

# भारत अंतरिक्ष सप्ताह

बी ए/14 बी जनकपुरी,

नई दिल्ली-110058, भारत

दूरभाष: 011-35809475, 7290071471

ई-मेल: [info@indiaspaceweek.ac.in](mailto:info@indiaspaceweek.ac.in)

वेबसाइट: [www.indiaspaceweek.ac.in](http://www.indiaspaceweek.ac.in)



# India Space Week

BA / 14 B Janakpuri,

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पत्रांक: आई०एस०डब्ल्यू०/आई०एन०डी०/710/2025

दिनांक: 12 फरवरी-2025

प्रेषक:

सम्बद्धता नियामक प्राधिकारी,

इंडिया स्पेस वीक,

नई दिल्ली, भारत |



रोवा में,

कुलपति/अध्यक्ष/प्रधानाचार्य,

संमरत शिक्षण संस्थान,

उत्तर प्रदेश, भारत

विषय : अग्रिम ड्रोन तकनीक पर एक दिवसीय ऑनलाइन कार्यशाला आयोजन करने हेतु तिथि आरक्षित करें |

आदरणीय भरोचय,

आपके शिक्षण संस्थान में तकनीकी शिक्षा और नवीनता विकास को बढ़ावा देने के उद्देश्य से, इंडिया स्पेस वीक के द्वारा अग्रिम ड्रोन तकनीक पर एक कार्यशाला आयोजित की जा रही है |

कार्यशाला के उद्देश्य :

1. अग्रिम ड्रोन तकनीक का परिचय और उसके अनुप्रयोग |
2. ड्रोन तकनीक के नवीनता विकास और उसके व्यावहारिक उपयोग |
3. छात्रों और शिक्षकों को इन तकनीकों का प्रत्यक्ष अनुभव कराना |
4. तकनीकी विशेषज्ञों और उद्योग के नेताओं से विचार - विमर्श का अवसर प्रदान करना |
5. भारत में ड्रोन के लिए नियमों और विनियमों का परिचय |
6. ड्रोन उद्योग में अनुप्रयोग और नवचार का परिचय |
7. ड्रोन उद्योग में एआई और एमएल के उपयोग का परिचय |
8. ड्रोन उद्योग में करियर |

कार्यशाला के मुख्य बिंदु :

1. अग्रिम ड्रोन तकनीक की बौद्धातिक और व्यावहारिक जानकारी |
2. इन तकनीकों के सुरक्षा मानक, नैतिकता और कानूनी पहलू |
3. भविष्य के परिवहन और लोजिस्टिक्स में इन तकनीकों के भूमिका |
4. ड्रोन (यूएवी) के पीछे के विज्ञान और इंजीनियरिंग का समझना |
5. ड्रोन में LIDAR जैसी नवीन तकनीक |
6. ड्रोन उद्योगिता |

प्रतिभागि :

इस कार्यशाला में आपके संस्थान के सभी विद्यार्थी, शोधकर्ता, फैकल्टी सदस्य और अन्य सम्बंधित लोग शामिल होंगे | इस कार्यशाला का सफल आयोजन आपके संस्थान के छात्रों और शिक्षकों के लिए अत्यधिक लाभदायक होगा और उन्हें नवीनतम तकनीकों के बारे में महत्वपूर्ण जानकारी और अनुभव प्राप्त करने का अवसर मिलेगा |

हम अपने सम्पूर्ण कार्यशाला का विस्तृत विवरण संलग्न कर रहे हैं | आपके शिक्षण संस्थान के कार्यशाला आयोजित करने हेतु तिथि और रागव आरक्षित कराये |

धन्यवाद एवं शुभकामनाएँ |

सम्बद्धता नियामक प्राधिकारी  
इंडिया स्पेस वीक  
नई दिल्ली |



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## कार्यशाला का आवेदन

विषय : अग्रिम दूर तकनीक पर कार्यशाला आयोजन करने हेतु तिथि अंतरिक्ष करें

- 1) विश्वविद्यालय / महाविद्यालय / विद्यालय
- 2) संपर्ककर्ता का नाम
- 3) ईमेल
- 4) संपर्क नंबर
- 5) दिनांक
- 6) रागस
- 7) स्थल

