Quotes Devroop Dhar, India CEO & Co-founder, Primus Partners

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India's chip revolution begins: Gujarat startup ships first made-in-India semiconductors to US

Surat-based Suchi Semicon's OSAT facility was inaugurated in December 2024 by Union Minister C.R. Patil and Gujarat's Home Minister Harsh Sanghavi.

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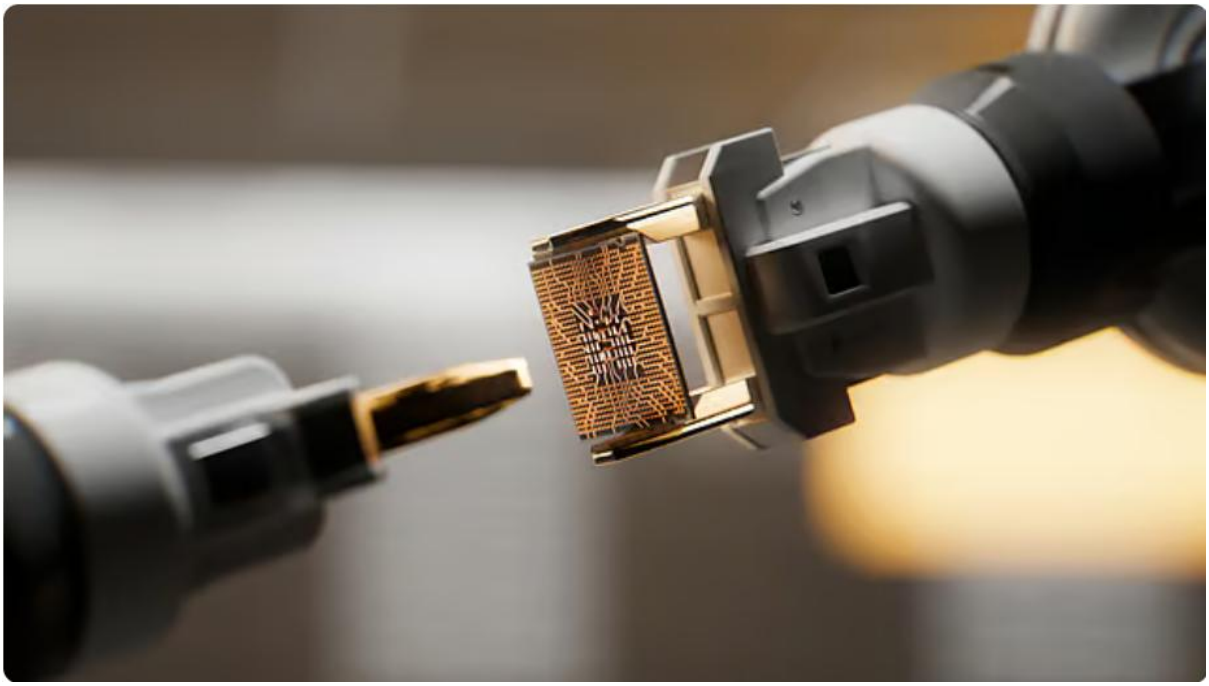

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In a significant breakthrough for India's fledgling semiconductor ecosystem, Gujarat-based Suchi Semicon has shipped its first packaged semiconductor chip to the United States for customer validation. This marks a crucial milestone in India's ambition to become a key player in the global semiconductor value chain, signalling its emergence as a credible contributor to the global chip supply chain.

Surat-based Suchi Semicon's Outsourced Semiconductor Assembly and Test (OSAT) facility was inaugurated in December 2024 by Union Minister C.R. Patil and Gujarat's Home Minister Harsh Sanghavi. The plant, spanning an initial 30,000 square feet, provides essential assembly, testing, and packaging services for semiconductor components, supporting industries such as automotive, consumer electronics, and industrial applications.

This shipment comes just months after the inauguration of Gujarat's first OSAT facility by Suchi Semicon. The company has completed back-end packaging and testing of a chip designed abroad and is now sending it for final validation—a standard procedure before large-scale production and deployment.

Shetal Mehta, co-founder at Suchi Semicon, told Fortune India, “The groundbreaking of our plant was done in October 2023, it went operational on December 15, 2024. And when I say operational, all the activities inside the plants are actually functioning. So we started processing those wafers from December 16 and as we speak, the first batch of our packaged chips have been shipped out to the US customer for validation.”

