Semicon India 2025 Showcases Indian Startups Accelerating the Roadmap for Aatmanirbhar Chips under the Design Linked Incentive (DLI) Scheme

Roadmap for Indigenous System-on-Chip (SoC) solutions Unveiled for Broadband, Surveillance, Smart Energy Meters, Motor Control & Space Applications Advancing India’s Vision of a Full-Stack Semiconductor Nation

Breakthrough Reduced Instruction Set Computer RISC-V Technology Based System-on-Chip (SoC) Generator Platform Marks a Leap in Chip Design Automation keeping our semiconductor journey with the latest tools in the world

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On Day 2 of Semicon India 2025, held at Yashobhoomi in New Delhi, Prime Minister Shri Narendra Modi visited the exhibition stalls. He was accompanied by Minister of Electronics and Information Technology, Shri Ashwini Vaishnaw and Minister of State for Electronics and Information Technology, Shri Jitin Prasada. During his visit, the Prime Minister underscored the pivotal role of startups in propelling India’s semiconductor ambitions and importance of Indian Intellectual Property(IP) creation.

DLI-backed Startups Showcase Chip Design Self-Reliance at Semicon India 2025

Backed by the Government of India’s Design Linked Incentive (DLI) Scheme, domestic chip design and IPR is accelerating across critical sectors, from surveillance and energy metering to networking and motor control. To date, **23 chip design projects** have been sanctioned under the DLI Scheme, with **72 companies** gaining access to industry-grade Electronic Design Automation (EDA) tools. Many of these startups showcased their roadmaps at Semicon India 2025, reflecting India's growing capability and self-reliance in semiconductor chip design.

New System-on-Chip Platforms Demonstrate India’s Advancements in Chip Design Automation

Breakthrough RISC-V Based SoC Generator Platform

InCore Semiconductors, founded by the creators of the SHAKTI Processors - the first open-source

RISC-V processor in India - has launched an innovative **System-on-Chip (SoC) Generator Platform that reduces frontend chip design time from months to just a few minutes.** This automation accelerates development timelines, lowers costs, and minimizes design risks, enabling faster innovation cycles of their customers.

A test chip taped out on TSMC's 40nm process node showcases six heterogeneous RISC-V cores from InCore's IP portfolio, a custom Network-on-Chip (NoC) with automatic protocol bridging, multiple automatically integrated peripherals, and a fully deployed software stack including an Real Time Operating System (RTOS), underscoring the platform's robustness. InCore offers a diverse RISC-V processor portfolio with three specialized families tailored to different application needs, featuring extensive customization options:

- ***Azurite*** delivers ultra-low power consumption with rapid interrupt response and deterministic timing, making it ideal for motor control, battery-operated devices, and precise real-time control.
- ***Calcite*** balances power and performance for mid-tier embedded applications such as POS terminal, IP camera, and smart IoT devices, optimizing energy efficiency for mainstream use cases.
- ***Dolomite***, currently under development, is designed to provide high-performance vector processing and hardware virtualization to support complex, multi-workload environments typical in networking and edge AI.

Networking and Broadband solutions

Aheesa Digital Innovations will make available its SoC along with reference platforms to Original Equipment Manufacturer(OEMs) and Original Design Manufacturers (ODM)s in first quarter of 2026, enabling them **to develop custom networking and broadband solutions** using a 100% indigenously designed, Made-in-India SoC. The Vihaan SoC is built around the 64-bit C-DAC RISC-V based VEGA processor and includes Secure Boot and advanced security enhancements. It also features essential network interfaces and standard connectivity options such as PCIe 3.0, USB 3.0, and others required for broadband and network communications.

Surveillance and CCTV cameras

Four Indian companies, **3rdiTech, Netrasemi, BigEndian Semiconductors, and Mindgrove Technologies**, are designing indigenous SoC solutions for critical applications such as surveillance and CCTV cameras. Having successfully taped out test chips in 2025, these companies underscore India's growing expertise and self-reliance in semiconductor technology. Collectively, they have raised over ₹300 crore in VC funding (including funding support from DLI Scheme) at a combined valuation exceeding ₹1,000 crore, aimed at scaling up operations and developing production-grade variants of their CCTV solutions, scheduled for launch in 2026.

Smart Energy Meters

MosChip Technologies developing **Vidyut**, a fully indigenous Smart Energy Meter chip and has successfully validated key IPs, including the Power Management Unit, Temperature Sensor, Clock Management Unit, and LCD Panel Controller, on a 180nm test chip, with packaging done by SCL Mohali. MosChip plans to make Vidyut completely indigenous, including its fabrication, supporting India's push for self-reliance in semiconductor chip design by 2026.

Motor Control

Vervesemi is targeting volume production of its indigenous chips and SoCs by late 2026 to early 2027, with a strong pipeline of application-specific ICs for Brushless Direct Current (BLDC) motor control, precision motor-control for EVs and drones, smart energy metering, and next-gen weighing systems. Additionally, advanced Application-Specific Integrated Circuits (ASICs) for space-grade data acquisition are in the works with ISRO replacing several imported components, with engineering samples expected between late 2025 and 2026, positioning them as a key player in reducing import dependence and enabling self-reliant electronics in critical sectors.

4G-LTE modem chipset

MBit Wireless has indigenously developed a 4G-LTE modem chipset with a complete protocol stack

software, successfully certified by the Global Certification Forum (GCF) and LG labs. The chipset is being field tested with major Indian telecom companies for exploring adoption.

Under the leadership of Prime Minister Shri Narendra Modi, India is now moving beyond the backend to become a full-stack semiconductor nation. These domestic fabless chip design companies and others supported under the DLI Scheme together are advancing the vision of India's ambition of designing chips in India for the world.

About RISC V

RISC-V is a free, open standard, and modular instruction set architecture (ISA) based on the principles of Reduced Instruction Set Computer (RISC). Developed at UC Berkeley, it provides unprecedented design freedom by being open and royalty-free, allowing anyone to design and use custom processors for a vast range of applications, from embedded systems to supercomputers, and fostering innovation in areas like AI, IoT, and data centers.

About SoC Generator Platform

A System-on-Chip (SoC) Generator Platform is a specialized, automated tool or environment that streamlines the design, integration, and verification of a System-on-Chip. SoC is an integrated circuit that compresses all of a system's required components onto one piece of silicon.These platforms automate complex and time-consuming aspects of chip design, such as integrating various intellectual property (IP) cores (like CPUs, GPUs, memory, and peripherals) and ensuring functional correctness. By doing so, they significantly reduce the design cycle, from concept to silicon-ready, making SoC development more efficient, accessible, and potentially error-free.

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