



A J INSTITUTE OF ENGINEERING AND TECHNOLOGY

NH-66, Kottara Chowki, Mangaluru -575006, Karnataka, INDIA

A Unit of Laxmi Memorial Education Trust®

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Memorandum of Understanding (MOU)

Brahmur Technologies Pvt. Ltd

Brahmur Technologies Pvt. Ltd. excels in providing cutting-edge technological solutions and services tailored to industry needs. Their commitment to fostering academic and practical knowledge through collaborative initiatives underscores their dedication to innovation and development in the engineering sector. Brahmur Technologies Pvt. Ltd. is a technology-driven company specializing in advanced engineering solutions. In collaboration with AJIET, Mangaluru, both parties have signed an MOU to enhance mutual growth and innovation. This agreement includes facilitating personnel exchanges, joint conferences, and student training programs. Brahmur Technologies will provide industrial training opportunities, accommodate BE students from AJIET, and may offer visiting faculty positions. Additionally, AJIET's resources will support Brahmur Technologies in product development and modernization efforts.

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1	Workshop on "Learn to capture your work with drones"	2022-23	2-5


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Mangaluru - 575 006

Date: 28-6-2023

Report on "LEARN TO CAPTURE YOUR WORK WITH DRONES"

Name of the Program:	Learn to capture your work with drones	Program Dates & Timings:	28-6-2023 TIME :10 am			
Name & Details of the Resource Person:	Mr. Anuj Mascarenes Director Brahamur Technologies Pvt.Ltd Mangalore					
Organized by (Clubs/ Dept.)	Civil Engineering	In Association with (clubs)				
Number of Participants	112	Students	104	Faculty	8	
Program Outcome (PO) Mapping	P01,PO2,P04,P05,P06,P07,P09, P011,					
Coordinators	Mr. Saketh Shetty					

About the Program:

A detailed workshop on the Learning concept of drone captures. Drones, also known as unmanned aerial vehicles (UAVs), have gained significant popularity in recent years due to their ability to provide innovative solutions and streamline various processes in the civil engineering sector. This report highlights the key applications of drones in civil engineering and their benefits.

- 1. Surveying and Mapping:** Drones with high-resolution cameras and LiDAR (Light Detection and Ranging) sensors can efficiently collect aerial data and create highly accurate surveys and maps. The advantages include:

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Rapid data acquisition and reduced surveying time.

Improved accuracy and precision compared to traditional surveying methods.
Enhanced safety by eliminating personnel needing to access challenging or hazardous terrain.

2. Construction Site Monitoring: Drones can monitor construction sites throughout the project lifecycle, providing valuable data for project management, quality control, and progress tracking. Key benefits include:

Real-time aerial views and high-resolution imagery for project documentation.
Detection of potential issues, such as deviations from design plans or safety hazards.

Improved communication and collaboration among project stakeholders through data sharing.

3. Structural Inspections: Drones can conduct visual inspections of bridges, buildings, and other structures, offering several advantages over traditional inspection methods:

Close-up views of hard-to-reach or dangerous areas, reducing the need for manual inspections.

Rapid identification of structural defects, such as cracks or corrosion, for timely maintenance and repairs.

4. Cost savings by minimizing the need for specialized equipment, scaffolding, or elevated platforms.

Environmental Monitoring: Drones equipped with sensors can collect data on environmental factors, including air quality, temperature, and water resources. This information can be useful in:

Assessing the impact of construction projects on the environment. Monitoring and managing natural resources, such as forests or water bodies. Conducting ecological studies and wildlife monitoring.

5. Thermal Imaging and Heat Loss Analysis: Drones equipped with thermal cameras can identify heat leaks in buildings, helping engineers assess energy efficiency and identify areas for improvement. Key benefits include:

Quick identification of insulation deficiencies, reducing energy consumption. Early detection of structural issues, such as water ingress or moisture damage.

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Enhanced safety by identifying overheating electrical components or fire hazards.

6. Project Visualization and Communication: Drones can capture aerial footage and create visually compelling videos or 3D models that aid in project visualization and communication with clients, stakeholders, and the general public. The benefits include:

7. Improved stakeholder engagement and understanding of project concepts.
Effective marketing and promotion of projects.
Enhanced public participation and transparency.

It is important to note that the successful integration of drones into civil engineering projects requires skilled operators, adherence to local regulations, and considerations for safety and privacy. Nonetheless, the benefits of using drones in civil engineering are evident, as they offer increased efficiency, cost savings, and improved data quality.

In conclusion, the applications of drones in civil engineering are vast and can potentially revolutionize the industry. Using drones for surveying, construction site monitoring, inspections, environmental monitoring, thermal imaging, and project visualization provides significant advantages in terms of efficiency, accuracy, and safety. It is recommended that civil engineering organizations explore the adoption of drone technology to leverage these benefits and stay at the forefront of innovation in the field.

Objectives: The program learning concepts of capturing the drone images enable students/ faculty to

- Learning concept drone capturing in a filed images
- Learning concept of post processing concept

Outcomes: On successful completion of program of this lecture/ technical talk/workshop the student should able to:

1. Understand field application drone surveying
2. Understand the preparation of maps using drone data

Articulation Matrix:

Course Outcomes	Program Outcomes											
	1	2	3	4	5	6	7	8	9	10	11	12
1	3	3		3	3	2	3		3		2	
2	3	3		2	3	2	3				2	
Average	3	3		2.5	3	2	3		1.5		2	

Photos:



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Coordinator

Suvar
HOD

M
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