

DRONE AND UNMANNED AVIATION CONFERENCE 2025



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27-28 MARCH 2025, BIRCHWOOD HOTEL OR TAMBO JOHANNESBURG, RSA

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WHO IS INVITED

Background

With the way drone technology has developed over the past year, there is obviously never enough time to discuss all the emerging developments in the drone industry. So to keep in touch with all the goings on, we have organised the first edition of the Drone and Unmanned Aviation Conference for 2025; which we have scheduled for the 27th and 28th of March 2025 at Birchwood Hotel OR Tambo in Johannesburg.

There has been yet another in significant shift for commercial drone technology in the past year, especially in re-imagining the way drones work in communities and industries. The obvious example has been an explosion of drone-in-a-box systems, also known as Xbots, drone nests or drone docking systems, which have seen faster response times to security situations, and better effectiveness for other industrial applications that include delivery, agriculture, survey and mapping, as well as inspections at various sites.

Drone nests have however seen the need for human pilots getting steadily reduced as one pilot can take control of as many as 25 drones in the air at the same time, creating conversations on the fate of drone pilots on the value chain.

Having said that though; topical issues still remain in most African countries, especially on the regulatory front: where nations like the US and Spain are embarking on citywide drone operations; that possibility still looks distant for most African countries, a reality which has spelt doom for delivery drones; since almost all cargo drone operations will have to go beyond the pilot's sight at some point. It is important that the continent stays in touch with the world in as far as progress in civilian drone use is concerned, as evidence on the ground has shown that the benefits of the technology to the continent far outweigh the negatives.

This edition of the Drone and Unmanned Aviation Conference will cover all these issues and more; our panel of world-class speakers will lead discussions on the application of product technology (which include drone development status, technology innovation, airspace management, education and training, UAV engineering, design and construction) in the fields of medical supply and general cargo delivery; agriculture, construction, mining, remote sensing, surveying and mapping, forestry and disaster prevention and public safety.

The event will also shine a spotlight on the global key research and application areas of UAVs and innovation in safety supervision, robust discussions on the pace of local drone innovations as compared to the rest of the worldwide, and explore the profound impact UAVs on social development in the future.

Besides, delegates will learn about internationalisation, specialisation, and marketisation of drone technology from detailed insights that will be shared by all the leading technology and policy voices in the industry today.

It will be another festival of technology transfer, as all previous delegates have come to know about the flagship drone technology event in the country. It is a great opportunity for drone stakeholders to converge again, network and learn new insights at a world-class venue as well as experience drone technology at work during the live demos.

Objectives

- Understand the challenges and opportunities presented by drone and UAV technology in an economy
- Discuss the legal framework surrounding drone use and how it impacts operations
- Explore the use of drones in various industrial applications
- Navigate the latest technologies in UAV applications
- Networking Opportunities: Meet and connect with industry leaders, innovators, and potential partners. Building these relationships can lead to collaborations and new business opportunities.
- Knowledge and Insights: Gain access to the latest research, expert opinions, and trends in drone technology. Staying informed about industry developments can give you a competitive edge.
- Hands-On Experience: Participate in live demonstrations and workshops to see the latest drone technologies in action. This hands-on experience can be invaluable for understanding new tools and techniques.
- Regulatory Updates: Learn about the latest regulations and compliance requirements. Understanding the regulatory landscape is crucial for operating drones legally and safely.
- Technological Innovations: Discover groundbreaking technologies that are pushing the boundaries of what drones can achieve; including advancements in hardware, software, and data analytics.
- Industry Applications: Explore how drones are being utilized across various sectors such as agriculture, construction, logistics, and emergency services. Real-world examples and case studies highlight the tangible benefits and ROI of drone technology.
- Safety and Security: Address critical issues of safety and security, including best practices for safe drone operations and advancements in anti-drone technology.
- Sustainability and Environmental Impact: Learn how drones can contribute to sustainable practices and reduce environmental footprints. Discussions often include the role of drones in environmental monitoring and conservation efforts.
- Business Growth: Discover new markets, applications, and strategies to grow your business. Learning from success stories and case studies can inspire and guide your own ventures.
- Inspiration and Innovation: Hear from industry thought leaders and seeing the latest innovations can spark new ideas and drive your own creativity.

