, drawn by the country's exceptional design talent.

As per the 'SemiconIndia Future Skills Talent Committee report', about 1.25 Lakh semiconductor design engineers were working in India in the year 2022. According to other estimates, such as the Semiconductor Industry Association (SIA)/Boston Consulting Group (BCG) report on 'Emerging Resilience in the Semiconductor Supply Chain' (published in May 2024),Indian engineers accounts to about 19% of global design engineers.

(b): According to the BCG SIA report on 'Emerging Resilience in the Semiconductor Supply Chain' (published in May 2024), 7% of chip design facilities are present in India as a percentage of global facilities.

(c): Government is focused on its objective of building the overall semiconductor design and manufacturing ecosystem with an emphasis on fostering R&D in semiconductor area in the country. MeitY supports R&D projects in the area of semiconductors at academic institutions, research organizations, and startup companies through a dedicated R&D Scheme. Some of them includes but not limited to the following- nanotechnology, semiconductor materials, semiconductor processes, chip design, semiconductor IP Cores etc. Year-wise budget spent by MeitY since the year 2014 in the area of R&D in Electronics including Semiconductor R&D is at **Annexure-I.**

(d): Government of India has approved the 'Modified Programme for Semiconductors and Display Fab Ecosystem' with an outlay of ₹76,000 crore in order to catalyse the semiconductor & display ecosystem in the country. Up to 2.5% of the outlay of the Programme is earmarked for

meeting the R&D, skill development and training requirements for the development of semiconductor ecosystem in India. Additionally, ₹1000 Crore has been earmarked for the Design Linked Incentive Scheme under the Programme for supporting fabless chip design industry, including semiconductor R&D activities.

(e): Government of India acknowledges the importance of nurturing world-class talent to build a robust semiconductor ecosystem, recognizing that capacity-building initiatives, and skill development programs to address workforce gaps is the foundation of this effort.

MeitY supports various capacity development and skill development programmes at academic institutions and R&D organizations. Some of these initiatives of Government of India include, but not limited to the following - SMDP-C2SD (Special Manpower Development Programme for Chips to System Design) (Year 2014-21), Indian Nanoelectronics User Programme (INUP) (year 2014-2019), INUP Idea to Innovation initiated in year 2021 and Chips to Start-up (C2S) Programme initiated in year 2022 etc. Year-wise budget spent by MeitY since the year 2014 for capacity building and skill development in the area of Semiconductors is at **Annexure-II**.

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Year-wise budget spent by MeitY since the year 2014 in the area of R&D in Electronics including Semiconductor R&D

#	Year	Funds spent on semiconductor R&D (₹ in Crore)
1	2014-15	183.52
2	2015-16	114.41
3	2016-17	116.00
4	2017-18	100.93
5	2018-19	178.91
6	2019-20	427.71
7	2020-21	420.91
8	2021-22	502.04
9	2022-23	349.18
10	2023-24	251.00
11	2024-25	215.00 (till date)

Annexure-II

Year-wise budget spent by MeitY since the year 2014 for capacity building and skill development in the area of Semiconductors.

#	Year	Funds spent on capacity building and skill development in semiconductor area(₹ in Crore)
1.	2014-15	37.62
2.	2015-16	15.79
3.	2016-17	28.80
4.	2017-18	40.69
5.	2018-19	13.51
6.	2019-20	24.16
7.	2022-23	38.90
8.	2023-24	28.95
9.	2024-25	69.84 (till date)

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