The packaged chip is bound for a leading technology company in the US. The identity of the end customer remains under wraps due to non-disclosure agreements, but Mehta confirmed the chips will be primarily used in consumer electronics.
With an investment of $100 million, the facility, once running at full capacity, is poised to scale production to 3–5 million chips daily.

Devroop Dhar, Co-Founder and Board Member at Primus Partners, told Fortune India, “India’s semiconductor ambitions have taken a very strong step forward when Suchi Semicon dispatched its first shipment of packaged chips to the US. This set of chips will undergo validation. But, this is not only an achievement for the company, but this also indicates India’s
entry into the global semiconductor space.”

Why This Matters

Ironic as it may sound, since the Indian government announced the India Semiconductor Mission in December 2021, much of the narrative has focused on front-end fabs—such as those proposed by Tata Electronics and Tower Semiconductor. However, the back-end packaging and testing segment plays an equally crucial role. After wafers are fabricated, they must be assembled, tested, and packaged before integration into devices. Moreover, OSAT facilities require significantly lower capital investment and are less complex compared to fabs.

Of the ₹76,000 crore incentive bucket under the India Semiconductor Mission, only one fab and four back-end plants have been approved so far. These include Tata Electronics’ fab in Dholera, Micron’s ATMP facility, CG Power’s OSAT in partnership with Japan’s Renesas, Kaynes Technology’s OSAT unit in Sanand, and Tata Electronics’ upcoming packaging plant in Assam.
Interestingly, unlike the five government-approved projects, Suchi Semicon is still awaiting official approval. Yet, the company went ahead, built the plant, and began operations—making it a rare case of early execution.

“Suchi Semicon has emerged as one of the earliest domestic players in the OSAT segment, that started operations even before it received formal approval under the Central government's semiconductor incentive scheme. This shows a growing confidence among Indian firms in the country’s long-term semiconductor roadmap. This is part of a broader strategy to build India’s export credibility in the high-precision world of semiconductor packaging,” added Dhar.
Mehta explained, “Our overall project investment will be ₹870 crores. We had applied under the Semicon 1.0 scheme, before it was closed. While the government has stopped receiving new

Mehta is optimistic and awaiting the Ministry of Electronics & IT’s approval, which would cover 50% of the project cost. Once cleared, Suchi Semicon is also eligible for an additional 20% support from the Gujarat government.

With the government committing ₹76,000 crore under the Semicon India Programme, the back-end segment is expected to scale faster due to its relatively lower capital intensity compared to wafer fabrication.

According to data exclusively accessible to Fortune India, the cumulative output across India’s five approved OSAT units (once in high-volume manufacturing phase) will exceed 100 million products per day. These facilities will require over 4.4 million sq. ft. of ISO 10 cleanroom area—

surpassing the total OSAT cleanroom space of ASE (the world's largest OSAT player) across its five facilities in Penang, Malaysia, which stands at 3.4 million sq. ft., as per Fab Economics R&A.

Experts believe that although India has entered the semiconductor manufacturing game relatively late, it could still evolve into a trusted hub for both advanced and legacy node chip packaging, particularly for the automotive, telecom, and industrial sectors.

Bigger Battles Ahead

India's first approved OSAT plant—Micron's testing and packaging facility in Gujarat—was sanctioned in June 2023 but is still under construction. The timeline for its first shipment has been delayed. In contrast, Suchi Semicon's early shipment for validation is seen as a symbolic win.

While Suchi's shipment may not capture global headlines, industry insiders and policymakers see it as a strong signal of momentum.

"India's semiconductor space is now not about announcements or global summits. It is about small but significant steps like this, where chips are not just getting designed in India, but made, tested and shipped from here to the world. If the validation results hold up, Suchi Semicon's chips may help to convince the world that India is ready to deliver," added Dhar.

Amidst the ongoing US-tariffs tension, US and India are in the process of negotiating a broader trade deal, and the industry is hopeful that the semiconductor segment may get a further boost in the near future. Moreso because the US is derisking its semiconductor dependencies and has been looking for trusted alternatives beyond East Asia. India offers political stability, is skilling talent and has a large domestic market, it is being seen as a viable partner. This is quite evident from recent commitments by global players such as Micron, which is setting up a $2.75 billion assembly plant in Gujarat, Lam Research, which is investing over $1 billion and NXP Semiconductors also plans to ramp up R&D operations in India.

India's semiconductor market, currently estimated at $38 billion (as of end-2024), is projected to grow to $109 billion by 2030, according to IESA. This growth will be driven by increasing demand from telecom, consumer electronics, defence, and electric vehicle segments.