DRONE SHAURYA

BRAVE BHARAT, SECURE BHARAT

Innovate : Integrate : Indigenize

Global Summit, Exhibition & Awards on Unmanned Systems

POST EVENT REPORT

19 – 20 SEPTEMBER 2024, PUNE

Executive Summary

Drone Shaurya 2024, hosted at Ajeenkya DY Patil University, Pune, on 19-20 September 2024, brought together a global audience of defense personnel, government authorities, industry leaders, innovators, and academic experts to discuss the transformative impact of unmanned systems. The summit featured panel discussions, keynote speeches, live demonstrations, exhibitions, and an awards ceremony, offering a holistic overview of UAV technologies and their applications in sectors such as defense, disaster management, and infrastructure.

The event showcased India's growing leadership in drone technology, highlighting innovations, policy frameworks, and strategic collaborations between key stakeholders in the UAV ecosystem.

Event Dates: 19-20 September 2024
Venue: Ajeenkya DY Patil University, Pune, Maharashtra
Organizers: Trade Promotion Council for Geospatial and Space Industry (TPCGS)
Co-Organizers: Drones World
Government Partners: National Highways Authority of India (NHAI), National Disaster Management Authority (NDMA)
Corporate Sponsor: Roter Group of Industries
Associate Sponsors: Anadrone Systems, Latrics Aerospace
Media Partner: Drone Helpline
Knowledge Partners: Ajeenkya DY Patil University, Aeronautical Engineering & Research Organization (AERO)
Chief Guest: Vice Admiral Gurcharan Singh, AVSM, NM, Commandant, National Defence Academy, Pune

Event Highlights

Day 1: 19 September 2024

Day -1 – 19 September 2024

Inaugural Session

Welcome Address

The event began with a warm welcome from **Lt Gen RKS Kushwaha, PVSM, AVSM (Retd)**, Chairman of TPCGS, who set the tone for the two-day summit. His address focused on India's burgeoning role in the global unmanned systems market, highlighting the importance of innovation, collaboration, and government support to foster growth in this sector.

Knowledge Partner Address

Shri Anshul B Sharma, Chairman of Aeronautical Engineering & Research Organization (AERO), delivered the Knowledge Partner Address. He stressed the significance of academic institutions and research organizations in driving advancements in drone technologies and emphasized the importance of linking research with industry needs.

Keynote Address

The Keynote Address was presented by Dr. Rakesh Jain, Vice Chancellor of Ajeenkya DY Patil University, who highlighted the university's contributions to drone technology through its engineering programs and collaborations. He underscored the role of institutions in shaping the next generation of drone innovators.

Chief Guest Address

The Chief Guest, Vice Admiral Gurcharan Singh, AVSM, NM, Commandant of the National Defence Academy, Khadakwasla, delivered an insightful address. He spoke about the transformational role of unmanned systems in national defense, particularly in terms of surveillance and security. He also touched upon the need for robust regulatory frameworks to manage the rapid technological advancements in drone systems.

Opening Plenary: The Landscape of Drone Technologies

The opening plenary, "The Landscape of Drone Technologies," featured prominent industry leaders and experts:

- Lt Gen RR Nimborkar, PVSM, UYSM, AVSM, SM, VSM (Retd), former Master General of Ordnance, emphasized the critical role of drones in modernizing military operations.

- Shri Sajid Mukhtar, CEO & MD, Roter Group of Industries, provided insights into the company's groundbreaking work in UAVs, focusing on innovations that are reshaping industries beyond defense, such as disaster management and industrial monitoring.

The discussions provided a comprehensive overview of the drone ecosystem, exploring how technological advancements are unlocking new applications across various sectors.

o Atmanirbhar since 1936
o India's first Small Scale Industry in Survey started by a freedom fighter
o Conglomerate of seven companies globally.
o Lead by the 4th generation of entrepreneurship

"The sky is not the limit, it's just the beginning."
— Unknown

Awards Presentation

Drone Shaurya 2024 recognized outstanding contributions and innovations in the unmanned systems space. The award ceremony celebrated key players in the industry:

Roter Group of Industries – Best Drone Innovation

Anadrone Systems Pvt. Ltd. – Cutting-Edge UAV

Zeus Numerix Pvt. Ltd. – Defense Applications in UAV

India Accelerator. – UAV Industry facilitator

These awards recognized the contributions of these companies in advancing drone technologies and their integration into real-world applications.

Presentations: Military Applications and Operational Impact

Military Applications and Operational Impact was a key focus area on Day 1, with the following presentations:

Lt Gen Ravi Dastane, AVSM, VSM (Retd), former Deputy Chief of Integrated Defence Staff, Ministry of Defence, emphasized the operational impact of drones in military strategies, particularly in intelligence, surveillance, and reconnaissance (ISR) roles. He detailed how unmanned systems are becoming force multipliers in modern warfare.

