



DESIGN CONTEST



Silicon Meets AI: Sustainable Innovations in Accelerated Computing, Secure Connectivity, and Intelligent Mobility

4-8 JANUARY 2025 | BENGALURU

ACCELERATED
COMPUTING

INTELLIGENT
MOBILITY

SECURE
CONNECTIVITY

PROPOSALS

The 38th International Conference on VLSI Design and the 24th International Conference on Embedded Systems are conducting the Design Contest to provide a platform to showcase semiconductors driving disruptive innovations in several areas such as AI/ML applications, Automotive, IoT, Motor Control, Healthcare, Robotics, Communications and Signal Processing.

Eligibility:

B.E./B.Tech. (3rd, 4th year), M.Tech., M.S./PhD

A minimum of 2 and a maximum of 4 students in the team plus a faculty mentor (optional) from the institute.

Bi-weekly calls will be setup to get updates from students who receive the kits for implementation.

Final Project Acceptance will be 5 from each category.



Download Template

Proposal submission deadline: 8th Sept 2024 AOE

Proposal acceptance to be sent out to teams: 15th Sept 2024 AOE

Teams will receive kits by: 25th Sept 2024 AOE

Final submission of the project: 10th Dec 2024 AOE

Final project acceptance: 18th Dec 2024 AOE



Submissions: www.vlsid.org
Enquiries: www.vlsid.org/contact-us





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Stage-1 : Idea Submission

- Your idea submission should cover a description of the idea along with an overall block diagram of your idea
- The platform on which you propose its implementation. You can choose only one platform from the listed three platforms
- Examples of it's application
- Benefits and value addition of your proposed solution
- Your team description along with your program, department, year of study, email and postal/ mailing address of the institute

Steps for the submission:

- Download the submission template available on the Conference website.
- Fill in all the required details with minimum font size: 10pt, Times New Roman font. Maximum length: two pages including tables, diagrams, and references (if any).
- Convert it to PDF before submission
- Submit the pdf using the web link available on the Conference website.

Following the first round of screening, teams will be shortlisted to convert their ideas into applications/solutions using the platform proposed during submission. Hardware kits will be shipped to the selected teams.

Stage-2 : Implementation

- Implementation should be on the platform provided.
- Experts from the respective conference teams will mentor them while implementing the design.

Selection Process and Awards:

- Stage 1: After stage-1 submission, 10 teams will be selected from each category/platform, that is, 10 kits from each category (NXP, Microchip, TI) for a total of 30 kits
- Stage 2: 5 Best projects from each category will be selected to present at the VLSID Conference (for a total of 15 teams)
- Award: 3 total awards (1 best award from each category). A prize money of Rs. 25,000 will be awarded for each category.



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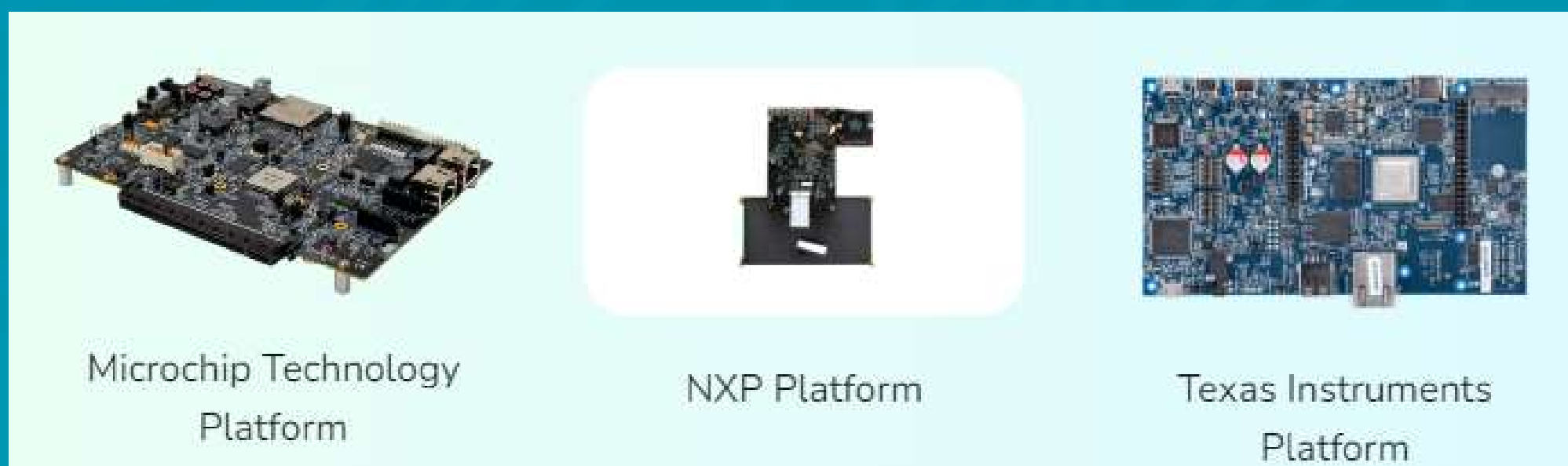


Hardware Platforms

We provide a choice between three hardware platforms to implement the proposed idea. We also list some example applications for the target platforms.

Hardware platforms supported:

- **NXP's NXP EdgeReady Smart HMI Solution Based on i.MX RT117H with ML Vision, Voice and Graphical UI**
 - Smart Appliances: White Goods (Refrigerators, Ovens, Laundry Machines, Air Conditioners), Countertop Appliances (Coffee Machines, Air Purifiers, Food Processors)
 - Smart Home: Alarm and Smart Home Control Panels, Thermostats, Universal Remote Controls, Home Entertainment
 - Smart Building, Industrial IoT: Elevator Controls, Industrial HMI, Healthcare Equipment, Transportation Systems, Access Controls and Identification
 - Remote Conference Systems
- **Microchip Technology's RISC-V based PolarFire® SoC Icicle Kit**
 - AI/ML – Object Detection and Classification, Face Detection, Camera-based Object Sorting
 - IoT – Medical-Patient Monitoring System, Home Automation, Industrial
 - Robotics with ROS
 - Automotive- ADAS
 - DSP/Communications related applications, Systems, Audio Processing.
- **Texas Instruments' SK-AM62A-LP**
 - Industrial Defect detection on the production line
 - Surveillance Cameras , Realtime intruder detection , people detection
 - Audio : Predictive Maintenance using Audio Analytics
 - Automotive : Passenger safety through realtime sensor analysis like camera video analytics, driver safety detection, drowsiness detection, drunk driving detection, seatbelt detection, child left behind detection
 - Robotics : Vision based 3D mapping, audio + vision analytics
 - Retail: warehouse management, shelf stock compliance (vision analytics)



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