



Bhartiya Vidya Bhavans  
**Sardar Patel Institute of Technology**

Bhavans Campus, Munshi Nagar, Andheri West, Mumbai, Maharashtra 400058  
(C-33773)

**Event Summary Report**

**Drone Workshop**

**Program driven by:** IEEE AESS

**Program /Activity Type:** Workshop

**Event Theme:** Drones

**Duration of the Event:** 2 days

**Start Date:** 2<sup>nd</sup> September 2023

**End Date:** 3<sup>rd</sup> September 2023

**Event Name:** Drone Designing Workshop

**Conduction Mode:** Offline

**Event Incharge :** Sujata Kulkarni, Kiran Talele

**Venue:** Conference room, Bhavan's Ground

**Objective of the Event:**

The project revolves around the implementation of drone technology for precision agriculture and pesticide spraying. The objectives include designing a smart drone for plant disease detection and developing a ground robot for crop health monitoring. The ultimate goal is to integrate these

technologies seamlessly to enhance crop management, reduce pesticide usage, and promote sustainable and efficient agricultural practices.

**Expenditure if any:** Rs. 4597/-

**Benefits in terms of learning/skill/knowledge obtained:**

Overall, it was a great learning experience for all the participants. In-depth knowledge about drone assembly and flight was acquired. After this workshop participants can select the precise component using the mathematics behind it. Participants were made aware of the ethics, policies and government agencies related to drone flying.

**Brief information about the event:**

The two-day "Drone Design Workshop" held on September 2nd and 3rd, 2023, was conducted to provide participants with a comprehensive understanding of the key concepts involved in designing and building drones. The first day summarized the essential topics covered during the workshop, including aerodynamics, the history of development in the commercial flight industry, flight safety rules and regulations, real-life examples, drone working principles, and component selection. On the second day, participants delved into the hands-on workshop of designing drones using operational components, identifying these components, soldering essential frames and wires, integrating all the components and software, and finally, testing our drones by flying them in a safe outdoor environment. The project was guided by recommendations from IEEE AESS and DSTEI.

Participants also learnt flight safety rules and regulations to fly commercial drones on the allowed zones as per information from the website of Digital Sky under the administration of DGCA - Directorate General of Civil Aviation. They were informed about the various permissions a licensed and unlicensed aviator has to go through to fly a drone in a public space.

On the first day, participants had learned about the theory behind a drone's flight. They also learned about the regulations surrounding drone aviation in India. A detailed study of various components, their pricing, and components availability was done by participants as homework. Hence, all were well-equipped with the necessary knowledge and ready to assemble and fly a drone on the second day.

Aerobotz Unmanned Technologies Ltd. divided the participants into 3 teams and provided a about the drone assembly process in a step-by-step manner. They gave hands-on assistance to each team. The assembled drones were taken to a field where they were configured using the Mission Planner software.

Having assembled and configured the drone, the propellers were attached and the drone was ready for flight. Two kinds of flight were carried out:

1. Manual:

In the manual flight, the drone was flown using the controller. It was supervised by Mr. Reju and Mr. Sabri who are DGCA certified drone pilots. The flight was a success.

2. Automatic:

A route was ascertained for the drone on the Mission Planner software and only a lift-off instruction was manually given. The drone successfully traversed the input path with much accuracy.



**Attendance:**

**Number of Students:** 18 (AESS members exclusive)

**Number of Faculties:** 2

**Number of External Attendees:** 3



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# Drone Workshop

**Event conducted on:  
2nd & 3rd September 2023**

This insightful workshop was conducted by IEEE AESS S.P.I.T. to spread knowledge about drone technology for precision agriculture and pesticide spraying.

The project was guided by recommendations from IEEE AESS and DSTEI.



# Water Rocket Competition

**Program driven by:** IIC S.P.I.T. and AESS (IEEE)

**Program /Activity Type:** Competition

**Event Theme:** Competition

**Duration of the Event:** 6 hours event

**Start Date:** 14<sup>th</sup> October 2023

**End Date:** 14<sup>th</sup> October 2023

**Event Name:** Water Rocket Competition

**Conduction Mode:** Offline

**Event Incharge:** Malay Phadke

Kiran Talele

**Venue:** Bhavan's Ground

**Objective of the Event:** To know about how water can be used as fuel in launching rockets and gain more knowledge through competition

**Expenditure if any:** Rs 7800/-

**Benefits in terms of learning/skill/knowledge obtained:**

The competition was held in teams so all the participants got good experience of teamwork and team spirit, every team gained academic as well as community knowledge and worked hard to win the competition.

**Brief information about the event:** The Water Rocket Workshop & Competition was held for 2 days.

Day - 1: Workshop -

~ Participants were taught the basics of water rocket dynamics and how to build it along with a flying demo.

~ Participants were given one week to prepare the water rocket according to the rules provided.

Day - 2: Competition -

~ The participants needed to fly their rocket 2 times and the highest time of the 2 was considered.

~ The team with the maximum airtime was considered the winner.

