

GOVERNMENT OF INDIA
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION NO. 2516
TO BE ANSWERED ON: 15.03.2023

DESIGN AND MANUFACTURING OF ELECTRONICS SYSTEM

2516. SHRI JAMYANG TSERING NAMGYAL:

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

- (a) whether the schemes and projects under make in India fulfils all the criteria to achieve Global Hub for electronics system design and manufacturing and if so, the details thereof;
- (b) whether it is a fact that digital Mission of India reduces the unemployment rate of India and secures the job sector for the youth and if so, the details thereof;
- (c) the details of the raw materials which India imports and exports for electronic purposes;
- (d) whether the Government has found any suitable location in Himalayan region of India to carry forward electronics manufacturing and institutions; and
- (e) if so, the details thereof?

ANSWER

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

(a): India is emerging as trusted player in global value chain of electronics and has a target of USD 300 Bn for electronics manufacturing by 2025-26. In this connection, Government of India has taken various strategic steps and initiatives to broaden and deepen the Electronics Manufacturing and Information Technology sector in the country. In order to boost electronics manufacturing including semiconductors, and position India as a global hub for Electronics System Design and Manufacturing (ESDM) and compete globally, the steps taken by the Government for electronics manufacturing in the country are at **Annexure 1**.

(b): Digital India mission is a programme to transform India into a digitally empowered society and knowledge economy. The umbrella scheme has been pivotal in generating employment across all domains. Electronics Manufacturing is an important pillar under Digital India mission. As part of this mission, Ministry of Electronics and IT (MeitY) has launched several notable schemes which are catalysing the growth of the country's electronics ecosystem. In this regard, as on December, 2022, under *Production Linked Incentive Scheme for Large Scale Electronics Manufacturing* 52,509 direct jobs have been generated. Similarly, under *Production Linked Incentive Scheme for IT Hardware*, 504 direct jobs have been generated. In addition, MeitY has approved following two schemes for Skill Development in ESDM Sector, viz., "*Scheme for Financial Assistance to select States/UTs for Skill Development in Electronics System Design and Manufacturing (ESDM) sector*" (**Scheme-1**) and "*Skill Development in ESDM for Digital India*" (**Scheme-2**) to facilitate creation of an eco-system for development of ESDM Sector in the entire country. Both the above Schemes are being run concurrently; and, Schemes are being implemented by Training Partners affiliated to Key Implementing Agencies (ESSCI / NIELIT/ TSSC/HSSC). The cumulative target of both the Schemes is 4,18,000. Under both of the scheme as on 01.03.2023 a total of 4,35,165 candidates have been enrolled and 4,28,540 candidates have been trained out of which 3,11,862 have been certified. Further, the C2S Programme has also been initiated by MeitY with an aim to generate 85,000 number of industry-ready manpower specialized in the area of VLSI and Embedded System Design. This programme will help to leapfrog in Electronics System Design & Manufacturing space by way of inculcating the culture of Chip/ System-on-Chip (SoC)/ System Level Design at B.Tech, M.Tech & PhD

level and will act as catalyst for growth of Start-ups involved in semiconductor design thereby promoting entrepreneurship in chip design area in the country.

(c): The raw materials required for electronics manufacturing purposes, *inter-alia*, include metals (e.g., Copper, Aluminium, Molybdenum), graphite, plastics, rubber, wires, and other specialized materials used for insulation, conduction, etc. with specific and fine electrical, chemical and metallurgical properties. List of key raw materials used in electronic manufacturing is at **Annexure 2**. As per industry estimates, barring a few, all of these raw materials are imported.

(d) and (e): MeitY is implementing Modified Electronics Manufacturing Clusters (EMC 2.0) scheme to provide support for creation of world class infrastructure along with common facilities and amenities including Ready Built Factory Sheds /Plug & Play infrastructure for attracting major electronics manufacturers along with their supply chains to set up their manufacturing/production facility in the country through such clusters. While MeitY doesn't identify any location, M/s State Infrastructure and Industrial Development Corporation of Uttarakhand Ltd. (SIIDCUL) has submitted application for establishment of EMC project over an area of 133.82 acres at Integrated Industrial Estate (IIE), Kashipur Udham Singh Nagar District in state of Uttarakhand with a project cost of Rs. 136.35 crore including Central Grant-in-aid of Rs. 57.78 crore.

Steps taken by the Government for the expansion of electronics manufacturing in the country:

- 1. National Policy on Electronics 2019:** The National Policy on Electronics 2019 (NPE 2019) has been notified on 25.02.2019. The vision of NPE 2019 is to position India as a global hub for Electronics System Design and Manufacturing (ESDM) by encouraging and driving capabilities in the country for developing core components, including chipsets, and creating an enabling environment for the industry to compete globally.

