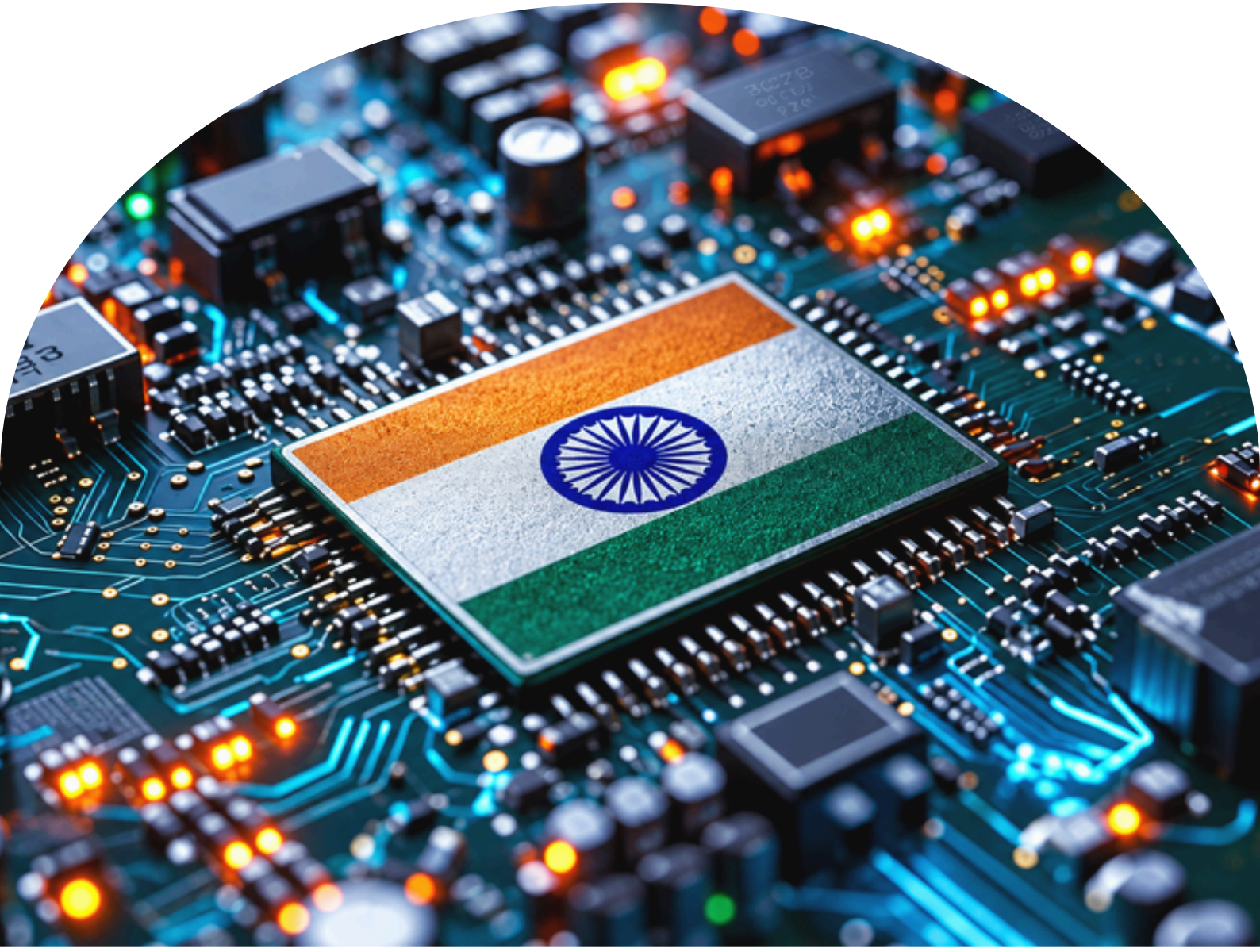
ACHINTYA

Achintya Securities Limited

India's ₹1.27 Lakh Crore Semiconductor Push

Can India Move from Chip Assembly to a Complete Semiconductor Ecosystem ?



