

July 21, 2026

Semicon 2.0 – India's Step from Doing the Design Work to Owning the Design Itself!

What's the Point?

Semicon 2.0 changes the Ambition, not just the Budget: On July 15, 2026, the Union Cabinet approved Semicon 2.0, a ₹1,27,500 crore programme that goes beyond simply scaling up the ₹76,000 crore Phase 1. Where Phase 1 largely supported assembling and packaging chips manufactured elsewhere, Phase 2 aims to back chip-design in India and the manufacture of the equipment and materials that the fabrication plants rely on. The incentives reflect this shift, with the Government extending support to the makers of equipment, chemicals, gases and materials, alongside a move towards equity-based support for chip-design.

A Long-Duration Structural Opportunity: At the Cabinet briefing, the Minister for Electronics and IT mentioned that the mission is expected to attract around ~₹4 lakh crore in investment, generate ~₹2 lakh crore in production, and deliver ~₹1 lakh crore in exports over the scheme period. If the mission succeeds, the resulting structural transformation could translate into a lower import bill, better paying jobs, and a more resilient supply chain.

India imports the large majority of its chips, with industry estimates putting import dependence at around 85-90%. Domestic consumption, estimated at ~US\$52 billion in 2024-25 by the India Electronics and Semiconductor Association (IESA), is set to nearly double to ~US\$103 billion by 2030. With the demand increasing quickly, building domestic manufacturing and design capacity – the core aim of Semicon 2.0 – will be key to closing the gap between what India consumes and what it manufactures.

Semicon 1.0: From Policy Intent to Production Reality

- **Manufacturing:** Under Phase 1 (approved in December 2021), India has cleared 12 semiconductor projects worth over ₹1.64 lakh crore across the value chain: a) 1 Silicon Fab, b) 1 Compound Semiconductor Fab with Packaging, c) 1 Micro LED Display Gallium Nitride Fab with Packaging, and d) 9 ATMP / OSAT* units across Gujarat, Uttar Pradesh, Punjab, Assam, Odisha and Andhra Pradesh.

Commercial production has begun at 3 facilities – Micron ATMP, Kaynes Semicon and CG Power OSAT – anchored by the ~₹91,000 crore Tata-PSMC (Powerchip Semiconductor Manufacturing Corporation) Dholera fab (50,000 wafers/month, 28 nanometre) and Micron's Sanand plant, marking India's shift from policy intent to actual manufacturing.

- **Design:** 24 startups and MSME chip-design projects have been funded and 105 firms given access to industry-standard Exploratory Data Analysis (EDA) tools. They are building chips and System on Chip (SoCs) for satellite communications, drones, surveillance, Internet of Things devices, LED drivers, AI, telecom and smart metres at different stages – ranging from prototype to deployment.

Semicon 2.0: Twin Shifts – Designing the Chip, Rising the Value Chain

While Phase 1 mostly helped India do the final step, that being, assembling and packaging chips others had designed and manufactured, Phase 2 tackles the trickier and more profitable part of the business.

Semicon 2.0 expands into 6 areas (Please refer to the infographic on the right-hand side), aiming to design chips and manufacture the specialised inputs they require. The

SIX STRATEGIC PILLARS

Semicon 2.0

1 Design

Semicon 2.0 will build upon the initial success in chip design.

2 Machines & Materials

Companies involved in the manufacturing and R&D of machines, materials, chemicals and gases essential for semiconductors will be incentivized.

3 Setting up more Fabs

Efforts will be made to attract more manufacturers to India to set up fabs to manufacture chips.

4 Strengthening ATMP/OSAT

The world is now looking at India as an alternative location for setting up ATMP/OSAT units.

5 Research & Development

The focus will be on developing more advanced nodes and other advanced technologies in collaboration with leading R&D centres.

6 Talent Development

With 315 universities training students on complex chip design, around 68,000 students have already been trained.

Source: Press Information Bureau (PIB)

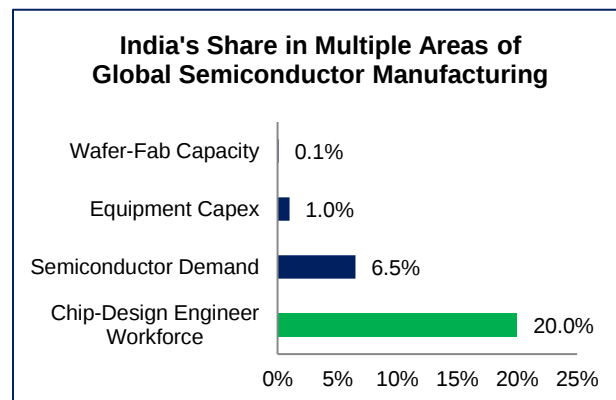
shift from Phase 1 to Phase 2 resembles shifting from phone assembly to processor design – a harder, higher-value step. This emphasis steers India toward capabilities that are much harder for other nations to replicate.

To ease the persistent lack of patient capital for chip-design startups, the Government intends to co-invest with venture capital (VC) funds instead of depending largely on standalone grants. After receiving initial grants for prototype development, startups that attract VC funding would be eligible for matching Government investments on the same terms and equity class as private equity investors. The Government will act only as a passive investor, without governance rights, and will exit as firms scale. Formal guidelines are yet to be issued.

India's Chip-Design Talent: Turning Strength into Ownership

As per PIB, India is home to nearly 20% of the world's chip-design engineers. However, this metric does not paint the full picture. Most of these skilled chip-design engineers work inside Global Capability Centres (GCCs) owned by foreign tech giants. As a result, the final product designs, financial profits, and strategic value belong to companies headquartered abroad.

In the past, lack of research funding and fabrication facilities pushed top chip-design projects and talent overseas. However, Semicon 2.0 aims to change this situation by encouraging global firms to build local product teams and fund Indian startups that can develop their own proprietary technology. This transition from talent provider to technology owner could be a key opportunity and support an important national goal.



Source: MeitY, India Semiconductor Mission, PIB. UBS 2025 estimates (via India Briefing). Share in multiple areas of Global Semiconductor Manufacturing of the respective global totals

Conclusion

While Semicon 2.0 is a step in the right direction for the Indian Economy, risks like the expectation of the first fab not being operational until 2028 and the global chip cycle remaining prone to periodic bouts of oversupply, prevail. Hence, it will be noteworthy to see India make the leap from doing the design work to owning the design itself. Having said that, execution risk accompanies every structural transformation. India's shift towards the higher-value end could be key to increasing India's self-reliance and placing our Nation on the global map.

Sources: PIB, MeitY, India Semiconductor Mission, IESA, and other publicly available information. **ATMP:** Assembly, Testing, Marking, and Packaging; **OSAT:** Outsourced Semiconductor Assembly and Test

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