

2024 WINGS OF INNOVATION 2.0



DATE :
7th March, 2024
TIME :
10:00 AM to 4:30 PM



ACE Engineering College

ACE Engineering College was founded by the Yadala Satyanarayana Memorial Educational Society with a core mission to cultivate and transform aspiring young minds into skilled and employable engineers. The institution also acknowledges its duty to serve society with integrity and accountability. Heading the academic department at the college is Prof. Y. V. Gopala Krishna Murthy, an educator, engineer, motivator, and the founder of ACE Engineering Academy. Established in 2007, ACE Engineering College is situated on a spacious 10-acre campus in the tranquil outskirts of Hyderabad on the Hyderabad–Warangal National Highway. The serene environment, surrounded by green plains and adjacent urban forest department land, creates a setting reminiscent of ancient Indian gurukulas, fostering an ideal atmosphere for student learning and faculty engagement. Offering B.Tech courses in CE, EEE, ME, ECE, CSE, CSE (AI & ML), CSE (DS), CSE (IoT), and IT branches, with CE, EEE, ME, ECE, and CSE courses accredited by NBA. The college has been granted Autonomous status for a decade starting from the academic year 2020-21.



Prof Y. V. Gopala Krishna Murthy
General Secretary



Mrs M. Padmavathi
Joint Secretary



Dr. B. L. Raju
Principal



ACE Launchpad

The ACE Launchpad at ACE Engineering College aims to cultivate a culture of innovation and entrepreneurship among students by leveraging science, technology, and engineering fundamentals. Through multidisciplinary teamwork, students are encouraged to generate innovative solutions to real-world challenges and modify existing products to meet their needs. Emphasizing hands-on experience and learning by doing, the club provides students with valuable industry exposure and the opportunity to enhance their CVs. Central to its approach is the implementation of Design Thinking Methodology, which prioritizes exploring specific needs, thinking creatively, and rapidly prototyping and testing ideas. Within the club, students develop skills in data collection and analysis, problem definition, and prototype development, while also exploring entrepreneurial opportunities and building a supportive ecosystem for innovation.



Introduction to Drone Workshop

ACE Launchpad and FoundersLab once again took flight on March 7th to extend the soaring success of the previous week's drone technology workshop at ACE Engineering College. This sequel, titled "Wings of Innovation 2.0," marked a continuation of the exploration into the expansive world of drones. Drawing in a fresh wave of participants, this event provided an extended opportunity for new enthusiasts (1st year students) to delve into the intricacies of unmanned aerial vehicles (UAVs) and harness their potential in our rapidly evolving technological landscape.

Through a dynamic blend of enlightening sessions and hands-on activities, Wings of Innovation 2.0 aimed to equip participants with advanced insights, practical skills, and a renewed sense of creativity to navigate the skies. This report chronicles the unfolding experiences, engaging discussions, and future-oriented initiatives that characterized this immersive journey into the evolving landscape of drone technology.

WINGS OF INNOVATION 2.0

WORKSHOP OVERVIEW

The day long workshop, a sequel of the 2 day workshop held last week (1st & 2nd March), organized by ACE LaunchPad, aimed to bridge the gap between theoretical knowledge and practical applications in drone technology. Participants, primarily comprising students from 1st year of engineering disciplines, engaged in interactive sessions and hands-on activities, fostering a multidisciplinary approach to exploring drones.

MORNING SESSION : FOUNDATION ESTABLISHMENT AND ORIENTATION

The day took off with an inspiring inaugural session featuring Dr. B.L. Raju (Principal, ACE EC) and Mrs. Sakuntala Kasaragadda (CEO, FoundersLab). Mr. Vamshi Krishna, an aerospace design and fabrication expert, conducted a comprehensive orientation on drones, laying the groundwork for the day. A virtual session by Mr. Rupesh Kumar, an aerospace design expert provided essential insights into Unmanned Aerial Vehicles (UAVs), drone types, and their practical applications.

TOPICS COVERED IN ORIENTATION INCLUDE:

- **Introduction to Drones:** Delving into the essence of drone technology, participants were acquainted with the concept of drones, their historical evolution, and the emergence of indigenous drone technology. Noteworthy discussions included milestones in drone development and significant achievements in the field.
- **Types and Components:** Participants were provided with a comprehensive overview of the diverse types of drones and their respective components. From fixed-wing to multirotor configurations, attendees gained insights into the intricate mechanisms that power these aerial vehicles.
- **In-depth Knowledge:** The workshop transitioned into an in-depth exploration of drones, covering advanced topics such as current trends, future prospects, and applications across various domains. Participants were introduced to cutting-edge advancements, industry innovations, and the transformative potential of drone technology.



