



SEMICON India 2026: From Silicon to Systems, India's Semiconductor Journey on Display

Exhibition Brought Together Industry, Academia, Start-ups and Policymakers, Showcasing India's Expanding Capabilities Across the Semiconductor Value Chain

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For three days, Yashobhoomi in New Delhi served as a showcase of India's growing semiconductor capabilities. From chip design and advanced packaging to materials, equipment, artificial intelligence and high-performance computing, **SEMICON India 2026** brought together different parts of the semiconductor ecosystem under one roof.

Held from **17 to 19 September 2026**, the fifth edition of SEMICON India was organised around the theme **"Silicon to Systems: Building the Ecosystem"**. The event brought together the global semiconductor ecosystem, including industry leaders, policymakers, investors, academia and start-ups. The 2026 edition featured **more than 600 exhibiting companies** from various countries, along with a Start-up Pavilion, Workforce Development Pavilion, country and state pavilions, and a hackathon.

The exhibition provided a glimpse into how India's semiconductor journey is expanding beyond chip design towards a broader ecosystem covering manufacturing, packaging, research, materials, talent and system-level applications.

From Chip Design to Advanced Computing

One of the key features of the exhibition was the range of indigenous semiconductor and computing capabilities on display.

C-DAC showcased its work in high-performance computing and AI, including the **AUM HPC-AI Processor** and the **RUDRA-AUM compute node**. These efforts reflect the growing focus on developing indigenous capabilities not only at the chip level but also across computing systems.

The exhibition also highlighted the broader movement towards indigenous processor design. India's semiconductor ecosystem has increasingly seen domestic start-ups and institutions develop processor technologies, application-specific chips and system solutions for sectors ranging from telecommunications and automotive applications to artificial intelligence and surveillance.

Chips for Everyday Applications

The exhibition also offered visitors a look at how semiconductor technologies can move from laboratories and design centres into everyday products.

Indian semiconductor companies and start-ups showcased solutions for applications such as smart appliances, connectivity, surveillance, industrial systems, energy management and automotive technologies.

Among the companies highlighted in the Indian chip-design ecosystem is **Vervesemi Microelectronics**, which is developing semiconductor solutions for motor control, energy meters and data acquisition applications. Its work includes chips for applications such as consumer appliances, electric mobility and drones.

Such application-specific semiconductor products demonstrate the importance of indigenous chip design in building a wider electronics manufacturing ecosystem.

RISC-V: Building Indigenous Processor Capabilities

C-DAC's indigenous 64-bit RISC-V processor strengthens India's capabilities in homegrown processor design and semiconductor technologies. Based on the open RISC-V architecture, it supports high-performance computing and emerging digital applications. Its adoption in indigenous solutions demonstrates India's growing expertise in developing advanced processor technologies for next-generation computing, connectivity and digital infrastructure.

InCore Semiconductors showcased its work around indigenous **RISC-V processor IPs and SoC design automation tools**.

Its portfolio includes processor platforms designed for different levels of computing requirements, with applications spanning embedded systems and edge-AI use cases. InCore's processor IP has been silicon-proven across multiple customer chips and across technology nodes ranging from 180 nm to 16 nm.

The development of such processor technologies is an important component of the broader semiconductor design ecosystem, enabling Indian companies to develop products around domestically developed intellectual property.

Aheesa Technology has developed an indigenous internet connectivity device capable of delivering speeds of up to 1 Gbps, enabling Internet Service Providers (ISPs) to connect approximately 64 homes through a single Optical Line Terminal (OLT). The device runs on Vihan, a software platform developed entirely in India, and is powered by C-DAC's 64-bit RISC-V processor. The solution represents a significant step towards strengthening India's indigenous technology capabilities and advancing high-speed broadband connectivity through a fully Indian technology stack.

AI, Vision and Smart Surveillance

The growing convergence of semiconductors and artificial intelligence was another prominent feature of the exhibition.

Netrasemi, an Indian semiconductor start-up, showcased its work in AI-capable **System-on-Chips (SoCs)** for applications including secure surveillance, smart sensors, robotics, drones and mobility.

The company has taped out an indigenously designed AI SoC for CCTV Surveillance in the 12 nm process node, integrating AI/ML accelerators, vision processing and video engines. Its technologies are aimed at applications requiring intelligent vision and edge processing.

The exhibition demonstrated how advances in semiconductor design are increasingly enabling applications in areas such as machine vision, smart infrastructure, autonomous systems and surveillance.

Semiconductor Innovation Across the Value Chain

The exhibition was not limited to chips alone. It reflected the larger ecosystem required to develop and manufacture semiconductor products.

From materials and equipment to testing, packaging and system integration, the displays highlighted the interconnected nature of the semiconductor value chain.

This broader approach is central to **Semicon 2.0**, approved by the Union Cabinet in July 2026 with an outlay of **₹1,27,500 crore**. The programme builds on the foundation laid by Semicon 1.0 and focuses on six strategic pillars - **design; machines and materials; more fabs; advanced packaging; research and development; and talent development**.

From Start-ups to Research Institutions

The Start-up Pavilion provided another window into India's emerging semiconductor design ecosystem.

The Government's Design Linked Incentive (DLI) Scheme has supported domestic chip-design projects across areas including video surveillance, drone detection, energy meters, microprocessors, satellite communications, broadband and IoT SoCs.

The **Chips to Startup (C2S) Programme** is also supporting the development of semiconductor design capabilities among students, researchers, institutions and start-ups. The programme is aimed at creating a larger pool of skilled chip designers and strengthening the country's electronic system design capabilities.

More than **one lakh engineers** from over **500 organisations** across the country, including **400 academic institutions and 100 start-ups**, have been onboarded by the ChipIN Centre under the C2S Programme and DLI Scheme. They have been provided access to advanced chip-design tools, chip-design and fabrication services, and specialised training. Together, these institutions and start-ups have developed **more than 300 chip designs** for fabrication at foundries in India and abroad and have recorded **over four crore hours** of chip-design tool usage. This unprecedented scale has helped create the largest centralised chip-design user base at the ChipIN Centre.

From Policy to Production

The exhibition **was held at a time when** India's semiconductor ecosystem was moving from foundational policy support towards manufacturing and commercial production.

Under the Semicon India Programme, **12 semiconductor projects have been approved across six states**, with investment commitments exceeding **₹1.64 lakh crore**. Three facilities have already commenced commercial production.

At SEMICON India 2026, the emphasis was therefore not only on what India aims to build, but also on capabilities that are already being developed across design, manufacturing, packaging and related technologies.

Building the Complete Ecosystem

The theme **“Silicon to Systems: Building the Ecosystem”** captures the changing scope of India's semiconductor ambitions.

The semiconductor ecosystem requires much more than the fabrication of individual chips. It brings together chip designers, fabs, packaging and testing facilities, equipment and materials suppliers, research institutions, start-ups, system companies and a skilled workforce.

SEMICON India 2026 brought these different elements together, **offering** a view of an ecosystem developing across the value chain and connecting indigenous innovation with global semiconductor opportunities.

From processor design and RISC-V technologies to AI-enabled SoCs, motor-control chips, advanced computing and semiconductor manufacturing, the exhibition showcased the many layers of India's semiconductor journey.

The story on display at Yashobhoomi was therefore not just about the chip. It was about everything that surrounds it: **the silicon, systems, people, research, manufacturing capabilities and partnerships** needed to build a complete semiconductor ecosystem.

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