### ● पंजीकरण विवरण :

- 1) पंजीकरण की आरम्भ तिथि
- 2) पंजीकरण की अंतिम तिथि
- 3) पंजीकरण लिंक
- 4) पंजीकरण शुल्क  रु 250/- प्रति सहभागी

### ● संपर्क सूत्र :-

इंडिया स्पेस वीक, उत्तर प्रदेश से :-

- 1) नाम डॉ. प्रभात कुमार, राज्य समन्वयक, इंडिया स्पेस वीक |
- 2) वेबसाइट: [indiaspaceweek.ac.in](http://indiaspaceweek.ac.in)
- 3) ईमेल: [contact@indiaspaceweek.ac.in](mailto:contact@indiaspaceweek.ac.in) [up@indiaspaceweek.org](mailto:up@indiaspaceweek.org)
- 4) दूरभाष नं: 9454934963, 011-44749707

आयोजन के लिए कार्यशाला व्यवस्था से सम्बंधित विवरण :-

- पूर्ण आवश्यकताएँ : रक्रीन और ध्वनि प्रणालियों के साथ एक सम्पूर्ण कक्ष
- शुल्क: कार्यशाला के लिए प्रति प्रतिभागी 250 रुपये |
- प्रशिक्षण समय अवधि: प्रत्येक सत्र 90-100 मिनट तक मिलेगा
- दिनों की संख्या: 1 दिन |

नोट: सभी छात्रों को सहभागीदारी प्रमाण पत्र प्रदान किया जायेगा |

संलग्न फॉर्म का विवरण भरकर हमें इस पते पर वापस भेजें email id: [contact@indiaspaceweek.ac.in](mailto:contact@indiaspaceweek.ac.in)





**Department of Space Education  
India Space Week**





Aerospace Department of  
India Space Academy  
Presents



Advanced Drone Technology  
Workshop





# India Space Week

Space, Science, Computing & Technology



**India Space Week** is an autonomous body with support from central and state governments. The role of India Space Week is to promote space education and employment among the students, teachers, and research scholars of schools, colleges, universities, and institutions.



**Mission:** Our mission is to bring space knowledge to grassroots levels, inspiring students to become future space leaders.

**Vision:** Our vision is to make every citizen of India aware about space and make them future space industry ready.

# India Space Academy

Space Education & Employment



**India Space Academy** is an academic institution under the Department of Space Education of India Space Week. The academy develops workshops that spread awareness about the current requirements of the space industry. Also, it develops various programs



to equip the students with the right information, skills, practical exposure, research exposure, technology exposure and training to make them future-ready.

**Mission:** Our mission is to equip the future space leaders of India with the right, high-quality, currently demanding space education with innovative learning modes.

