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DRONE AND UNMANNED AVIATION CONFERENCE 2024

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06-07 JUNE 2024, EMPERORS PALACE, JHB

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The Biggest Drone Technology Event in Southern Africa...

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 2024; which we have scheduled for the 6th and 7th of June 2024 at Emperors Palace Convention Centre in Johannesburg.

There has been yet another 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 at a panel discussion that will be conducted with 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

- To understand the challenges and opportunities presented by drone and UAV technology in an economy
- To discuss the legal framework surrounding drone use and how it impacts operations
- To explore the use of drones in various industrial applications
- To navigate the latest technologies in UAV applications

WHO IS INVITED

- 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
- Cargo Transporters
- Fire Departments
- Property and Real Estate
- Solar power Generation



DAY 1 06 JUNE 2024

07:30 Registration and Networking

08:20 Opening Remarks

08:30 Unmanned aviation and public sector applications

- Revolutionary approaches to bridge inspection using UAV, comparisons to conventional methods to show how these technologies can increase safety and efficiency in infrastructure monitoring.
- How UAV technologies can be used to document and preserve cultural heritage sites, presenting fascinating real-world examples.
- The future of UAV humanitarian operations and the effectiveness of drone technology various forms of humanitarian situations.
- The regulation challenges of using UAVs to update geodata and insights into the complex framework that needs to be considered for drone integration
- Crowd-droning and its benefits
- Making data available on demand

Speaker: Napoleon Bergstroem: Chief Operating Officer: Globhe Drones (Sweden)

09:45 Mapping advanced air mobility to mature flight operations: The importance of digitisation of drone operations and traffic management

- Roles of various stakeholders to enable mass adoption and safe integration of drone technology to benefit communities
- Ingredients and enabling environment for drone deliveries
- Innovative solutions to allow for paperless drone workflow management
- Integrated solutions allowing flight management, fleet management, documentation tracking, personnel
- Emerging technologies and trends in the optimization of drone operations, electronic logbooks, remote ID etc
- Optimized safety, incident reporting and tracking features.
- Data management and analysis tools
- Emerging uses of drone technology and applications cultivating and fostering industry collaborations
- Scalability and optimization of drone operation while remaining compliant.

Speaker: Sam Twala: Founder: Ntsu Aviation

10:30 Midmorning Break

11:00 Enhancing safety in the airspace: Drones and Remote Identification

- Remote identification is important for several reasons, especially in the context of policing and public safety to identify and track drones in real-time, allowing authorities to monitor their operations, ensure compliance with regulations, and respond to potential security threats.
- Join the high-level dialogues on policies, regulatory framework and Why RID IS important to protect airspace safety and national security?

Speaker: Kim James: Director UAV Aerial Works & Drone Guards

12:00 A Systematic Approach to Use C-UAS For Public Safety

- C-UAS technologies to address security concerns and protect critical infrastructure, public spaces and identify unauthorized drones operating in restricted or sensitive areas.
- Approaches to building and managing a successful public safety UAS program
- Frameworks for public safety departments, organisations and partners to potentially utilise C-UAS technology for public good
- Multilateral approaches to coordinate flight operations during complex and emerging incidents and role of private players to support the effort.

Speakers: Jaacie Visagie: Founder: Droneco; Dedrone (Germany)

13:00 LUNCH

14:00 Industrial case study: How have drones changed underground mapping and inspection operations?

- With their capacity to operate in dark and dangerous environments, drones have revolutionized underground and confined space mapping operations. Whether it is a mine or a drainage tunnel under a city, uncrewed aerial vehicles provide mappers with easily operated tools that allow access to places human mappers could never go. Moreover, the addition of sophisticated imaging technology payloads allows for improvements in many operations, including equipment inspections, locating and mapping buried steel pipelines, and more.
- The case study Flyability –manufacturers of underground and confined space inspection and mapping drones – will bring new insights to experts from the underground mapping industry, and analyse the current state of the technology and the many ways professionals in these industries can adapt drone technology to their work.
- Advice for individuals looking to add UAV technology and related systems to their underground operations.

