Student Contest

Welcome to the second edition of the D-ITET PBL Smart Sensors for Industrial IoT applications contest! This competition addresses teams of Ph.D., Master, and undergraduate students, aiming to stimulate innovative ideas for Industrial and IoT applications in the area of sensors application and smart wireless sensors. This challenging contest is jointly promoted and organized by the D-ITET Center for Project-Based Learning (PBL - pbl.ee.ethz.ch) and it is sponsored by STMicroelectronics, which will provide one STWIN SensorTile Wireless Industrial Node development kit (www.st.com/en/evaluation-tools/steval-stwinkt1.html) to each team admitted to the competition. This multi-sensor device will be the platform of the contest, which may be extended by other external devices as needed. Those wishing to participate will have to submit a proposal, develop their idea and attend the final live demonstration sessions hosted at the international IEEE Sensor Application Symposium conference (SAS2022) in August 2022.

Two awards will be assigned (1st and 2nd place) for the best “Smart Sensors for Industrial IoT applications” during the demonstration event. The participants will have to attend the demo session and present their work; PBL will cover travel costs.
The competition is organized in two steps:

1\textsuperscript{st} step: Project pre-proposal (Due 15\textsuperscript{th} May, 2022)

Proposal Preparation and Submission:

The technical proposal (maximum of two pages) must include:

- the technical description of the project
- the significance of the application proposed
- the measurement methodology that will be implemented
- the planned integration on the STMicroelectronics STEVAL-STWINKT1 kit and how the proposal exploits its potential
- the planned demo with a detailed list of goals

- a short resume of the team members
- One-page presentation letter

Participating teams will include a maximum of four members

\textit{For the ETH Zürich D-ITET students, it would be possible to join the contest’s as group/bachelor/semester/master project.}

If the project is accepted, the team will receive the STEVAL-STWINKT1 by 22\textsuperscript{nd} May 2022 to start the project implementation.

2\textsuperscript{nd} step: Project pre-proposal (Due 15\textsuperscript{th} July, 2022)

Two pages report of technical implementation including:

- The final description of the implemented application
- The final description of the hardware and software architecture
- The achieved results
- The demo that the team will present

- A letter of commitment of the team members to attend the live demo session
- (optional) a 3 minutes video presenting the project
How to Submit:

The submission package will be one single email including:

- Technical project proposal (max. 2 pages) in pdf
- List of names and affiliation of the team members in pdf
- Letter of commitment to attend the live demo session at SAS2022
- (optional) Link to a video

The submission package must be addressed to Ms Sibylle Hochuli (sibylle.hochuli@pbl.ee.ethz.ch) and Mr. Tommaso Polonelli (tommaso.polonelli@pbl.ee.ethz.ch).

Proposals Selection Criteria:

The organizing committee will evaluate the proposals submitted based on the following criteria:

- Scientific excellence
- Novelty
- Potential impact
- Quality of the planned demo

Teams will be notified about the evaluation outcome shortly after the proposal submission deadline. Only those demos that will successfully demonstrate at least a large part of the goals stated in the proposal will be eligible for the award.

Two competition Awards will be given to the two best applications during planned Demo Sessions.

- 1st Prize: Amazon voucher of 1500$ value
- 2nd Prize: Amazon voucher of 750$ value

Organizing and Proposal Selection Committee:

- Dr. Tommaso Polonelli, (tommaso.polonelli@pbl.ee.ethz.ch)
- Dr. Michele Magno, (michele.magno@pbl.ee.ethz.ch)

Submission Deadlines:

15th May 2022: Step 1 Project proposal
15th July 2022: Step 2: Final Project Implementation
1-3 August 2022: Live demo session at IEEE Sensor Application Symposium conference (SAS2022)