The following were

1st Prize: Rs. 5000/-

2nd Prize: Rs. 3000/-

3rd Prize: Rs. 2000/-

**Photos:**



A vertical poster for a water rocket workshop and competition. At the top, there are three logos: AESS IEEE VIT, AESS BOMBAY SECTION 50th, and AESS IEEE S.P.I.T. Below the logos, the text reads: "In Honor of Celebrating 50 yrs of AESS", "IEEE Bombay Section AESS Chapter Presents", and "Water Rocket Workshop & Competition" in large, bold, white letters. Underneath, it says "Organised by IEEE-VIT AESS Chapter in collaboration with IEEE-SPIT AESS Chapter". A white rounded rectangle contains the text "REGISTRATION FEES: RS 200 PER TEAM". To the left, under "Prize Pool:", it lists "1st Prize: Rs 5000", "2nd Prize: Rs 3000", and "3rd Prize: Rs 2000". To the right, under "DATE", it says "7th & 14th October". A QR code is positioned to the right of the date, with a "REGISTER NOW!" button below it. At the bottom, contact numbers are provided: "Aaditya Chorgha : 8446336238" and "Malay Phadke : 9167036168". The background features a water rocket being launched from a pool.



Video URL: <https://photos.app.goo.gl/o29V4zPf5ATdmY2v9>

**Attendance:**

**Number of Students: 7**

**Number of Faculties: 1**

**Number of External Attendees: 28**

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## WATER ROCKET COMPETITION

 

*Event conducted on:  
14th October 2023*

*Guests:  
Prof. Kiran Talele*

A competition held by IEEE-AESS-SPIT in association with IIC SPIT "To know about how water can be used as fuel in launching rockets and gain more knowledge through competition"

# **Career in Aviation**

**Program driven by:** IEEE AESS

**Program /Activity Type:** MENTORING SESSION ABOUT CAREERS IN AVIATION

**Duration of the Event:** 2 Hours

**Start Date:** 26<sup>th</sup> October 2023

**End Date:** 26<sup>th</sup> October 2023

**Event Name:** CAREER OPPORTUNITIES IN AVIATION AND AEROSPACE

**Conduction Mode:** Offline

**Event Incharge:** Shriya Parab, Malay Phadke

**Venue:** S.P.I.T. Room no. 008

## **Objective of the Event:**

To educate students about the diverse and dynamic career paths available within the aviation and aerospace sectors.

**Expenditure if any:** None

## **Benefits in term of learning/skill/knowledge obtained:**

The session broadened students' perspectives on the dynamic field of aerospace engineering, covering traditional aviation as well as emerging technologies like drones. The speakers collectively emphasized the importance of adaptability, continuous learning, and interdisciplinary skills for a successful career in this evolving industry

## **Brief information about the event:**

IEEE AESS event on future career opportunities in aerospace and engineering was held on 26th October 2023 at 3.00 pm in room no 008. The program commenced with an opening address, setting the stage for the day's discussions. Following this, each distinguished speaker—Ashwani Sharma, Dev Shah, Vivek D. Kulkarni, Shloka Hajare, and Manmohan Chawla—shared their unique insights and experiences. Ashwani Sharma, with a rich



background in aircraft maintenance and extensive international engagement, provided a broad overview of the aerospace industry's evolution. Dev Shah, the CEO of Skyforce Innovations, brought a contemporary perspective by emphasizing the role of technology, specifically drones, in shaping the future of aerospace. Vivek D. Kulkarni, drawing from his 20 years in the Indian Air Force, offered valuable insights into the mechanical aspects of aerospace engineering. Shloka Hajare, with her expertise in drone design and operations, shed light on the interdisciplinary nature of the field. The program included an interactive Q&A session, allowing students to directly engage with the speakers and seek advice on career paths and industry trends. The event concluded with a summarizing session, highlighting key takeaways and encouraging students to explore the diverse and promising avenues within aerospace and engineering.

The IEEE AESS event on future career opportunities in aerospace and engineering, held on October 26, 2023, featured distinguished speakers who shared valuable insights. Ashwani Sharma provided a global perspective on the evolution of the aerospace industry, emphasizing his expertise in aircraft maintenance. Dev Shah, CEO of Skyforce Innovations, highlighted the role of technology, particularly drones, in shaping the industry's future. Vivek D. Kulkarni, leveraging 20 years in the Indian Air Force, offered mechanical insights into aerospace engineering. Shloka Hajare, an expert in drone design and operations, emphasized the interdisciplinary nature of the field. The program included an interactive Q&A session, allowing students to engage directly with speakers for career advice. The event concluded with a summarizing session, emphasizing diverse and promising avenues within aerospace and engineering.

**Photo 1:**



**Photo 2:**



**Attendance:**

**Number of Students: 40**

**Number of Faculties: 2**

**Number of External Attendees: 5**

  **IIC S.P.I.T.**  
Institution & Innovation Council

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 **AESS**  
IEEE S.P.I.T.

**CAREER OPPORTUNITIES IN AVIATION AND AEROSPACE**

A Career Opportunities In Aviation and Aerospace Session was arranged by TPO and AESS in association with IIC SPIT The session expanded students' view of aerospace engineering, delving into both classic aviation and new technologies like drones. Speakers stressed the need for adaptability, ongoing learning, and interdisciplinary skills —key elements for thriving in this ever-changing industry.

This insightful session was conducted on 26th October - 2023 by

**Guest Specker: Dev Shah, Vivek Kulkarni, Manmohan Chawla, Ashwani Sharma, Shloka Hazare**

