TECHFEST 2023-24

IoT Technologies for Interconnecting Water, Land, and Air

Introduction

TIH Foundation for IoT & IoE (TIH-IoT), IIT Bombay has been set up as a Section-8 company (not-for-profit) by IIT Bombay under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS). It is implemented by the Department of Science and Technology (DST), Government of India.
TIH-IoT focuses on creating a self-sustained effort toward cutting-edge innovation through continuous research leading to a robust ecosystem consisting of entrepreneurship in advanced technology and innovation backed by the brightest minds in the country. The goal is to help India become a leader in technology-led economic growth.

AIM of the Ideation Competition

The aim of the competition is to provide a platform that brings innovative, modular, and cost-effective solutions to develop "Interconnecting Water, Land, and Air" for three different use cases. The present competition is focused on the ***Ideation Stage*** where the applications will be screened based on the presentation. The next level of competition is a ***develop stage*** where the shortlisted applicants will demonstrate the proof of concept/working model they develop after two months for any one or more of the 3 use cases covering three locations.

Technology Focus

IDEATE ***Interconnecting Water, Land, and Air*** competition is targeted mainly to discover innovative solutions for the problems in IoT and IoE. Grand Challenge Competition which brings innovative, modular, and cost-effective solutions to develop an "IoT Technologies Interconnecting Water, Land, and Air".
TIH IoT wishes to invite individuals/groups/Startups/academia/industry-professional with innovative solutions for solving issues and challenges (particularly in the Indian context) to solve the problems in the broad domain of "***Interconnecting Water, Land, and Air***".

Background

Recent scientific and technological advancements driven by the Internet of Things (IoT), Machine Learning (ML) and Artificial Intelligence (AI), distributed computing, and data communication technologies have opened up a vast range of opportunities in many scientific fields—spanning from fast, reliable and efficient data communication to large-scale cloud/edge computing and intelligent big data analytics.
However, there are still technological challenges faced when it comes to "Interconnecting Water, Land, and Air"
The competition brings innovative, modular, and cost-effective solutions to develop an "IoT Technologies for Interconnecting Water, Land, and Air" to be deployed at any one or more-use cases to collect and facilitate centralized monitoring of data. The deployment should be demonstrated on any use case provided below.
The Identification of problem areas is what differentiates this competition from other hackathons or challenges conducted by educational institutions. TIH IoT has been able to determine a few real-world problem statements in the specified IoT domain, which, if resolved, would greatly benefit a large population.

Problem Statement

The problem statement is the "Interconnecting Water, Land, and Air" which is to *develop IoT devices and interconnections for interconnection of water, land and air*. The ideation of the problem statement can be applied to any one or more of the 3 use cases.

1. Monitoring of Unmanned Underwater Vehicle (UUV), Unmanned Ground Vehicle (UGV) and Unmanned Aerial Vehicle (UAV)
2. Pollution monitoring
3. Health monitoring of Animals

Eligibility

1. Individuals or teams from the following categories are allowed:
a. Students/research scholars of authorized schools/institutions (students must submit their Valid School/College ID)
b. Startups or up to 3 years old pass-outs.
c. Industry professional involved in/willing for entrepreneurship.
1. A team is allowed to have a preferably maximum of 4 members.

Preliminary Evaluation (Abstract Submission)

i. Title
ii. Team Details
iii. Abstract (Max 2 pages)

1. Objectives
2. Use-case details (specifics of the application of technology)
3. Methodology and Outcomes

Final Evaluation (Presentation and/or any Preliminary Demonstration on submitted abstract)
Evaluation Criteria

1. All the submitted applications would be reviewed by our evaluators under different focus areas. Each application will be assessed by a set of evaluators to ensure the best submission gets selected for the next round.
2. The applications will be evaluated on different parameters namely; including but not limited to the creativity and novelty of the idea/innovation, originality, scalability, technology advantage, potential impact, implementation ability of idea and team.
3. The evaluation committee reserves the right to select or reject any submission without assigning any reasons whatsoever and without thereby incurring any liability to the participant(s) whatsoever.
4. The preference will be given to the participants who plan to appear in the "develop stage" competition.

Abstract Submission

- The Abstract should be mailed with the subject 'Ideate: 'Interconnecting water, land and air' Project
- Report: (for e.g., Ideate: 'Interconnecting water, land and air'" Project Report: SP12345). The abstract must be submitted in PDF format only and mailed to interconnection@techfest.org

Shortlisting

a. Top 3 teams (depending on the feasible ideas) will be selected from each use case and would get a chance to present and or demonstrate their model/idea in the Final Round.
b. Participants will get a slot for presenting their model/idea to the Judges based on which they will be evaluated.

Certificate Policy:

a. Only those teams that are shortlisted for the finals and give a final presentation and or demonstration would be awarded an e-Certificate of Participation.

Rewards

a. The top three teams could be awarded INR 1,50,000, INR 1,00,000, and INR 75,000 as the winner, 1st runner-up, and 2nd runner-up teams respectively for each use case.
b. Opportunity for the next level of funding for the continuation of the work on the idea which may be upto Rs. 5,00,000 support from TIH IoT per team. The winners will have further opportunity to be a part of EIR (Entrepreneur in Residence) or other grants under Entrepreneurship Development/Technology Development Programs depending on the TRL (Technology Readiness Level).
c. Final decision on the number of prizes will be based on the recommendations of the committee.

Timelines

Ideate Stage	
Abstract Submission	15th November 2023
Shortlisting of the Abstracts	24th November 2023
Submission of the presentation	20th December 2023
Presentation and Winners of the Ideation Competition	27th - 29th December 2023
Tentative timelines for Develop Stage Evaluations	
Demonstration of the working model	1st week of March 2024
Declaration of the Winners	2nd week of March 2024