Differentiation of UAV, UUV, UGV: A comparative analysis elucidated the distinctions between Unmanned Aerial Vehicles (UAVs), Unmanned Underwater Vehicles (UUVs), and Unmanned Ground Vehicles (UGVs). Through insightful discussions, participants gained clarity on the unique capabilities and applications of each category.

Future Scope: A forward-looking exploration delved into the future prospects and potential advancements in drone technology. Discussions revolved around emerging trends such as drone swarming, urban air mobility, and autonomous delivery systems. Participants were encouraged to envision the transformative impact of drones in various sectors, from transportation and logistics to public safety and environmental monitoring.

AFTERNOON SESSION: DRONE BUILDING & FLYING

Interactive Learning: Crafting the Future

Post-lunch, participants engaged in hands-on drone assembly, collaborating in teams under the guidance of expert trainers. Students explored the intricacies of drone building, fostering teamwork and practical learning in a single intensive day.

Technical Deep Dive: Advancing Skills

Technical aspects were further explored by experts, including Mr. KGS Manikanta, Mr. Vamshi Krishna, Mrs. Supriya C, and Mr. Vishnu. Participants gained insights into advanced drone fabrication and applications across different sectors.

Group Formation and Indigenous Drone Significance: In a symbolic gesture honoring indigenous innovation and national pride, participants were organized into four groups, each christened after a distinguished indigenous drone: Nishant, Abhyas, Netra, and Ghatak. This exercise not only fostered a sense of unity but also underscored the significant contributions of these drones to national security, surveillance, reconnaissance, and disaster management endeavors.

WORKING GROUPS



Team-Nishant



Team-Abhyas



Team-Netra



Team-Ghatak

Drone Assembly and Flight Training: With newfound knowledge and a spirit of collaboration, participants embarked on the practical segment of the workshop: drone assembly. Guided by seasoned instructors, they meticulously assembled components, calibrated systems, and programmed flight controllers, transforming raw materials into fully functional aerial vehicles. Subsequently, participants were initiated into the art of drone piloting, mastering controlled maneuvers and gaining invaluable hands-on experience in drone operation.



Drone Assembling

Flight Training

Culmination and Certificate Distribution: As the workshop drew to its conclusion, heartfelt gratitude was extended to the Principal, HODs, coordinators, mentors, and participants whose collective efforts had contributed to the success of the event. Certificates of participation were distributed, acknowledging the dedication, enthusiasm, and collaborative spirit exhibited by each attendee throughout the workshop. Armed with newfound skills and a sense of accomplishment, participants departed from the seminar hall, poised to make significant contributions to the field of drone technology.



OUTCOMES OF THE PROGRAM

Enhanced Understanding: Participants gained a deeper understanding of drone technology, including its historical evolution, operational principles, and diverse applications across industries.

Practical Skills Development: Through hands-on activities such as drone assembly and flight training, attendees acquired practical skills in drone operation, maintenance, and troubleshooting.

Interdisciplinary Collaboration: The workshop facilitated interdisciplinary collaboration, bringing together students from various engineering backgrounds to collaborate on projects and share insights.

Appreciation of Indigenous Innovation: By naming groups after indigenous drones and exploring their significance, participants developed a greater appreciation for indigenous innovation and its contributions to national security and technological advancement.

Future Scope Exploration: Discussions on emerging trends, future prospects, and applications of drones provided participants with insights into the evolving landscape of drone technology and potential career pathways.

Networking Opportunities: The workshop provided a platform for participants to network with industry experts, mentors, and peers, fostering professional connections and potential future collaborations.

Confidence Building: Through practical exercises and interactive sessions, participants gained confidence in their ability to engage with drone technology and apply their knowledge in real-world scenarios.

Certificate of Participation: Participants received certificates recognizing their active participation and contributions to the workshop, enhancing their credentials and showcasing their commitment to continuous learning and skill development.

	Count
No. Of Participants	180
No. Of Coordinators	26
No. Of FoundersLab Employees	9

