

Opportunities in the Semiconductor Industry in India

Semiconductors or 'chips' are the building blocks of electronic devices and are used in a variety of electronic devices from cars to drones as well as smartphones and computers and across various sectors, including the aerospace and defence, telecom and automotive sectors. Currently, a majority of the semiconductor manufacturing market is dominated by countries such as Taiwan, China, the United States, South Korea and Japan. India relies on semiconductor imports from these countries.

While the semiconductor manufacturing industry is currently at a nascent stage in India, due to the worldwide shortage of semiconductors, over the last couple of years, India has taken active steps to tap this market.

This note outlines the key initiatives of the Government of India ("Government") in relation to the semiconductor industry, regulatory framework for investment, setting up operations in India and recent developments/investments in the semiconductor industry in India.

KEY INITIATIVES OF THE GOVERNMENT

The Government has taken steps to position India as a leading hub for semiconductor manufacturing by providing fiscal/non-fiscal incentives, research and development support and technological collaborations. Certain key steps in this regard include the following:

Semicon India Program

In December 2021, the Government approved the "Programme for Development of Semiconductors and Display Manufacturing Ecosystem in India" ("**Semicon India**

Program”) for the development of a sustainable semiconductor and display ecosystem, which was subsequently modified in September 2022.

The Semicon India Program, for which the Government committed an outlay of INR 760 billion, is aimed to provide support to companies/consortiums that are engaged in *inter-alia* silicon semiconductor fabs, display fabs, compound semiconductors/silicon photonics/ sensors fabs, semiconductor packaging and semiconductor design to establish the semiconductor industry in India.

India Semiconductor Mission

In order to drive long-term strategies and streamline the development process for the semiconductor industry, the Government launched the India Semiconductor Mission (“**ISM**”) to encourage manufacturers to set up their semiconductor facilities in India.

ISM is the designated nodal agency and is responsible for implementing the Semicon India Program and receiving applications, carrying out technical and financial appraisal of applications received, recommending selection of applicants and performing other responsibilities as assigned by the Ministry of Electronics and Information Technology (“**MeiTY**”) from time to time.

Schemes

With effect from 2021, the Government launched various schemes to attract large investments for setting up facilities in India in relation to semiconductor fabs, display fabs, compound semiconductors and design linked incentives under which eligible applicants in the semiconductor sector could apply for fiscal/non-fiscal incentives under the Semicon India Program.

Applications under such schemes are required to be made by a legal entity (private limited company or public limited company) and are subject to certain prescribed eligibility criteria (including in relation to type of technology, operational experience and capital investment and revenue thresholds).

Key terms of these schemes are as set out below:

Scheme for setting up of semiconductor fabs:

- 1. Fiscal Support:** The Government will offer up to 50% of the Project Cost¹ for setting up silicon-based semiconductor wafer fabrication facilities across various technology nodes in India on a pari-passu basis. Additional financial support may be offered by the state government or any of its agencies or local bodies.
- 2. Minimum Capital Investment by Applicant:** INR 200 billion.
- 3. Minimum Revenue of Applicant:** INR 75 billion (including group companies) in any of the three financial years preceding the year of submission.

Scheme for setting up of display fabs:

- 1. Fiscal Support:** The Government will offer up to 50% of the Project Cost for setting up display fabrication units for manufacturing TFT LCD/AMOLED based display panels on a pari-passu basis. Additional financial support may be offered by the state government or any of its agencies or local bodies.
- 2. Minimum Capital Investment by Applicant:** INR 100 billion.
- 3. Minimum Revenue of Applicant:** INR 75 billion (including group companies) in any of the three financial years preceding the year of submission.

Scheme for setting up of compound semiconductors / silicon photonics / sensors fab/ discrete semiconductors fab and semiconductor assembly, testing, marking and packaging (ATMP) / outsourced semiconductor assembly and test (OSAT) facilities in India:

- 1. Fiscal Support:** The Government will offer up to 50% of the Capital Expenditure² for setting up such facilities in India on a pari-passu basis.
- 2. Minimum Capital Investment by Applicant:** INR 1 billion for Compound Semiconductors / Silicon Photonics (SiPh) / Sensors (including MEMS) Fab / Discrete Semiconductors Fab and INR 500 million for Semiconductor ATMP / OSAT Facility.

¹ 'Project Cost' includes capital expenditure/investment on (a) land, building, plant and machinery, clean rooms, equipment and associated utilities; (b) research and development; (c) transfer of technology; and (d) other relevant costs including interest during construction and insurance costs.

² 'Capital Expenditure' means expenditure incurred on building, clean rooms, plant, machinery, equipment & associated utilities (including used / second hand / refurbished); transfer of technology (ToT) including cost of technology; and research & development (R&D).

Design Linked Incentive (“DLI”) Scheme:

1. The DLI Scheme aims to offer financial incentives as well as design infrastructure support across various stages of development and deployment of semiconductor designs over a period of five years.
2. The DLI Scheme is available to companies owned and controlled by resident Indians, startups and micro, small and medium enterprises engaged in semiconductor design or semiconductor linked design.
3. Incentives are provided depending on whether it is a ‘Product Design Linked Incentive’ (reimbursement of up to 50% of the eligible expenditure subject to a ceiling of INR 150 million per application) or ‘Deployment Linked Incentive’ (6% to 4% of net sales turnover over five years subject to a ceiling of INR 300 million per application).