Wg Cdr Ajit Manohar Pal (Retd), Sr Program Manager at Anadrone Systems Private Limited, offered insights into the latest military applications of drones, discussing the deployment of UAVs in tactical operations and highlighting the role of indigenous solutions in strengthening defense capabilities.

Dr. MR Patkar, Former Director of Armament Research & Development Establishment (ARDE), presented on **Emerging Trends in Drone Technology**, discussing advancements in artificial intelligence, automation, and the future of drone systems. His insights on integrating AI into UAVs sparked discussions on the potential for fully autonomous operations in the near future.

Panel Discussions

Panel Discussion 2: Drones – A Force Multiplier in Intelligence, Surveillance & Reconnaissance (ISR)

Moderated by Brig MKK Iyer, VSM (Retd), this session featured a diverse group of panellists:
- Ms. G. Vandana Iyer, AGM, Unmanned Systems, BEL, discussed the integration of UAVs into defense networks for ISR operations.
- Shri Aditya Wadhokar, MD of Fligen Systems Pvt Ltd, shared his company's developments in ISR drone platforms, particularly focusing on how UAVs can be used to enhance real-time decision-making.
- Shri Muhammad Anas, Founder & CEO of Enord Pvt Ltd, discussed the role of AI-driven drone systems in improving surveillance efficiency.

This session provided an in-depth discussion on the use of drones as force multipliers in ISR operations, with a focus on defense and border security applications.

Plenary 2: Security Concerns & Mitigation Measures – Drone Warfare

Lt Gen Sanjeev Kanal, PVSM, AVSM (Retd), took the stage to address **Security Concerns & Mitigation Measures** in drone warfare. He spoke extensively on the rise of drone warfare and the challenges posed by rogue drones in conflict zones, especially their use in asymmetric warfare. The session highlighted the growing need for counter-drone technologies and policy frameworks to manage threats.

Shri Shivaji, Chief Business Officer at **Indrajal Drones Defense**, discussed specific counter-drone solutions that can mitigate these security risks, focusing on technologies aimed at neutralizing hostile drones.

MoU Signing Ceremony: Trade Promotion Council for Geospatial and Space Industry & India Accelerator

Overview:

During Drone Shaurya 2024, a landmark Memorandum of Understanding (MoU) was signed between the Trade Promotion Council for Geospatial and Space Industry (TPC-G/SI) and India Accelerator. This MoU aims to promote, support, and empower startups in the geospatial, space, and drone sectors, thereby fostering innovation and creating a sustainable ecosystem for technological growth.

Vote of Thanks

The day's events were concluded with a Vote of Thanks by Advocate Sanjay Singh, Director General of the Trade Promotion Council for Geospatial and Space Industry. He expressed his deep appreciation for the participation of distinguished speakers, panellists, sponsors, and the organizing team. He thanked Ajeenkya DY Patil University, all partners, sponsors, and exhibitors for their invaluable contributions to making Day 1 of Drone Shaurya 2024 a grand success. He also extended his gratitude to the attendees for their enthusiastic participation and encouraged continued engagement in Day 2 of the event. Conclusion of Day 1

Day 1 of Drone Shaurya 2024 was an overwhelming success, with insightful sessions on the current landscape of drone technologies, key military applications, and emerging innovations. The event attracted leaders from the defense, academic, and corporate sectors, facilitating invaluable discussions and networking opportunities. The exhibition allowed participants to experience firsthand the latest drone systems shaping the future of industries ranging from defense to disaster management.

With strong industry participation, expert insights, and groundbreaking discussions, Day 1 set the stage for continued exploration of unmanned systems in Day 2.

Day 2 Summary: September 20, 2024

Day 2 of **Drone Shaurya 2024** continued with insightful sessions, panel discussions, and presentations that focused on the future of drones, their integration with AI, the regulatory framework, and the role of drones in shaping future logistics. The event attracted professionals from the defense, technology, and academia sectors, providing a comprehensive platform for knowledge exchange on unmanned systems.

Opening Plenary: Autonomous Drones and Artificial Intelligence Integration

The first plenary of the day was delivered by **Lt Gen Vinod G Khandare, PVSM, AVSM, SM (Retd)**, Principal Advisor, Ministry of Defence, who emphasized the increasing significance of **AI** in enhancing drone capabilities. He discussed how autonomous drones are transforming modern warfare, making operations more efficient, precise, and less reliant on human intervention.

Shri Balaji Nagarajan, Founder of **Latrics Aerospace**, followed with an address on how drones integrated with AI can revolutionize industries such as agriculture, infrastructure monitoring, and disaster management. His presentation focused on real-world applications and advancements in autonomous drone technology.