Speaker: Jan-Albert Vijjoen: Gammatec SA (Flyability Representative)

14:45 Flying longer and carrying heavier: Research and development into power Systems to support UAV missions

- Analysing the power constraints of current UAV platforms
- Examining autonomous recharging solutions to support UAV power needs during a mission
- Moving away from ground vehicle technology to developing UAV-specific engines, fuel options and batteries to increase UAV endurance and performance

Speaker: Amit Ramdath: CEO: Autonosky

15:30 Case Study: Delta Scan

Speaker: Darryl Epstein: Managing Director: Delta Scan

16:15 Closing Remarks; End of Day 1

DAY 2 07 JUNE 2024

08:20 Opening Remarks

08:30 The future of autonomous aviation

- How advanced algorithms and technologies can enable autonomous flight in urban environments
- Autonomous flying robotic swarms and alternative navigation concepts that could redefine the boundaries of UAV technology
- AI in Drones – A Boon or a Curse: Learn how global experts are using AI technology to increase automation and intelligence. How organizations can analysis the data for safer and more efficient collection and processing and lastly, right resources and talent gap.
- Making Drone Operations a Reality: The range of drone technology use-cases that support industrial applications, wider scientific research and new ways to collaborate and influence the future.

Speaker: Ed Alvarado: Drone Industry Insights (Germany)

09:15 Drone technology and agriculture

- Mobile Sensing in Digital Agriculture: Mobile Systems, such as UAVs or field robots are increasingly used in modern digital agriculture to monitor the status of the crop in the field and also to perform actions. The talk discusses the requirements and concepts for pose estimation of the systems in the context of crop production and provides some examples.
- Multispectral systems for agriculture and shows how UAVs can help to increase agricultural yields.
- The biggest issues and challenges for agricultural drone technology in Africa today
- Drones and the search for precision solution to small holder agriculture
- Informed decision-making. With the help of aerial imagery and other data, farmers can make more informed decisions regarding irrigation, fertilization, and pest control.
- Time and resource efficiency. Agricultural drones significantly reduce the time and resources required for various farming activities.
- Precision and accuracy. Compared to traditional methods, agricultural drones offer a higher level of precision and accuracy.
- Early problem identification. Drones can detect issues before they cause significant damage by regularly monitoring crops from above.
- Sustainable land management. By providing precise data on crop conditions and resource utilization, drones enable farmers to optimize their farming practices, reducing unnecessary water and chemical usage.

Speaker: Tim Wise: CEO: PacSys

10:00 Mid-Morning Break

10:30 How drones are enhancing security operations

- Latest developments into how UAS are playing a significant role in enhancing police operations across various domains by providing new capabilities that improve efficiency, situational awareness, and public safety.
- However, while drones offer numerous benefits, their deployment should be accompanied by clear policies and guidelines to address privacy concerns, safety regulations, and ethical considerations.
- Insights on regulations and policy framework for police departments and Law Enforcement Agencies to deploy drones for SWAT operations, explosive detection, hostage situations, and other critical operations.
- What does it take to build a next-gen command centre to develop new operation model?
- Challenges of integrating UAS technologies into traditional policing and security workflows

Speaker: Heico Kühn: Chief Operations Officer: UAV & Drone Solutions (UDS)

11:15 Case Study: Drone nest systems and their industrial applications (in mining, construction and other industries): A case study of the DJI Dock

Speaker: Ajay Harduth: Operations Manager: Rocketmine

12:15 Esri Case Study: Advance fieldwork productivity with Esri site scan for ArcGIS.

- Discover how Esri's geographic approach to data acquisition, processing, and sharing provides efficiencies for expanding drone programs.
- Learn how the Esri System of Record, System of Insight, and System of Engagement perspectives can organise and enhance reality-captured data.
- Incorporate geospatial data layers within flight planning and field deployments to ensure quality data capture.

Speaker: Sean Cullen: Geospatial Industry Lead; Commercial: Esri South Africa

13:00 Case study: C-UAS in application

Speaker: Tom Roos: Director: Soteria Advanced Technologies

13:30 LUNCH

14:30 Live Demos: Barnstomers Model Flying Club