

Department of Electronics and Telecommunication Engineering

Activity Report

on

“Industrial visit to Sky Circuit Lab“



SANDIP
FOUNDATION

Organized by

Sandip Foundation's

Sandip Institute of Technology and Research Centre, Nashik

And Department of

Electronics & Telecommunication Engineering Department

In

Association With

With IEEE student Branch, Engineers Without border (EWB)

Womens in Engineering(WIE)

Department of Electronics and Telecommunication Engineering

Name of Event: "Industrial Visit to Sky Circuit Lab"

Date of Event: 17th August 2024

Type of the Event: Visit

Name of The Resource Person: Mr. Devesh Shrawge(Incharge of the Sky Circuit Lab)

Name of Event Coordinator: Prof. Mayur Ingale

Name and address of company: Sky Circuit Lab. Ambad link road, Nashik

Details of Participants : SE Students

Objective: The main objective of the visit is to make students aware about the drone technology its application for industrial as well as disaster management for agriculture and other application.

Highlights from the event: An Industrial visit to Sky Circuit Lab is arranged by the Department of Electronics &Telecommunication on 17th August 2024 for SE students. Our resource person Mr. Devesh Shrawge explained students about the basic of the Drone technology as.

Drone technology, also known as Unmanned Aerial Vehicles (UAVs), refers to aircraft systems that operate without a human pilot onboard. These devices are equipped with advanced sensors, cameras, and communication systems, enabling them to perform a wide range of tasks across various industries. The versatility of drones has transformed fields such as agriculture, logistics, surveillance, and emergency response. With advancements in artificial intelligence (AI) and data analytics, drones are becoming more autonomous and efficient.

Applications of Drone Technology

1. Agriculture:

- Precision farming through crop monitoring, pest control, and irrigation management.
- Efficient use of fertilizers and pesticides using aerial spraying.

2. Surveillance and Security:

- Real-time monitoring of sensitive areas like borders, public events, or industrial sites.
- Search and rescue operations in difficult-to-access areas.

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3. Logistics and Delivery:

- Faster delivery of goods, including medical supplies in remote areas.
- Reduced transportation costs and environmental impact.

4. Construction and Infrastructure:

- Aerial site mapping and surveying for planning and monitoring progress.
- Structural inspections to ensure safety and maintenance.

5. Disaster Management:

- Assessing damage and locating survivors in disaster-hit areas.
- Delivering essential supplies during emergencies.

6. Environmental Monitoring:

- Wildlife tracking, forest conservation, and pollution monitoring.
- Data collection for climate change research.

Technological Advancements in Drones

1. Autonomy and AI:

- Integration of AI for autonomous navigation and decision-making.
- Machine learning algorithms for advanced image processing.

2. Payload Enhancements:

- Higher payload capacities for heavier deliveries and advanced equipment.
- Specialized sensors for thermal imaging, LiDAR, and multispectral analysis.

3. Swarm Technology:

- Coordinated operation of multiple drones for tasks like crowd management and search missions.

4. Improved Connectivity:

- Enhanced communication through 5G networks and satellite links.
- Real-time data transmission for better decision-making.

Outcome :- Participants gain a deeper understanding of the diverse applications and potential of drone technology across industries like agriculture, logistics, surveillance, and disaster management. Cutting-edge advancements in drone hardware, AI integration, and payload capabilities are highlighted, inspiring new ideas and use cases.

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Glimpse from the Event



Our students with team sky Circuit



Students learning drone flying techniques in sky circuit Lab



Prof. Mayur Ingale
Event Co-ordinator



Dr. Gayatri M. Phade
HoD E&TC Department