- Chief Executives
- Operations executives and managers
- Parks and Wildlife Managers
- Mining executives
- Mining operations managers
- Warehouse managers
- Courier Services managers
- Farm managers
- Municipal operations managers
- Beach safety workers
- Police officers
- Health Services Providers
- University Students
- Film Producers
- Film Directors
- Editors
- Photojournalists
- Relief and aid workers
- UAS Pilots
- UAS Training experts
- IT Managers
- Civil Aviation Authority managers
- UAS manufacture and assembly executives
- Advertising professionals
- Archaeologists
- Fire Chiefs
- Real Estate Agents
- Land surveyors
- Geodesists
- Geomatics Specialists
- Electrical engineers
- Solar and photovoltaic professionals
- UAS Manufacturers
- Original Equipment Manufacturers
- UAS Pilot Trainers
- Mining
- Agriculture
- Construction
- Energy
- Insurance
- Media
- Film and Motion Picture
- Health
- Non-Government Organisations
- Government Departments
- Municipalities
- Universities
- Civil Aviation
- Parks, Environment and Wildlife
- Advertising

DAY 1 27 MARCH 2025

- 07:30 Registration & Networking
- 08:20 Opening Remarks
- 08:30 Drone regulation and policies update
- Updates on the latest in drone legislation in Africa; where we are today and where we could be tomorrow
 - Finding and defining value in drone safety management systems
 - Operations in public
- Invited Speaker: Zia Meer: Inspector, RPAS/UAS Expert: South African Civil Aviation Authority (SACAA)
- 10:00 Mid-Morning Break
- 10:30 Imagining the future of drones in the insurance industry
- The role of insurance in the changing drone landscape
 - Exploring growth trends and areas in drone insurance
 - Drones as a service to insurance: Risk assessment; Claims management; Fraud detection; Natural disasters; Safety; Customer satisfaction
 - Integration of IoT and telematics, emergence of parametric insurance, drone fleet management solutions, and market consolidation.
- Speaker: Kopano Tholo – Specialist Underwriter: iTOO Special Risks
- 11:15 Drone pilots in the spotlight: Essentials to consider for every drone operator today
- Pathway to Leadership: Building a Diverse, Engaged Workforce
 - Safety Standards and Practices for Commercial UAS Pilots
 - Lessons Learned from being a Recreational UAS Pilot to a Commercial Owner/Operator
 - Pathway to Professionalism: Become a Drone Pro
 - Establishing Industry Standards to Ensure Quality Operators and Technicians
- Invited Speaker: Dr Ing Ahmed Alamouri: Dr. Ing. Ahmed Alamouri: Technical University Braunschweig: Institute of Geodesy and Photogrammetry
- 12:15 Advancing Critical Infrastructure Inspections
- Analysing how drone technology has improved critical infrastructure inspections, in terms of hazard and cost reduction, as well as efficiency of operations
 - Improvements in data collection as compared to legacy methods
 - Discussing the transformative integration of drone technology and Artificial Intelligence (AI) as a supplementary tool in the inspection of infrastructure assets
 - Using cloud-based solutions that harness photogrammetry and AI capabilities to generate high-resolution digital twins of infrastructure to help in the precise detection and quantification of defects
 - Optimising Inspection with Drone Workflows
- Invited Speaker: Darryl Epstein – Managing Director: Delta Scan
- 13:00 LUNCH
- 14:00 From Air to Ground: Comprehensive LiDAR Mapping Solutions
- Learning to successfully design projects in accordance with ASPRS Positional Accuracy Standards, including flight planning, ground control placement, lidar system calibration, point cloud processing, product generation, quality control, and accuracy assessment.
 - The development of LiDAR technology in capturing high-resolution, three-dimensional topographic data, making it essential for land surveying, infrastructure assessment, and environmental monitoring
 - Revolutionising data acquisition and analysis across various industries
 - A Complete, Practical Guide to Transforming UAVs into Real-World Mapping and Surveying Solutions
 - Image Intelligence and Geospatial Solutions: Using drones and LiDAR to power ESG and Next Generation Economy
 - Geospatial Infrastructure and Digital Twins: Advancing Resilient Infrastructure and Digital Cities
 - Precision Surveying with LiDAR Enterprise Solutions
 - Homing in on Accuracy in LiDAR-Based drone measurements
- Invited Speaker: International Drone-based LiDAR Services Provider
- 15:00 Drones in agriculture
- New developments in how advances in drone and robotic technologies are revolutionising the world of precision agriculture.
 - Exploring how cutting-edge drone technology can be leveraged to optimize crop yields, reduce resource waste, and enhance overall farming efficiency
 - Latest applications in drone-based crop monitoring, autonomous ground vehicles for targeted spraying, utilizing soil sensor technology and the software that makes this all come together.
 - Discover how embracing drone-based transformative technologies can take agricultural operations to new heights of productivity and sustainability.
 - A look at drone application in livestock management
 - Forestry and nature conservation
- Invited Speaker: PacSys
- 16:00 Closing Remarks; End of Day 1

