



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506 015, Telangana, INDIA

CENTRE FOR INNOVATION, INCUBATION, RESEARCH & ENTREPRENEURSHIP (C-i²RE)

UAV Workshop

Date: 05-01-2024 to 07-01-2024

Time: 10: 00 AM

Speakers: Mr. Hanurag, Mr. Sasidharan, Dr K Raja Narendar Reddy, Dr. Raju Reddy

The seminar commenced with the host's introduction, setting the stage for an enlightening session. After welcoming dignitaries, the host provided an overview of SAIL's vision and its impactful role in shaping college students. It then moved on to a short prayer wishing for successful present and future endeavours.

Mr Hanurag, addressing students, shared his career journey, highlighting the emergence of his passion for UAVs. He emphasized the importance of knowledge acquisition and having clear goals for a successful professional path. Following Mr Hanurag, Mr Sasidharan, a dedicated UAV Engineer Trainee, highlighted the importance of patience in pursuing one's passion and encouraged students to embrace emerging technologies.

Mr Raju Reddy then thanked dignitaries and highlighted the government's encouragement of entrepreneurship for women. Stressing students' role in key technologies, he addressed the rapid AI integration and urged interactive collaboration for maximum knowledge transfer from the guests. Then followed Mr K Raja Narendar Reddy's address where he expressed gratitude to industry experts and praised the visionary Principal for initiating C-i²RE. Describing the event as the beginning of a comprehensive plan for student advancement, he thanked the organizing sail body for setting a professional example on campus and wished the event great success.

The seminar began as Mr. Hanurag took centre stage and delivered a comprehensive presentation on drone technology. Starting from the basics, he covered drone classifications and delved into real-life applications worldwide. His session concluded with an inspiring quote, leaving students motivated to persist in their chosen paths.

Following Mr. Hanurag, Mr. Sasidharan continued the seminar. Mr. Sasidharan provided a detailed exploration of the contributions of each engineering department to drone technology. He discussed the industrial scope, growth drivers in the Indian drone market, and the vast opportunities available to students. Specifically, Mr. Sasidharan showcased "You Can Fly," shedding light on the organization's vision, mission, and various certification programs. The session concluded with a discussion on completed drone projects, offering students practical insights into the field.

The host wrapped up the event by expressing gratitude to the speakers and informing students about the subsequent workshop. The seminar proved to be an insightful experience, with Mr. Hanurag and Mr. Sasidharan's presentations standing out as pivotal moments, enriching students' understanding of drone technology and its diverse applications.

The seminar then progressed into a workshop on drone technology. The drone workshop commenced with an insightful discussion on fundamental terminology associated with drones, laying a solid foundation for participants. The session then progressed to a comprehensive exploration of the various components comprising a drone, offering an in-depth understanding of their types, advantages, and disadvantages.

Building on this theoretical knowledge, the workshop seamlessly transitioned into a hands-on practical segment. Under expert supervision and guidance, participants actively engaged in designing prototypes, consolidating their understanding of the discussed components. This practical exercise not only reinforced the theoretical concepts but also provided a unique opportunity for participants to gain practical skills in drone assembly.

2nd And 3rd day of the workshop is all about hands-on drone technology workshop continued its insightful journey. Orchestrated by the institute's dedicated faculty and students, the event welcomed back esteemed guests Mr. Sasidharan and Mr. Hanurag, distinguished UAV engineers from You Can Fly company. The instructional session commenced with a thorough exploration of flight controllers, elucidating their vital role in stabilizing and guiding drones by processing sensor data and adjusting motor outputs. This foundational understanding laid the groundwork for appreciating stable and controlled drone flight.

The discussion transitioned smoothly to an examination of motor characteristics and kV values, shedding light on the nuanced relationship between these variables. Participants learned that higher kV values correlate with faster motor speeds but less torque, suitable for lighter applications. Conversely, lower kV values offer more torque but come with the trade-off of increased weight.

A detailed discussion on Electronic Speed Controllers (ESCs) followed, explaining their sophisticated role in regulating motor speed through careful adjustment of electrical pulses. Participants gained an understanding of the crucial role ESCs play in achieving precise control of propellers, influencing drone stability and overall flight performance.

The benefits of Brushless DC (BLDC) motors in drone propulsion were presented, emphasizing their efficiency, compact form factor, and reliable performance. These attributes contribute to extended flight times and improved manoeuvrability.

Participants were then introduced to control surfaces, demystifying the functional significance of ailerons for roll, elevators for pitch, and rudders for yaw. This understanding empowered participants to assert comprehensive control over the drone's orientation and movement.

A notable segment of the workshop delved into the intricate realm of drone sensors. Accelerometers for measuring acceleration, gyroscopes for detecting rotational movement, GPS modules for location data, cameras for visual information, and barometers for atmospheric pressure measurement were cogently explained. These sensors collectively contribute to altitude control and environmental awareness during drone flight.

Following the theoretical sessions, participants had the opportunity for practical application. The hands-on session allowed participants to pilot drones, applying their theoretical insights in a tangible setting.

The workshop concluded with a hands-on experience for students, piloting the drones on the campus grounds. This practical session helped participants bridge the gap between theory and real-world drone operation. The workshop successfully combined theoretical insights with practical

application, offering a realistic and valuable learning experience for all participants, and contributing to a deeper understanding of drone technology.

List of participants :-

S.no	Name	Branch	Year	Roll number
1	Vishal Noone	EEE	1 st	B23EE024
2	K. Amit	ECE	1 st	B23EC104
3	G .Akash Varma	ECE	3 rd	B22EC203L
4	G. Dhanush	ECE	3 rd	B21EC097
5	V. Rajashekar Reddy	EEE	4 th	B20EE029
6	J. Rohith	EEE	4 th	B21EE121L
7	Mukesh Adepu	EEE	1 st	B23EE023
8	N. Rupesh Kumar	MECH	4 th	B21ME130L
9	U. Shrimayee	IT	4 th	B20IT039
10	S. Mokshith	ECE	3 rd	B21EC084
11	P. Bharath Kumar	IT	3 rd	B21IT071
12	Y. Akhilendra	IT	3 rd	B21IT028

Volunteers:

S.no	Name	Branch	Year	Roll number
1	Ridhima Sriramoju	IT	3 rd	B21IT008
2	P. Abhinay	MECH	3 rd	B21ME020
3	Mohammed Ghouse Mohiuddin	MECH	3 rd	B22ME127
4	Shravya Racha	CSO	2 nd	B22IN118
5	B Eesha	CSO	2 nd	B22IN078
6	Sai Krishna,Vaibhav Martha	CSO	2 nd	B22IN011
7	P Yashwanth Krishna	CSO	2 nd	B22IN121
8	Harish	CSE	2 nd	B23CS199L

Event Photos :-