**Vision:** Our vision is to make space education and employment accessible and affordable to every citizen of India.



# DRONE TECHNOLOGY



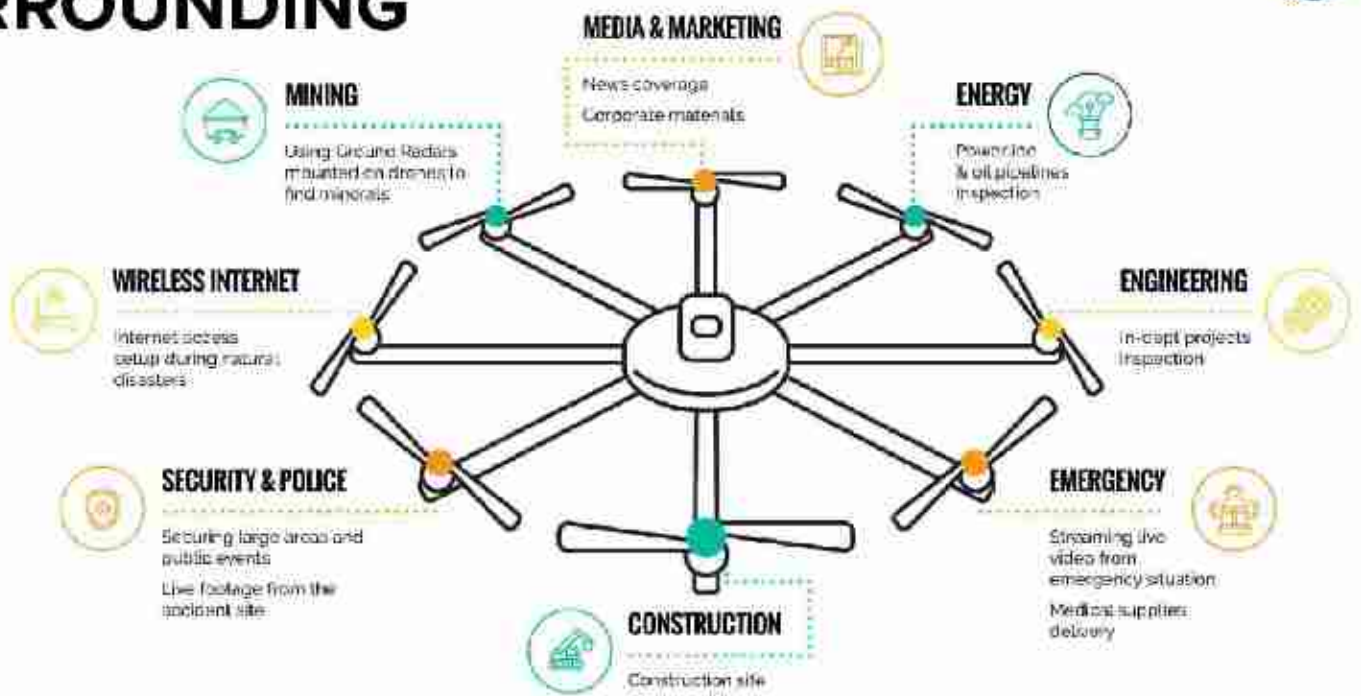
## Why we choose this area of technology?

An **Unmanned Aerial Vehicle (UAV)**, commonly known as a **Drone**, is an aircraft without any human pilot, crew, or passengers on board.

More than \$500 billion, this is the staggering revenue number forecast for the drone business by 2030. And, given its current rate of development, we can believe that this prediction will come true.

Drones, perform duties ranging from the ordinary to the extremely deadly. These robot-like aircrafts can be seen rescuing avalanche victims as well as delivering groceries to your house — and almost everywhere in between.

