

Govt may tap Taiwan, Singapore institutes to build chip talent pool

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The government is likely to invite Taiwan's Industrial Technology Research Institute (ITRI) and Singapore's Agency for Science, Technology and Research (A*STAR) to set up semiconductor training branches in India, sources said.

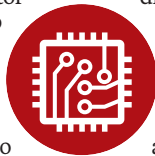
The Ministry of Electronics and Information Technology (Meity) is likely to offer the two institutes the option of fully

funding the setup of their centres in India, a senior government official said.

"So, let's say there are 10 levels of semiconductor training needed to make a student job-ready, and these institutes agree to work with us on three or four levels, we will go ahead with it because that will be a boost for us," the official said.

The idea is to develop a

steady pool of trained semiconductor engineers and shop-floor workers for allied components who can be hired directly from these institutes. This would complement the high-level semiconductor engineers working at fabrication and packaging units being constructed or nearing commercial operations, another official said.



India is looking to cement trade and investment partnerships with newer partners. New Delhi is engaged in negotiations for trade deals as well as Bilateral Investment Treaties (BITs) with several economies.

Sitharaman said India is likely to conclude BIT negotiations with Canada and two more partners by December or early 2027. The Union Cabinet is also expected to approve a new template for BITs soon.

The BIT negotiations are being held keeping in mind the elements of the new template, the minister said. India is also in talks with Russia for a BIT, she said. "Now the balance is somewhat tilted in favour of bilateralism than multilateralism," Sitharaman said. "Countries will have to choose newer partners for their trade and strengthen ties through an agreement. Therefore, newer partnerships are being searched for and they are being tied bilaterally. Multilateralism is not going to

go away, yet it has weakened because institutions that were to guide, monitor and regulate multilateralism have weakened over the decade." "In the current reality, you are tailoring the agreements to (not just) keep national interests alive but also survive in a very challenging global environment where no WTO laws are left to be respected," Sitharaman said.

At the same time, the West Asia crisis and disruption in the Strait of Hormuz remain a concern, as this could affect the movement of fertilisers, which may in turn pose a risk to food security, Sitharaman said. While fertiliser prices have shot through the roof, India would continue its fertiliser subsidy to ensure food security in the country, the minister said.

Amid disruption in the Strait of Hormuz, the Strait of Malacca in Southeast Asia remains an alternative. Any disruption there may lead to "doom", Sitharaman said.

will continue, we want to have large student batches trained and ready for deployment," the official said.

For practical, hands-on

training, some of these students and high-level engineers will still have to go to a working chip fabrication unit or a chip assembly, testing, marking and packaging plant, one of the officials quoted above said.

"At least the basics of semiconductor work will be covered in these institutes. This feedback came from the domestic semiconductor industry. All countries, including Singapore, took a similar approach of inviting institutes from other countries to set up training branches in India," one of the officials said.

ITRI is a leading semiconductor research and applied technology institute that works with Taiwanese and global companies on advanced integrated-chip research and development projects.

Founded in 1973, the institute incubated leading silicon chip foundries such as Taiwan Semiconductor Manufacturing Company (TSMC) and United Microelectronics Corporation (UMC), as well as Taiwan Mask Corporation (TMC), a leading global manufacturer of photomasks.

Responding to queries from Business Standard, ITRI said it continued to "follow developments in India's semiconductor industry and talent development, while maintaining exchanges with international partners".

"Should there be any further cooperation plans or concrete developments, ITRI will communicate them at an appropriate time," the institute said.

A*STAR, on the other hand, is a public-sector agency in Singapore that conducts deeptech research and development in biomedical, robotics and other sectors. The institute did not respond to queries.

The invitation to these two institutes, along with others such as Germany's Fraunhofer-Gesellschaft, which has 75 branches globally, will come under the talent-development pillar of the second phase of the India Semiconductor Mission (ISM).

ISM 2.0, approved by the Union Cabinet earlier this year, has a budget of ₹1.27 trillion and six focus pillars. These include design, machines and materials, setting up more chip fabrication units, strengthening the semiconductor packaging ecosystem, research and development, and talent development.

In the first phase of ISM, the government targeted training 85,000 semiconductor engineers over 10 years starting in 2022. However, it achieved this target by 2026. In the second phase, the government has expanded the target to train 100,000 engineers over the next six years.

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"Most companies today have been sending their workers for training with their partner companies either in Taiwan, Japan or Malaysia. While that

