



Vel Tech
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R&D Institute of Science and Technology
DEEMED TO BE
University
(Est. u/s 3 of UGC Act, 1956)
Avadi, Chennai



**Chips to Startup
Programme**

SCHOOL OF ELECTRICAL AND COMMUNICATION
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
VEL TECH - CHIPS TO STARTUP (C2S)
CENTRE OF EXCELLENCE IN SEMICONDUCTOR AND VLSI DESIGN
(Supported by MeitY, Government of India)
“Empowering Future Chip Designers for India’s Semiconductor Mission”

About the Chips to Startup (C2S) Lab

The Chips to Startup (C2S) Lab focuses on enabling end-to-end semiconductor design and innovation, from concept to prototype development. It provides access to industry-standard EDA tools and advanced infrastructure to support research, training, and product development in VLSI and semiconductor technologies. The lab encourages students and researchers to develop indigenous chip design solutions aligned with national semiconductor initiatives. It also promotes collaboration with industry and academia to nurture innovation and technology-driven startups.

Project Leadership

Chief Investigator (CI)

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Key Highlights

Infrastructure

✓ 5+ Industry-Standard EDA Platforms

✓ (Academic Licensed Software for Teaching, Research & Innovation)

S.No	Tool / Company	Category
1	SYNOPTIS (VLSI Design, Synthesis, Physical Design, Verification)	EDA Tools – IC Design & Verification
2	CADENCE DESIGN SYSTEMS (Analog & Digital IC Design, Layout, Simulation)	EDA Tools – IC Design
3	SIEMENS EDA (Verification & PCB Design Solutions)	EDA & PCB Design
4	AMD XILINX (FPGA Design & Implementation Tools)	FPGA & Embedded Platforms
5	RENESAS ELECTRONICS (PCB Design & Development)	Embedded Systems

6	ANSYS (Electromagnetic & Thermal Simulation)	Simulation & Analysis Tools
7	ALTIUM	PCB Design Solutions
8	KEYSIGHT	Test & Measurement Solutions
9	SILVACO	TCAD & Semiconductor Device Simulation Tools

25+ Licensed Tool Users enabling collaborative design, verification, and simulation activities.

✓ **Embedded Hardware Platforms**

Renesas Electronics Cortex-M33 Development Kits supporting real-time embedded system design and experimentation.

✓ **Research & Innovation**

- **6+ Active Research Projects in semiconductor and VLSI design domains.**
- **4+ International Conference Publications contributing to global research dissemination.**
- **1 Patent Filed in advanced semiconductor design methodologies.**
- **Ongoing Ph.D. Research focused on 14 nm CMOS Phase-Locked Loop (PLL) Design targeting high-performance communication and clocking systems.**

✓ **Student Skill Development**

6 Value-Added Training Programs designed to bridge academic knowledge with industry practices.

Hands-on Training Modules in:

- **Analog IC Design**
- **VLSI System Design**
- **FPGA-Based Hardware Development**

100+ Students Trained through practical lab sessions, design projects, and workshops.

✓ **National Achievement**

Three third-year ECE students were selected for the Samsung Fellowship – Cohort 7 under the Samsung Electronics India Semiconductor Workforce Development Program (ISWDP).

- **Awarded Grade II Fellowship with 75% Scholarship**
- **Selected among 4700+ applicants across India, demonstrating strong competency in semiconductor technologies.**

✓ **Impact**

The initiative aims to empower students with industry-grade semiconductor design expertise, enabling them to:

- **Develop practical skills in advanced IC design tools**

- **Contribute to innovative research and patent development**
- **Support India's expanding semiconductor ecosystem through skilled workforce development.**

✓ **Faculty Development Program**

NINE LABS, IIT GUWAHATI organized Five - Days Workshop on “VLSI DESIGN USING OPEN SOURCE TOOLS” Sponsored by Ministry of Electronics and Information Technology (MeitY) (23 - 27 February 2026)



Dedicated Lab C2S – 30 Systems – i7 Processor