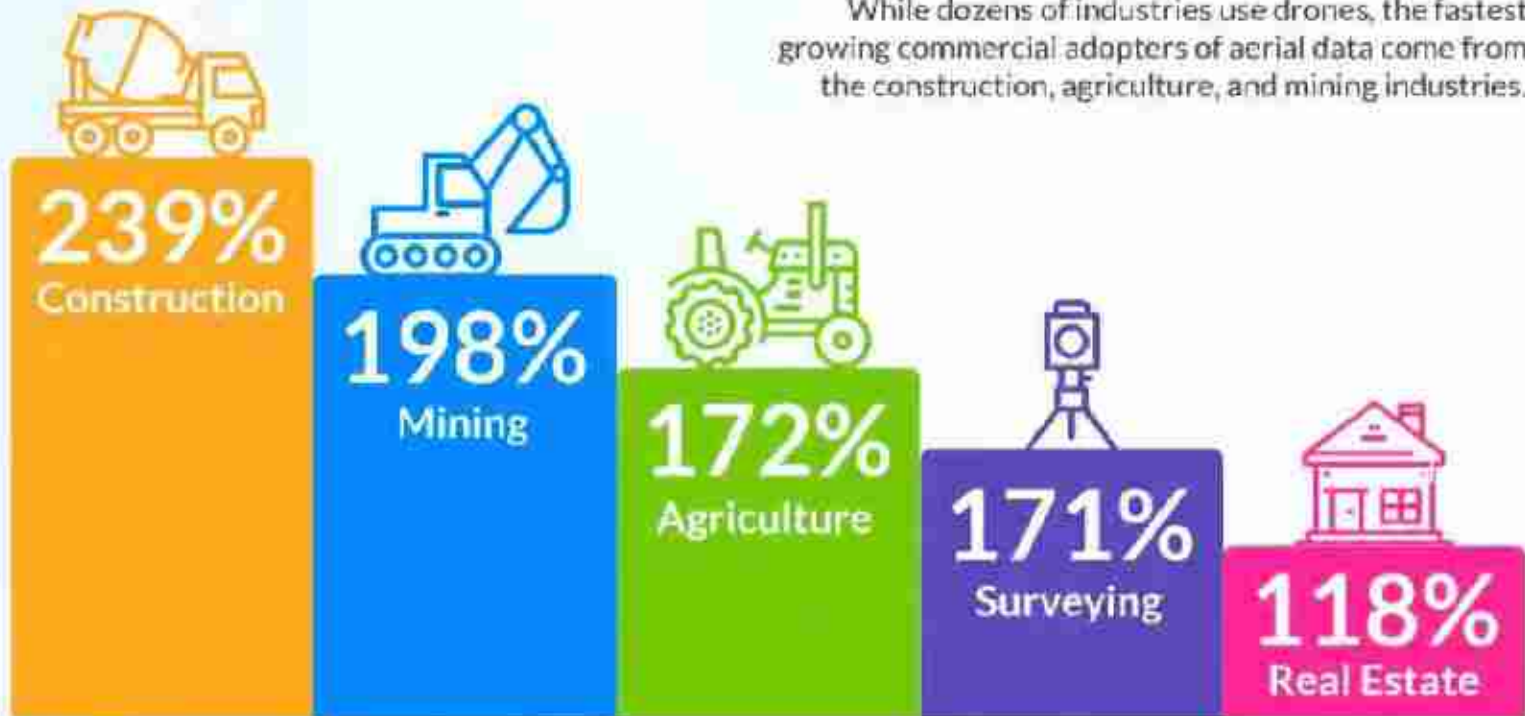
# DRONE IN OUR SURROUNDING





## Growth in Industry Adoption (YoY)

While dozens of industries use drones, the fastest growing commercial adopters of aerial data come from the construction, agriculture, and mining industries.

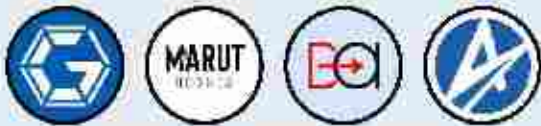




# Some facts about Drone sector in India

Drone Market Shows Incredible Growth with 22.15% CAGR.

India Drone Market Size Set Expands at Significant CAGR of 22.15% During 2024-2030 to Reach USD 4.87 Billion by 2030.