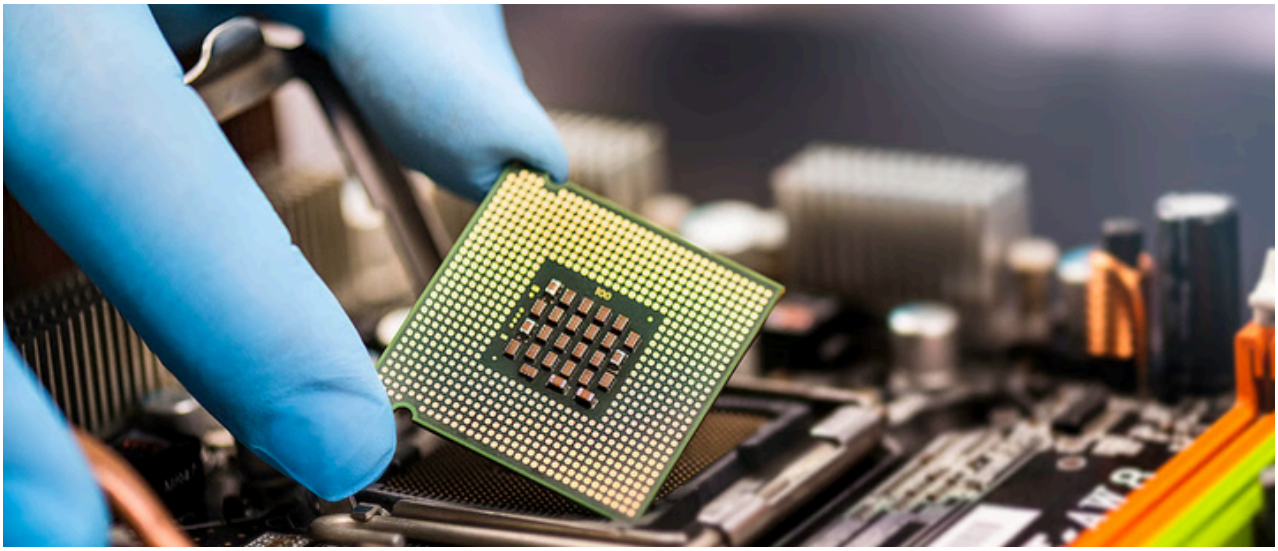
September 19, 2026

Introduction

India's semiconductor ambitions are entering a more difficult and important phase. The first phase of the India Semiconductor Mission attracted fabrication and packaging projects, but much of the machinery, materials, intellectual property and production technology required by these facilities will still come from overseas. **Semicon 2.0** aims to address this weakness by extending government support across the entire value chain.

The Union Cabinet approved **Semicon 2.0** in July 2026 with an outlay of **₹1,27,500 crore**—approximately **68%** higher than the **₹76,000 crore** allocated to Semicon 1.0. The policy was subsequently notified on August 31, and its implementation has taken centre stage at SEMICON India 2026, inaugurated by Prime Minister Narendra Modi on September 17.

The opportunity is considerable. India's semiconductor market is projected to reach approximately **$110 billion** by FY2030 and exceed **$200 billion** by FY2035. However, an estimated **90–95%** of current demand is met through imports. India already employs nearly one-fifth of the global semiconductor-design workforce, but much of this talent works for foreign companies whose intellectual property is owned outside the country.



Why Semiconductors Have Become Strategic Infrastructure?

Semiconductors are no longer used only in computers and smartphones. Automobiles, medical equipment, industrial machinery, telecom networks, satellites, defence platforms, payment systems, renewable-energy equipment and data centres all depend on specialised chips.

Modern electric vehicles require power semiconductors, sensors, microcontrollers and battery-management chips. Telecom networks require radio-frequency and baseband processors. AI data centres depend on accelerators, high-bandwidth memory and advanced packaging. Defence and space equipment require trusted, secure and often radiation-resistant chips.

This dependence creates a strategic vulnerability because semiconductor production is geographically concentrated. Taiwan accounts for more than **60%** of global chip production and nearly **90%** of advanced chips, while a small group of companies in the Netherlands, Japan and the United States dominate critical manufacturing equipment and design software.

The pandemic demonstrated how a shortage of relatively inexpensive automotive chips could stop production of vehicles worth several lakhs of rupees. Future disruptions involving Taiwan, trade restrictions or export controls could affect India's automobile, telecom, defence and electronics industries simultaneously.

Domestic semiconductor capability is therefore not merely an import-substitution policy. It is intended to ensure that strategically important Indian industries retain access to critical components even when global supply chains become politically or commercially disrupted.

