



A Report on One day Workshop

“Avionics Communication Systems and Embedded with HDL”

About Event

Department of Electronics and Communication, Sarvajanic College of Engineering and Technology, Surat hosted a one day workshop entitled "**Avionics Communication Systems & Embedded with HDL**" on 9th February 2024 organized by eInfochips – An Arrow Company, Ahmedabad in association with IETE Surat Subcenter, IEEE Gujarat Section and IESA (India Electronics and Semiconductor Association). The event was an accomplishment, bringing together students, faculty, and industry professional for a day of learning, inspiration, and networking.

Faculty coordinators: Prof. (Dr.) Nehal Shah and Prof. (Dr.) Ketki Pathak

Student coordinators: Umang Gujarathi, and Jeel Ramani

Date: 9th February 2024

Time: 10:00 AM to 4.30 PM

Venue: A/V Room, ECE Department, SCET.

Participants: Students from 2nd, 3rd, 4th year of Electronics and communications engineering from SCET participated in the event.

Speakers:

Shri C P Umashankar

Director of Technology

Vedhya Technologies Private Limited, Bengaluru

A Hard core technologist with 25 years of experience in Design and Development of Embedded Software in the verticals of Avionics, Aerospace and Defense with proven success in embedded software components for multiple products ensuring quality of code and design in adherence to product specification and schedule with complete project/product life cycle management.

Shri Suree Sharma,

Co-founder and Vice President,

Vedhya Technologies Private Limited, Bengaluru

Brings 30 years of experience in areas of Operations, Solutions consulting, Partnership and Strategic Alliances. Experience in profiles related to software products, solutions consulting, software development and managing IT Infrastructure. Proficiency in key facets of business operations with ability to build and operate companies.

Dr. Jayesh Munjani

Physical Design Engineer

eInfochips (An Arrow Company), Ahmedabad

Instrumental in arranging the workshop.

Schedule of the workshop:

- ✓ 10:00 am to 11:00 am Avionics Technology and its building components (Chips, Boards, Systems)
- ✓ 11:00 am to 12:30 pm - walk-through of the platform and the possibilities of using the various Break-out / Plug-in boards
- ✓ 12:30 pm-1:30 pm- Lunch Break
- ✓ 2:00 pm-4:00 pm: hands-on session for the students who will develop applications based on VHDL / Verilog.
- ✓ 4:00 pm-4:30 pm- Summary and wrap up.

Key Highlights:

Workshop started with engaging presentations by renowned speaker Shri C P Umashankar, Director of Technology, Vedhya Technologies Private Limited, Bengaluru. He explained Avionics Technology and its building components with their design requirements. He also shared his firsthand experience of designing mechanism useful for Indian defense system. Attendees gained a deeper understanding of the field Avionics and role of Electronics Engineer in the field. In next session, Shri Suree Sharma, Co-founder and Vice President, Vedhya Technologies Private Limited, Bengaluru explained process of using GOWIN FPGA and development tool.

After Lunch there was interactive hands-on session which allowed participants to apply theoretical knowledge in practical settings. These interactive sessions facilitated active learning and provided a platform for skill development in HDL Design. During hands on session, team was built with mix of 2nd and 3rd year students. Hence the event provided ample networking opportunities, allowing attendees to connect with the speaker, faculty members, and peers. These connections are crucial for fostering collaboration and future partnerships.

Content beyond syllabus:

Students of 2nd year are studying course on VLSI Design. For them this was exposure to a new tool and FPGA from GOWIN Semiconductor as well as chips and board design process for Avionics Communication system. They received practical experience of using GUI based environment which includes steps from FPGA design entry, code synthesis, place & route, bitstream generation and to download on the GOWIN FPGA.

Students of 3rd year are studying Testing and Verification. They also use a new platform and new FPGA and elevate their knowledge of working with their own design with a different platform and board. They also cleared their doubts related to testing at various levels of design cycles with the experts from industry.

Students of 4th year who are doing internship in the domain attended the workshop and enhance their knowledge. It was good networking opportunity for them to discuss and explore various career options with the experts.

Outcome of the Workshop:

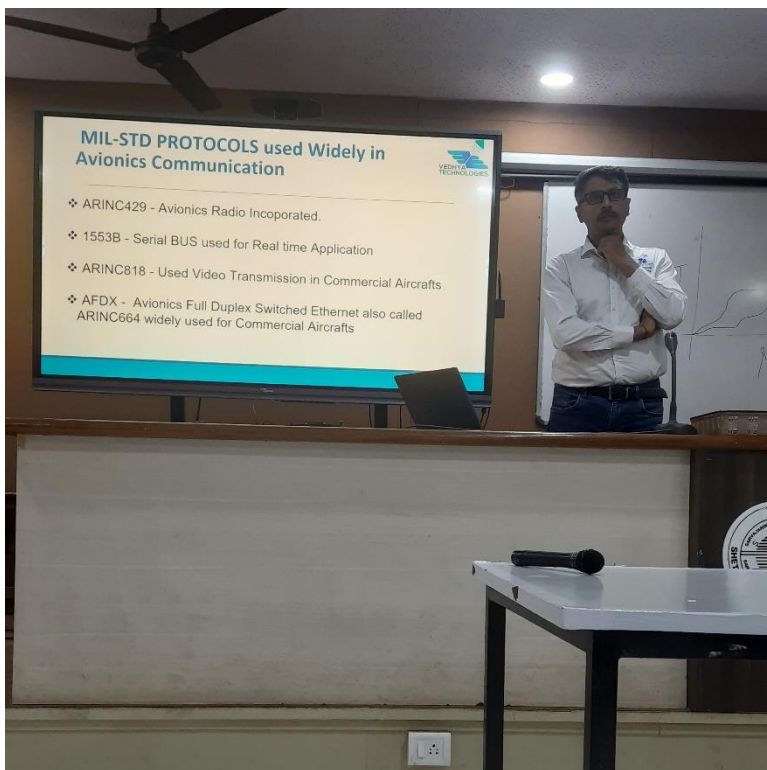
At the end of workshop participants were able to

- ✓ Use GOWIN EDA tool
- ✓ Write VHDL HDL code for combinational circuit
- ✓ Perform synthesis, place & route, bitstream generation for GOWIN FPGA
- ✓ Use GOWIN FPGA for testing circuit

Photographs of the event:



Shri Suree Sharma



Shri C P Umashankar





