

● THERE SHOULD BE NO CUTBACK IN SUBSIDIES

Semicon 2.0: Let the chips fall

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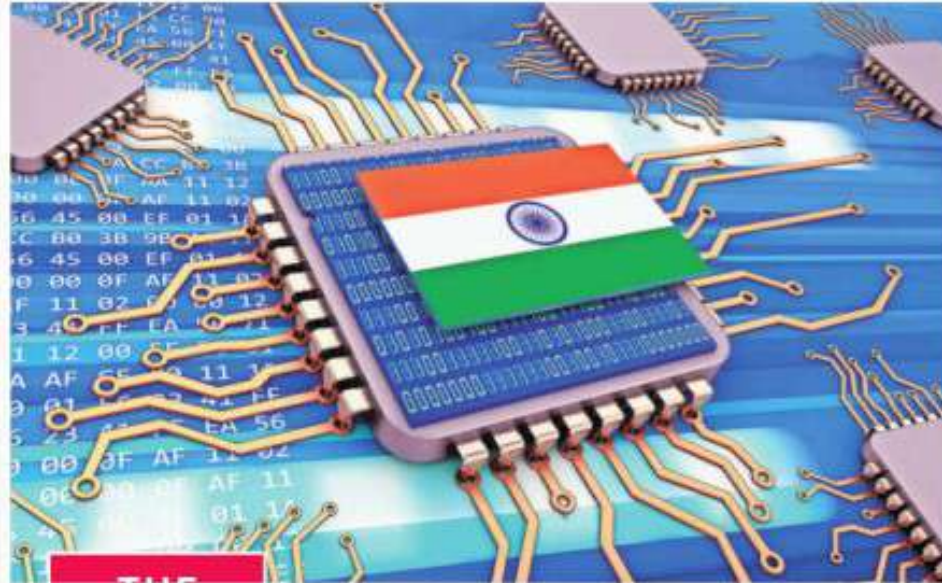
FOLLOWING AN AGREEMENT between India and the US, the two nations will work to set up a semiconductor fabrication plant that will make infrared, gallium nitride and silicon-carbide semiconductors. Support from the India Semiconductor Mission as well as a "strategic technology partnership between Bharat Semi, 3rdiTech, and the US Space Force," will facilitate the setting up of the facility.

India is upping the stakes in its semiconductor initiative as it looks at bringing home the entire value chain from materials to wafers. With five chip projects — one chip fabrication and four assembly and testing projects — that entail an investment of ₹1.25 lakh crore, India has committed about ₹62,000 crore in incentives. That's the bulk of the outlay of ₹76,000 crore earmarked for the first phase. The government coughs up 50% of the capital cost while state governments chip in with anywhere between 25-30%.

While the government is expected to earmark another \$10 billion for the second phase — a broad-based approach rather than just fabs — there's some concern the incentives are being pruned and that the capex support for Outsourced Semiconductor Assembly and Test (OSAT) projects will be being cut to 20-30% from 50%.

That, say experts like Pankaj Mohindroo, chairman of India Cellular and Electronics Association (ICEA), could jeopardise the prospects for India chip industry, now in a nascent stage. He could be right. Experts recall how the initial not-so-uniform capital support of 30-50% and the subsidy cap across segments — Fabs, display, OSATs — had evoked only lukewarm response. It was the 50% support that finally swung the deal with the US-based Micron.

As it is the big players are in no hurry to come to India. As Kunal Chaudhary, partner, EY points out most of the large companies like Global Foundries, TSMC, Samsung have all made huge commitments in Europe and the US and are working to complete the projects. "Most of their fabs will start getting operational this year or next year," he says. According to SEMI 109 new fabs are expected to come on stream during 2022-26E.



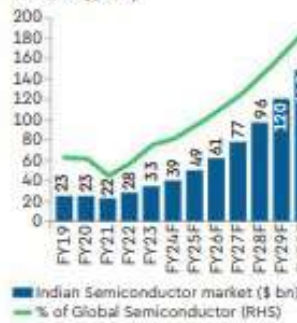
THE ALLOCATION OF \$10 BILLION FOR THE FIRST PHASE PALES IN COMPARISON WITH THE INVESTMENTS BEING MADE IN OTHER COUNTRIES

There is also some reluctance to share technology. "Many manufacturers are anxious about transferring technology to the local partner and thereby creating a competitor," says an expert.

Even otherwise the allocation of \$10 billion for the first phase pales in comparison with the investments being made in other countries. The US, which has a 50% share of global chip sales revenue, provides \$52 billion in manufacturing grants and

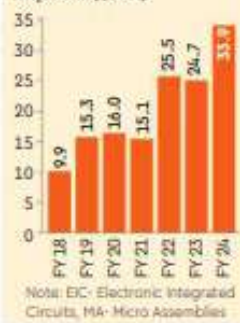
SURGING DEMAND

India semiconductor market (\$ bn)



Source: Raynes DRHP, Ministry of Commerce, Nomura estimates

India semiconductor imports (\$ bn)



Note: EIC - Electronic Integrated Circuits, MA - Micro Assemblies

design companies because it is a high-value generating segment requiring relatively low investment.

"India can improve in the domains of Outsourced Semiconductor Assembly and Test, ATMP, design and R&D where it already has an edge along with its efforts to establish a fab," Bansal says.

While the outlay for ISM may not be significant, the incentives are undoubtedly very attractive with three-fourths of the capital cost taken care of and faster approvals, easy land availability, and relatively cheap labour thrown in. Notably, India has 20% of the world's semiconductor design workforce though experts believe talent will be in short supply. "India will require 1.2 million skilled people in the semiconductor sector by 2032, so we need to get going" an expert opines. Indeed, the semiconductor initiative will create high-level jobs.

The government is looking to support different segments such as semiconductor-graded raw materials — chemicals and gases and equipment. "This is essential to ensure ample capacity for chip packaging in the country in line with the growth of fabs," says industry executive. With the government aiming for 10 fabs in the next 10 years — the first one will be set up by Tata Electronics at a cost of \$1.1 billion, a \$10 billion corpus might not be adequate. "The allocation must be bigger if there is to be a complete chip ecosystem in the country. Also, the incentives must be retained else it would not be fair to the 20 companies whose chip proposals are being evaluated by the ISM," says an expert.

More importantly India's semiconductor requirements are tipped to reach \$148 billion by FY30 as estimated by Siddhartha Bera at Nomura. A fairly large chunk of this would need to come from imports, raising the import bill. To be sure some of this could be offset by exports. The local players, Bera expects, operating in segments such as foundries and packaging, testing could well achieve revenues (including exports) of \$30 billion by FY30. That said, boosting production locally would be a better idea. The orderbooks of players whose projects have been approved are reportedly strong but incentives are need for the ecosystem to evolve.

ecosystem, with their tax credits and grants. India's limited budget, relative to those of other countries, will probably see the government's focus shifting to the advanced node of semiconductor technology, says EY's Chaudhary. "Projects with below 28 nm node - 10 nm and so on, would be preferred compared to those with legacy nodes," he says.

Neeraj Bansal, partner, KPMG, feels the focus should be on product