The Scale of India's Import Dependence

India imported almost **$150 billion** of semiconductor products cumulatively between FY2017 and FY2025. These imports expanded at an annual compounded rate of approximately **23%**. The demand is likely to increase considerably as domestic production of smartphones, automobiles, telecom equipment, solar inverters, data-centre hardware and industrial electronics expands. Government estimates place India's semiconductor market at approximately **$110 billion** by FY2030 and more than **$200 billion** by FY2035.

India currently meets approximately **90–95%** of its semiconductor requirement through imports. Therefore, rapid electronics manufacturing without greater localisation can produce a paradox: India may become a major exporter of finished electronic products while continuing to import many of their highest-value components.

This is already visible in mobile-phone manufacturing. India has developed large-scale assembly operations, but domestic value addition remains limited by dependence on imported displays, memory, processors, sensors and other components. As electronics production grows, the semiconductor import bill can continue rising unless local suppliers move deeper into the value chain.

However, complete semiconductor self-sufficiency is neither realistic nor economically necessary. Even established semiconductor nations depend on other countries for equipment, materials, intellectual property or manufacturing. India's objective should be to secure domestic capabilities in strategically important technologies and become globally competitive in selected areas rather than attempt to manufacture every type of chip.

What Did Semicon 1.0 Achieve?

The government launched **Semicon 1.0** in December 2021 with an outlay of **₹76,000 crore**. At that time, India did not have a commercial semiconductor-manufacturing ecosystem of meaningful scale.

By September 2026, twelve manufacturing projects carrying proposed investment of more than **₹1.64 lakh crore** had been approved. These include one silicon fabrication plant, one silicon-carbide facility, one integrated gallium-nitride Micro LED display fab and nine packaging facilities. The projects are spread across Gujarat, Assam, Uttar Pradesh, Odisha, Punjab and Andhra Pradesh.

Five approved units have commenced commercial production according to the latest government update. Twenty-four chip-design projects worth approximately **₹900 crore** have received approval, while more than **one lakh** engineers across **500** organisations have received access to advanced design tools. Together, participating institutions and startups have developed more than **300** chip designs.

The largest project is Tata Electronics' proposed fabrication plant at Dholera, Gujarat, in partnership with Taiwan's Power chip Semiconductor Manufacturing Corporation. The project involves investment of more than **₹91,000 crore** and is planned to process up to **50,000** wafer starts per month. Commissioning of India's first major commercial silicon fab is scheduled for 2028.

Tata Electronics is also developing a **₹27,000 crore** semiconductor-packaging facility in Assam, while Micron's Gujarat facility involves investment of approximately **₹22,516 crore**. CG Power and Kaynes Technology have begun building commercial packaging capabilities. These approvals have established a foundation, but an approved investment is not the same as successful production. Semiconductor projects must install equipment, transfer production processes, qualify products with customers, improve manufacturing yields and achieve sufficient utilisation. This process can take several years after physical construction is completed.

How Semicon 2.0 Changes the Subsidy Structure

Semicon 1.0 generally offered central fiscal support of up to 50% of eligible project costs. **Semicon 2.0** uses a more differentiated structure, providing higher support to technologically complex projects and lower support to established packaging processes.

Large silicon-wafer fabs will receive support equal to **40%** of eligible capital expenditure. To qualify, a project must use 300-millimetre wafers, provide at least **40,000** wafer starts per month, involve minimum investment of **₹20,000 crore** and demonstrate group or joint-venture revenue of at least **₹7,500 crore** in one of the previous three financial years.

These conditions effectively restrict large-fab support to financially strong companies with proven technology partners. A startup cannot obtain the subsidy merely by announcing a fabrication project. Applicants must own or possess licensed, production-grade technology and demonstrate the financial ability to operate the plant.

Compound-semiconductor, photonics, sensor, MEMS and discrete-semiconductor fabs can receive support of **35%** of eligible capital expenditure. Their entry threshold is lower, with minimum investment of **₹500 crore** and revenue of **₹200 crore**. These technologies are important for electric vehicles, renewable energy, chargers, telecom equipment, defence and industrial electronics.

