



Vivekanand Education Society's Institute Of Technology
Department of Instrumentation
Students Achievement – A.Y 2020-21

OpenAutomation Challenge

A team of four Instrumentation students of final year participated and bagged 2nd Prize in National Level Project Competition

Details of the contest and their journey through OpenAutomation Challenge:



About the contest: National Level project competition named “openAUTOMATION Challenge 2020”, was organised by B&R Automation, Pune. It was an online event for students interested in developing innovative ideas focusing on automation, IoT and cloud-based solutions. The competition drew teams from the country's finest colleges based on application concept, innovativeness and feasibility of the idea for demonstrating innovative ideas.

Registration: Registrations began in Mid-July and were open until the end of September. A team consisting of 4 members: Shreyas kulkarni (Team Leader), Sahil Kedari, Chandraprakash Vishwakarma, Jayesh Korgaonkar and guided by Instrumentation faculty mentor Mrs. Nilima Warke registered under the team name “Automates” for the project competition on the title of “Industry 4.0 in Bottle Filling Process”. More than 35 teams had registered, across India, for the project competition .

First round: A total of 39 teams from various Indian states, comprising around 118 students from 17 colleges, applied to participate in the event. A panel of industry and academic experts selected 17 teams based on application concept, innovativeness, and practicality of the proposal. The team of “Automates” qualified one among the Top 17 Teams selected for round 2.

The competition started with a seven-day training programme from 1st December to 7th December 2020, followed by four days of project work. Mentors from B&R Automation India with a variety of expertise supported the teams. Shortlisted participants were trained on PLC programming language-Structured Text, HMI architecture, and the OPC-UA communication protocol. The 5-day challenge allowed teams to bring their ideas to life and



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showcase them to the jury. At the end, the jury judged the ideas for innovativeness, complexity, usability, completeness, feasibility and team effort.

In the following four days, the project titled “Industry 4.0 in Bottle Filling Process” was successfully implemented with OPC-UA Communication Protocol for remote monitoring and control of process parameters using Python. As a part of this project, a smartphone app was also developed using Flutter. In addition, based on sensor data, a regression model for predictive maintenance using machine learning was developed to predict the time for the next successive maintenance of an instrument.

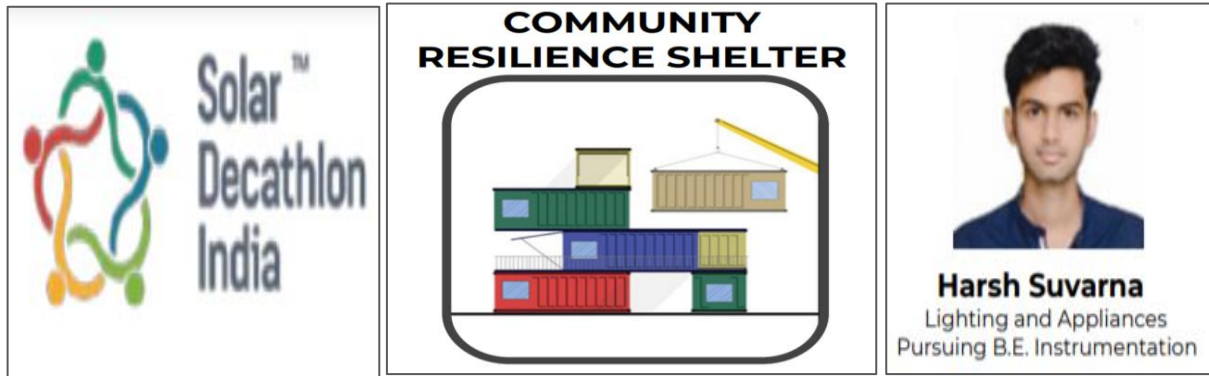
Final Round: Top 17 teams qualified for the finals among the total 39 teams which had registered and team “Automates” bagged Second Prize. They were provided with a [winner's certificate](#) and [Amazon gift card of Rs. 7006/-](#) and [one year free license of Automation studio](#).





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Solar Decathlon



[Solar Decathlon India](#) conducts every year Solar Decathlon Challenge, which invites postgraduate and undergraduate student teams from Indian institutions to join forces to combat Climate Change. This is an opportunity for student teams to design net-zero-energy-water buildings, contributing to real projects, while partnering with the leaders in real estate development. Solar Decathlon India helps students stay a step ahead and introduce innovative and affordable market-ready solutions. This is the resilient and carbon-neutral way forward for our sustainable buildings and communities.

For the year 2020-2021, there were 4 project topics to choose from and work on. Energy-efficient office buildings, educational buildings, multi-family housing and community shelter were the project topics to choose from. [A team named “Team Stellar”](#), which participated in the Solar Decathlon, consisted of 15 students out of which 12 were architecture students from Rachna Sansan College of Architecture and 3 engineering students from instrumentation (VESIT), mechanical and civil department respectively. As engineering students, most of their job was revolved around researching the type of technology and construction materials that could be used to optimize energy consumption and production as far as possible in order to design a building with an energy-efficient resilience shelter.

[Mr. Harsh Suvarna of final year Instrumentation engineering department, of VESIT](#), participated in this Solar Decathlon Challenge 2020-21, and his role as an instrumentation engineer was to research all the types of renewable energy that could be used to produce as much of the required load from renewable sources. Also, he had to calculate the amount of energy that would be required to meet the requirements of all the residents in the shelter and then choose the green technology accordingly. Many challenges were faced by the engineering team of students, like which primary source of renewable energy to use, its availability, most optimal use of energy and so on.

Participating in the Solar Decathlon challenge which is for a period of nine months, is very beneficial to students who are interested to make a career in renewable energy, which is a



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thriving industry in the age of global warming. It also pushed the students out of their comfort zone by working with people from varied disciplines.

The [team STELLAR](#) went on to become the [WINNERS](#) in their topic of “Community shelter”.