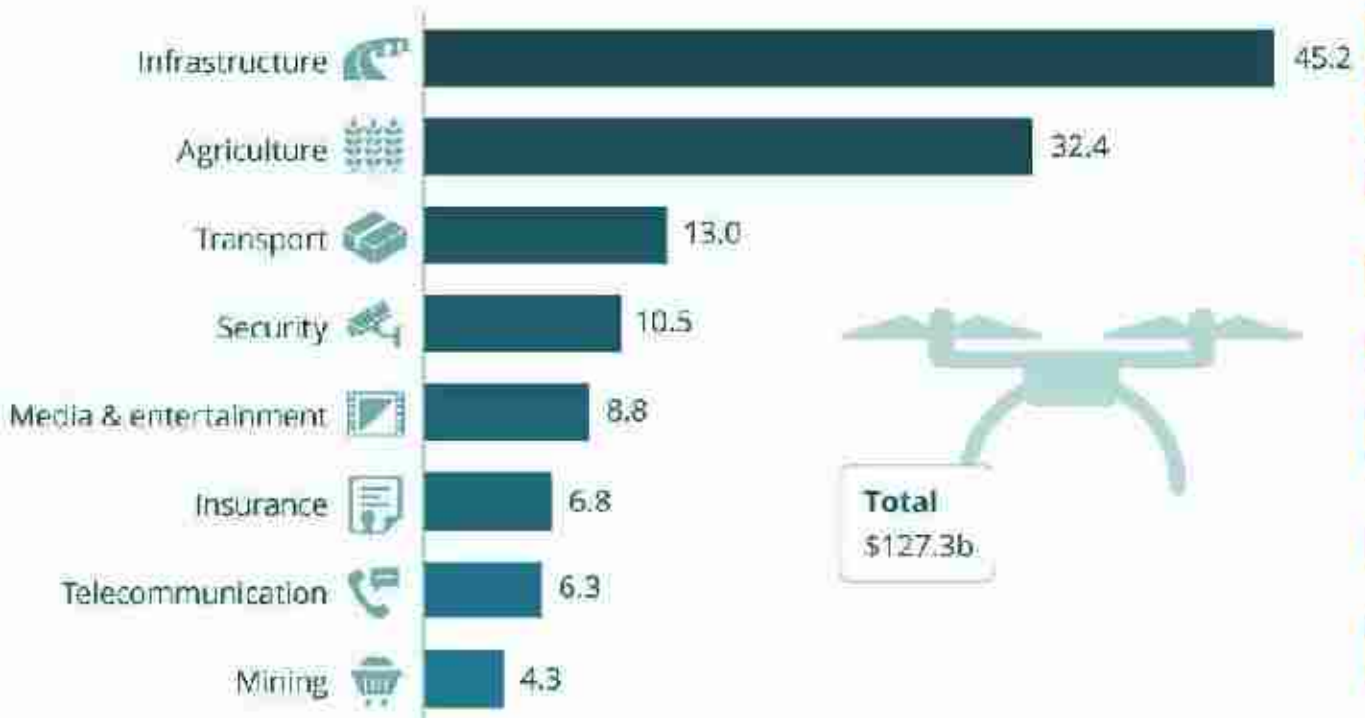
## MAKING INDIA A GLOBAL DRONE HUB





## The Industries Where Drones Could Really Take Off

Value of drone powered solutions to industries in 2015 (billion U.S. dollars)



**IMPACTS**



# ABOUT THE WORKSHOP







## Objective

This workshop is designed to impart a comprehensive understanding of drones, covering their historical development, components, and functionality. Practical training will include drone assembly, maintenance, and basic flight operations. Additionally, the workshop will introduce AI and ML applications in drones, and provide insights into the drone industry's growth and opportunities in India. Emphasis will be given to career pathways, certification processes, and regulatory compliance to prepare students for the drone sector.

## Learning Outcome

Upon completion, students will be able to identify and describe drone components, understand the historical context of drones, and safely operate drones in basic manoeuvres. They will gain practical insights into AI and ML applications within drones and advanced drone technologies. Students will also analyze current trends and future prospects in India's drone industry and outline the certification steps required to become a drone pilot, ensuring adherence to safety standards and regulations.



# Topics To Be Covered



# Advanced Drone Technology

- Examine the integration of artificial intelligence in drones.
- Discuss the development of multi-sensor integration for enhanced data collection.
- Learning Pointers:
- Introduction to AI's role in autonomous drone navigation.
- Explore multi-sensor systems that enhance operational capabilities.





# Engineering Principles of UAV Design



- Explore the impact of aerodynamics on drone efficiency.
- Review the materials and technologies used in lightweight drone design.