Non-fiscal support

Apart from financial incentives under the various schemes, the Government has offered non-fiscal support such as infrastructure development, demand aggregation, research and development, skill development and training support under certain schemes.

Incentives by state governments

State governments such as Uttar Pradesh, Gujarat and Odisha have approved separate semiconductor policies to help in effective implementation of the Semicon India Program and to make such states the preferred destinations for the semiconductor industry. Pursuant to such policies, the states aim to provide additional incentives to develop semiconductor manufacturing, including fiscal support in the form of subsidy on land acquisition, reimbursement of stamp-duty, access to good quality water at subsidized rate, subsidy on power tariff, etc., and non-fiscal support such as facilitation of statutory compliances, single window clearance, facilitation in land procurement, assistance with right of way and change of land use permissions, etc.

REGULATORY FRAMEWORK FOR FOREIGN INVESTMENT

Foreign investment in India is governed by the Consolidated Foreign Direct Investment Policy issued by the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry. 100% foreign direct investment under the automatic route is permitted for electronics manufacturing (including

semiconductors), subject to applicable laws/ regulations, security and other conditions.

However, investments by entities of a country which shares land borders with India or where the beneficial owner is situated in or is a citizen of such a country will require prior government approval. The countries which share a land border with India are Afghanistan, Bangladesh, Bhutan, China (including Hong Kong), Myanmar, Nepal and Pakistan. The requirement for prior government approval would need to be determined on a case by case basis.

SETTING UP OPERATIONS IN INDIA

Investors seeking to set up operations in India would need to consider the following key legal considerations for setting up operations in India including:

1. *Type of legal entity*: The choice of setting up operations in India is important from a corporate compliance and tax perspective. Foreign investment is permitted in a private limited company as well as a limited liability partnership. It appears that the incentives under the schemes launched by the Government are *prima facie* available only to companies. Based on our experience, a company is the more common choice of legal entity for foreign investors. Additionally, if the entity is being set up as a joint venture, parties would need to negotiate and agree on governance and operation of the entity.
2. *Financing Requirements*: Requirements for capital could be through equity or debt financing arrangements. Typically, the mode of raising capital would need to be analyzed on a case specific basis and tax implications of such fund raise should also be considered. Laws in connection with such fundraising, including Indian foreign exchange control regulations should be complied with.
3. *Technology Transfer*: Where transfer of technology or licensing arrangements are contemplated, parties often consider structuring it in a tax efficient manner and agreements for such technology transfer/license would need to be executed.
4. *Real Property*: Real estate for setting up a manufacturing unit is an important consideration. The agreement for the purchase/lease of real property from the Government or private bodies would need to be negotiated and agreed.

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5. *Licenses and Permits*: A manufacturing set up requires several licenses and permits to be obtained from central and local governmental authorities (including at different stages of operations), which should be identified in advance.
 6. *Employees*: Documentation in connection with engagement of employees and consultants entity should be in place, including offer letters/employment agreements, employment policies and benefits related documents, if any. It would be important to identify and comply with the central and state specific labor laws that would apply to the entity. Applicability of labor laws often depends on the number and type of employees.

While recent Government reforms (including in areas of starting a business and obtaining licenses and permits) have been introduced and India has improved significantly in the 'Ease of Doing Business' index and should aid in the Government's focus to make India a new manufacturing hub, this is still work in progress.

RECENT DEVELOPMENTS

By the end of 2023, we understand that the Government had received 45 applications under the Semicon India Program, of which (i) five applications were in relation to establishment of semiconductor fabs, (ii) two applications were in relation to establishment of display fabs, (iii) nine applications were in relation to establishment of compound semiconductor facilities, and (iv) 29 applications were in relation to DLI scheme.

Currently, the Government has approved the following key proposals under various schemes outlined above:

1. Proposal by Tata Electronics Private Limited and Powerchip Semiconductor Manufacturing Corp, Taiwan to set up a semiconductor fab in Dholera, Gujarat.
2. Proposal by CG Power and Industrial Solutions Limited and Renesas Electronics Corporation, Japan and Stars Microelectronics, Thailand to set up a semiconductor unit in Sanand, Gujarat.
3. Proposal by Micron Technology, United States to set up a semiconductor unit in Sanand, Gujarat.
4. Proposal by Tata Semiconductor Assembly and Test Private Limited to set up a semiconductor unit in Morigaon, Assam.

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5. In addition, under the DLI scheme, the Government has approved incentives for nine start-ups to catalyze the semiconductor chip design ecosystem in India, including Morphing machines, Netrasemi, Vervesemi Microelectronics, Fermionic Design, DV2JS Innovation, Saankhya Labs, Sensesemi Technologies, Aheesa Digital Innovations and Calligo Technologies.

Samsung Semiconductor India Research has also recently inaugurated a semiconductor R&D facility at Bengaluru. News reports indicate that other corporations, including Tower Semiconductor (Israel), Foxconn (Taiwan), Qualcomm (United States), Applied Materials (United States) and Advanced Micro Devices (AMD) (United States) are also exploring various investments in India.

With the launch of various Government initiatives, there has been an increased interest in investments in the semiconductor industry in India. Proper implementation of the schemes and policies and reforms for ease of doing business in India would be key to the success of India's semiconductor strategy which envisions making India a global hub for semiconductor design, manufacturing and technology development.

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