DAY 2 28 MARCH 2025

- 08:20 Opening Remarks
- 08:30 Latest in drones, mining and the construction industry
- Understanding and Embracing Drone Work flows in mining and Construction
 - Underground and open air mining applications for drone technology: Strategies on the best drones to deploy and best practices on data collection
 - Real-time inspections and monitoring
 - Drone technology needs and opportunities specific to the unique environments and situations of the mining industry, including GPS-denied, confined, and underground.
 - Drones fulfilling the need for real-time volumetric updates
 - Making dangerous mining tasks safer
 - On-site safety management
 - Structural cohesion maintenance
 - Time saving process of surveying and mapping
- Invited Speaker: Hanno Lombard: Business Development Manager: RocketDNA
- 09:15 Drones in security industry
- Invited Speaker: Sean Reitz – Founder: Drone Ops Group of Companies
- 10:15 Mid-morning Break
- 10:45 The importance of integrated Services in Security Operations
- Why autonomous drones are not a full solution in South Africa
 - The importance of training skilled pilots for security operations
 - How “Quality in Air” ensures higher success rates in surveillance
 - Innovations to improve situational awareness and decision making
 - Drones in security technology roadmap.
- Speaker: Heico Kühn: Chief Operating Officer: UDS-UAV & Drone Solutions
- 11:30 The future of UTM and UAM
- UTM Ecosystems & Operations
 - Overcoming adoption and integration challenges to optimise drone technology innovation
 - Requirements for the successful integration of unmanned aerial systems
 - Initiatives to help with more friendly drone regulation
 - Remote identification to help with drone adoption in UAM
 - The question of drone technology and self-regulation
 - Building a trustworthy technology system with a strong and supportive infrastructure
 - Plan for integrating autonomous operations within high traffic areas
 - Working together with policy makers and standards organisations to work together
- Invited Speaker: Louise Jupp: UAS Industry Advocate & Consultant: Terreco Aviation
- 12:30 Looking into the future of drone technology
- New and rising applications in drone use: Warehousing, Cleaning operations, and more
 - Youth engagement and integrating drone and robotic education in learning institutions
 - Protecting drone technology from cyber threats
 - Safe and reliable operations are one element of trustworthy technology, but with malicious actors looking for weaknesses, developers must ensure their technology is secure and resilient against such threats that would put the system and the public at risk. Exploring the issue of cybersecurity in drone technology from multiple perspectives.
 - Considerations for improved system safety and performance
- Speaker: Sam Twala: CEO: Ntsu Drone Academy
- 13:15 Closing Remarks; LUNCH End of conference proceedings