Display fabs producing OLED, Micro LED or LCD panels can also receive support of up to **35%**, subject to technology-specific investment, capacity and revenue thresholds. This differentiated structure should improve the allocation of public funds. It recognises that a large silicon fab, a power-semiconductor facility and a legacy packaging unit do not carry the same capital requirements or technology risks.

What Does This Mean for Investors?

Semicon **2.0** creates a large industrial opportunity, but investors must distinguish between direct beneficiaries and companies merely associated with the theme.

CG Power and Kaynes Technology have direct exposure through semiconductor-packaging facilities. Their future returns will depend on customer qualifications, utilisation, manufacturing yield, subsidy receipts and the profitability achieved after accounting for depreciation and startup expenses.

Companies involved in electronics manufacturing, printed circuit boards, high-density interconnects, displays and camera modules could benefit indirectly as semiconductor and electronics supply chains deepen. Engineering-services companies may receive more chip-design and embedded-system work, while industrial suppliers could benefit from demand for power systems, cleanrooms, water treatment and precision equipment.

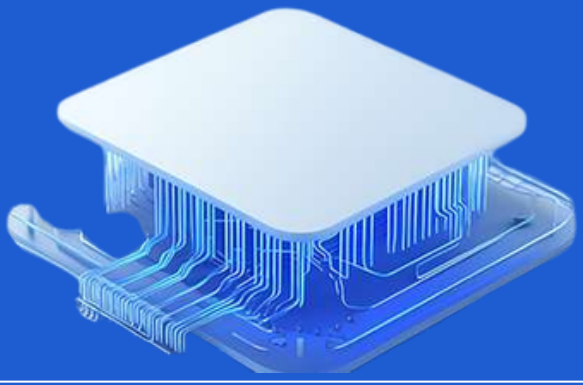
Nevertheless, several of India's largest semiconductor projects are housed in unlisted entities such as Tata Electronics and Micron's Indian subsidiary. Buying a listed group company does not necessarily provide meaningful economic exposure to these projects.

Investors should therefore examine:

- The percentage of company revenue actually linked to semiconductors
- Confirmed customers rather than only proposed capacity
- Commercial-production and qualification timelines
- Subsidies received in cash versus incentives recorded as receivables
- Utilisation and yield after production begins
- Debt, depreciation and working-capital requirements
- Technology-licensing arrangements and dependence on foreign partners
- Whether semiconductor revenue can earn an adequate return on capital

The first years of a new facility can reduce consolidated margins because employee, testing and depreciation costs begin before utilisation reaches an efficient level. A successful semiconductor investment should therefore be evaluated over a multi-year period rather than through the first quarter of production.

Valuation is another risk. Semiconductor-linked companies can receive premium valuations years before their new capacity generates meaningful profits. The policy may be positive for the industry while still producing disappointing investment returns if expectations already assume flawless execution.



What's Next?

Applications under **Semicon 2.0** will initially remain open for three years, while fiscal support for approved projects can extend for up to six years. The first important indicator will be the quality of applications rather than simply their number.

India needs projects with experienced technology partners, identifiable customers and clear paths toward competitive production. Approving multiple plants without customer demand or supplier networks could create subsidised capacity that operates below efficient utilisation.

The second milestone will be the ramp-up of the packaging units that have recently entered production. Their ability to win global customers, improve yields and export packaged chips will show whether India can compete on quality and reliability rather than only cost.

The most important manufacturing test will arrive around 2028, when Tata Electronics' Dholera fabrication plant is scheduled for commissioning. Its construction progress, equipment installation, technology transfer and eventual utilisation will determine whether India can move from packaging imported wafers to commercial front-end chip fabrication.

Semicon 2.0 is therefore not evidence that India has already achieved semiconductor self-reliance. It is a long-term attempt to build capabilities that currently do not exist at scale.

The policy's real success should not be measured only through announced investment or the number of approved factories. It should be measured through commercially produced wafers, qualified global customers, Indian-owned intellectual property, higher domestic value addition, competitive manufacturing yields and the creation of suppliers capable of operating without permanent government support.

India already possesses demand, engineering talent and policy commitment. **Semicon 2.0** provides the financial architecture to connect them. The more difficult task begins now: converting subsidies and construction projects into a semiconductor ecosystem that can compete globally after the incentives have ended.

Achintya Securities Limited

Member: NSE, BSE, MCX, NCDEX, MSEI | DP: NSDL,CDSL