Learning Pointers:

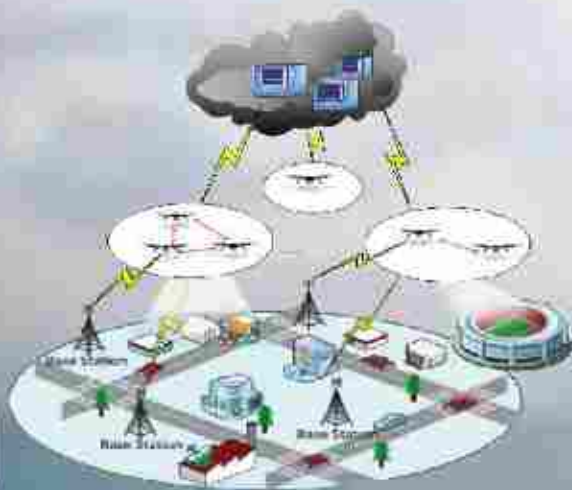
- Analysis of different materials used for drone frames and their properties.
- Understanding how aerodynamic design influences drone stability and speed.





# Regulatory & Ethical Considerations

Recognize the importance of ethical considerations and legal compliance in drone operations.



- Discuss the international regulatory landscape for drones.
- Explore ethical considerations surrounding drone usage, focusing on privacy issues.
- Learning Pointers:
- Overview of DGCA, and FAA regulations and their impact on drone operations.
- Ethical debates surrounding drone surveillance and data collection.





# Hands-on Drone Programming & Simulation

- Introduction to programming drones using Python.
- Engage in simulation exercises to program and test drone behaviours.
- Learning Pointers:
- Step-by-step guide on basic drone programming.
- Use of simulation software to understand flight dynamics.





## Real-World Applications & Case Studies

- Discuss drones' role in precision agriculture for monitoring and crop management.
- Examine drones in emergency response, focusing on search and rescue operations.
- Learning Pointers:
  - Case studies on drones in disaster management.
  - Analysis of UAV deployment in agriculture for optimizing resource use.



# Future of Drones in AI & Automation

Explore how AI is transforming drones into more autonomous, efficient systems.



- Look at the future integration of AI with drones for autonomous decision-making.
- Explore the development of swarm drone technologies for collaborative operations.
- Potential uses of AI in enhancing drone functionalities.
- Concepts of swarm intelligence and its applications in drones.







# Key Learning Outcome

Gain an overview of cutting-edge drone technologies and their implications for various industries.



# Interactive Q&A and Discussion

Engage students in a lively discussion to address their questions and explore topics in depth.



Opportunity for students to clarify doubts and discuss innovative ideas in drone technology.



## Drone Technology 2025



Drone technology in 2025 means staying ahead of the curve and being a part of this transformative journey.





# Our Experts



The workshop will be conducted by experts, scientists, and researcher of India Space Academy. Our experts are from leading drone industry and prestigious institutions like IITs, NITs, or IIST.







# Certificate for Faculty & Students







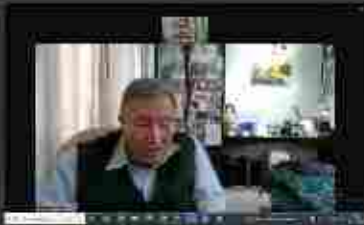
# AIR TAXI & ADVANCED DRONE TECHNOLOGY WORKSHOP





# AIR TAXI & ADVANCED DRONE TECHNOLOGY WORKSHOP

## Our Guest Speakers



Hon'ble Shri. Shekhar Dutt, 5M, IAS, Former  
Governor of Chhattisgarh, Former Defence  
Secretary, Govt. of India



Dr. Sudheer Kumar N., Director of Capacity  
Building & Public Outreach (CBPO), ISRO



(AICTE) Chairman, Prof. T. C. Satharam





# Thank you

Contact us

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