Panel Discussion 1: Policy, Ethics, and Responsible Use of Drones

This panel discussion, moderated by **Nancy Singh**, a DGCA Certified Drone Pilot and Flying Instructor, explored the ethical considerations surrounding drone usage and the need for robust policies to ensure the responsible use of unmanned systems.

The panellists included:

- **Ms Kamaljeet Kaur**, Director, Technical Campus, DY Patil University, who discussed the importance of developing regulatory frameworks for drone usage in educational and commercial sectors.
- **Shri Arun Jose**, COO, JetJac Global Private Limited, highlighted the challenges faced by drone operators in terms of legal compliance and operational safety.
- **Shri Harshvardhan Sharma (Adv)**, Director, GDX Securities, provided a legal perspective on the ethical implications and responsibility that comes with the deployment of UAVs.

Plenary 2: Research and Development in Drone Technologies

Dr. U Shiva Prasad, Associate Professor at Ajeenkya DY Patil University, delivered the second plenary, focusing on the current research and development efforts in drone technology. He emphasized the role of academia in advancing UAV technology and discussed the latest trends in materials, design, and AI integration that are driving innovation in this field.

Presentation: Innovative Exploitation of Drones in the Field of Agriculture

Shri Vishal Joshi, from **PDRL**, presented innovative applications of drones in agriculture, showcasing how precision agriculture, enabled by UAVs, can improve crop monitoring, yield prediction, and resource management.

Panel Discussion 2: Indigenisation of Drone Technology – Road Ahead

Moderated by **Maj Gen Mukesh Dutta (Retd)**, this panel highlighted the importance of **indigenization** in drone technology, especially in the context of quality control and self-reliance. Panellists included:

- **Col Manik Anandh**, PSO, Ministry of Defence, who stressed the importance of developing domestic capabilities to reduce reliance on foreign technology.

- **Wg Cdr Ajit Manohar Pal (Retd)**, Sr Program Manager at Anadrone Systems Private Limited, who discussed the operational challenges and solutions related to indigenizing drone technologies.

- **Shri Ravi Shankar**, Founder of Arisolar & Atomsolar, emphasized the need for collaboration between industries and research institutions to accelerate the indigenization process.

Plenary 3: Regulatory Framework for Drones – Addressing the Voids

In this session, **Col Manik Anandh** and **Shri Harshvardhan Sharma (Adv)** discussed the existing regulatory gaps in drone usage and the need for a robust legal framework to address issues such as privacy, security, and operational safety. They emphasized the importance of clear guidelines to facilitate the safe and responsible use of drones in both civilian and military sectors.

Panel Discussion 3: Drones – Shaping Future Logistics

Moderated by **Vice Admiral Soonil Bokhare, AVSM, YSM, NM (Retd)**, this panel explored the role of drones in shaping the future of logistics, from last-mile delivery to large-scale infrastructure projects.
Panellists included:

- **Col Dilip Pandey (Retd)**, who discussed the potential of drones in military logistics and supply chain operations.

- **Ms Vandana Iyer G**, AGM-Unmanned Systems, Bharat Electronics Limited, who spoke about the technological advancements in UAVs that are enabling their deployment in logistics.

- **Shri Vishnu Ramakrishnan**, Head of Business at The ePlane Company, who provided insights into how drone technology can transform urban logistics and delivery services.

Closing Plenary: Facilitating Defence & Industry

The final session of the day was delivered by **Brig Narendar Patel (Retd)**, who addressed the collaborative efforts needed between the defense sector and industry to drive innovation in UAV technologies. He emphasized the importance of creating synergies between government initiatives, private enterprises, and academic research to ensure that India remains at the forefront of drone technology.