To attract and incentivize large investments in the electronics value chain and promote exports, following three Schemes have been notified under the aegis of NPE 2019:

- (i) **Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing** was notified on April 01, 2020 to provide an incentive of 4% to 6% to eligible companies on incremental sales (over base year) involved in mobile phone manufacturing and manufacturing of specified electronic components, including Assembly, Testing, Marking and Packaging (ATMP) units.
- (ii) **Production Linked Incentive Scheme (PLI) for IT Hardware** was notified on March 03, 2021 to provide an incentive of 4% to 2% / 1% on net incremental sales (over base year) of goods manufactured in India and covered under the target segment, to eligible companies, for a period of four (4) years. The Target Segment under PLI Scheme includes (i) Laptops (ii) Tablets (iii) All-in-One PCs and (iv) Servers.
- (iii) **Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS)** was notified on April 01, 2020 to provide financial incentive of 25% on capital expenditure for the identified list of electronic goods that comprise downstream value chain of electronic products, i.e., electronic components, semiconductor / display fabrication units, ATMP units, specialized sub-assemblies and capital goods for manufacture of aforesaid goods.
- (iv) **Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme** was notified on April 01, 2020 to provide support for creation of world class infrastructure along with common facilities and amenities, including Ready Built Factory (RBF) sheds / Plug and Play facilities for attracting major global electronics manufacturers along with their supply chain to set up units in the country. The Scheme provides financial assistance for setting up of both EMC projects and Common Facility Centres (CFCs) across the country.

- 2. Program for Development of Semiconductors and Display Manufacturing Ecosystem:** To widen and deepen electronics manufacturing, the Union Cabinet on 15.12.2021, approved a comprehensive program with an outlay of INR 76,000 crore for the development of Semiconductors and Display manufacturing ecosystem. With the approval of Cabinet, this Programme has been recently modified on 21.09.2022. The modified programme offers Fiscal Support of 50% of Project Cost uniformly for semiconductor fabs across the technology nodes as well as for compound semiconductors, packaging and other semiconductor facilities.

Following Fiscal incentives are now available to eligible applicants:

- **Modified Scheme for setting up of Semiconductor Fabs:** It provides fiscal support for setting up semiconductor wafer fabrication facilities in the country. Fiscal support of 50% of the Project Cost is available for setting up of silicon-based semiconductor fabs across all technology nodes.

- **Modified Scheme for setting up of Display Fabs:** It provides fiscal support for setting up TFT LCD / AMOLED based display fabrication facilities. It provides fiscal support of 50% of Project Cost.
 - **Modified Scheme for setting up of Compound Semiconductors / Silicon Photonics / Sensors Fab/ Discrete Semiconductor Fabs and Semiconductor ATMP / OSAT facilities in India:** It provides a fiscal support of 50% of the Capital Expenditure to the eligible applicants for setting up of Compound Semiconductors / Silicon Photonics (SiPh) / Sensors (including MEMS) Fab/ Discrete Semiconductor Fabs and Semiconductor ATMP / OSAT facilities in India.
 - **Design Linked Incentive Scheme:** It offers financial incentives, design infrastructure support across various stages of development and deployment of semiconductor design for ICs, Chipsets, SoCs, Systems & IP Cores and semiconductor linked design. The scheme provides both “Product Design Linked Incentive” and “Deployment Linked Incentive”.
3. **100% FDI:**As per extant Foreign Direct Investment (FDI) policy, FDI up-to 100% under the automatic route is permitted for electronics manufacturing (except from countries sharing land border with India), subject to applicable laws / regulations; security and other conditions.
 4. **Modified Special Incentive Package Scheme (M-SIPS):** The Scheme was notified on 27th July, 2012 to provide financial incentives to offset disability and attract investments in the electronics manufacturing sector. It was amended in August, 2015 to extend the period of the scheme, enhance scope of the Scheme by including 15 more product verticals, and attract more investment. The scheme was further amended in January, 2017 to expedite the investments. The scheme provides subsidy for capital expenditure - 20% for investments in Special Economic Zones (SEZs) and 25% in non-SEZs. The incentives are available for 44 categories / verticals of electronic products and components covering entire electronics manufacturing value chain. The Scheme was open to receive applications till 31.12.2018 and is in the implementation mode.
 5. **Electronics Manufacturing Clusters (EMC) Scheme:** Electronics Manufacturing Clusters Scheme was notified on 22nd October, 2012 to provide support for creation of world-class infrastructure along with common facilities and amenities for attracting investment.
 6. **Electronics Development Fund (EDF):** Electronics Development Fund (EDF) has been set up as a “Fund of Funds” to participate in professionally managed “Daughter Funds” which in turn will provide risk capital to startups and companies developing new technologies in the area of electronics and Information Technology (IT). This fund is expected to foster R&D and innovation in these technology sectors. INR 409 crore has been committed through EDF to 9 Daughter Funds with a targeted corpus of INR 2,626 crore.
 7. **Phased Manufacturing Programme (PMP)** has been notified to promote domestic value addition in mobile phones and their sub-assemblies / parts manufacturing. As a result, India has rapidly started attracting investments into this sector and significant manufacturing capacities have been set up in the country. The manufacturing of mobile phones has been steadily moving from Semi Knocked Down (SKD) to Completely Knocked Down (CKD) level, thereby progressively increasing the domestic value addition.
 8. **Tariff Structure** has been rationalized to promote domestic manufacturing of electronic goods, including, *inter-alia*, Cellular mobile phones, Televisions, Electronic components, Set Top Boxes for TV, LED products and Medical electronics equipment.

