GOVERNMENT OF INDIA
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY
RAJYA SABHA
UNSTARRED QUESTION NO. 2643
TO BE ANSWERED ON: 25.03.2022

ANNUAL DEMAND OF SEMICONDUCTORS

2643. SHRI MAHESH PODDAR:

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

(a) the annual demand of semiconductors in the country and how much of this is met from imports in the last three years, the details thereof;

(b) the sectors which are primary consumers of semiconductors and whether any losses were incurred from chip shortage that was faced globally, if so, the details thereof; and

(c) the incentives being given to foreign firms to set up a base in India for electronic productions, the details thereof?

ANSWER

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

(a): The 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. As a result of several initiatives taken by the Government and efforts of the industry, the domestic production of electronic products has increased substantially from ₹ 2,43,263 crore (USD 37 billion) in 2015-16 to ₹ 5,54,461 crore (USD 74.7 billion) in 2020-21 growing at a Compound Annual Growth Rate (CAGR) of 17.9%. Many policies of the Government including the flagship Production Linked Incentive (PLI) Schemes, Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors, Modified Electronics Manufacturing Cluster (EMC 2.0) Scheme are major steps towards making India 'AtmaNirbhar' in electronics manufacturing.

As semiconductors form a major part of all electronic products, as a result of growth in electronicsmanufacturing sector, semiconductor market in India has also witnessed
proportionate growth over the last few years. As per the industry estimate, the semiconductor consumption in India was around INR 1.1 lakh crore in year 2020 which is being met through imports due to absence of commercial semiconductor fabs in India.

(b): 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.

(c): 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.

Other steps taken by the Government for making the country self reliant in electronics manufacturing are as follows:

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.

2. **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.

3. **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. Under the Scheme, 19 Greenfield EMCs and 3 Common Facility Centres (CFCs) measuring an area of 3,464 acres with total project cost of INR 3,762 crore including Government Grant-in-Aid of INR 1,538 crore have been approved.

4. **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 319 crore has been committed through EDF to 8 Daughter Funds with a targeted corpus of INR 2,176 crore.

5. **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.

6. **Tariff Structure has been rationalized** to promote domestic manufacturing of electronic products, including, inter-alia, Cellular mobile phones, Televisions, Electronic components, Set Top Boxes for TV, LED products and Medical electronics equipment.

7. **Exemption from Basic Customs Duty on capital products:** Notified capital products for manufacture of specified electronic products are permitted for import at "NIL" Basic Customs Duty.

8. **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.

9. **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.

10. **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.

11. **Compulsory Registration Order (CRO):** MeitY has notified "Electronics and Information Technology Products (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.

12. **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 is being implemented by Society for Innovation and Development (SID), Centre for Nano Science and Engineering (CeNSE), IISc Bengaluru.

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