Vote of Thanks

The day concluded with a **Vote of Thanks** by **Shri Sanjay Singh**, Director General of the Trade Promotion Council for Geospatial and Space Industry. He expressed gratitude to the esteemed speakers, panellists, organizers, and attendees for making Day 2 of Drone Shaurya 2024 a grand success. He acknowledged the contributions of Ajeenkya DY Patil University, industry partners, and sponsors for their unwavering support in advancing India's UAV ecosystem.
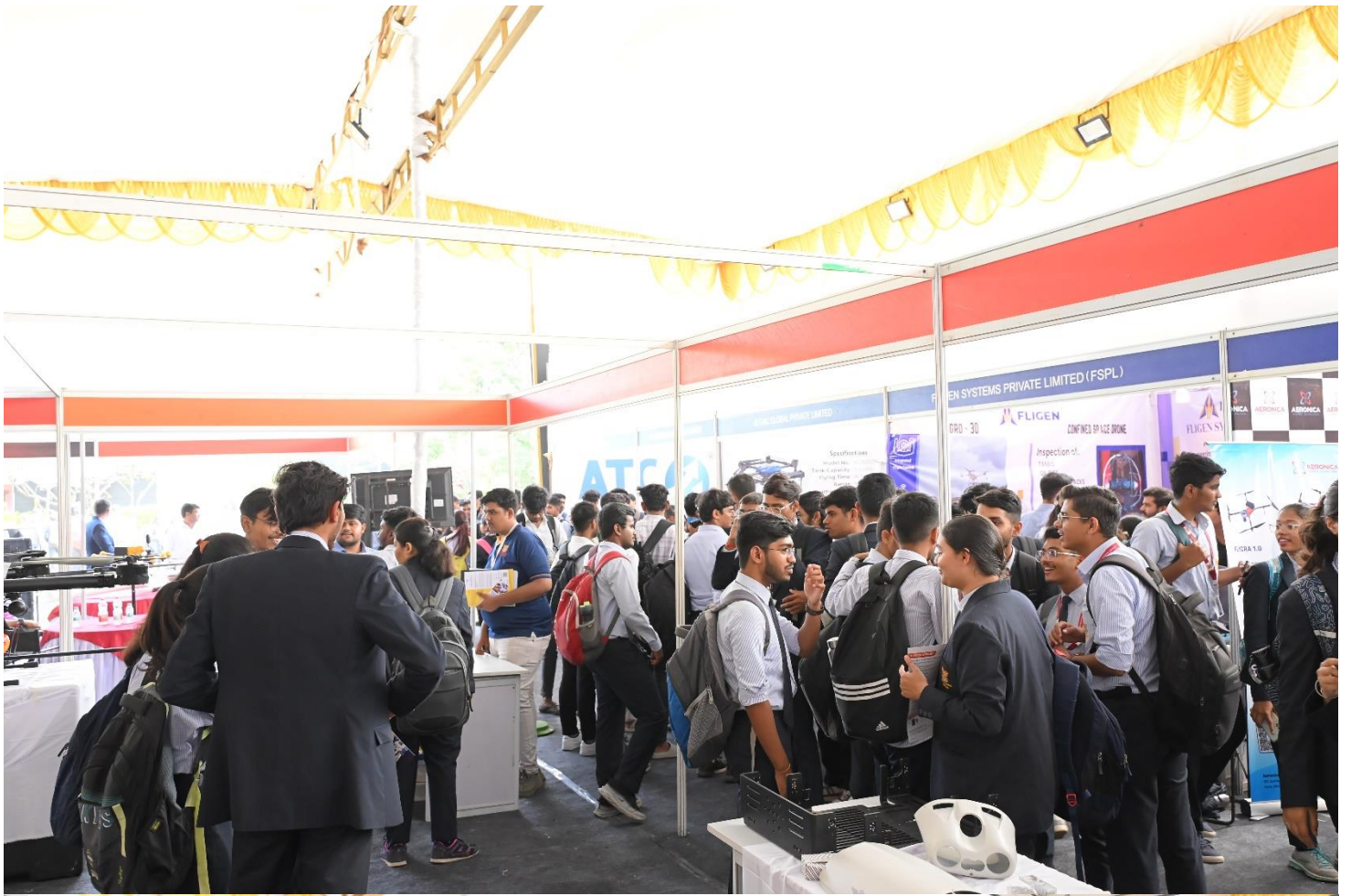

Conclusion

Day 2 of **Drone Shaurya 2024** provided a deep dive into the integration of AI with drones, regulatory challenges, and the role of unmanned systems in shaping the future of logistics. The panel discussions and plenaries underscored the need for responsible drone usage, indigenization of technologies, and collaborative efforts across sectors. The event successfully brought together diverse stakeholders to discuss the future trajectory of drone technologies in India, fostering a conducive environment for innovation and growth.

Drone Shaurya Exhibition – A Glimpse

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• Improve Health and Safety

• Saving Money & Time
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  users to securely view real-time
  data from anywhere in the world

- Successfully completed over
  40,000 kms of flight

3200 grams		Maximum Take-off weight	2000 grams
12m/sec		Maximum Flight speed	12m/sec
Swappable		Payload (EO/IR)	Mapping Camera, Surveillance
IP53		IP Rating	IP53
50+ minutes		Endurance	55+ minutes
15Km		Operational range	2Km
			Available

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29 kg		Maximum Take-off weight	25 kg
0 to 5 m/s		Maximum Flight speed	0 to 5 m/s
3-25 m		Operating Altitude	3-15 m
10 Lt.		Tank Capacity	
22min		Endurance	
1.5 km		Operational range	

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THANK YOU