- 9. Exemption from Basic Customs Duty on capital goods:** Notified capital goods for manufacture of specified electronic goods are permitted for import at “NIL” Basic Customs Duty.
- 10. Simplified import of used plant and machinery:** The import of used plant and machinery having a residual life of at least 5 years for use by the electronics manufacturing industry has been simplified through the amendment of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, vide Ministry of Environment, Forest and Climate Change Notification dated 11.06.2018.
- 11. Relaxing the ageing restriction:** The Department of Revenue vide Notification No.60/2018-Customs dated 11.09.2018 has amended the Notification No.158/95-Customs dated 14.11.1995, relaxing the ageing restriction from 3 years to 7 years for specified electronic goods manufactured in India and re-imported into India for repairs or reconditioning.
- 12. Public Procurement (Preference to Make in India) Order 2017:** To encourage ‘Make in India’ and to promote manufacturing and production of goods and services in India with a view to enhancing income and employment, the Government has issued Public Procurement (Preference to Make in India) Order 2017 vide the Department for Promotion of Industry and Internal Trade (DPIIT) Order dated 15.06.2017 and subsequent revisions vide Orders dated 28.05.2018, 29.05.2019, 04.06.2020 and 16.09.2020. In furtherance of the aforesaid Order, MeitY has notified mechanism for calculating local content for 13 Electronic Products viz., (i) Desktop PCs, (ii) Thin Clients, (iii) Computer Monitors, (iv) Laptop PCs, (v) Tablet PCs, (vi) Dot Matrix Printers, (vii) Contact and Contactless Smart Cards, (viii) LED Products, (ix) Biometric Access Control / Authentication Devices, (x) Biometric Finger Print Sensors, (xi) Biometric Iris Sensors, (xii) Servers, and (xiii) Cellular Mobile Phones, for procurement to be made from local suppliers.
- 13. Compulsory Registration Order (CRO):** MeitY has notified “Electronics and Information Technology Goods (Requirement of Compulsory Registration) Order, 2012” for mandatory compliance to ensure safety of Indian citizens by curbing import of substandard and unsafe electronic goods into India. 63 Product Categories have been notified under the CRO and the order is applicable on 63 product categories.
- 14. Establishment of Gallium Nitride (GaN) Ecosystem Enabling Centre and Incubator:** The project for “Establishment of Gallium Nitride (GaN) Ecosystem Enabling Centre and Incubator for High Power and High Frequency Electronics” has been approved. The project will be implemented by Society for Innovation and Development (SID), being converted to a Section 8 company titled “Foundation for Science, Innovation and Development” under the auspices of Indian Institute of Science (IISc) at Centre for Nano Science and Engineering (CeNSE), Bengaluru.

Annexure 2

Key raw materials used in Electronics manufacturing:

Sl. No.	Components	Raw Material
1.	Capacitors	BOPP Film and Metalized Film PP Film, Lead Wire with electroplating, chemical deposition, and enameling process, Cans, Etched and Formed foil
2.	Resistors	Epoxy, Copper
3.	Semiconductors	Lead Frames, molding compounds, Gold wire, speciality gases and chemicals
4.	PCB's	CC Laminates, Prepregs, Chemicals
5.	Transformers & Inductors	Fine Copper Winding Wire
6.	LCD Panels & Display	Silicon dioxide, Indium tin oxide and Glass
7.	LCD Lighting	Indium-gallium-nitrate
8.	Insulators	Ceramic,silicon, Glass, Polymers(polyvinylchloride, polypropylene,polyethylene)
9.	Base Metals/non-ferrous Metals	Copper, Aluminium, Gold, silver
10.	Consumables	Solder flux/paste, Adhesives, Electrolubes, Cleaning Agents
11.	Modern Materials	Nano Electronic (Nanowire, Nanocube, Graphene, Nanorod), superconductors indium and gallium)
